JVC

SERVICE MANUAL

MODEL
R-S55L
STEREO RECEIVER

No. 2504
Aug. 1979

1. Specifications

FM Tuner Section

Tuning Range	: 87.6 MHz – 108 MHz
Usable Sensitivity (IHF)	: 12.2 dBf 1.1 μV/75 Ω
50 dB Quieting Sensitivity	
Mono	: 15.9 dBf (1.7 μV/75 Ω)
Stereo	: 38.2 dBf (22 μV/75 Ω)
Distortion	
Mono	: 0.15 % (1 kHz)
Stereo	: 0.30 % (1 kHz)
Signal to Noise Ratio	
Mono	: 78 dB A-Net weighted (72 dB, DIN)
Stereo	: 68 dB A-Net weighted (63 dB, DIN)
Selectivity	: 65 dB, ±400 kHz (45 dB, ±300 kHz, DIN)
Capture Ratio	: 1.0 dB
IF Rejection	: 90 dB at 98 MHz
Image Rejection	: 55 dB at 98 MHz
Stereo Separation	: 45 dB at 1 kHz

MW Tuner Section

Tuning Range	: 525 kHz – 1 605 kHz
Usable Sensitivity	: 300 μV/m, 50 μV (External Antenna)
Signal to Noise Ratio	: 45 dB
Distortion	: 0.5 %
Selectivity	: 46 dB ±9 kHz

LW Tuner Section (DIN)

Tuning Range	: 150 kHz – 350 kHz
Usable Sensitivity	: 40 μV
Signal to Noise Ratio	: 45 dB
Distortion	: 0.5 %
Selectivity	: 50 dB ±9 kHz

Amplifier Section

RMS Power (Both channels driven, from 20 Hz to 20 kHz)	: 40 watts per channel at 8 ohms
RMS Power (Both channels driven at 1 kHz)	: 42 watts per channel at 8 ohms 50 watts per channel at 4 ohms
Total Harmonic Distortion	: 0.03 % at rated power (0.008 % at half rated power, 1 kHz)
Signal-to-Noise Ratio (IHF short circuit A network)	: PHONO 77 dB TAPE PLAY 98 dB
DIMENSIONS	: H: 109 mm (4-1/4") W: 422 mm (16-5/8") D: 403 mm (15-7/8")
WEIGHT (net)	: 8.3 kg (18.3 lbs)

Specifications in FM Tuner section are based upon IHF standard.
Design and specifications subject to change without notice.

2. Names of Parts and Their Functions

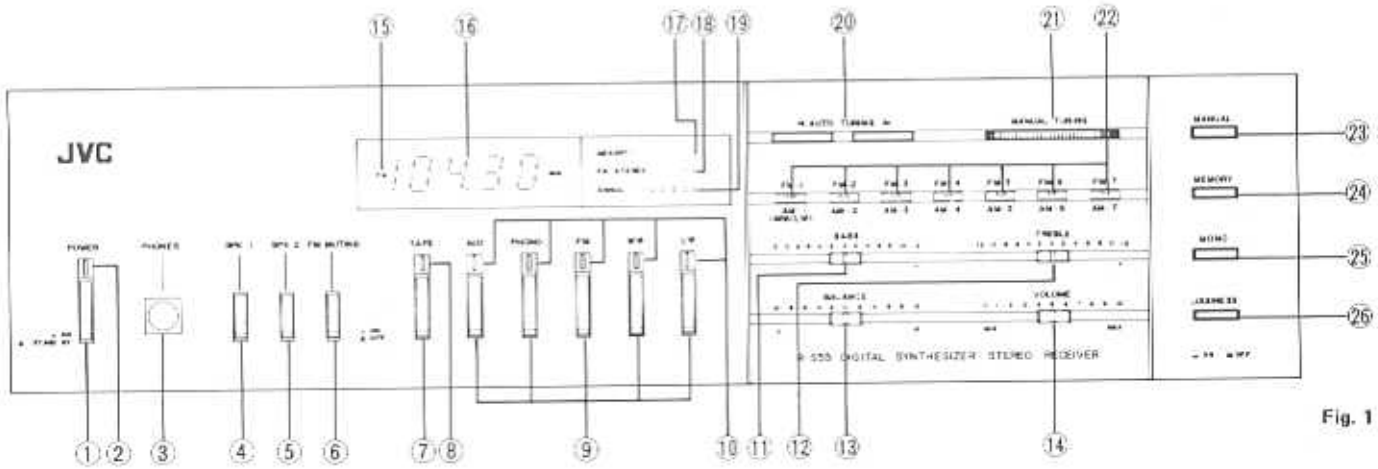

Fig. 1

① **POWER switch**

ON: Press to turn the power on. During the first 3 or 4 seconds after the POWER switch is turned on, no sound will be heard until you hear a "click" of the relay operation. This is not due to any defect in the unit. The built-in power protection circuit operates to mute the switching noise for speaker protection.

STAND BY: When the power cord is plugged into the AC outlet, the standby indicator MEMORY indicator ⑰ lights to show that the memory circuit is operating. As long as this indicator remains lit, the preset stations are not subject to cancellation or alteration. The preset data are maintained even in the case of power failure or when the power cord is disconnected, if the period of non-applied power does not exceed a couple of days.

② **POWER indicator**

This LED lights when the POWER switch is pressed to ON.

③ **Headphone jack (PHONES)**

Plug stereo headphones into this jack for private listening and recording monitoring.

④ **SPK-1 switch**

Press to switch the speakers connected to the SPEAKER SYSTEM 1 terminals on or off.

⑤ **SPK-2 switch**

Press to switch the speakers connected to the SPEAKER SYSTEM 2 terminals on or off.

⑥ **FM MUTING switch**

The FM muting circuit selects the strongest signal at a given frequency and filters out the weaker signals to improve FM reception. Press this switch to ON in strong signal areas to eliminate interstation noise and unwanted signals. Leave this switch in its "out" (OFF) position if FM reception is substandard due to insufficient signal strength.

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⑦ **TAPE switch**
Press to hear tape deck connected to the TAPE terminals. Release the switch to hear the source selected with the source select switches (AUX, PHONO, FM, MW, LW).

⑧ **TAPE indicator**
This green LED lights when the TAPE switch is pressed for monitoring or listening to the tape recordings.

⑨ **Source select switches (AUX, PHONO, FM, MW, LW)**
AUX: Press to listen to sources connected to the rear panel AUX terminals.
PHONO: Press to listen to disc records on a turntable connected to the rear panel PHONO terminals.
FM: Press to switch on the FM tuner section.
MW: Press to switch on the MW tuner section.
LW: Press to switch on the LW tuner section.
When one source is selected by pressing the corresponding switch, the one selected previously is automatically released. Do not press two switches or release all switches simultaneously to avoid any malfunctioning.

⑩ **Source indicators (AUX, PHONO, FM, MW, LW)**
One of the LED's lights up when the corresponding source is selected.

⑪ **BASS control**
Slide to the right to boost bass response, to the left to decrease bass response.

⑫ **TREBLE control**
Slide to the right to boost treble response, to the left to decrease treble response.

⑬ **BALANCE control**
Slide to balance the left and right speaker volumes. When it is at the extreme left, only the left channel is heard, and vice versa.

⑭ **VOLUME control**
Slide to the right to increase the sound volume.

⑮ **AM/FM indicator**
The upper indicator lights during AM reception and the lower indicator lights during FM reception.

⑯ **Frequency indicator**
The tuned-in frequency is displayed digitally. Four digits (kHz) are displayed for MW/LW reception and five digits (MHz) (for continental Europe) or four digits (MHz) (for U.S.A., Canada and other countries) are displayed for FM reception.
Notes: • When the station select button to which no station has been preset is pressed, the frequency displays a random figure.
• When a weak station is tuned in, the lowest digit displayed in unstable.

⑰ **MEMORY indicator**
When the MEMORY button is pressed, this indicator lights to show that the unit is ready to resister the preset stations for memory. While it remains lit, press the station select buttons to preset to any desired station.
Note: This indicator also lights when the POWER switch is in the "STAND BY" position.

⑱ **FM STEREO indicator**
This LED lights when an FM stereo broadcast is tuned in.

⑲ **SIGNAL strength indicator**
This is used in tuning to both FM and MW/LW broadcasts. The more the number of LEDs that light, the stronger the signal being received. To obtain optimal reception, maximize the number of lit LEDs.

⑳ **AUTO TUNING buttons**
► Up-scanning button: When this button is pressed (for about 0.5 sec.), the tuned-in frequency changes in the direction of increasing frequencies. Use this button to search the upper frequency broadcast Scanning (Auto Tuning) stops automatically when the next FM (or MW/LW) station is pulled in. The tuned-in frequency is displayed digitally by the frequency indicator.
If you hold the button pressed, scanning continues. When the tuned-in frequency comes up near the desired station. When the high end of the frequency is reached, the frequency display returns to the low end of the frequency.
◄ Down-scanning button: Press to tune in the direction of decreasing frequencies. Use this button to search lower frequency station. Functions are indentical with those of the ► up-scanning button.

㉑ **MANUAL TUNING**
Manual tuning is possible by this MANUAL TUNING knob and the MANUAL switch ㉓ . First press the MANUAL switch ㉓ , then turn the MANUAL TUNING knob to tune in to FM (or MW/LW) stations. When the high (or low) end of the frequency is reached, the tuned-in frequency no longer changes, even though you still turn this knob. Use this MANUAL TUNING knob for the reception of weak stations which the AUTO TUNING buttons ⑳ cannot capture.

㉒ **Station select buttons/Station indicators**
These buttons are used to select one of the preset stations or to preset the station for an individual channel. When one of these buttons is pressed, the LED indicator on the corresponding button lights to indicate which channel is in operation.
When one of these buttons is pressed when the MEMORY switch ㉔ is pressed in, the station which is being received will be "memorized". Either one of the station select buttons used in common for one FM station and one MW/LW station.

㉓ **MANUAL switch**
When you use the MANUAL TUNING knob ㉑ , press this MANUAL switch first.
Note: This switch does not lock.

㉔ **MEMORY switch**
When this switch is pressed, the MEMORY indicator ⑰ lights. If you press one of the station select buttons ㉒ after pressing the MEMORY switch, the station being received is memorized to that channel.

㉕ **MONO switch**
When this switch is pressed in, all program sources are reproduced monaurally, with a mixture of the left and right channel sounds being heard from both speakers. The MONO mode greatly improves substandard FM broadcasts and ensures high quality recordings of them. Since the PLL multiplexer circuit stops operation, the FM STEREO indicator ⑱ goes out.

㉖ **LOUDNESS switch**
At low volumes, certain tones seem to change. This is not due to any altering in the sounds at lower volumes. Press this switch to compensate for this seeming alteration when you are listening at lower volumes.

Note: When you press on AM/FM Tuner first time after setting up, press AUTO TUNING or Station Select buttons, if not AM/FM Tuner works in disorder.

3. Block Diagram

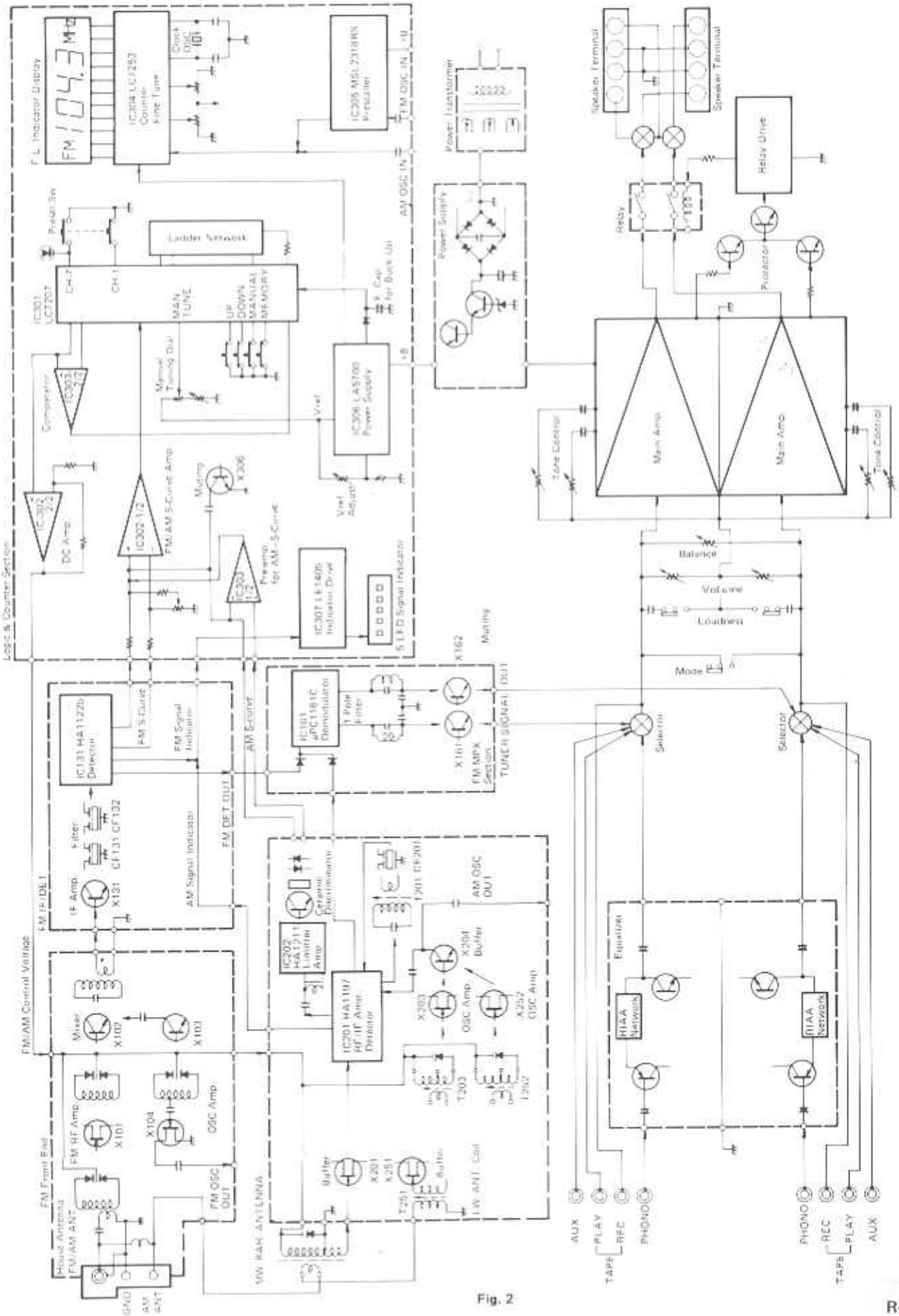


Fig. 2

4. Removal Procedure

4-(1) Top Cover and Bottom Plate

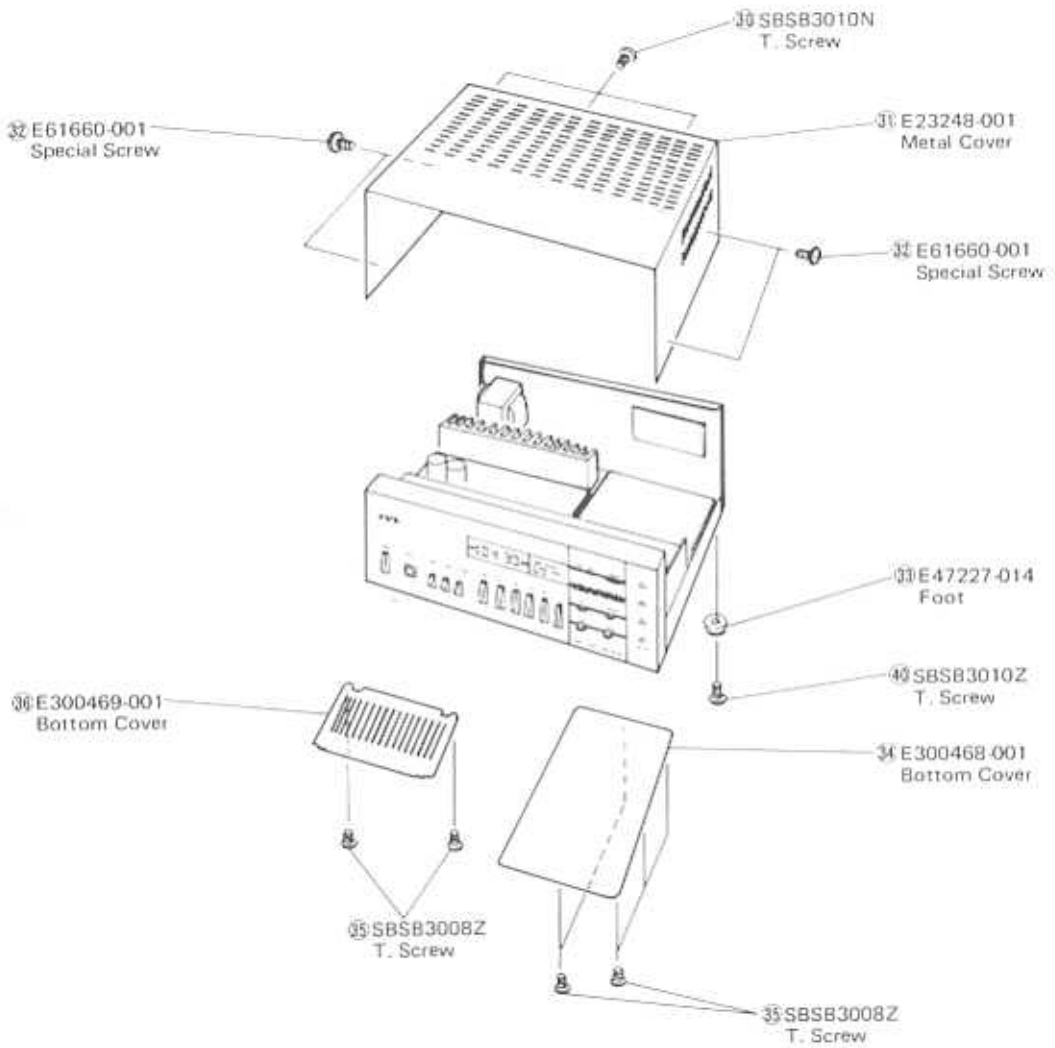
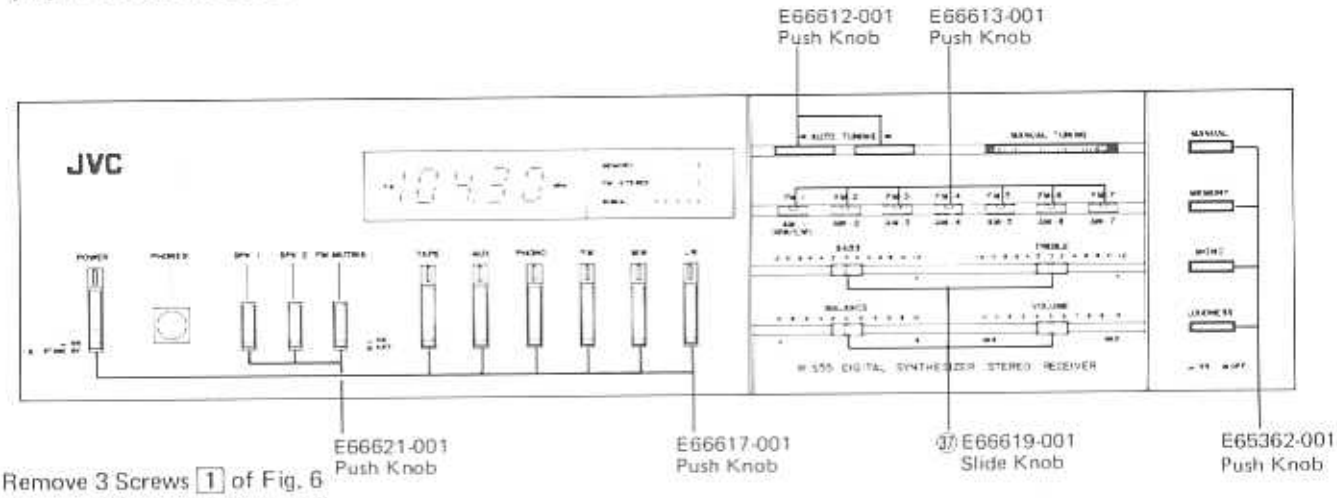


Fig. 3

4-(2) Front Panel



1. Remove 3 Screws [1] of Fig. 6
2. Remove 3 Screws [2] of Fig. 6
3. Pull out the 4 slide knobs (37) Fig. 4

Fig. 4

4-(3) TPS-250 Power Supply P.C. Board Ass'y

- Press the Fastener [1] of Fig. 5.
- Pull the C.B. as shown Fig. 5 out.

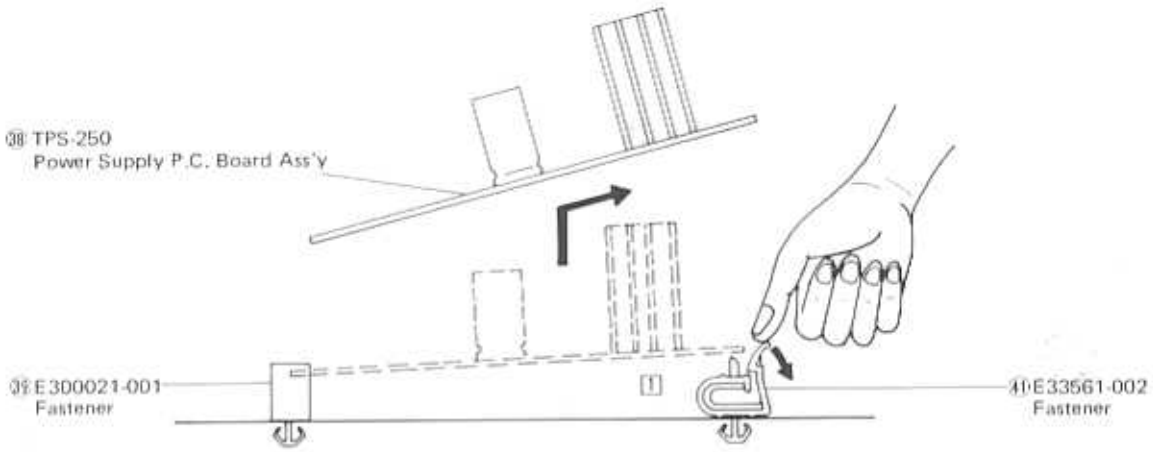


Fig. 5

4-(4) TXX-219-1 Main Amp. P.C. Board Ass'y

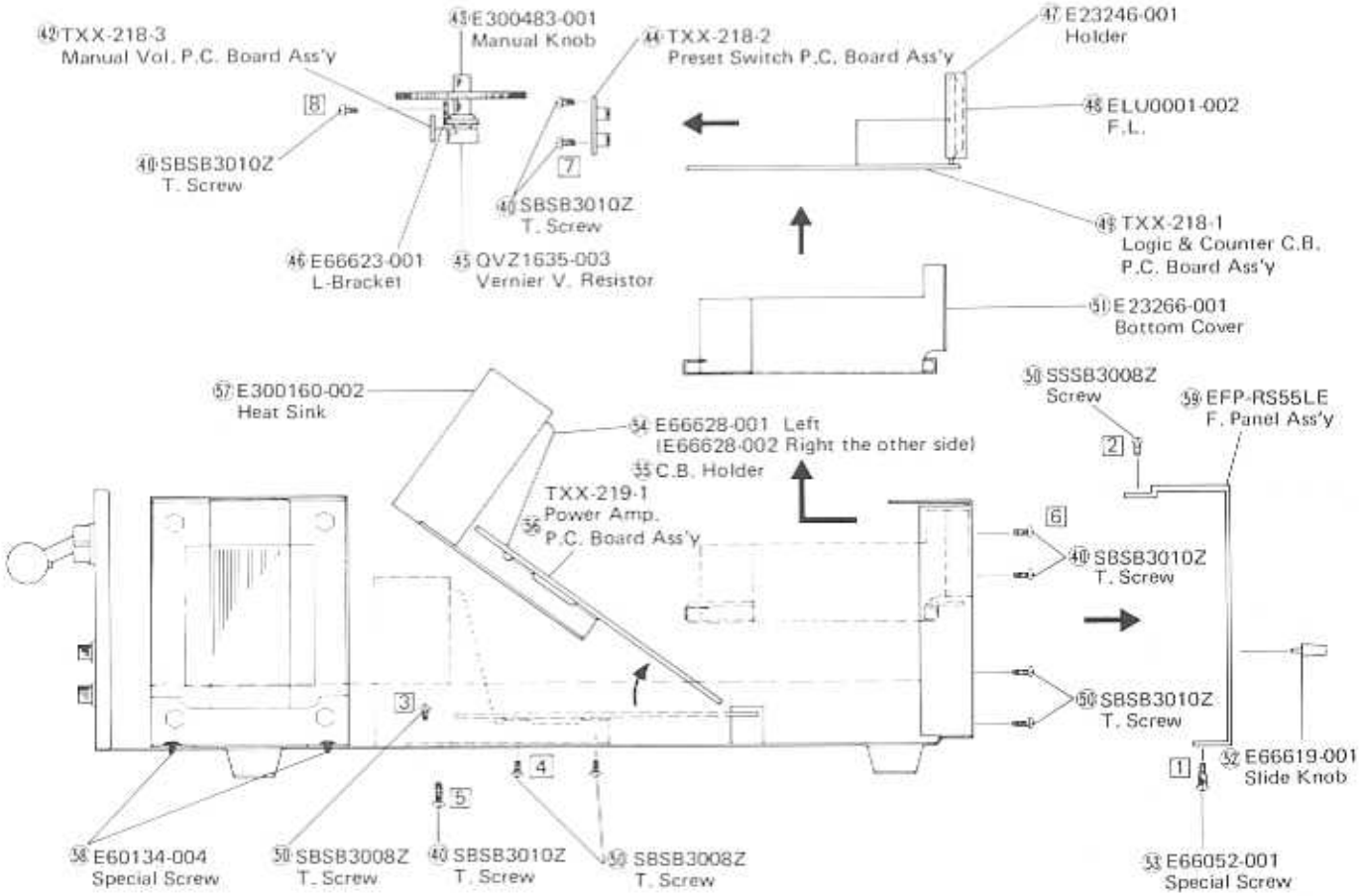


Fig. 6

1. Remove 2 screws [3] of Fig. 6.
2. Remove 4 screws [4] of Fig. 6.
3. Remove 2 screws [5] of Fig. 6.
4. Pull the C.B. as shown Fig. 6 out.

4-(5) TXX-218-1 Logic and Counter P.C. Board Ass'y

1. Remove the Front Panel. (see 4–2 page 5)
2. Remove 6 screws [1] of Fig. 7 ([6] of Fig. 6) to take the Holder with this P.C Board Ass'y
3. Remove 2 screws [4] of Fig. 7 and take the TXX-218-3 Manual Vol. P.C. Board Ass'y off.
4. Remove 5 screws [2] of Fig. 7 from the Holder.

4-(6) TXX-218-2 Preset/Station Select SW P.C. Board Ass'y

- Remove 3 screws [3] of Fig. 7. ([7] of Fig. 6)

4-(7) TXX-218-3 Manual Vol. P.C. Board Ass'y

- Remove 2 screws [4] of Fig. 7 ([8] of Fig. 6).

4-(8) TXX-219-6 Power SW P.C. Board Ass'y

1. Remove 2 screws [5] of Fig. 7 to take Z-Bracket with Power SW P.C. Board Ass'y
2. Remove 2 screws [6] of Fig. 7.

4-(9) TXX-219-7 Power Indicator P.C. Board Ass'y

1. Remove Z-Bracket by 4-(8).
2. Remove 2 screws [7] of Fig. 7.

4-(10) TXX-219-5 Headphone Jack P.C. Board Ass'y

- Remove 1 nut screw [8] of Fig. 7.

4-(11) TXX-219-4 Speaker SW P.C. Board Ass'y

1. Remove 2 screws [9] of Fig. 7 to take V-Bracket with this C.B.
2. Remove 2 screws [10] of Fig. 7.

4-(12) TXX-220-3 LED P.C. Board Ass'y

- Remove 2 screws [11] of Fig. 7.

4-(13) TXX-220-4 Selector SW P.C. Board Ass'y

- Remove 2 screws [12] of Fig. 7.

4-(14) TXX-219- Slide Vol. P.C. Board Ass'y

- Remove 8 screws [13] of Fig. 7.

4-(15) TXX-220-1 Equalizer amp. P.C. Board Ass'y

1. Remove 2 screws [14] of Fig. 7 to take V-Bracket with this C.B.
2. Remove 2 screws [15] of Fig. 7.

5. Exploded Parts Location and Part Numbers

5-(1) Front Panel

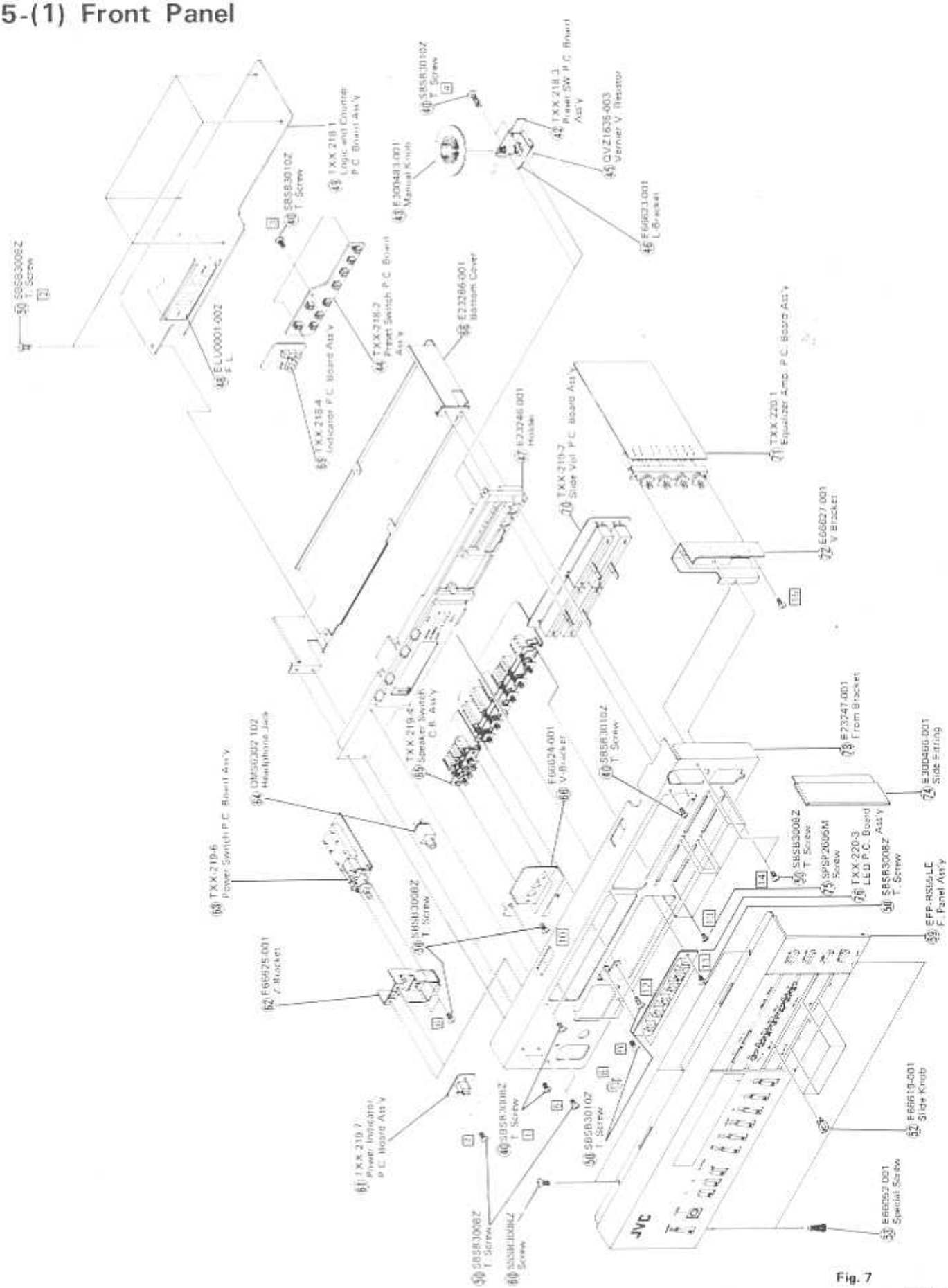


Fig. 7

5-(2) Rear Panel

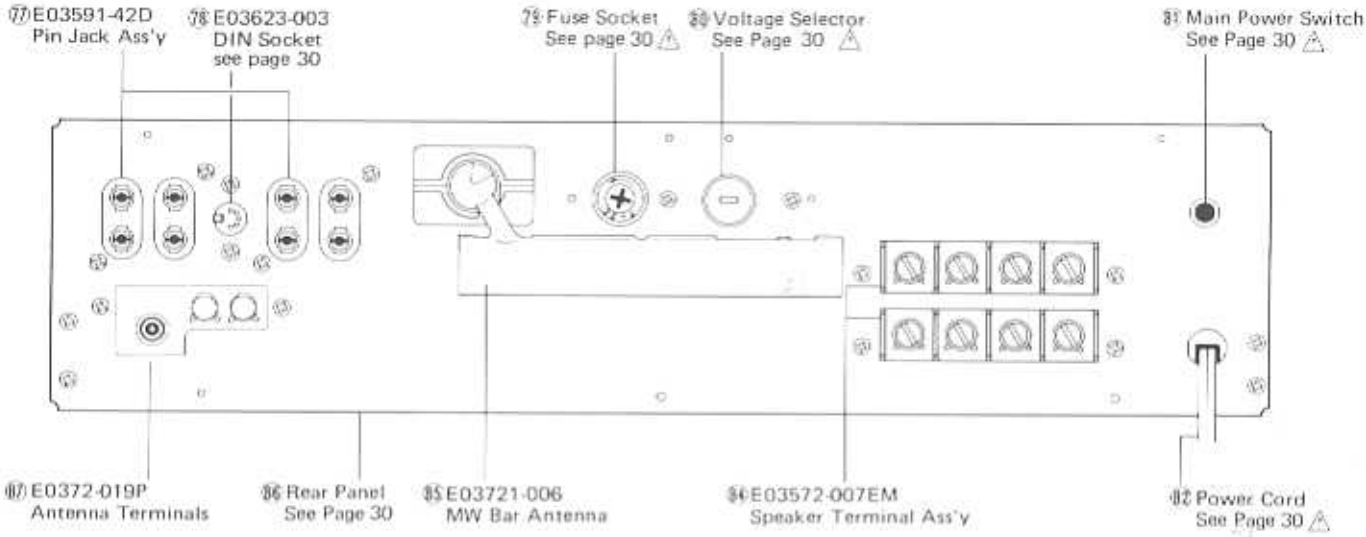
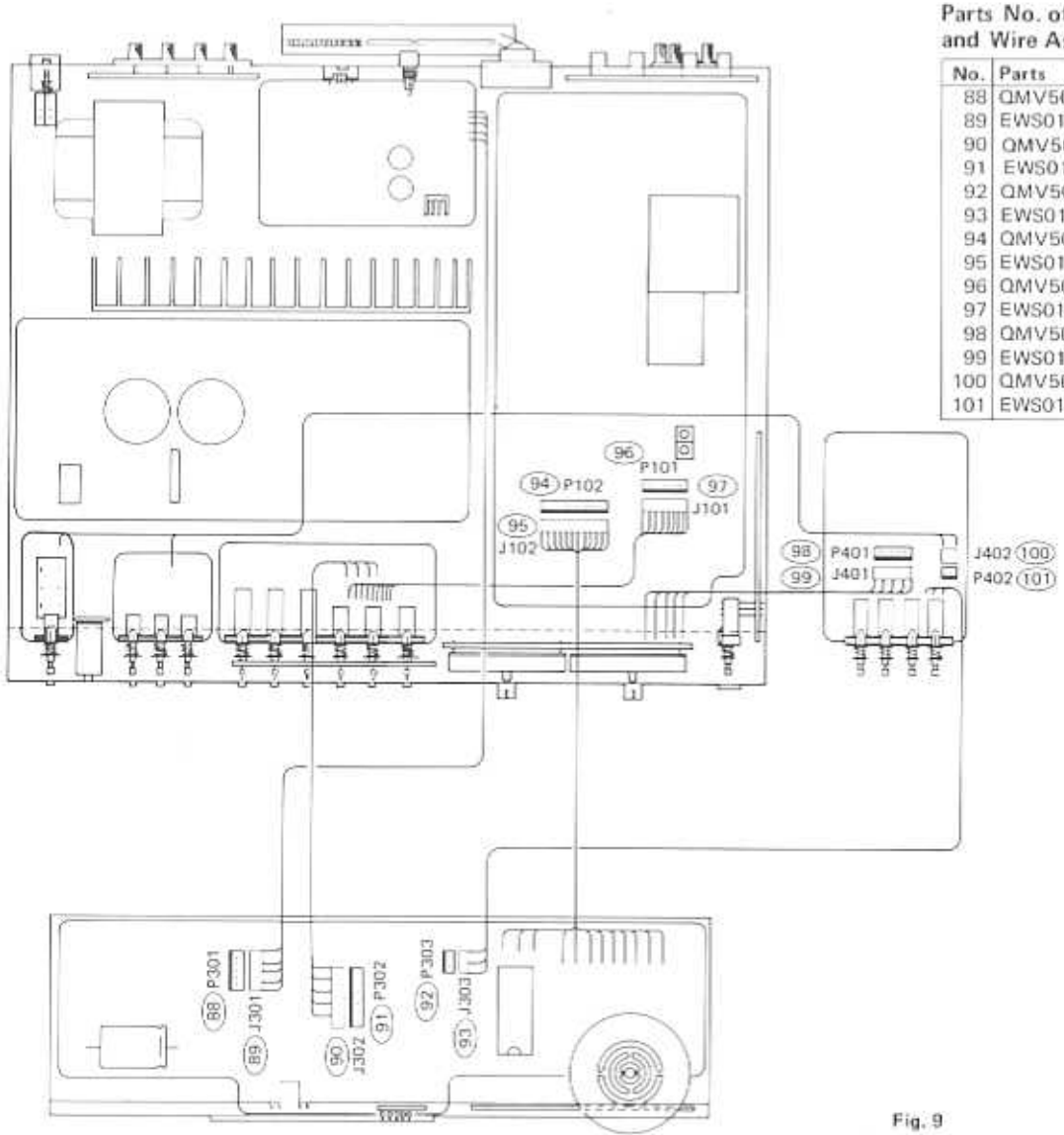


Fig. 8

6. Pin-plug and Pin-jack Connection



Parts No. of Pin plug Ass'y and Wire Ass'y with Jack Ass'y

No.	Parts	
88	QMV5005-005	P301
89	EWS015-011	J301
90	QMV5005-006	P302
91	EWS016-010	J302
92	QMV5005-003	P303
93	EWS013-018	J303
94	QMV5005-012	P102
95	EWS010-002	J102
96	QMV5005-009	P101
97	EWS019-002	J101
98	QMV5005-005	P401
99	EWS015-010	J401
100	QMV5005-002	P402
101	EWS012-005	J402

Fig. 9

7. Main Parts Location and Part Numbers

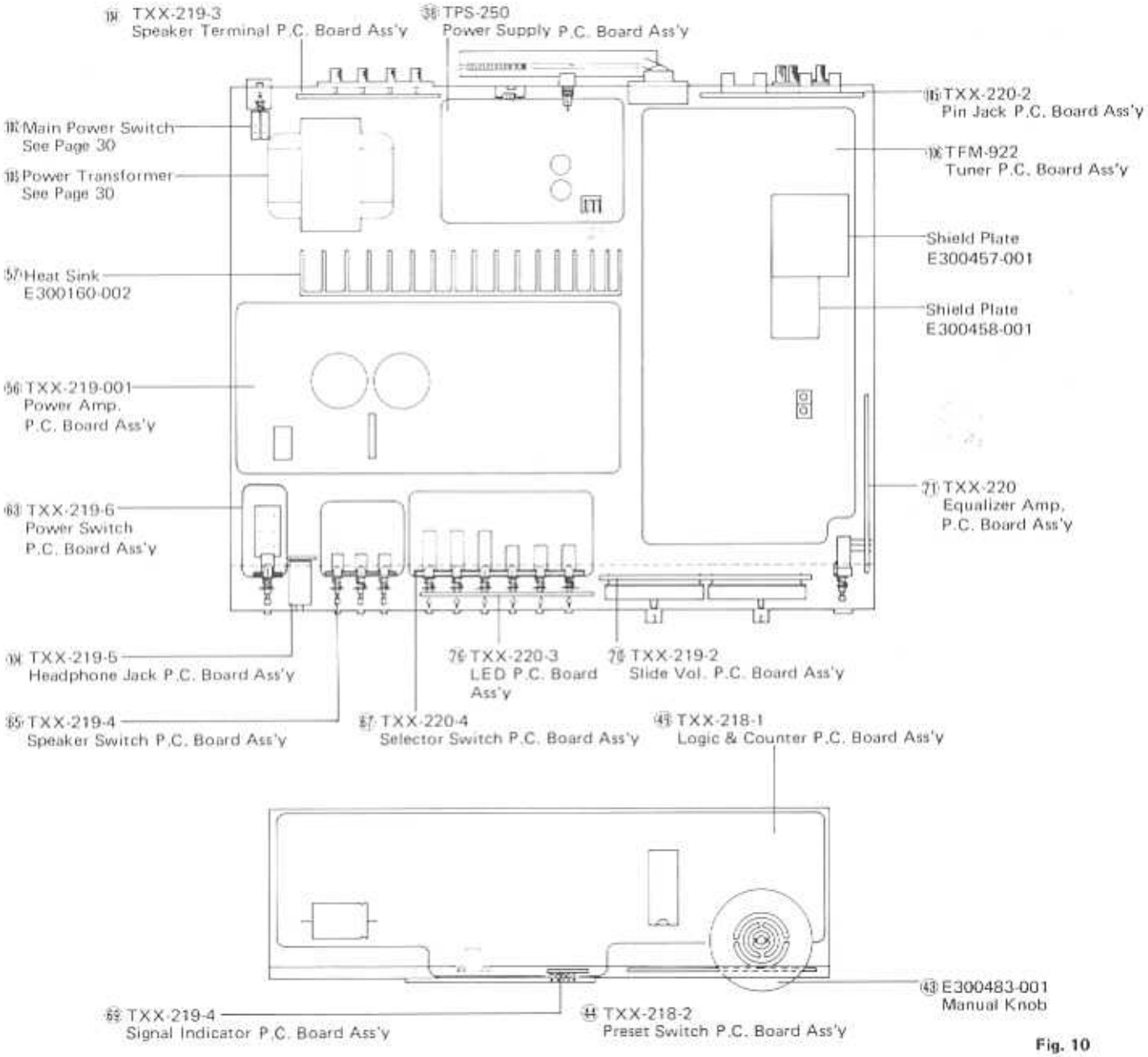


Fig. 10

8. Alignment Procedure

8-(1) Power Amplifier Idling Current Adjustment

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.

Procedures: ( ): For right channel adjustment

1. Turn R721 and R722 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 R721 (R722) for DC VTVM reading of 5 mV.

Adjustment Location on TXX-219 Main Amp. P.C. Board Ass'y

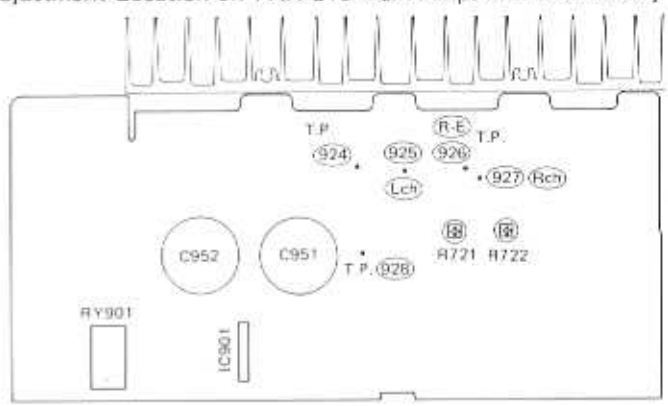


Fig. 11

8-(2) FM/MW/LW Tuner and Logic & Counter Section

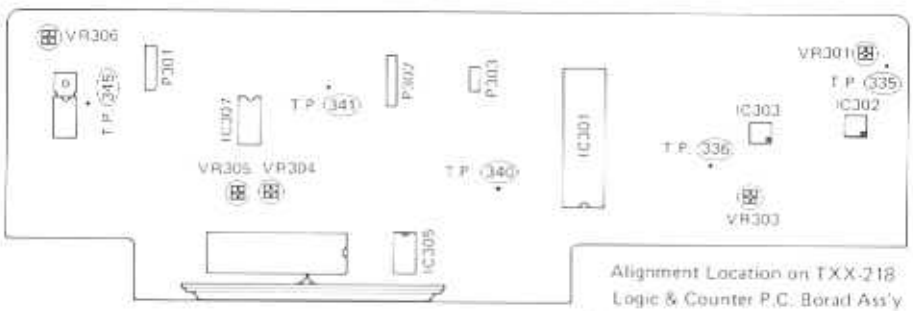


Fig. 12

1. V-Tune Adjustment (the voltage for tuning to the frequency)

High-End Frequency

1. Press to FM position.
2. Press the MANUAL switch.
3. Make the MANUAL TUNING Volume High-End (Full right turn).
4. Connect a DC VTVM to Test Point TP335.
5. Adjust VR306 for DC VTVM reading 24.0 V.
6. At this time adjust C125 of TFM-922 (Tuner P.C. Board Ass'y) for Frequency display 108.5 MHz.
7. Press to MW Position.
8. Adjust C234 of TFM-922 for Frequency display 1 660 kHz.
9. Press to LW Position.
10. Adjust C266 of TFM-922 for Frequency display 360 kHz.

Low-End Frequency

11. Press to FM position.
12. Press the MANUAL switch.
13. Make the MANUAL TUNING Volume Low-End (Full left turn)
14. Connect a DC VTVM to Test Point TP335.
15. Adjust VR303 for DC VTVM reading 1.8 V.
16. At this time adjust L103 of TFM-922 for Frequency display 87.5 MHz.
17. Press to MW Position.
18. Adjust T203 of TFM-922 for Frequency display 515 kHz.
19. Press to LW Position.
20. Adjust T252 of TFM-922 for Frequency display 140 kHz.
21. Repeat these adjustment (High-End and Low-End frequency) few times alternately.

2. FM Sensitivity Adjustment

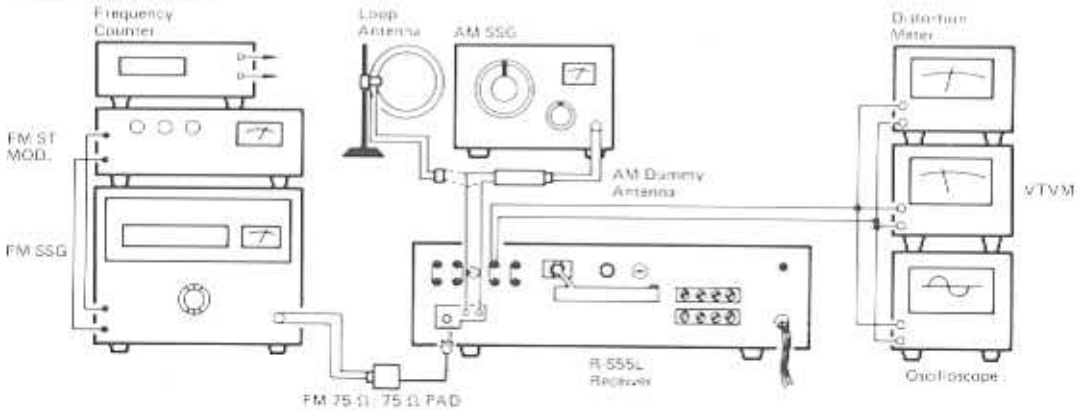


Fig. 13

Low Frequency

1. Connect an RF generator the antenna terminals on the rear panel through a dummy antenna.
2. Set an RF generator to 90 MHz, a modulation of 1 kHz and a deviation of 75 kHz to provide an input of 2 μV.
3. Connect a VTVM and an Oscilloscope to the Rec. Out jacks on the rear panel.
4. Set the Frequency display to 90 MHz by manual tuning.
5. Adjust the three coils T101, L102 and L101 in the tuning gang to maximize the output.

High Frequency

6. Set the RF generator to 106 MHz, a modulation of 1 kHz and a deviation of 75 kHz, to provide an input of 2 μV.
7. Set the Frequency display to 106 MHz by manual tuning.
8. Adjust the FM trimmers C105 and C103 in the tuning gang to maximize the output.
9. Repeat these high and low frequencies adjustment alternately until maximum sensitivity is obtained.

3. Tuner S-curve & T.H.D. Adjustment

1. Press to FM position.
2. Connect 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. Connect a DC VTVM between TP104 and TP105.
6. Adjust the core indicated arrow A of T131 for DC VTVM reading 0 mV.
7. Set the RF generator to 98 MHz.
8. Set the Frequency display to 98 MHz by manual tuning.
9. Adjust the core indicated arrow B of T131 so that the distortion is minimized at a values less than 0.4 %.

4. AM (MW/LW) Sensitivity Adjustment

Alignment Location on TFM-922 FM/MW/LW Tuner P.C. Board Ass'y

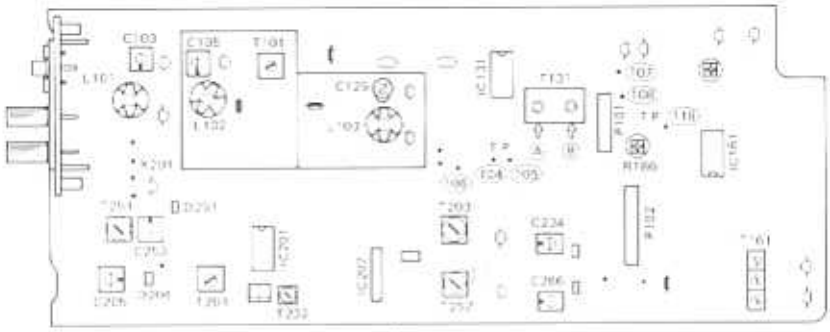


Fig. 14

4-1 MW

Low Frequency

1. Press to MW position.
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 Frequency display to 600 kHz by manual tuning.
5. Adjust T201 and the ferrite bar antenna adjusting the coil to maximized the output signal.

High Frequency

6. Set the RF generator to 1 400 kHz with 30 % modulation at 400 Hz.
7. Set the Frequency display to 1 400 kHz by manual tuning.
8. Adjust the trimmers C205 so that the output signal is maximized.
9. Repeat these high and low frequencies adjustment procedures alternately until maximum sensitivity is obtained.

4-2 LW

Low Frequency

1. Press to LW position.
2. Connect the RF generator to the antenna terminal on the rear panel, set this to 160 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 Frequency display to 160 kHz by manual tuning.
5. Adjust T251 to maximized the output signal.

High Frequency

6. Set the RF generator to 350 kHz with 30 % modulation at 400 Hz.
7. Set the Frequency display to 350 kHz by manual tuning.
8. Adjust the trimmers C253 so that the output signal is maximized.
9. Repeat these high and low frequencies adjustment procedures alternately until maximum sensitivity is obtained.

5. Logic S-curve Adjustment

1. Tune to a Frequency about 100 MHz where there is no broadcasting by manual tuning.
2. Connect a DC VTVM to the Test point TP336 of TXX-218.
3. Adjust VR301 for DC VTVM reading 4.75 V.

6. Frequency Counter Adjustment

FM:

1. Set the RF generator to 98 MHz and Output 1 mV.
2. Connect a DC VTVM to TP336.
3. Press the MANUAL switch (23) of Fig. 1 first.
4. Adjust Manual Tuning knob for DC VTVM reading
5. Adjust VR304 to get the Frequency display reading 98.0 MHz.

AM (MW/LW)

1. Set the RF generator to 1 000 kHz.
2. Connect a DC VTVM to TP336.
3. Press the Manual Switch (23) of Fig. 1 first.
4. Adjust Manual Volume for DC VTVM reading 4.75 V.
5. Adjust VR305 to get the Frequency display reading 1 000 kHz.

   Note: By the adjustment for MW, frequency counter for LW is also adjusted.

7. Multiplex and Stereo Separation

Multiplex

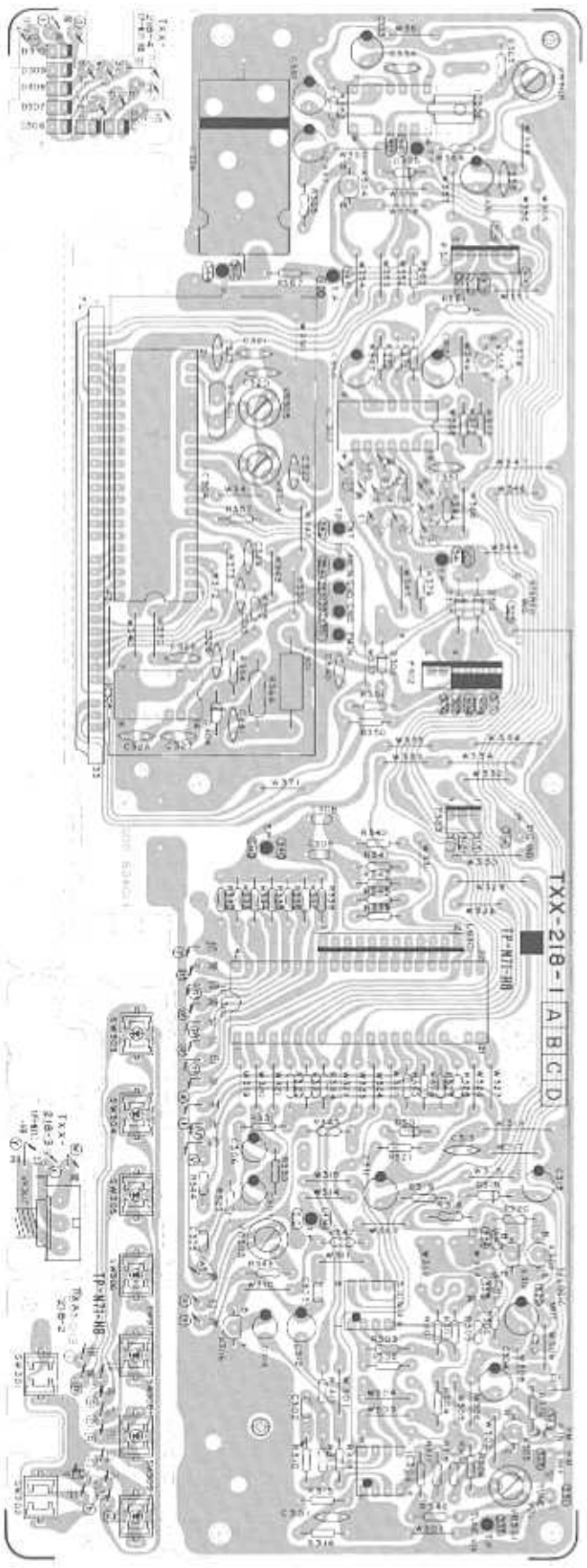
1. Set the Stereo signal generator as follows: 400 Hz modulation frequency, 7.5 kHz deviation pilot, 67.5 kHz main and sub carriers. Connect its output to an RF generator.
2. Connect an RF generator to the antenna terminals through a dummy antenna.
3. Connect a VTVM, an Oscilloscope and a Distortion 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 Frequency display to 98 MHz by manual tuning.
6. Connect the Frequency Counter to 19 kHz Test Point. (TP116) See Fig. 14.
7. Switch off the pilot signal of Stereo Modulator.
8. Adjust R185 so that the frequency counter indicates 19 kHz (0 ~ -50 Hz).

Stereo Separation

9. Switch the selector of Stereo Modulator to left channel modulation.
10. Adjust R186 so that the output of right channel is minimized.
11. Switch the selector of the modulator to right channel modulation.
12. Adjust R186 so that the left channel is minimized.
13. Set R186 to a average, if the separation of left and right are different.

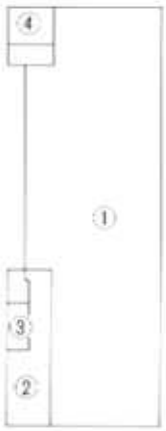
9 Printed Circuit Board Ass'y and Parts List.

9-(1) TXX-218B Logic & Counter P.C. Board Ass'y



Note:

The specific symbols (▲ , ★ , □ . . . etc.) on a surface of the 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.



1. TXX-218-1 Logic and Counter P.C. Board Ass'y
2. TXX-218-2 Preset/Station Select SW P.C. Board Ass'y
3. TXX-218-3 Manual Vol. P.C. Board Ass'y
4. TXX-218-4 Indicator P.C. Board Ass'y

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X301	2SC458(C,D)	0.2 W	230 MHz	Silicon	Hitachi
X302	2SC458(C,D)	"	"	"	"
X303	2SC458(C,D)	"	"	"	"
X304	2SC2546(E,F)	0.3 W	90 MHz	"	"
X306	2SC458(C,D)	0.2 W	230 MHz	"	"

Integrated Circuits

Item No.	Part Number	Rating	Description	
		Pc		Maker
IC301	LC7207	0.3 W	I.C.	Sanyo
IC302	NJM4558D	0.5 W	"	JRC
IC303	NJM4558D	"	"	"
IC304	LC7253	0.4 W	"	Sanyo
IC305	MSL2318RS	0.01 W	"	Oki
IC306	LA5700	1 W	"	Sanyo
IC307	LB1405	0.5 W	"	"

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D301	WZ-071	0.5 W	Zenner Diode	
D302	1S2076-31		Diode	Hitachi
D304	WZ-050	0.5 W	Zenner Diode	S.Nihon Musen
D305	1S2076-31		Diode	Hitachi
D306	LN221RP		LED	Matsushita
D307	LN221RP		"	"
D308	LN221RP		"	"
D309	LN221RP		"	"
D310	LN221RP		"	"
D311	LN321GP		"	"
D312	LN221RP		"	"
D316	ERB12-02RKL1		Diode	Fuji Denki
D317	ERB12-02RKL1		"	"
D318	1S2076-31		"	Hitachi

Fig. 15

Coils & Transformers

Item No.	Part Number	Rating	Description
L301	E03695-001		

Capacitors

Item No.	Part Number	Rating		Description
C301	QCS31HJ-470Z	47 pF	50 V	Ceramic
C302	QFM31HK-472	4700 pF	"	Mylar
C303	QFM31HK-222Z	2200 pF	"	"
C304	QET61ER-106Z	10 μF	25 V	Tantalum Electrolytic
C305	QFM31HK-682Z	6800 pF	50 V	Mylar
C306	QEB51EM-225	2.2 μF	25 V	Low Leak Current Electrolytic
C307	QET51ER-106	10 μF	"	Tantalum Electrolytic
C308	QFM31HK-473Z	0.047 μF	50 V	Mylar
C309	QFM31HK-473Z	"	"	"
C310	QCF31HP-223Z	0.022 μF	"	Ceramic
C311	QET61AR-476Z	47 μF	10 V	Tantalum Electrolytic
C312	QET61HR-226Z	22 μF	50 V	"
C313	QCF31HP-223Z	0.022 μF	"	Ceramic
C314	QET61HR-105Z	1 μF	"	Tantalum Electrolytic
C315	QEB51HM-224	0.22 μF	"	Low Leak Current Electrolytic
C320	QCS31HJ-270Z	27 pF	"	Ceramic
C321	QCS31HJ-270Z	"	"	"
C322	QCF31HP-223Z	0.022 μF	"	"
C323	QCF31HP-223Z	"	"	"
C324	QCF21HP-103	0.01 μF	"	"
C325	QCF31HP-103Z	"	"	"
C326	QCF21HP-102	1000 pF	"	"
C327	QCF31HP-223Z	0.022 μF	"	"
C328	QCF31HP-103Z	0.01 μF	"	"
C329	QCS31HJ-470Z	47 pF	"	"
C332	QET61CR-226Z	22 μF	16 V	Tantalum Electrolytic
C333	QET51HR-475	4.7 μF	50 V	"
C334	QCS31HJ-470Z	47 pF	"	Ceramic
C335	QET51ER-106	10 μF	25 V	Tantalum Electrolytic
C336	QCF31HP-223Z	0.022 μF	50 V	Ceramic
C337	QET61ER-106Z	10 μF	25 V	Tantalum Electrolytic
C339	QET21AR-109		10 V	"
C340	QCF31HP-223Z	0.022 μF	50 V	Ceramic
C341	QCF21HP-223	"	"	"
C350	QET61HR-105Z	1 μF	"	Tantalum Electrolytic
C351	QCS31HJ-470Z	47 pF	"	Ceramic
C352	QET61ER-106Z	10 μF	25 V	Tantalum Electrolytic

Resistors

Item No.	Part Number	Rating		Description
R301	QRD141J-563SY	56 kΩ	1/4 W	Carbon
R302	QRD141J-563SY	"	"	"
R303	QRD141J-334SY	330 kΩ	"	"
R304	QRD141J-104SY	100 kΩ	"	"
R305	QRD141J-272SY	2.7 kΩ	"	"
R307	QRD141J-104SY	100 kΩ	"	"
R308	QRD141J-224SY	220 kΩ	"	"
R309	QRD141J-104SY	100 kΩ	"	"
R310	QRD141J-472SY	4.7 kΩ	"	"
R311	QRD141J-155SY	1.5 MΩ	"	"
R312	QRD141J-103SY	10 kΩ	"	"
R313	QRD141J-104SY	100 kΩ	"	"
R314	QRV144F-2003	20 Ω	"	CMF
R315	QRV144F-1003	10 Ω	"	"
R316	QRD141J-272SY	2.7 kΩ	"	Carbon
R318	QRD141J-223SY	22 kΩ	"	"
R319	QRD141J-103SY	10 kΩ	"	"
R320	QRD141J-103SY	"	"	"
R321	QRD141J-103SY	"	"	"
R322	QRD141J-474SY	470 kΩ	"	"

Resistors

Item No.	Part Number	Rating		Description
R323	QRD141J-474SY	470 kΩ	1/4 W	Carbon
R324	QRD141J-474SY	"	"	"
R325	QRD141J-474SY	"	"	"
R326	QRD141J-474SY	"	"	"
R327	QRD141J-474SY	"	"	"
R328	QRD141J-474SY	"	"	"
R329	QRD141J-913SY	91 kΩ	"	"
R330	QRD141J-364SY	360 kΩ	"	"
R331	QRD141J-820SY	82 Ω	"	"
R332	QRD141J-104SY	100 kΩ	"	"
R333	QRD141J-104SY	"	"	"
R334	QRD141J-104SY	"	"	"
R335	QRD141J-104SY	"	"	"
R336	QRD141J-104SY	"	"	"
R337	QRD141J-104SY	"	"	"
R338	QRD141J-104SY	"	"	"
R339	QRV144F-1203	12 Ω	"	CMF
R340	QRD141J-225SY	2.2 MΩ	"	Carbon
R341	QRD141J-155SY	1.5 MΩ	"	"
R342	QRD141J-225SY	2.2 MΩ	"	"
R343	QRD141J-682SY	6.8 kΩ	"	"
R344	QRD141J-471SY	470 Ω	"	"
R345	QRD141J-562SY	5.6 kΩ	"	"
R346	QRD141J-334SY	330 kΩ	"	"
R347	QRD141J-103SY	10 kΩ	"	"
R348	QRD141J-561SY	560 Ω	"	"
R350	QRD141J-822SY	8.2 kΩ	"	"
R351	QRD141J-822SY	"	"	"
R354	QRD141J-182SY	1.8 kΩ	"	"
R357	QRD141J-103SY	10 kΩ	"	"
R358	QRD141J-103SY	"	"	"
R362	QRD141J-223SY	22 kΩ	"	"
R363	QRD141J-472SY	4.7 kΩ	"	"
R364	QRD141J-562SY	5.6 kΩ	"	"
R365	QRD141J-222SY	2.2 kΩ	"	"
R367	QRD141J-472SY	4.7 kΩ	"	"
R368	QRG017J-121S	120 Ω	1 W	Oxide Metal Film
R369	QRD141J-470SY	47 Ω	1/4 W	Carbon
R370	QRD141J-153SY	15 kΩ	"	"
R371	QRD141J-472SY	4.7 kΩ	"	"
R372	QRD141J-563SY	56 kΩ	"	"
R373	QRD141J-183SY	18 kΩ	"	"
R376	QRD141J-103SY	10 kΩ	"	"
R377	QRD141J-182SY	1.8 kΩ	"	"
R379	QRD141J-222SY	2.2 kΩ	"	"
R381	QRD141J-181SY	180 Ω	"	"
R382	QRD141J-222SY	2.2 kΩ	"	"

Others

Item No.	Part Number	Rating	Description
	ELU0001-002		F.L. Display
	E300470-001		Shield Cover
	E66623-001		L-BKT
P301	QMV5005-005		5P Plug Ass'y
P302	QMV5005-004		4P "
P303	QMV5005-003		3P "
LN301	ERGS108-103		Ladder Network
SW301	ESP0001-001		Tact SW.
SW302	"		"
SW303	ESP0010-R01		"
SW304	"		"
SW305	"		"
SW306	"		"
SW307	"		"
SW308	"		"
SW309	"		
VR301	QVP4A0B-104		V. RES
VR303	QVP4A0B-471		"
VR304	QVP4A0B-103		"
VR305	QVP4A0B-103		"
VR306	QVP4A0B-222		"
VR307	QVZ1635-003		Vernier V. RES
XT301	E03737-006		X'Tal (4 MHz)

9-(2) TFM-922C FM/MW/LW Tuner P.C. Board Ass'y

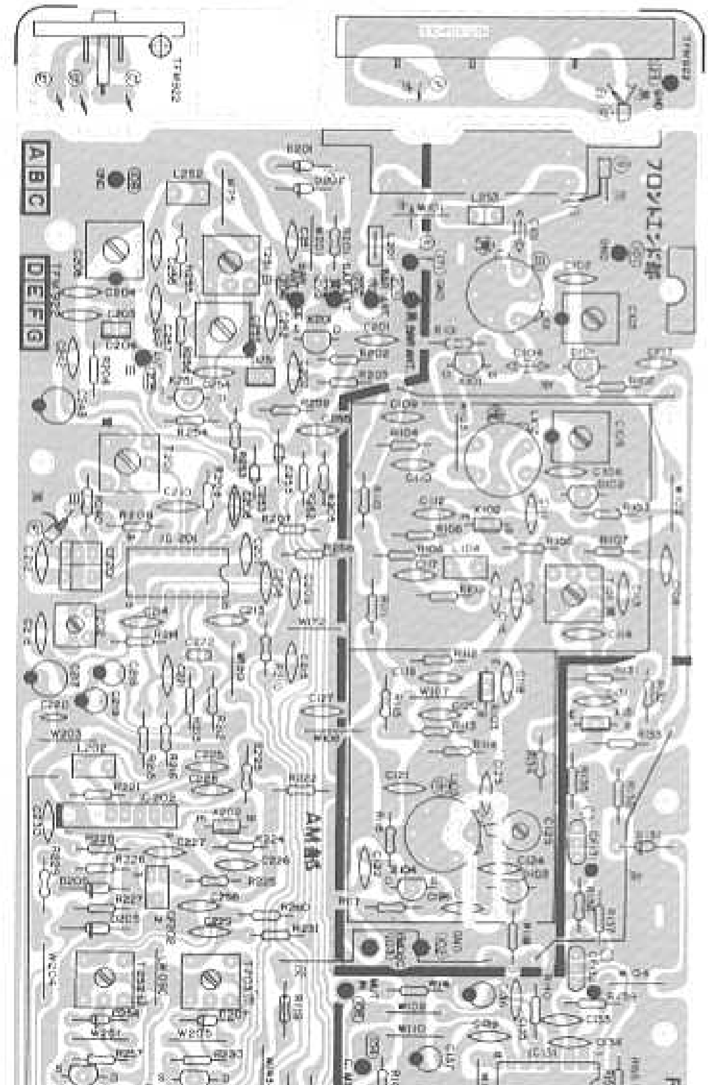


Fig. 16

Note:
The specific symbols (ﾛ , ＊ , ∩ . . . etc.) on a surface of the 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.

Transistors

Item No.	Part Number	Rating		Description	
		Pc	f_T		Maker
X101	2SK168(E,F)	0.2 W	300 MHz	Silicon	Hitachi
X102	2SC535(B)	0.1 W	940 MHz	"	"
X103	2SC1342(C)	0.1 W	410 MHz	"	"
X104	2SK168(E)	0.2 W	300 MHz	"	"
X131	2SC535(B,C)	0.1 W	940 MHz	Silicon	Hitachi
X132	2SC458(C,D)	0.2 W	230 MHz	"	"
X133	2SA1029(C,D)	"	200 MHz	"	"
X134	2SC458(C,D)	"	230 MHz	"	"
X135	2SC458(C,D)	"	"	"	"
X161	2SD655(E, F)	0.5 W	250 MHz	"	"
X162	2SD655(E, F)	"	"	"	"
X201	2SK105(F,H)	0.25 W	250 MHz	"	NEC
X202	2SC461(B,C)	0.2 W	230 MHz	"	Hitachi
X203	2SK105(F,H)	0.25 W	250 MHz	"	NEC
X204	2SC461(B,C)	0.2 W	230 MHz	"	Hitachi
X251	2SK105(F,H)	0.25 W	250 MHz	"	NEC
X252	2SK105(F,H)	"	"	"	"

Integrated Circuits

Item No.	Part Number	Rating	Description	
		Pc		Maker
IC131	HA11225	0.59 W	I.C.	Hitachi
IC161	μPC1161C	0.4 W	I.C.	NEC
IC201	HA1197	0.45 W	I.C.	Hitachi
IC202	HA1211	0.2 W	"	"

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D101	1SV55		V. Cap. Di	Hitachi
D102	1SV55		"	"
D103	1SV55			"
D104	ERB12-02RKL1			Fuji Denki
D105	ERB12-02RKL1			"
D131	1S2076-31			Hitachi
D132	1S2076-31			"
D133	1S2076-31			"
D161	1S2076-31			"
D162	1S2076-31			"
D201	1S2076-31			"
D202	1S2076-31			"
D204	KV1226			Toko
D205	1S188FM			
D206	1S188FM			
D207	1S2076-31			Hitachi
D208	KV1226			
D209	1S2076-31			Hitachi
D251	KV1226			Toko
D252	KV1226			"
D253	1S2076-31			Hitachi
D254	1S2076-31			"
D255	1S2076-31			"

Coils & Transformers

Item No.	Part Number	Rating	Description
L101	E03477-56		
L102	E03477-039		
L103	E03477-57		
L104	E03522-1R5KY		
L161	Y00118-103		
L162	Y00118-103		
L202	E03522-102KY		
L203	Y00118-103		
L251	E03522-102KY		
L252	E03522-101KY		
L253	E03522-2R2KY		
T101	E03078-48		
T131	E03793-001		
T161	E03735-003		
T201	E03613-017		
T202	E03062-39		
T203	E03079-40		
T251	E03079-42		
T252	E03079-41		

Capacitors

Item No.	Part Number	Rating		Description
C101	QCS31HJ-221Z	220 pF	50 V	Ceramic
C102	QCS31HJ-100Z	10 pF	"	"
C103	QAT2001-001			
C105	QAT2001-001			
C106	QCS31HJ-100Z	10 pF	50 V	Ceramic
C107	QCF31HP-103Z	0.01 μF	"	"
C108	QCF31HP-103Z	"	"	"
C109	QCF31HP-103Z	"	"	"
C110	QCF31HP-103Z	"	"	"
C111	QCS31HJ-3R0Z	3 pF	"	"
C112	QCF31HP-103Z	0.01 μF	"	"
C113	QCF31HP-103Z	"	"	"
C114	QCF31HP-223Z	0.022 μF	"	"
C115	QCT25CH-3R0Z	3 pF		"
C117	QCS31HJ-151Z	160 pF	50 V	"
C118	QCT25UJ-220Z	22 pF		"
C119	QCT25UJ-150Z	15 pF		"
C120	QCF31HP-103Z	0.01 μF	50 V	"
C121	QCF31HP-103Z	"	"	"
C122	QCF31HP-103Z	"	"	"
C123	QCT25UJ-7R0	7 pF		"
C124	QCT25SH-120Z	12 pF		"
C125	QAT3001-005			
C126	QCT25CH-2R0	2 pF		Ceramic
C127	QCF31HP-103Z	0.01 μF	50 V	"
C131	QCF31HP-223Z	0.022 μF	"	"
C133	QCF31HP-223Z	"	"	"
C134	QCF31HP-223Z	"	"	"
C135	QCS31HJ-330Z	33 pF	"	"
C136	QET61HR-475Z	4.7 μF	"	Tantalum Electrolytic
C139	QCF31HP-223Z	0.022 μF	"	Ceramic
C140	QCC31EM-473	0.047 μF	25 V	
C141	QCF31HP-223Z	0.022 μF	50 V	Ceramic
C142	QCF31HP-223Z	"	"	"
C143	QCF31HP-223Z	"	"	"
C144	QET61CR-107Z	100 μF	16 V	Tantalum Electrolytic
C145	QET61HR-225Z	2.2 μF	50 V	"
C161	QET61CR-226Z	22 μF	16 V	"
C162	QET61HR-475Z	4.7 μF	50 V	"
C163	QET61CR-107Z	100 μF	"	"
C164	QET51CR-227	220 μF	"	"
C165	QET61ER-106Z	10 μF	25 V	"
C166	QET61ER-106Z	"	"	"
C167	QFM31HK-152Z	1500 pF	"	"
C168	QFM31HK-152Z	1500 pF	"	"
C171	QET61HR-474	0.47 μF	"	Tantalum Electrolytic
C172	QET61HR-474	"	"	"
C173	QFM31HK-182Z	1800 pF	"	Mylar
C174	QFM31HK-182Z	"	"	"

Capacitors

Item No.	Part Number	Rating		Description
C175	QFM31HK-222Z	2200 pF	50 V	Mylar
C176	QFM31HK-222Z	"	"	"
C178	QFM31HK-473Z	0.047 μF	"	"
C179	QFP31HJ-471	470 pF	"	
C180	QCS31HJ-101Z	100 pF	"	Ceramic
C181	QEB51HM-224	0.22 μF	"	Low Leak Current Electrolytic
C182	QEB51EM-335	3.3 μF	25 V	"
C183	QEB51HM-105	1 μF	50 V	"
C184	QCF31HP-223Z	0.022 μF	"	Ceramic
C201	QCF31HP-223Z	"	"	"
C202	QCF31HP-223Z	"	"	"
C203	QCF31HP-223Z	"	"	"
C204	QCS31HJ-7R0	7 pF	"	"
C205	QAT2001-005			Trimmer Cap.
C206	QCF31HP-223Z	0.022 μF	50 V	Ceramic
C207	QCF31HP-223Z	0.022 μF	50 V	Ceramic
C208	QCF31HP-223Z	"	"	"
C210	QCF31HP-223Z	"	"	"
C212	QCS31HJ-560Z	56 pF	"	"
C213	QCF31HP-223Z	0.022 μF	"	"
C214	QCF31HP-223Z	"	"	"
C215	QCF31HP-223Z	"	"	"
C216	QCF31HP-223Z	"	"	"
C217	QET61ER-106Z	10 μF	25 V	Tantalum Electrolytic
C218	QET61HR-105Z	1 μF	50 V	"
C219	QET61ER-106Z	10 μF	25 V	"
C220	QCF31HP-102Z	1000 pF	50 V	Ceramic
C221	QCS31HJ-221Z	220 pF	"	"
C222	QFM31HK-102Z	1000 pF	"	Mylar
C225	QCF31HP-223Z	0.022 μF	"	Ceramic
C226	QCC31EM-473	0.047 μF	25 V	
C227	QCC31EM-473	"	"	
C228	QCF31HP-223Z	0.022 μF	50 V	Ceramic
C229	QCF31HP-223Z	"	"	"
C230	QCC31EM-473	0.047 μF	25 V	
C231	QCT26CH-271	270 pF		Ceramic
C232	QCT26CH-181	180 pF		"
C233	QCT26CH-150	15 pF		"
C234	QAT2001-005			Trimmer Cap.
C235	QCT26RH-180	18 pF		Ceramic
C236	QCF31HP-223Z	0.022 μF	50 V	"
C237	QCF31HP-223Z	"	"	"
C238	QFM31HK-333Z	0.033 μF	"	Mylar
C239	QCF31HP-103Z	0.01 μF	"	Ceramic
C240	QCF31HP-223Z	0.022 μF	"	"
C241	QCF31HP-223Z	"	"	"
C242	QCF31HP-223Z	"	"	"
C243	QET61CR-476Z	47 μF	16 V	Tantalum Electrolytic
C251	QCS31HJ-331Z	330 pF	50 V	Ceramic
C252	QCS31HJ-330Z	33 pF	"	"
C253	QAT2001-005			
C254	QCF31HP-223Z	0.022 μF	50 V	Ceramic
C255	QCF31HP-223Z	"	"	"
C256	QCS31HJ-181Z	180 pF	"	"
C257	QCF31HP-223Z	0.022 μF	"	"
C258	QCF31HP-223Z	"	"	"
C261	QCT26CH-121	120 pF		"
C262	QCT26CH-330	33 pF		"
C263	QCT26CH-330	"		"
C264	QCT26CH-330	"		"
C265	QFM31HK-223Z	0.022 μF	50 V	Mylar
C266	QAT2001-005			Trimmer Cap.

Resistors

Item No.	Part Number	Rating		Description
R102	QRD141J-473SY	47 kΩ	1/4 W	Carbon
R103	QRD141J-473SY	"	"	"
R104	QRD141J-221SY	220 Ω	"	"
R105	QRD141J-102SY	1 kΩ	"	"
R107	QRD141J-220SY	22 Ω	"	"
R108	QRD141J-223SY	22 kΩ	"	"
R109	QRD141J-392SY	3.9 kΩ	"	"
R110	QRD141J-101SY	100 Ω	"	"
R111	QRD141J-101SY	"	"	"
R112	QRD141J-222SY	2.2 kΩ	"	"
R113	QRD141J-103SY	10 kΩ	"	"
R114	QRD141J-682SY	6.8 kΩ	"	"
R115	QRD141J-102SY	1 kΩ	"	"
R116	QRD141J-102SY	"	"	"
R117	QRD141J-105SY	1 MΩ	"	"
R118	QRD141J-473SY	47 kΩ	"	"
R119	QRD141J-102SY	1 kΩ	"	"
R131	QRD141J-681SY	680 Ω	"	"
R132	QRD141J-472SY	4.7 kΩ	"	"
R133	QRD141J-221SY	220 Ω	"	"
R134	QRD141J-471SY	470 Ω	"	"
R135	QRD141J-101SY	100 Ω	"	"
R136	QRD141J-101SY	"	"	"
R137	QRD141J-561SY	560 Ω	"	"
R138	QRD141J-103SY	10 kΩ	"	"
R139	QRD141J-391SY	390 Ω	"	"
R140	QRD141J-473SY	47 kΩ	"	"
R141	QRD141J-123SY	12 kΩ	"	"
R142	QRD141J-271SY	270 Ω	"	"
R143	QRD141J-123SY	12 kΩ	"	"
R144	QRD141J-683SY	68 kΩ	"	"
R145	QRD141J-563SY	56 kΩ	"	"
R146	QRD141J-332SY	3.3 kΩ	"	"
R147	QRD149J-470S	47 Ω	"	"
R148	QRD141J-563SY	56 kΩ	"	"
R149	QRD141J-103SY	10 kΩ	"	"
R150	QRD141J-472SY	4.7 kΩ	"	"
R152	QRD141J-683SY	68 kΩ	"	"
R153	QRD141J-223SY	22 kΩ	"	"
R154	QRD141J-563SY	56 kΩ	"	"

Resistors

Item No.	Part Number	Rating		Description
R156	QRD141J-103SY	10 kΩ	1/4 W	Carbon
R157	QRD141J-223SY	22 kΩ	"	"
R158	QRD141J-822SY	8.2 kΩ	"	"
R159	QRD141J-223SY	22 kΩ	"	"
R161	QRD141J-393SY	39 kΩ	"	"
R162	QRD141J-153SY	15 kΩ	"	"
R164	QRD141J-223SY	22 kΩ	"	"
R165	QRD149J-330S	33 Ω	"	"
R167	QRD141J-223SY	22 kΩ	"	"
R168	QRD141J-223SY	"	"	"
R169	QRD141J-103SY	10 kΩ	"	"
R170	QRD141J-103SY	"	"	"
R171	QRD141J-513SY	51 kΩ	"	"
R172	QRD141J-513SY	"	"	"
R173	QRD141J-103SY	10 kΩ	"	"
R174	QRD141J-103SY	"	"	"
R175	QRD141J-104SY	100 kΩ	"	"
R176	QRD141J-104SY	"	"	"
R177	QRD141J-103SY	10 kΩ	"	"
R178	QRD141J-103SY	"	"	"
R179	QRD141J-102SY	1 kΩ	"	"
R180	QRD141J-223SY	22 kΩ	"	"
R181	QRD141J-223SY	"	"	"
R182	QRD141J-153SY	15 kΩ	"	"
R183	QRD141J-102SY	1 kΩ	"	"
R184	QRD141J-163SY	16 kΩ	"	"
R185	QVP4A0B-472	4.7 kΩ		
R186	QVP4A0B-474	470 kΩ		
R201	QRD141J-102SY	1 kΩ	1/4 W	Carbon
R202	QRD141J-224SY	220 kΩ	"	"
R203	QRD141J-391SY	390 Ω	"	"
R205	QRD141J-102SY	1 kΩ	"	"
R206	QRD141J-222SY	2.2 kΩ	"	"
R207	QRD141J-151SY	150 Ω	"	"
R208	QRD141J-152SY	1.5 kΩ	"	"
R209	QRD141J-561SY	560 Ω	"	"
R210	QRD141J-151SY	150 Ω	"	"
R211	QRD141J-682SY	6.8 kΩ	"	"
R212	QRD141J-103SY	10 kΩ	"	"
R213	QRD141J-103SY	"	"	"
R214	QRD141J-331SY	330 Ω	"	"
R215	QRD141J-153SY	15 kΩ	"	"
R216	QRD141J-121SY	120 Ω	"	"
R221	QRD141J-473SY	47 kΩ	"	"
R222	QRD141J-331SY	330 Ω	"	"
R223	QRD141J-332SY	3.3 kΩ	"	"
R224	QRD141J-222SY	2.2 kΩ	"	"
R225	QRD141J-681SY	680 Ω	"	"
R226	QRD141J-103SY	10 kΩ	"	"
R227	QRD141J-103SY	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R229	QRD141J-332SY	3.3 kΩ	1/4 W	Carbon
R230	QRD141J-392SY	3.9 kΩ	"	"
R231	QRD141J-102SY	1 kΩ	"	"
R232	QRD141J-392SY	3.9 kΩ	"	"
R233	QRD141J-473SY	47 kΩ	"	"
R234	QRD141J-223SY	22 kΩ	"	"
R235	QRD141J-472SY	4.7 kΩ	"	"
R236	QRD141J-394SY	390 kΩ	"	"
R237	QRD141J-683SY	68 kΩ	"	"
R238	QRD141J-271SY	270 Ω	"	"
R239	QRD141J-393SY	39 kΩ	"	"
R240	QRD141J-221SY	220 Ω	"	"
R251	QRD141J-102SY	1 kΩ	"	"
R252	QRD141J-102SY	"	"	"
R253	QRD141J-222SY	2.2 kΩ	"	"
R254	QRD141J-223SY	22 kΩ	"	"
R255	QRD141J-391SY	390 Ω	"	"
R256	QRD141J-472SY	4.7 kΩ	"	"
R257	QRD141J-562SY	5.6 kΩ	"	"
R258	QRD141J-223SY	22 kΩ	"	"
R259	QRD141J-223SY	"	"	"
R260	QRD141J-102SY	1 kΩ	"	"
R261	QRD141J-822SY	8.2 kΩ	"	"
R262	QRD141J-473SY	47 kΩ	"	"

Others

Item No.	Part Number	Rating	Description
CF131	E03357-009		Ceramic Filter
CF132	E03357-009		"
CF201	E03613-019		"
CF202	E03613-018		"
	E03572-019P		Ant. Terminal
P102	QMV5005-012		12P Plug Ass'y
P101	QMV5005-009		9P Plug Ass'y

9-(3) TXX-219 Main amp. P.C. Board Ass'y

The number of TXX-219□-1 varries according to the area emplaced. See Note (1) below.

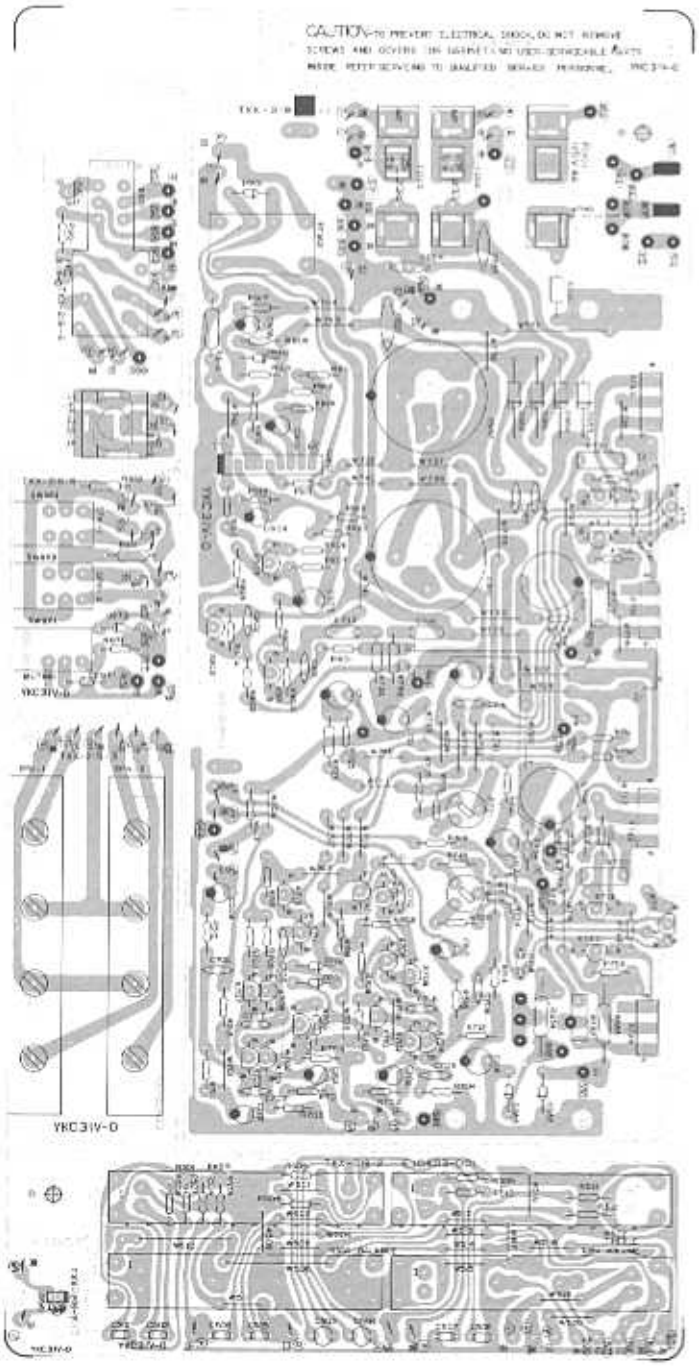


Fig. 17

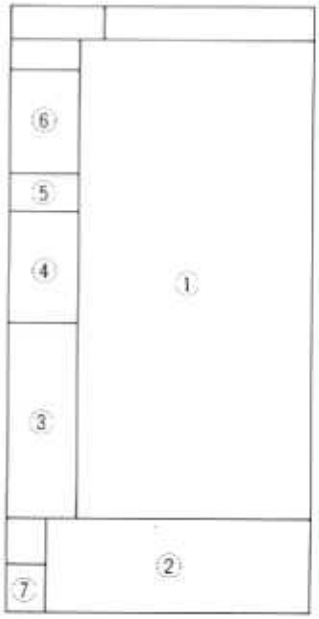
Notes:

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

Designated Area	P.C. Board Ass'y
Continental Europe	TXX-219 [D]-1
United Kingdom	TXX-219 [E]-1

(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.

Each Individual P.C. Board Ass'y Location



1. TXX-219-□-1 Power Amp. P.C. Board Ass'y
2. TXX-219-2 Slide Volume P.C. Board Ass'y
3. TXX-219-3 Speaker Terminal P.C. Board Ass'y
4. TXX-219-4 Speaker SW P.C. Board Ass'y
5. TXX-219-5 Headphone Jack P.C. Board Ass'y
6. TXX-219-6 Power Switch P.C. Board Ass'y
7. TXX-219-7 Power Indicator P.C. Board Ass'y

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X701	2SC1775AV(F1)	0.3 W	120 MHz	Silicon	Hitachi
X702	2SC1775AV(F1)	"	"	"	"
X703	2SC1775AV(F1)	"	"	"	"
X704	2SC1775AV(F1)	"	"	"	"
X705	2SA1029(C)	0.2 W		"	"
X706	2SA1029(C)	"		"	"
X707	2SA1029(C)	"		"	"
X708	2SA1029(C)	"		"	"
X709	2SC1775AV(F)	0.3 W	200 MHz	"	"
X710	2SC1775AV(F)	"	"	"	"
X711	2SA872AV(E)	"	120 MHz	"	"
X712	2SA872AV(E)	"	"	"	"
X713	2SA949(O,Y)	3 W	"	"	Toshiba
X714	2SA949(O,Y)	"	"	"	"
X715	2SC458(C)	0.2 W	230 MHz	"	Hitachi
X716	2SC458(C)	"	"	"	"
X717	2SC2235(O,Y)	0.9 W	120 MHz	"	Toshiba
X718	2SC2235(O,Y)	"	"	"	"
X719	2SA965(O,Y)	"	"		"
X720	2SA965(O,Y)	"	"		"
X721	2SC2525L(G,B)	120 W	80 MHz		Fujitsu
X722	2SC2525L(G,B)	"	"		"
X723	2SA1075L(G,B)	"	60 MHz		"
X724	2SA1075L(G,B)	"	"		"
X901	2SC1775AV(F)	0.3 W	200 MHz	Silicon	Hitachi
X902	2SC1775AV(F)	"	"	"	"
X903	2SA872AV(E)	"	120 MHz	"	"

Integrated Circuits

Item No.	Part Number	Rating	Description	
		Pc		Maker
IC901	TA7317P	0.5 W	I.C.	Toshiba

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D701	1S2076-31		Silicon	Hitachi
D702	1S2076-31		"	"
D901	1S2076-31		"	"
D951	30D2FA-S		"	IR
D952	30D2FA-S		"	"
D953	30D2FA-S		"	"
D954	30D2FA-S		"	"
D961	LN217RP		LED	Matsushita
D971	1S2076-31		Diode	Hitachi
D972	1S2076-31		"	"

Coils & Transformers

Item No.	Part Number	Rating	Description
L701	E04059-1R2	1.2 μF	Choke Coil
L702	E04059-1R2	"	"

Capacitors

Item No.	Part Number	Rating		Description
C501	QFM31HK-333Z	0.033 μF	50 V	Mylar
C502	QFM31HK-333Z	"	"	"
C503	QEZ0046-224	0.22 μF		Electrolytic
C504	QEZ0046-224	"		"
C505	QFM31HK-182Z	1800 pF	50 V	Mylar
C506	QFM31HK-182Z	"	"	"
C507	QFM31HK-183Z	0.018 μF	"	"
C508	QFM31HK-183Z	"	"	"
C509	QET61ER-106Z	10 μF	25 V	Tantalum Electrolytic
C510	QET61ER-106Z	"	"	"
C701	QET61HR-225Z	2.2 μF	50 V	"
C702	QET61HR-225Z	"	"	"
C703	QCS31HJ-101Z	100 pF	"	Ceramic
C704	QCS31HJ-101Z	"	"	"
C705	QCS31HJ-100Z	10 pF	"	"
C706	QCS31HJ-100Z	"	"	"
C707	QET61CR-107ZM	100 μF	16 V	Tantalum Electrolytic
C708	QET61CR-107ZM	"	"	"
C709	QCS31HJ-390Z	39 pF	50 V	Ceramic
C710	QCS31HJ-390Z	"	"	"
C711	QET51HR-226	22 μF	"	Tantalum Electrolytic
C712	QET51HR-226	"	"	"
C713	QFM31HK-473	0.047 μF	"	Mylar
C714	QFM31HK-473	"	"	"
C715	QCS31HJ-331Z	330 pF	"	Ceramic
C716	QCS31HJ-331Z	"	"	"
C751	QET51HR-107	100 μF	"	Tantalum Electrolytic
C752	QCF21HP-473	0.047 μF	50 V	Ceramic
C901	QCF31HP-223Z	0.022 μF	"	"
C902	QCF31HP-223Z	"	"	"
C903	QET51HR-226	22 μF	"	Tantalum Electrolytic
C904	QET61AR-107Z	100 μF	10 V	"
C905	QET61CR-226Z	22 μF	16 V	"
C906	QET61HR-105Z	1 μF	50 V	"
C951	QEW81HA-688H	6800 μF	"	Electrolytic
C952	QEW81HA-688H	"	"	"
C953	QCE22HP-103	0.01 μF	500 V	
C954	QCF21HP-103	"	50 V	Ceramic
C955	QCE22HP-103	"	500 V	
C957	QCF21HP-473A	0.047 μF	50 V	Ceramic
C958	QCF21HP-473A	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R001	QRC121K-275EM	2.7 MΩ	1/2 W	Composition
R501	QVZ5010-004			
R502	QVZ5010-004			
R503	QRD141J-123S	12 kΩ	1/4 W	Carbon
R504	QRD141J-123S	"	"	"
R505	QRD141J-182S	1.8 kΩ	"	"
R506	QRD141J-182S	"	"	"
R507	QRD141J-683S	68 kΩ	"	"
R508	QRD141J-683S	"	"	"
R509	QRD141J-182S	1.8 kΩ	"	"
R510	QRD141J-182S	"	"	"
R511	QRD141J-681S	680 Ω	"	"
R512	QRD141J-681S	"	"	"
R513	QRD141J-472SY	4.7 kΩ	"	"
R514	QRD141J-472SY	"	"	"
R515	QRD141J-562SY	5.6 kΩ	"	"
R516	QRD141J-562SY	"	"	"
R551	QVZ5010-006			
R552	QVZ5010-005			
R701	QRD141J-222SY	2.2 kΩ	1/4 W	Carbon
R702	QRD141J-222SY	"	"	"
R703	QRD141J-104SY	100 kΩ	"	"
R704	QRD141J-104SY	"	"	"
R705	QRD149J-101S	100 Ω	"	"
R706	QRD149J-101S	"	"	"
R707	QRD149J-101S	"	"	"
R708	QRD149J-101S	"	"	"
R709	QRD141J-391SY	390 Ω	"	"
R710	QRD141J-391SY	"	"	"
R711	QRD141J-561SY	560 Ω	"	"
R712	QRD141J-561SY	"	"	"
R713	QRD141J-683SY	68 kΩ	"	"
R714	QRD141J-683SY	"	"	"
R715	QRD141J-272SY	2.7 kΩ	"	"
R716	QRD141J-272SY	"	"	"
R717	QRD141J-332SY	3.3 kΩ	"	"
R718	QRD141J-332SY	"	"	"
R719	QRD141J-152SY	1.5 kΩ	"	"
R720	QRD141J-152SY	"	"	"
R721	QVP4A0B-102	1 kΩ		
R722	QVP4A0B-102	"		
R723	QRD129J-392	3.9 kΩ	1/2 W	Carbon
R724	QRD129J-392	"	"	"
R725	QRD141J-222SY	2.2 kΩ	1/4 W	"
R726	QRD141J-222SY	"	"	"
R727	QRD149J-271S	270 Ω	"	"
R728	QRD149J-271S	"	"	"
R729	QRM024K-R22	0.22 Ω	2 W	Metal Plate
R730	QRM024K-R22	"	"	"
R731	QRM024K-R22	0.22 Ω	"	"
R732	QRM024K-R22	"	"	"
R733	QRD141J-4R7SY	4.7 Ω	1/4 W	Carbon
R734	QRD141J-4R7SY	"	"	"
R735	QRD0050-100	10 Ω	1/2 W	"
R736	QRD0050-100	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R751	QRD149J-100S	"	1/4 W	Carbon
R752	QRD149J-100S	"	"	"
R754	QRD141J-223SY	22 kΩ	"	"
R755	QRD149J-100S	10 Ω	"	"
R756	QRD149J-100S	"	"	"
R757	QRD149J-100S	"	"	"
R758	QRD149J-100S	"	"	"
R901	QRD141J-222SY	2.2 kΩ	"	"
R902	QRD141J-222SY	"	"	"
R903	QRD141J-102SY	1 kΩ	"	"
R904	QRD141J-102SY	"	"	"
R905	QRD141J-123SY	12 kΩ	"	"
R906	QRD141J-123SY	"	"	"
R907	QRD141J-103SY	10 kΩ	"	"
R908	QRD141J-332SY	3.3 kΩ	"	"
R909	QRD141J-683SY	68 kΩ	"	"
R910	QRD141J-563SY	56 kΩ	"	"
R911	QRD141J-183SY	18 kΩ	"	"
R912	QRD141J-683SY	68 kΩ	"	"
R913	QRD141J-153SY	15 kΩ	"	"
R914	QRD141J-204SY	200 kΩ	"	"
R915	QRG017J-471S	470 Ω	1 W	Oxide Metal Film
R916	QRD141J-470SY	47 Ω	1/4 W	Carbon
R917	QRD141J-223SY	22 kΩ	"	"
R918	QRD141J-104SY	100 kΩ	"	"
R919	QRD141J-104SY	"	"	"
R920	QRD141J-104SY	"	"	"
R921	QRD141J-563SY	56 kΩ	"	"
R951	QRD129J-221	220 Ω	1/2 W	"
R952	QRD129J-221	"	"	"
R953	QRG027J-821	820 Ω	2 W	Oxide Metal Film
R961	QRD141J-102SY	1 kΩ	1/4 W	Carbon
R971	QRD141J-563SY	56 kΩ	"	"

Others

Item No.	Part Number	Rating	Description
	E03572-007EM		Speaker Terminal
	E48965-002		Fuse Clip
	E66624-001		V-Bracket
	E66625-001		Z-Bracket
	E66628-001		C. B. Holder
	E66628-002		"
	LPSP3012NS		Ass'y Screw
	QMS6302-102		H.P. Jack
S901	QSP0020-001E	Power	Push Switch
	QSP0240-101		"
	E300160-002		Heat Sink
RY901	ESK6D24-212		Relay

9-(4) TXX-220C Equalizer Amp. P.C. Board Ass'y

The number of TXX-220 varies according to the area employed. See Note (1) below:

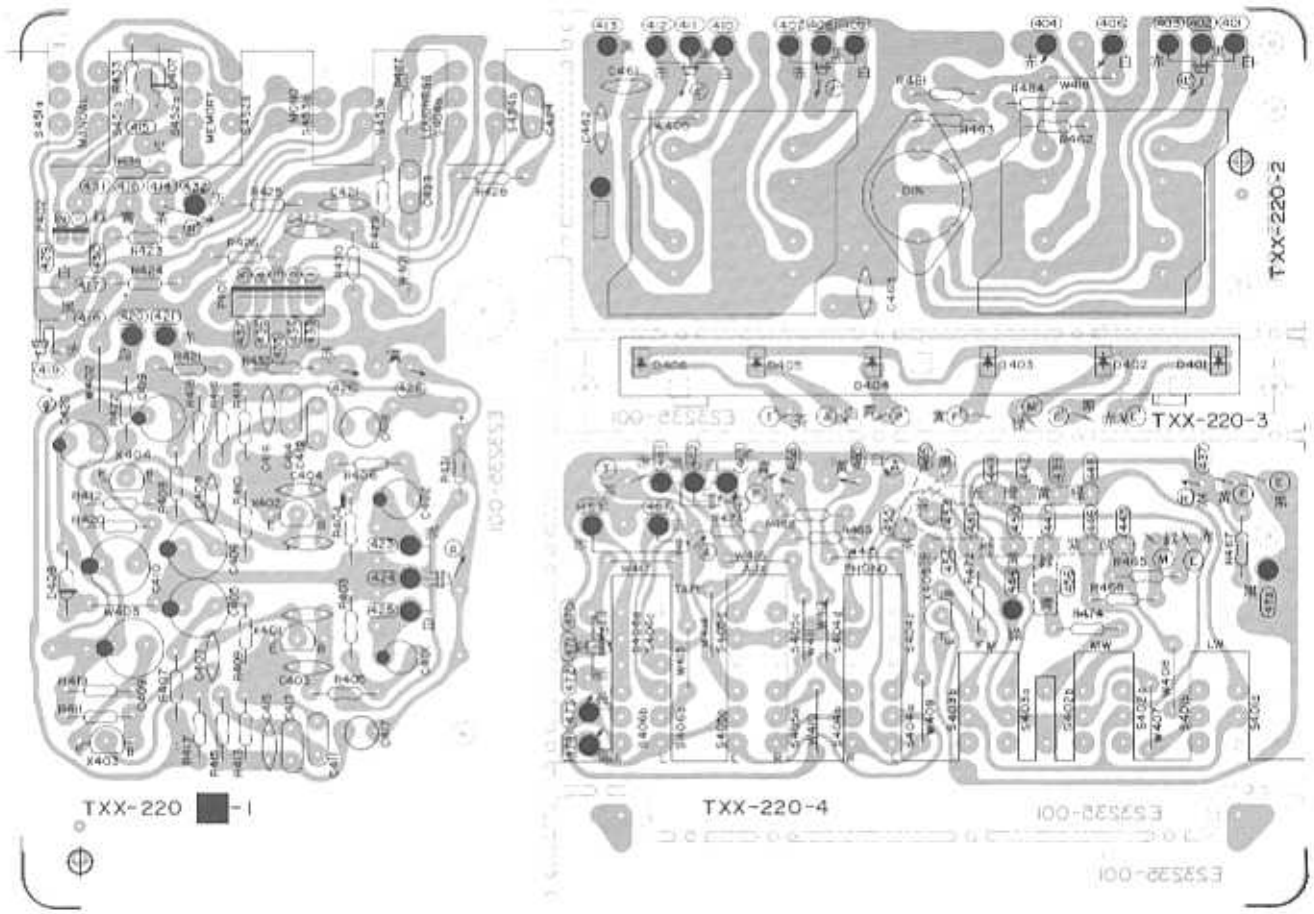
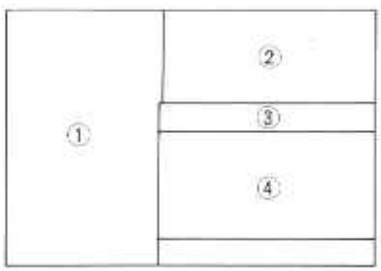


Fig. 18



1. TXX-220 C-1 Equalizer Amp. P.C. Board Ass'y
2. TXX-220-2 Pin Jack P.C. Board Ass'y
3. TXX-220-3 LED P.C. Board Ass'y
4. TXX-220-4 Selector Switch P.C. Board Ass'y

Designated Area	P.C. Board Ass'y
Australia & Europe	TXX-220 B
All other countries	TXX-220 A

Notes:

The specific symbols (∧ , ※ , ⊟ . . . etc.) on a surface of the 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.

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X401	2SA872AV(E)	0.3 W	120 MHz	Silicon	Hitachi
X402	2SA872AV(E)	"	"	"	"
X403	2SC1775AV(F)	"	200 MHz	"	"
X404	2SC1775AV(F)	"	"	"	"
X405	2SC458(C)	0.2 W	230 MHz	"	"

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D401	LN217RP		LED	Matsushita
D402	LN217RP		"	"
D403	LN217RP		"	"
D404	LN217RP		"	"
D405	LN217RP		"	"
D406	LN317GP		"	"
D407	1S2076-31		Diode	Hitachi

Capacitors

Item No.	Part Number	Rating		Description
C401	QET51HR-475Z	4.7 µF	50 V	Tantalum Electrolytic
C402	QET51HR-475Z	"	"	"
C403	QCS31HJ-471Z	470 pF	"	Ceramic
C404	QCS31HJ-471Z	"	"	"
C405	QET50JR-227	220 µF	6.3 V	Tantalum Electrolytic
C406	QET50JR-227	"	"	"
C407	QCS31HJ-470Z	47 pF	50 V	Ceramic
C408	QCS31HJ-470Z	"	"	"
C409	QET50JR-227	220 µF	6.3 V	Tantalum Electrolytic
C410	QET50JR-227	"	"	"
C411	QFM31HK-153	0.015 µF	50 V	Mylar
C412	QFM31HK-153	"	"	"
C413	QFM31HK-472	4700 pF	"	"
C414	QFM31HK-472	"	"	"
C415	QCS31HJ-471Z	470 pF	"	Ceramic
C416	QCS31HJ-471Z	"	"	"
C417	QEZ0046-105	1 µF		Electrolytic
C418	QEZ0046-105	"		"
C419	QET61CR-476Z	47 µF	16 V	Tantalum Electrolytic
C420	QET61CR-476Z	"	"	"
C421	QCS31HJ-151Z	160 pF	50 V	Ceramic
C422	QCS31HJ-151Z	"	"	"
C423	QFM31HK-183Z	0.018 µF	"	Mylar
C424	QFM31HK-183Z	"	"	"
C461	QCF11HP-223	0.022 µF	"	Ceramic
C462	QCF11HP-223	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R403	QRD141J-563SY	56 kΩ	1/4 W	Carbon
R404	QRD141J-563SY	"	"	"
R405	QRD141J-222SY	2.2 kΩ	"	"
R406	QRD141J-222SY	"	"	"
R407	QRD141J-134SY	130 kΩ	"	"
R408	QRD141J-134SY	"	"	"
R409	QRD141J-331SY	330 Ω	"	"
R410	QRD141J-331SY	"	"	"
R411	QRD141J-473SY	47 kΩ	"	"
R412	QRD141J-473SY	"	"	"
R413	QRD141J-224SY	220 kΩ	"	"
R414	QRD141J-224SY	"	"	"
R415	QRD141J-153SY	15 kΩ	"	"
R416	QRD141J-153SY	"	"	"
R417	QRD141J-332SY	3.3 kΩ	"	"
R418	QRD141J-332SY	"	"	"
R419	QRD141J-102SY	1 kΩ	"	"
R420	QRD141J-102SY	"	"	"
R421	QRD141J-820SY	82 Ω	"	"
R422	QRD141J-820SY	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R423	QRD141J-332SY	3.3 kΩ	1/4 W	Carbon
R424	QRD141J-332SY	"	"	"
R425	QRD141J-332SY	"	"	"
R426	QRD141J-332SY	"	"	"
R427	QRD141J-223SY	22 kΩ	"	"
R428	QRD141J-223SY	"	"	"
R429	QRD141J-564SY	560 kΩ	"	"
R430	QRD141J-564SY	"	"	"
R431	QRD141J-224SY	220 kΩ	"	"
R432	QRD141J-224SY	"	"	"
R433	QRD141J-102SY	1 kΩ	"	"
R434	QRD141J-102SY	"	"	"
R461	QRD141J-334SY	330 kΩ	"	"
R462	QRD141J-334SY	"	"	"
R463	QRD141J-104SY	100 kΩ	"	"
R464	QRD141J-104SY	"	"	"
R465	QRD141J-102SY	1 kΩ	"	"
R466	QRD141J-102SY	"	"	"
R467	QRD141J-102SY	"	"	"
R468	QRD141J-102SY	"	"	"
R469	QRD141J-102SY	"	"	"
R472	QRD141J-104SY	100 kΩ	"	"
R473	QRD141J-102SY	1 kΩ	"	"
R474	QRD141J-222SY	2.2 kΩ	"	"

Others

Item No.	Part Number	Rating	Description
	E03591-42D		Pin Jack
	E03623-003		DIN Socket
	E300465-001		LED Holder
	E66627-001		Volume Bracket
P402	QMV5005-002		2P Plug Ass'y
P401	QMV5005-005		5P Plug Ass'y
	QSP0032-001		Push Switch
	QSP0241-005		"
	QSP0033-001		"
	"		"

9-(5) TPS-250D Power Supply P.C. Board Ass'y

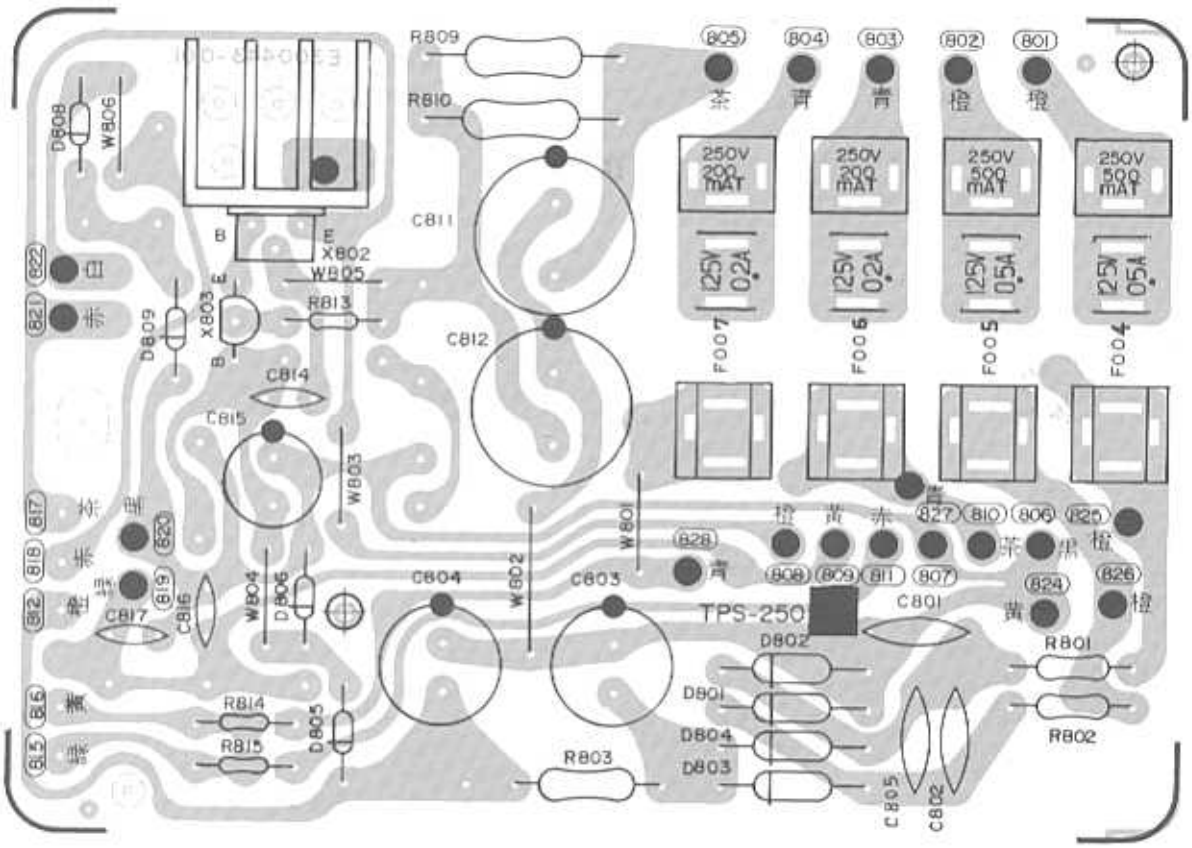


Fig. 19

Notes:
The specific symbols (* , ▼ , ○ . . . etc.) on a surface of the 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.

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT		Maker
X802	2SD330V(D,E)	20 W	8 MHz	Silicon	Toyo Dengu
X803	2SC458(C)	0.2 W	230 MHz	"	Hitachi

Diodes

Item No.	Part Number	Rating	Description	
				Maker
D801	ERB12-02RKL1		Diode	Fuji Denki
D802	ERB12-02RKL1		"	"
D803	ERB12-02RKL1		"	"
D804	ERB12-02RKL1		"	"
D805	WZ-150		Zenner Diode	
D806	XZ-132		"	JRC
D808	RD6.8EB3		"	NEC
D809	RD6.2EB3		"	"

Capacitors

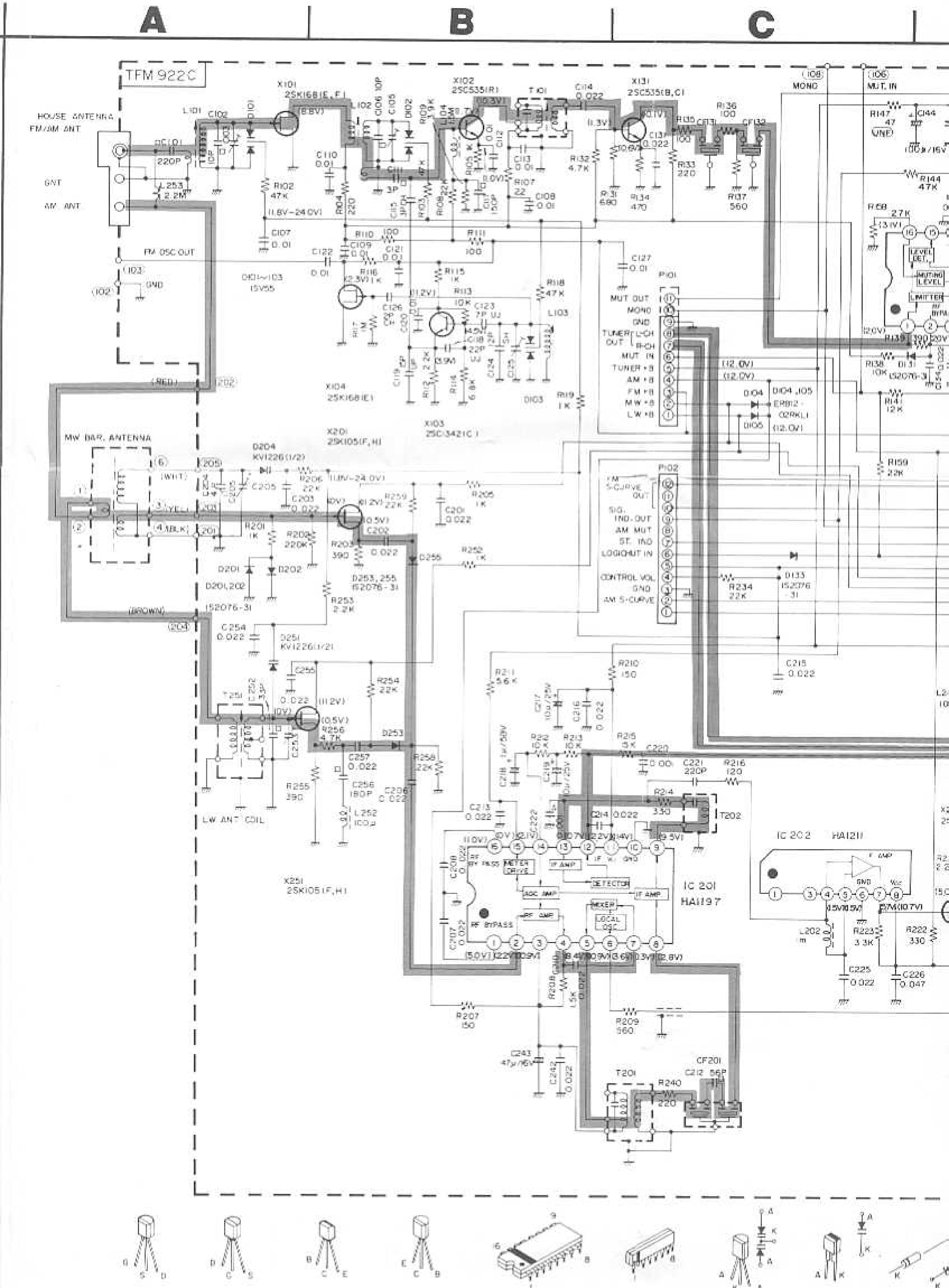
Item No.	Part Number	Rating		Description
C801	QCE22HP-103	0.01 μF	500 V	Ceramic
C802	QCE22HP-103	"	"	"
C803	QET51JR-107	100 μF	63 V	Tantalum Electrolytic
C804	QET51VR-107	"	35 V	"
C811	QET51VR-108	1000 μF	35 V	Tantalum Electrolytic
C812	QET51VR-108	"	"	"
C814	QCF21HP-473	0.047 μF	50 V	Ceramic
C815	QET51CR-227	220 μF	16 V	Tantalum Electrolytic
C816	QCF21HP-223	0.022 μF	50 V	Ceramic

Resistors

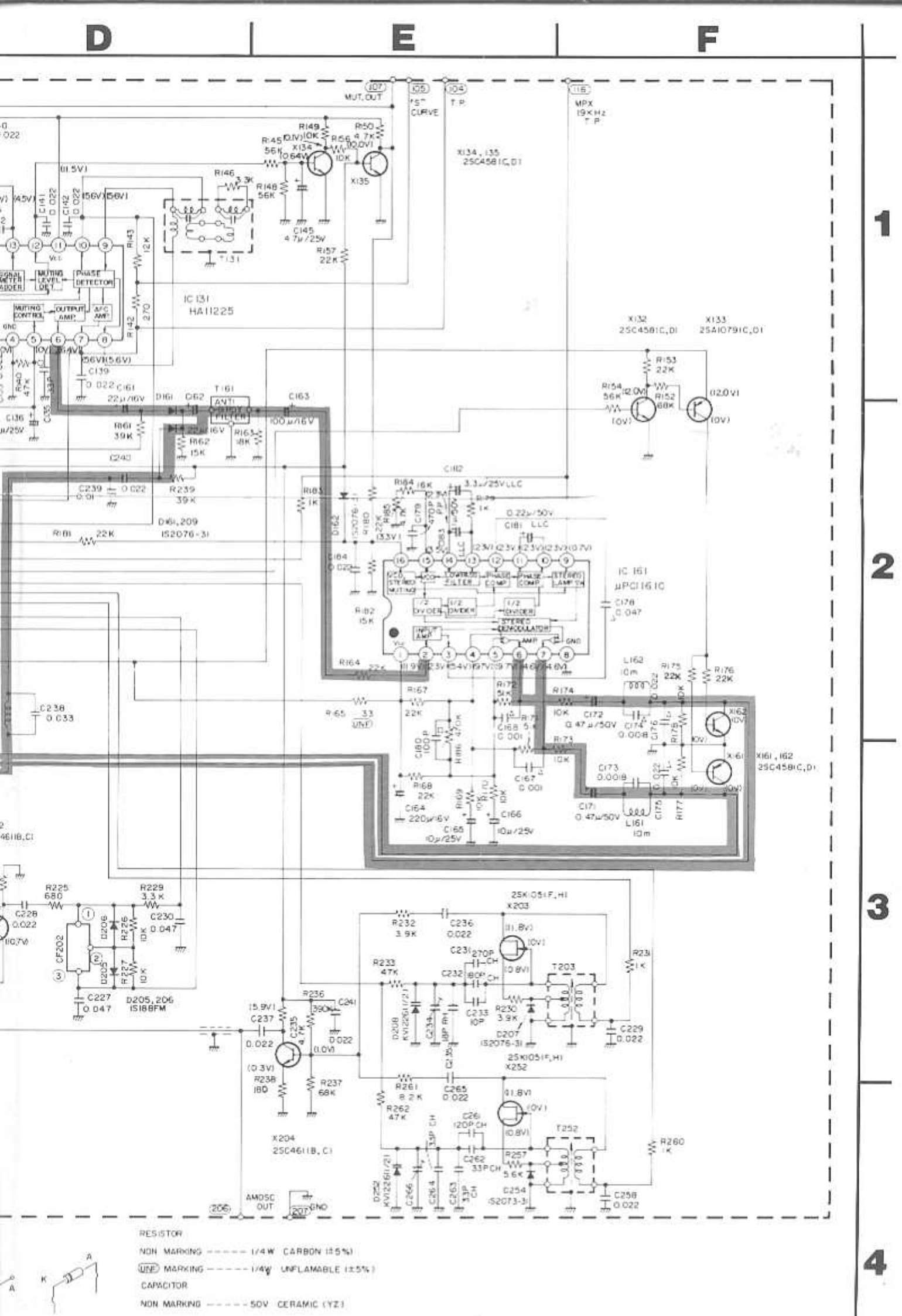
Item No.	Part Number	Rating		Description
R801	QRD129J-2R2	2.2 Ω	1/2 W	Carbon
R802	QRD129J-2R2	"	"	"
R803	QRG017J-272S	2.7 kΩ	1 W	Oxide Metal Film
R810	QRX027J-100	10 Ω	2 W	"
R813	QRD148J-221S	220 Ω	1/4 W	Carbon

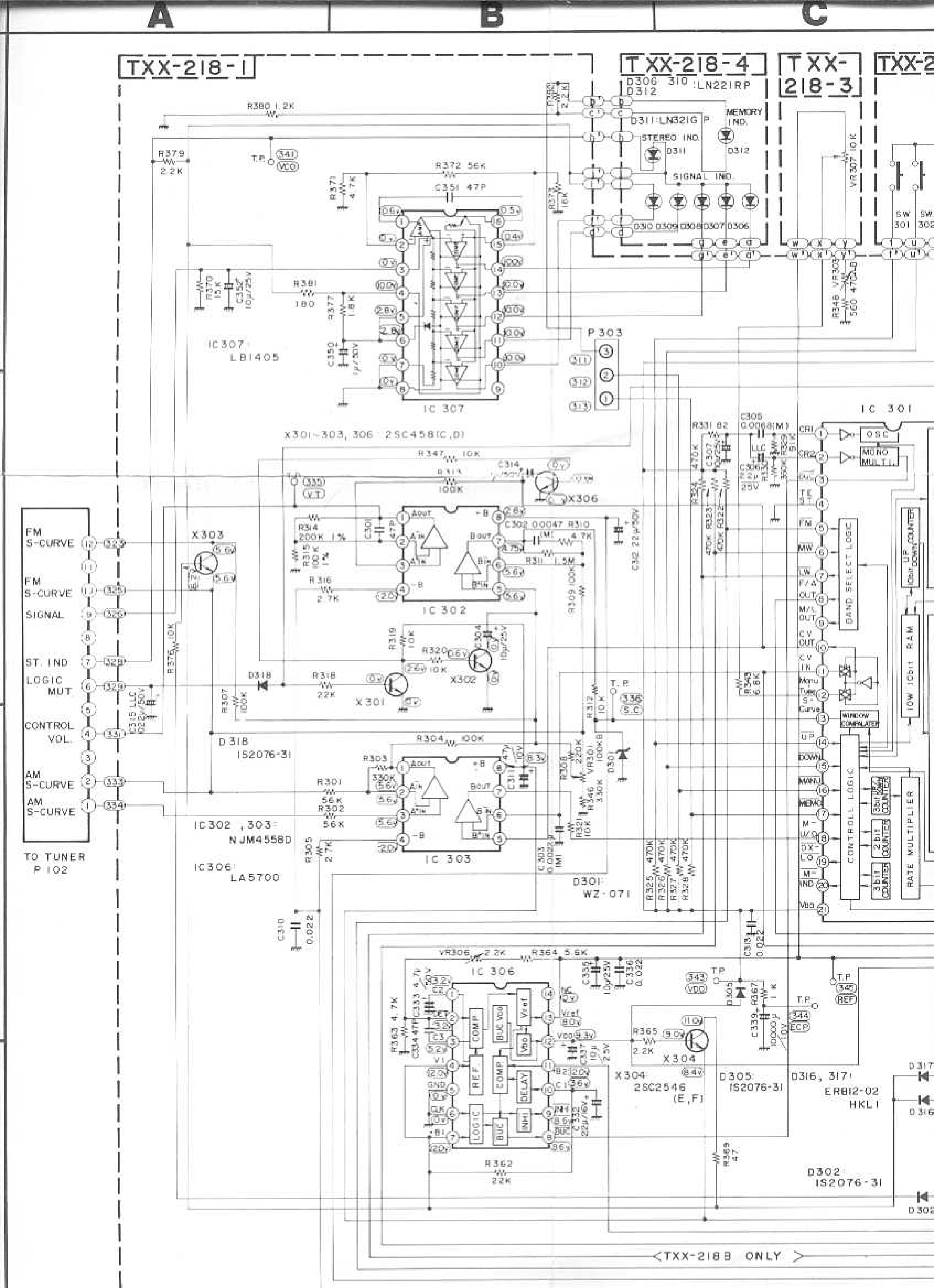
Others

Item No.	Part Number	Rating	Description
	E45524-002		Fuse Clip
	E48965-002		"
	E61537-002		Heat Sink

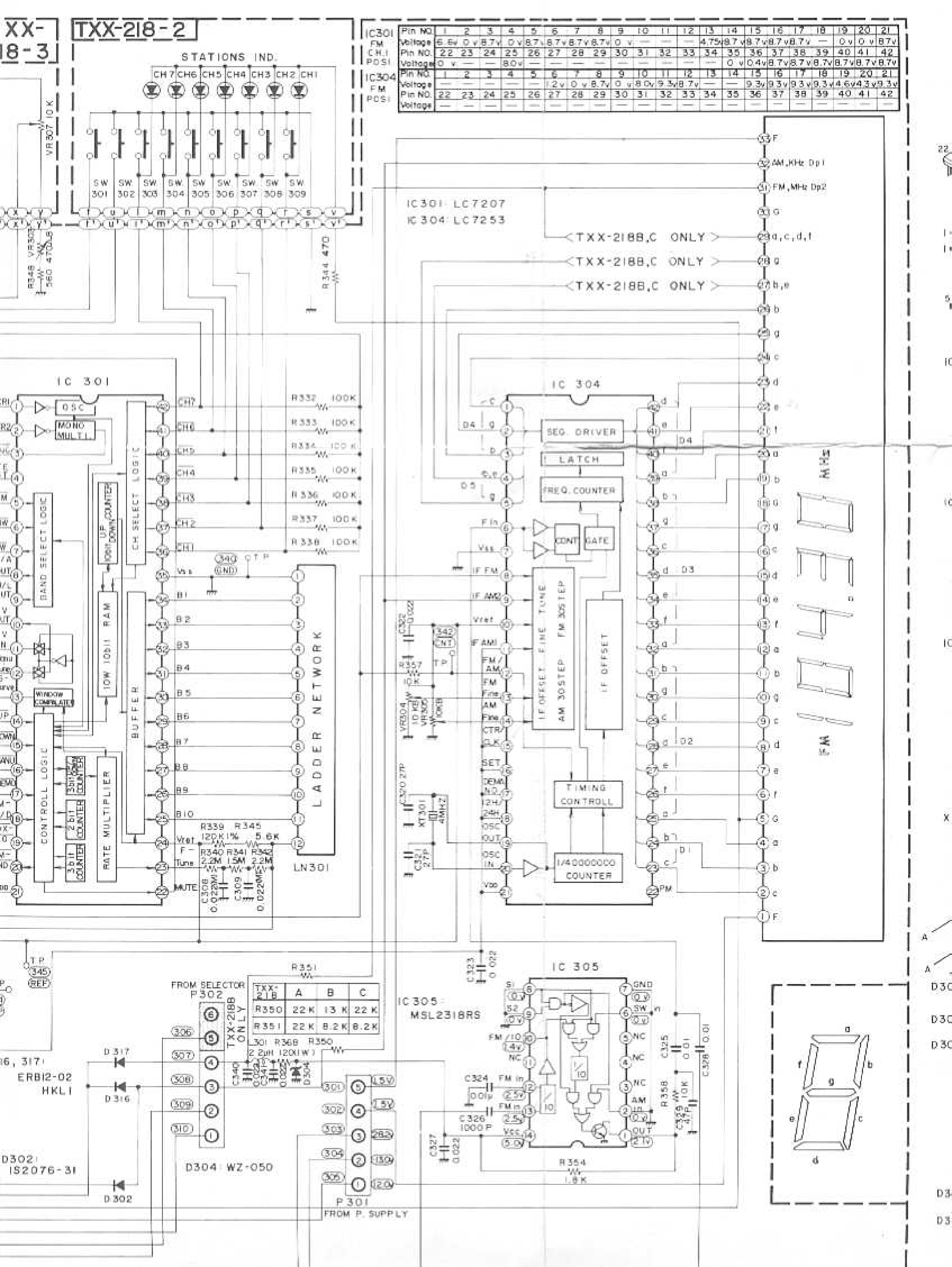


A
B
C
TFM 922C
HOUSE ANTENNA
FM/AM ANT
GNT
AM ANT
FM OSC OUT
GND
X101
2SK168(E,F)
X102
2SC535(R)
X131
2SC535(B,C)
X104
2SK168(E)
X103
2SC1342(C)
X201
2SK105(F,H)
X251
2SK105(F,H)
D101~103
1SV55
D104,105
ERB12-02RK1
D201,202
1S2076-31
D253,255
1S2076-31
D204
KV1226(1/2)
D251
KV1226(1/2)
D133
1S2076-31
MW BAR. ANTENNA
LW ANT COIL
(RED)
(WHT)
(YEL)
(BLK)
(BROWN)
P101
MUT OUT
MONO
GND
TUNER OUT L-CH
R-CH
MUT IN
TUNER +B
AM +B
FM +B
MW +B
LW +B
P102
FM S-CURVE OUT
SIG. IND. OUT
AM MUT
ST. IND
LOGICMUT IN
CONTROL VOL
GND
AM S-CURVE
IC 201
HA1197
RF BYPASS
METER DRIVE
IF AMP
DETECTOR
AGC AMP
RF AMP
MIXER
LOCAL OSC
IC 202
HA1211
F. AMP
GND
Vcc
LEVEL DET.
MUTING LEVEL
LIMITTER
T101
T201
T202
T251
CF131
CF132
CF201
MONO
MUT. IN


D
E
F
1
2
3
4
MUT. OUT
107
105
104
116
FST CURVE
T.P.
MPX 19KHz T.P.
X134, 135 2SC458IC,DI
X135
X134
R149 10K
R150 4.7K
R156 10K
R145 56K
R146 3.3K
R148 56K
C145 4.7μ/25V
R157 22K
IC131 HA11225
MUTING LEVEL DET.
PHASE DETECTOR
MUTING CONTROL
OUTPUT AMP.
AFC AMP.
X132 2SC458IC,DI
X133 2SA1079IC,DI
R153 22K
R154 56K
R152 68K
C139 0.022
C161 22μ/16V
D161
D162
T161 ANTI 19KHz FILTER
C163 100μ/16V
R161 39K
R162 15K
R163 18K
C240
C239 0.01
C238 0.033
R239 39K
D161,209 IS2076-3
R181 22K
R183 1K
R164 16K
3.3μ/25VLLC
C181 LLC
0.22μ/50V
C184 0.022
IC161 μPC1161C
R182 15K
C178 0.047
R164 22K
R167 22K
R165 33 UNF
R172 5K
R174 10K
C172 0.47μ/50V
C174 0.008
C176
R175 22K
R176 22K
L162 10m
X162
X161
X161,162 2SC458IC,D
C168 5.6 0.001
C167 0.001
C180 100P
R186 47OK
R168 22K
R169 10K
R171 10K
C164 220μ/16V
C165 10μ/25V
C166 10μ/25V
C173 0.0018
C177 0.47μ/50V
L161 10m
R177
R225 680
R229 3.3K
C228 0.022
C230 0.047
CF202
D206
D205
R226 10K
R227 10K
C227 0.047
D205,206 IS188FM
25K105F,HI
X203
R232 3.9K
C236 0.022
C231 270P CH
C232 180P CH
T203
R233 47K
R231 1K
C233 10P
R230 3.9K
D207 IS2076-3
C229 0.022
D208 KV1226(1/2)
C234 68P PH
C235 4.7K
C237 0.022
R236 390K
C241 0.022
R238 180
R237 68K
X204 2SC461(B,C)
25K105F,HI
X252
R261 8.2K
C265 0.022
R262 47K
C260 120P CH
T252
R257 5.6K
R260 1K
C262 33P CH
C254 IS2073-3
C258 0.022
D252 KV1226(1/2)
C266
C264
C263 33P CH
AMOSC OUT
206
GND
207
RESISTOR
NON MARKING ------ 1/4W CARBON (±5%)
UNF MARKING ------ 1/4W UNFLAMABLE (±5%)
CAPACITOR
NON MARKING ------ 50V CERAMIC (YZ)
A
K


A
B
C
TXX-218-1
TXX-218-4
TXX-218-3
D306 310 : LN221RP
D312
D311 : LN321G P
MEMORY IND.
STEREO IND.
SIGNAL IND.
IC307 : LB1405
IC 307
P303
IC 301
OSC
MONO MULTI.
BAND SELECT LOGIC
WINDOW COMPARATOR
CONTROLL LOGIC
RATE MULTIPLIER
10W 10bit RAM
UP/DOWN COUNTER
X301~303, 306 2SC458 1(C, D)
IC 302
IC 303
IC302, 303 : NJM4558D
IC306 : LA5700
D318 1S2076-31
D301 : WZ-071
FM S-CURVE
SIGNAL
ST. IND
LOGIC MUT
CONTROL VOL.
AM S-CURVE
TO TUNER P102
IC 306
X304 : 2SC2546 (E, F)
D305 : 1S2076-31
D316, 317 : ERB12-02 HKL1
D302 : 1S2076-31
<TXX-218B ONLY>

	Pin NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
IC301 FM CH.1 POSI	Voltage	6.6v	0 v	8.7v	0 v	8.7v	8.7v	8.7v	8.7v	0 v	—	—	—	4.75v	8.7 v	8.7 v	8.7 v	8.7 v	—	0 v	0 v	8.7v
	Pin NO.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
	Voltage	0 v	—	—	8.0v	—	—	—	—	—	—	—	—	—	0 v	0.4v	8.7v	8.7 v	8.7v	8.7 v	8.7v	8.7v
IC304 FM POSI	Pin NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	Voltage	—	—	—	—	—	1.2v	0 v	8.7v	0 v	8.0v	9.3v	8.7v	—	—	9.3v	9.3v	9.3 v	9.3v	4.6v	4.3v	9.3v
	Pin NO.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
	Voltage	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



C
D
E
TXX-218-2
STATIONS IND.
CH7 CH6 CH5 CH4 CH3 CH2 CH1
SW 301 SW 302 SW 303 SW 304 SW 305 SW 306 SW 307 SW 308 SW 309
VR307 10K
IC301: LC7207
IC304: LC7253
<TXX-2188,C ONLY>
IC 301
OSC
MONO MULTI.
BAND SELECT LOGIC
UP/DOWN COUNTER
CH. SELECT LOGIC
10W 10BIT RAM
BUFFER
CONTROLL LOGIC
RATE MULTIPLIER
WINDOW COMPALATER
LADDER NETWORK
LN301
IC 304
SEG. DRIVER
LATCH
FREQ. COUNTER
CONT
GATE
IF OFFSET. FINE TUNE
AM 30STEP FM 30STEP
IF OFFSET
TIMING CONTROLL
1/4000000 COUNTER
AM, KHz Dp1
FM, MHz Dp2
MHz
FM
IC 305
IC 305: MSL2318RS
FROM SELECTOR P302
TXX-2188 ONLY
TXX-218	A	B	C
R350	22 K	13 K	22 K
R351	22 K	8.2 K	8.2 K
ERB12-02 HKL1
D302: 1S2076-31
D304: WZ-050
P301 FROM P. SUPPLY
R354 1.8 K