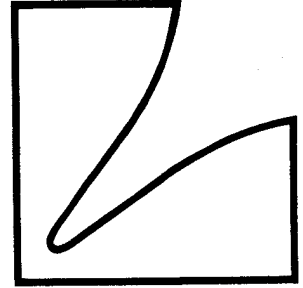
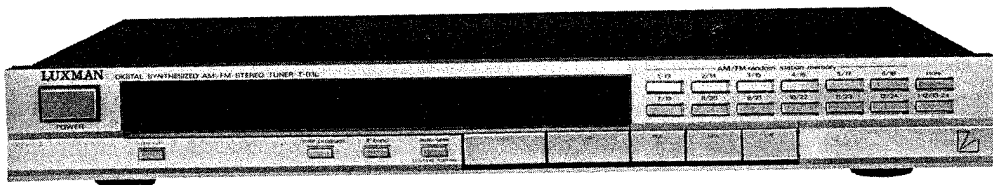


# SERVICE MANUAL

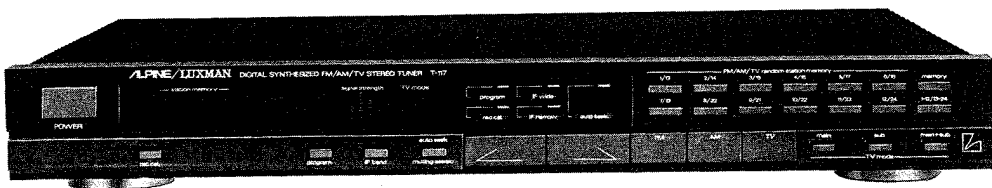


Digital Synthesized AM/FM Stereo Tuner  
TV JAPAN ONLY

## T-117/T-117L T-03/T-03L



T-03L



T-117

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# Specifications

## <FM RADIO>

Intermediate Frequency	10.7MHz
Frequency Range	76.1~89.9MHz(JA Model Only) 87.5~108MHz(SD, EK Model) 87.9~107.9MHz(UZ Model Only)
Usable Sensitivity (Mono 3% T.H.D)	13dBf(JA, EK, UZ Model) 16dBf(SD Model Only)
Signal to Noise Ratio(Stereo)	70dB
Image Response Ratio	70dB
IF Response Ratio	90dB
Distortion(1KHz, Stereo)	0.2%
Stereo Separation(1KHz)	40dB
Frequency Response(30Hz ~15KHz)	±1.5dB
Quieting Sensitivity(Stereo, 50dB S/N)	45dBf
Output Level(Mono)	700mV±3dB

## <AM(MW) RADIO>

Intermediate Frequency	450KHz
Frequency Range	522~1611KHz(JA, SD, EK Model) 530~1620KHz(UZ Model Only)
Usable Sensitivity(20dB S/N)	76.2dBf
Signal to Noise Ratio	42dB
Image Response Ratio(1KHz)	30dB
IF Response Ratio	40dB
Distortion	1%
Frequency Response(120Hz~2KHz)	±3dB
Output Level	210mV±3dB

## <LW RADIO> (SD Model Only)

Intermediate Frequency	450KHz
Frequency Range	153 ~ 281KHz
Usable Sensitivity(20dB S/N)	89.2dBf
Image Response Ratio	25dB
IF Response Ratio	27dB
Distortion	1%
Output Level	210mV±3dB
S/N Ratio	42dB

## <TV> (JA Model Only)

Intermediate Frequency	54.25MHz
Channel Range	1 ~ 62ch
Usable Sensitivity(30dB S/N)	2ch: 20dBf 32ch: 25dBf
Signal to Noise Ratio	2ch Mono: 48dB Stereo: 45dB Main: 48dB Sub: 48dB 32ch Mono: 40dB Stereo: 40dB Main: 40dB Sub: 40dB
Frequency Response(50Hz ~10KHz)	+1.~3dB
Distortion(2ch, 1KHz, Stereo)	1.8%
Channel Separation(1KHz)	Stereo 25dB Main-Sub 40dB Sub-Main 45dB
Output Level	700mV±3dB

## <GENERAL>

Power Supply	100V, 50/60Hz(JA Model Only) 220V, 50Hz(SD, EK Model) 120V, 60Hz(UZ Model Only)
Power Consumption	15W
Semiconductors	

241C's 59 Transistors, 8 FET's, 73 Diodes, 10 Zener Diodes  
(JA Model Only)

211C's 57 Transistors, 6 FET's, 62 Diodes, 10 Zener Diodes  
(SD Model Only)

211C's 49 Transistors, 3 FET's, 59 Diodes, 10 Zener Diodes  
(EK Model Only)

211C's 50 Transistors, 6 FET's, 61 Diodes, 10 Zener Diodes  
(UZ Model Only)

Dimensions	453(W)×62(H)×323(D) mm
Weight	3.6Kg

## Parts Locations and Disassembly Instructions

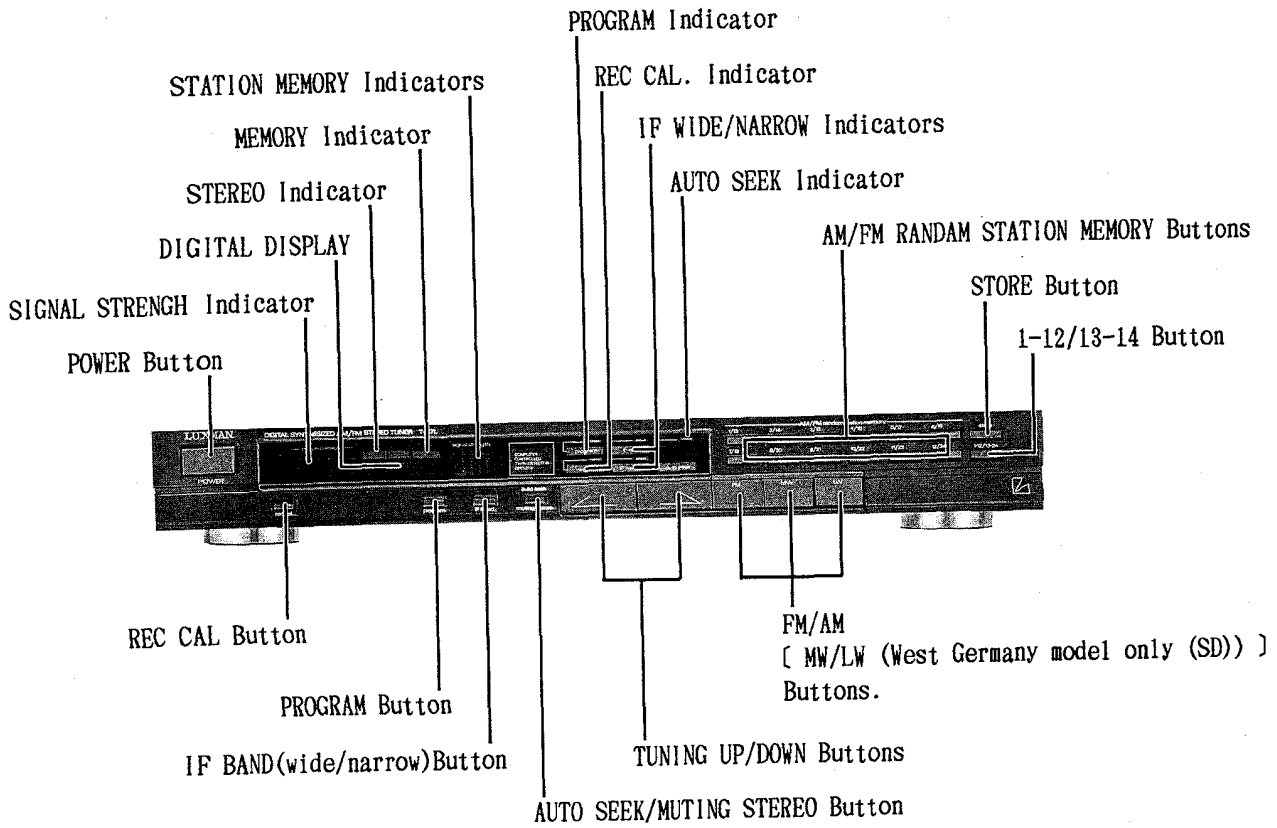


Figure 1

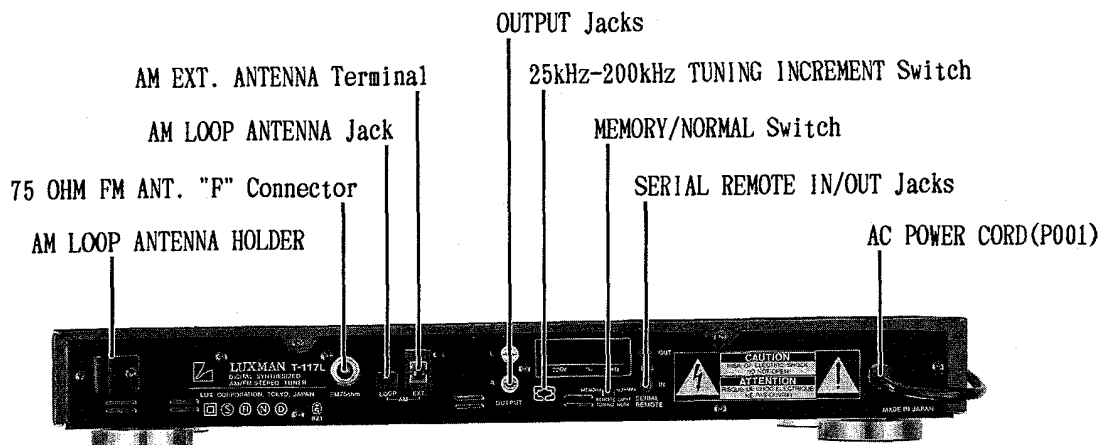
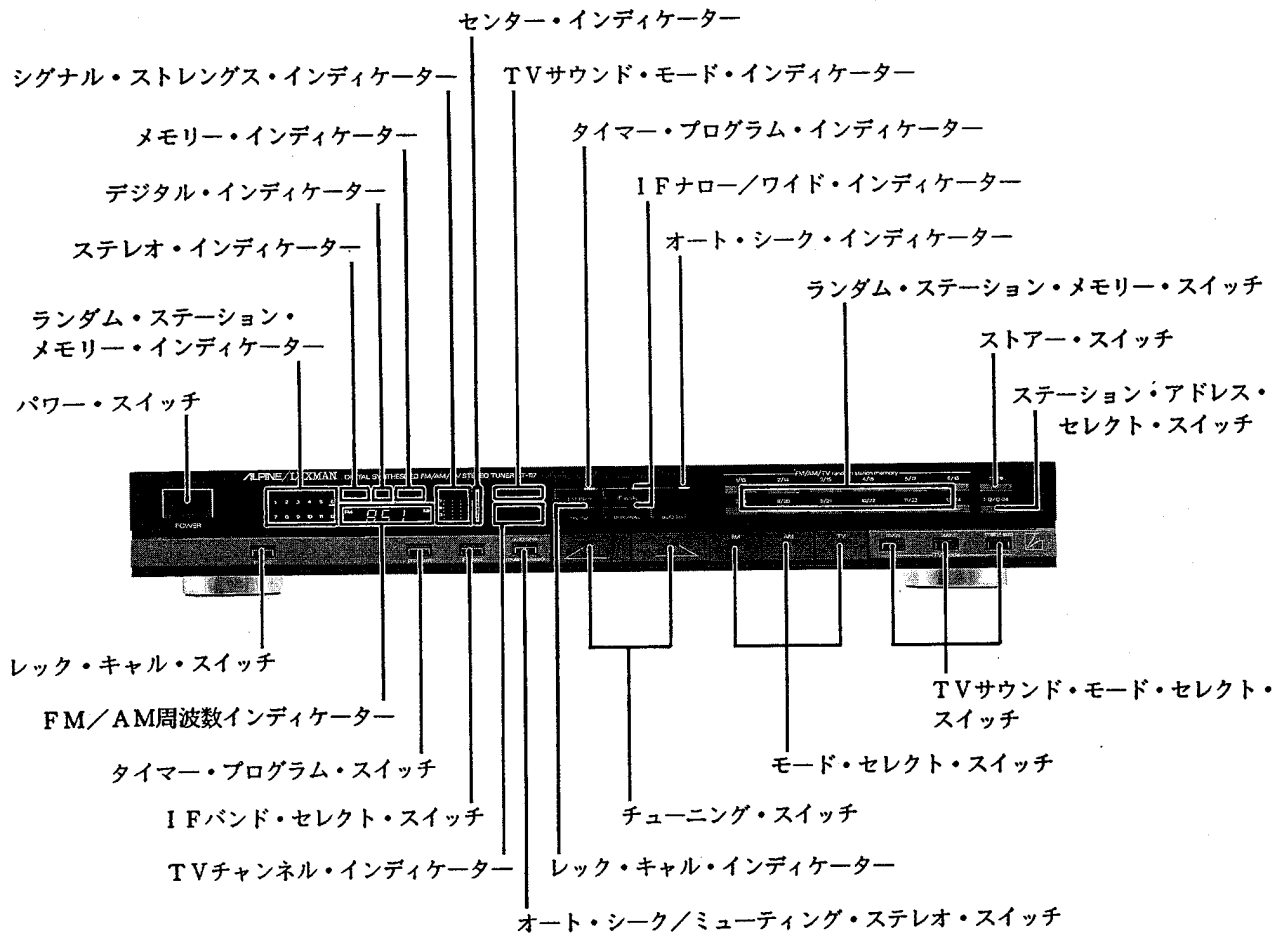
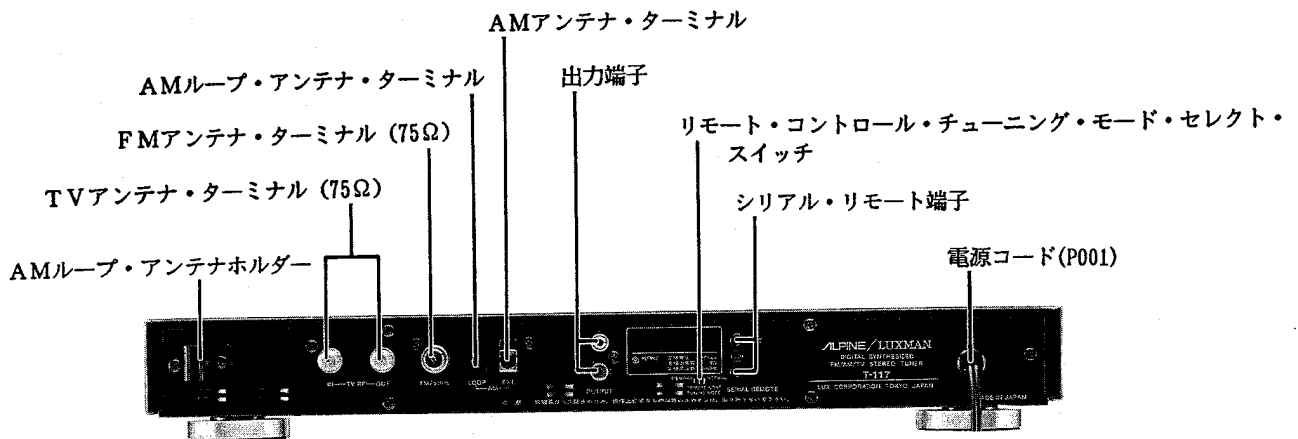


Figure 2

• Japanese model only(JA)



< 3 図 >



< 4 図 >

1. Removal of Top Cover

- (1) Remove six screws marked "○" as shown in Figure 5 and 6.
- (2) Pull out the Top cover in the direction of the arrow as shown in Figure 3.

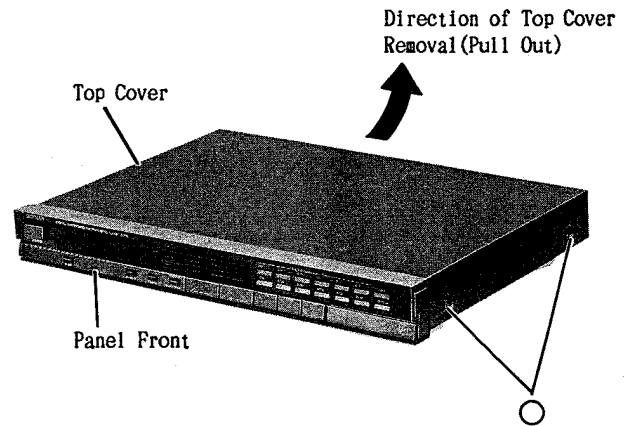


Figure 5  
< 5 図 >

1. 上蓋の外し方

- (1) 6本のネジ "○" を外します。(5, 6 図参照)
- (2) 矢印の方向に引き上げれば、上蓋は外すことができます。(3 図参照)

2. Removal of Main P.C. Board

- (1) After removal of Top cover, remove eleven screws marked "※" as shown in Figure 6 and 7.
- (2) Disconnect all wires from the Main P.C. Board.
- (3) Main P.C. Board can be removed by pulling it forward.

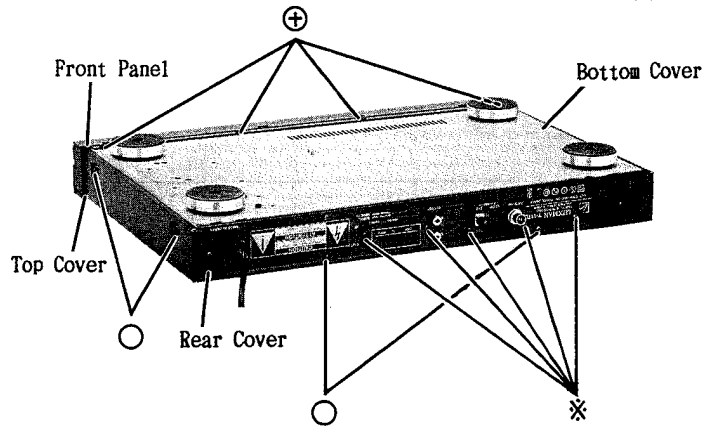


Figure 6  
< 6 図 >

2. メイン基板の外し方

- (1) 上蓋を外してから11本のネジ "※" を外します。(6, 7 図参照)
- (2) メイン基板から出ているすべてのリードを外します。
- (3) メイン基板を手前に引いて外します。

3. Removal of Front Panel

- (1) Remove six screws marked "⊕" as shown in Figure 6 and 7.
- (2) Front panel can be removed by pulling it forward. But when the panel is engaged tightly, pull the panel end little by little, and the panel will be removed easily.

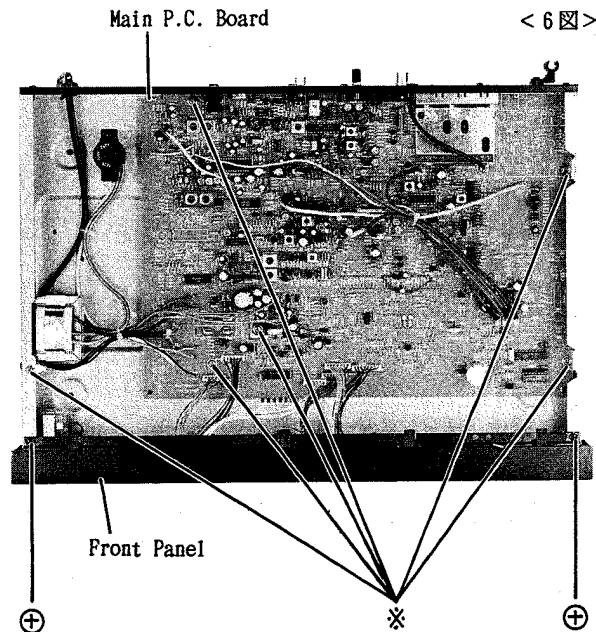


Figure 7  
< 7 図 >

3. フロント・パネルの外し方

- (1) 上蓋を外してから、6本のネジ "⊕" を外します。(6, 7 図参照)
- (2) フロント・パネルを手前に引いて外します。パネルを外すときパネルはセットにしっかりと取りつけてありますので、パネルの両端を持って少しづつ引くようにして外してください。

#### 4. Removal of Front Frame

- (1) After removal of Front Panel, remove eight hooks(a) as shown in Figure 8 and 9.
- (2) Unplug all the connectors from the display P.C. board and switch P.C. board. The front frame will be removed together with the P.C. boards.

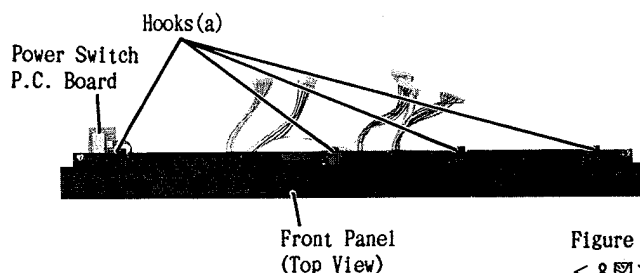


Figure 8  
< 8図 >

#### 4. フロント・フレームの外し方

- (1) フロント・パネルを外してから、8個のホック(a)を外します。(8, 9図参照)
- (2) ディスプレイ基板, スイッチ基板から出ている全てのコネクタを外しますと、各基板と一緒にフロント・フレームは外れます。

#### 5. Removal of Display P.C. Board

- (1) After removal of Front Frame, remove three screws marked "◎" as shown in Figure 10.
- (2) Remove three hooks(b) as shown in Figure 10.

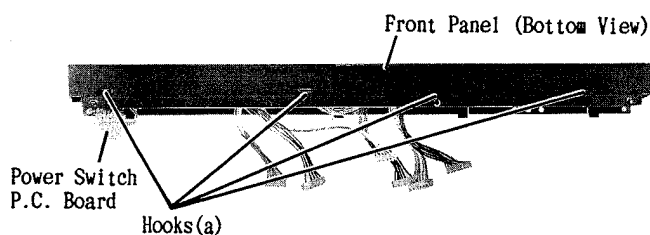


Figure 9  
< 9図 >

#### 5. ディスプレイ基板の外し方

- (1) フロント・パネルを外してから、3本のネジ "◎" を外します。(10図参照)
- (2) 3個のツメ(b)を外しますと、ディスプレイ基板は外れます。

#### 6. Removal of Switch P.C. Board

- (1) After removal of Front Frame, remove three screws marked "□" as shown in Figure 10.
- (2) Remove eight hooks(c) as shown in Figure 10.

#### 6. スイッチ基板の外し方

- (1) フロント・フレームを外してから、3本のネジ "□" を外します。(10図参照)
- (2) 8個のツメ(c)を外しますと、スイッチ基板は外れます。

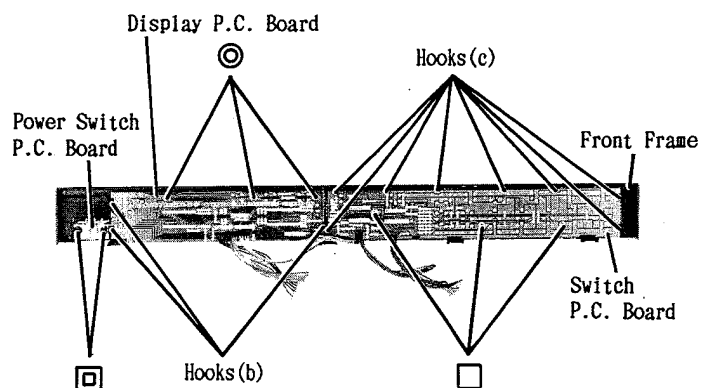


Figure 10  
< 10図 >

#### 7. Removal of Power Switch P.C. Board

- (1) After removal of Front Frame, remove two screws marked "回" as shown in Figure 10.

#### 7. パワースイッチ基板の外し方

- (1) フロントフレームを外してから、2本のネジ "回" を外しますと、パワースイッチ基板は外れます。(10図参照)

# Adjustment Procedures

MW(SD Model Only), AM(EK/UZ Model)

(1) Connection

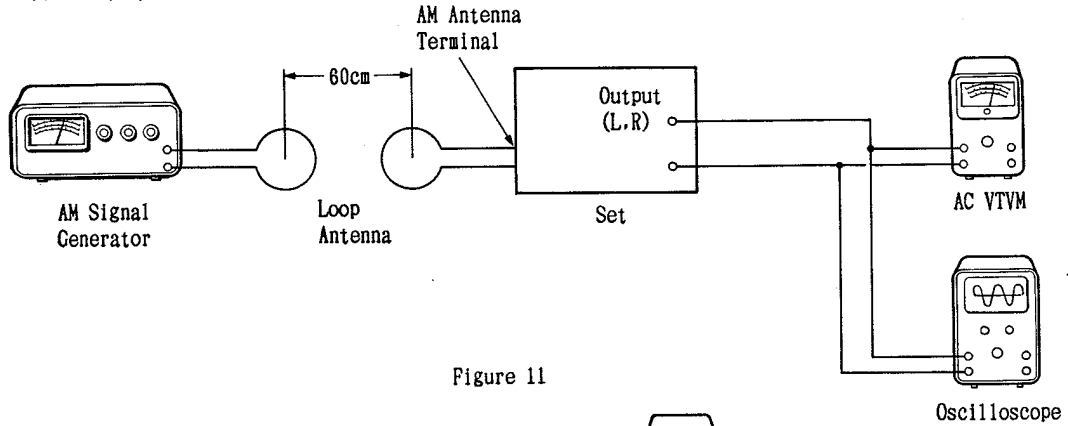


Figure 11

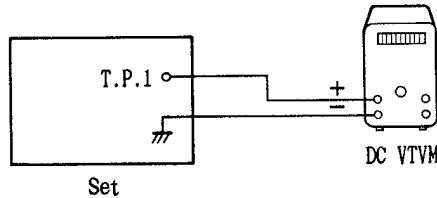


Figure 12

(2) Control Setting

- Power Switch.....ON
- FM/AM/(MW/LW) Switch.....AM(MW)
- others.....OFF

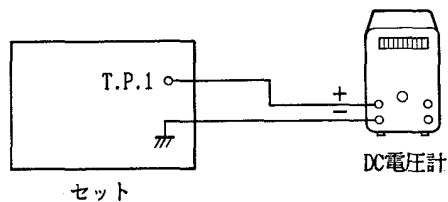
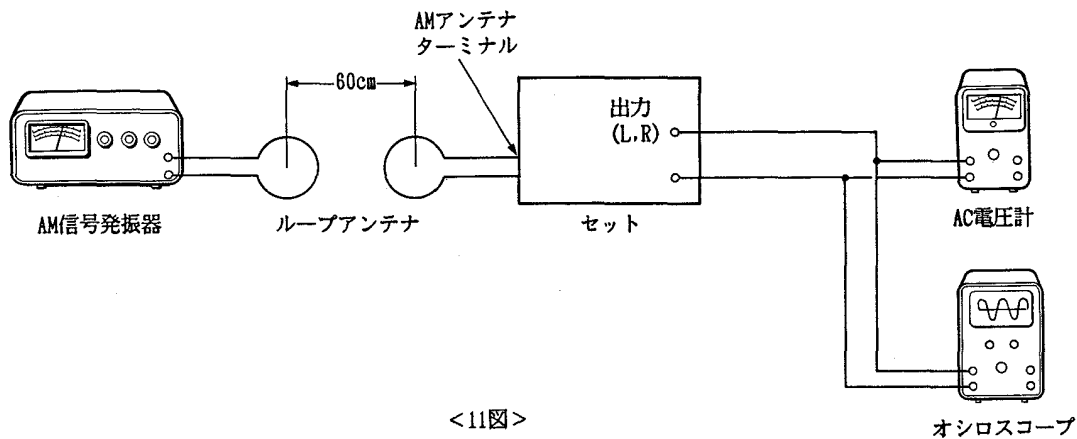
(3) Adjustment (EK, SD, UZ Model)

step	Description	Signal Generator	Dial Control	Adjust Points	Test Points	Connection	Remarks
1	Vf Adjustment		603KHz (EK, SD)	L306	TPI	Figure 12	Adjust Vf to $2.2 \pm 0.1V$ at L306
			600KHz (UZ)				
2	Sensitivity Adjustment	603KHz (EK, SD)	603KHz (EK, SD)	L302	Output (L,R)	Figure 11	Adjust the output to maximum at L302
		600KHz (UZ)					
2		60dBm (400Hz, 30%)	1404KHz (EK, SD)	VC302			Adjust the output to maximum at VC304
		1400KHz (UZ)	1400KHz (UZ)				
3	SIG IND & MUTE level Adjustment	1008KHz (EK, SD) 1000KHz (UZ) 55dBm (400Hz, 30%)	1008KHz (EK, SD) 1000KHz (UZ)	VR302 VR301 VR501	Output (L,R)	Figure 11	Set VR501 to the position which is slightly turned counterclockwise from horizontal. Adjust the level to $55dBm \pm 12dB$ at VR302 with the MUTE switch set to ON. Adjust the level to $75 +20, -10 dBm$ at both VR501 and VR301 so that one or two elements of SIG IND light up. Note: For the section marked with *, refer to VR501 shown in Fig. 21.

調整方法

AM(JA Model Only)

(1) 接続図



(2) スイッチ類のセット位置

- 電源スイッチ……………ON
- FM/AM/TVスイッチ……………AM
- その他……………OFF

(3) 調整方法 (JAモデル)

順序	調整項目	発振器周波数	受信周波数	調整箇所	テストポイント	接続図	調整方法
1	V f 調整		603KHz	L306	T.P.1	12図	L306で $2.2 \pm 0.1V$ に調整
			1404KHz	VC304			VC304で $7.1 \pm 0.1V$ に調整
2	感度調整	603KHz 60dBm (400Hz, 30%)	603KHz	L302	出力(L,R)	11図	L302で出力最大に調整
		1404KHz 60dBm (400Hz, 30%)	1404KHz	VC302			VC302で出力最大に調整
3	SIG. IND & MUTE レベル調整	1008KHz 55dBm (400Hz, 30%)	1008KHz	VR302 VR301 VR501	出力(L,R)	11図	VR501 を 水平より少し反時計方向より に設定し、MUTE-SW ON 状態で VR302で $55dBm \pm 12dB$ に調整、この時 SIG.INDが1~2点灯する様 VR301とVR501で $75 + 20, -10dBm$ に調整 (注) * 印は21図のVR501を参照願います。

LW(SD Model Only)

(1) Connection

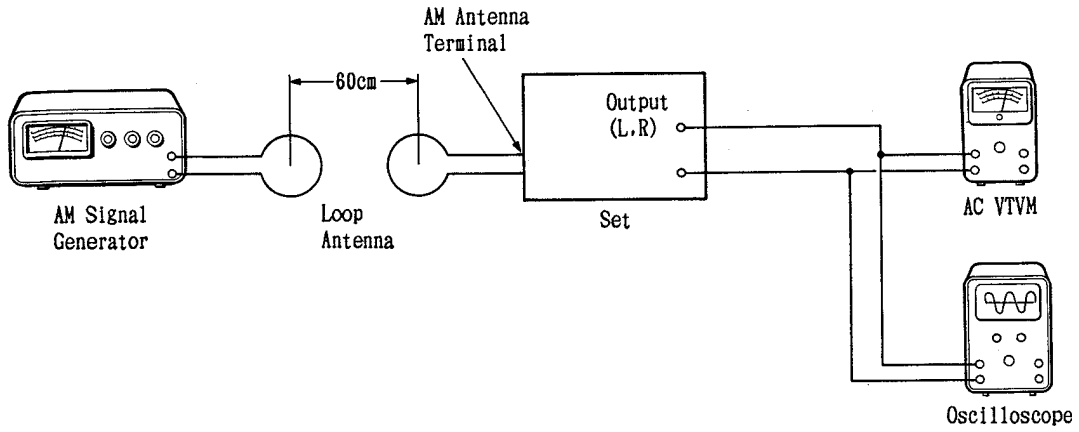


Figure 13

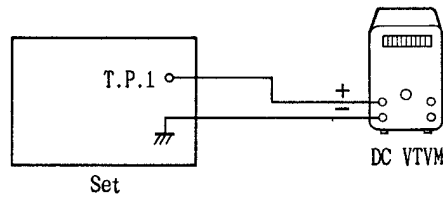


Figure 14

(2) Control Setting

Power Switch.....ON  
FM/AM/(MW/LW) Switch.....LW  
others.....OFF

(3) Adjustment

step	Description	Signal Generator	Dial Control	Adjust Points	Test Points	Connection	Remarks
1	Vf Adjustment		180KHz	L305	TP1	Figure 14	Adjust Vf to $2.4 \pm 0.1V$ at L305
			261KHz	VC303			Adjust Vf to $5.3 \pm 0.1V$ at VC303
2	Sensitivity Adjustment	180KHz.90dBm (400Hz.30%)	180KHz	L301	Output (L,R)	Figure 13	Adjust the output to maximum at L301
		261KHz.90dBm (400Hz.30%)	261KHz	VC301			Adjust the output to maximum at VC301



FM(SD/EK/UZ Model)

(1) Dummy Antenna

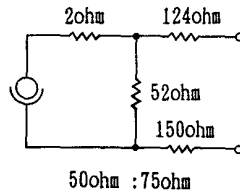


Figure 15

(2) Connector

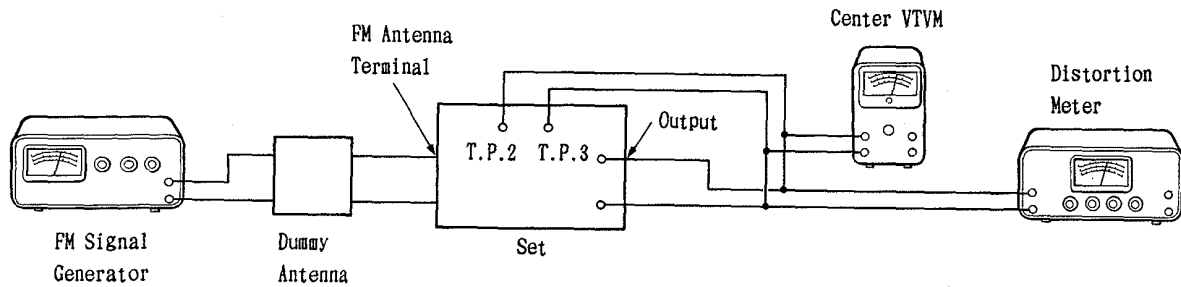


Figure 16

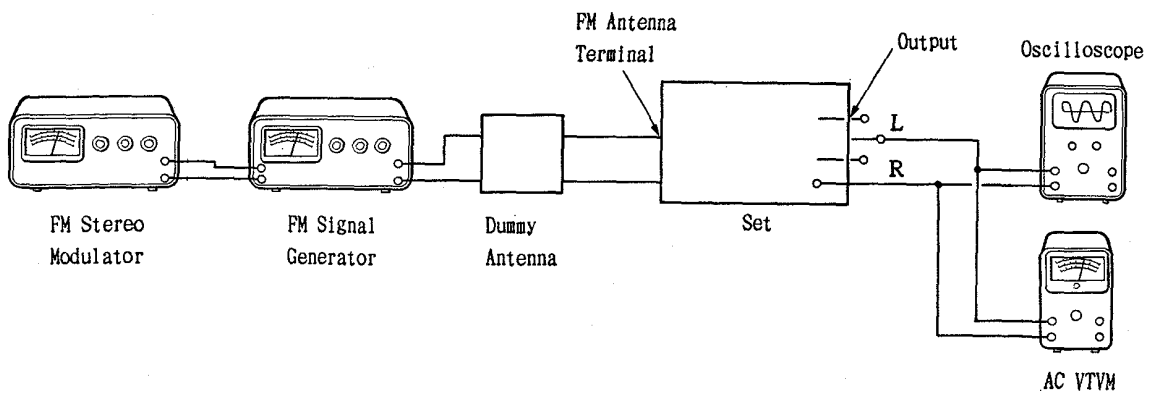


Figure 17

(3) Control Setting

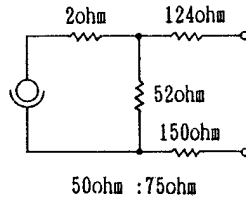
- Power Switch.....ON
- FM/AM/(MW/LW) Switch.....FM
- others.....OFF

(4) Adjustment (EX, SD, UZ model)

step	Description	Signal Generator	Dial Control	Adjust Points	Test Points	Connection	Remarks
1	IF Adjustment	98.1MHz 65dBf Non Modulation	98.1MHz	L105	T.P.2 T.P.3	Figure 16	Adjust the level to $0 \pm 20\text{mV}$ at L105
2	Mono Distortion Adjustment	98.1MHz 36dBf 1KHz, 75KHz Deviation	98.1MHz	VR204 L206 L205 L101 L208 L209	Output (L,R)	Figure 16	Turn VR202 fully clockwise and VR201 fully counterclockwise. Adjust the output to 700mV at VR404. Turn VR204 fully counterclockwise and turn it clockwise little by little until the distortion will lower twice. AT this position adjust the distortion to minimum. Readjust VR404 to 700mV and adjust the distortion to minimum at L206, L205, L101, L208 and L209 in this order.
3	STEREO Distortion Adjustment	98.1MHz 36dBf 1KHz, 75KHz Deviation	98.1MHz	L104	Output (L,R)	Figure 16	Adjust the distortion to minimum at L104.
4	Pulse Detection Output Adjustment	98.1MHz 36dBf 1KHz, 75KHz Deviation	98.1MHz	VR404	Output (L,R)	Figure 16	Adjust the output to 700mV +0.5dB at VR404 with the REC CAL switch set to ON.
5	PLL Detection Output Distortion Adjustment	98.1MHz 36dBf 1KHz, 75KHz Deviation	98.1MHz	VR201 VR203 L202	Output (L,R)	Figure 16	Turn VR201 fully clockwise. Adjust the output to 700mV +0.5dB at VR203. Adjust the distortion to minimum at L202.
6	PUL/pulse Detection Output Switching Level Adjustment	98.1MHz 36dBf 1KHz, 75KHz Deviation	98.1MHz	VR201	Output (L,R)	Figure 16	Adjust at VR201 so that the output level is varied from 700mV $\pm 0.5\text{dB}$ to 700mV +1.5dB.
7	PLL Detection Output Adjustment	98.1MHz 36dBf 1KHz, 75KHz Deviation	98.1MHz	VR203	Output (L,R)	Figure 16	Adjust the output to 700mV +1.5dB at VR203 with the REC CAL switch set to ON.
8	SIG IND Light Adjustment	98.1MHz 19dBf (EX, UZ) 22dBf (SD)	98.1MHz	VR103 VR102	Output (L,R)	Figure 16	Turn VR103 fully counterclockwise. Adjust at VR102 so that the first element of SIG IND lights up
9	IF NARROW Again Adjustment	98.1MHz 66dBf 1KHz, 75KHz Deviation L(R) signal	98.1MHz	VR101	Output (L,R)	Figure 16	Adjust at VR101 so that SIG IND lights up, with the NARROW switch set to ON.
10	Separation Adjustment	98.1MHz 66dBf 1KHz, 75KHz Deviation L(R) signal	98.1MHz	VR401 VC401 VR402 VC402	Output (L,R)	Figure 17	Receive an L-channel to minimum at VR401 and VC401. (Adjust the waveform leaking to L-channel to minimum at VR402 and VC402.)

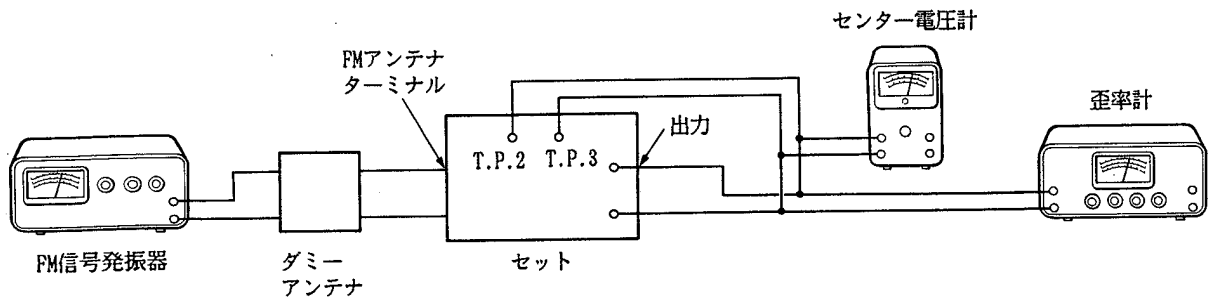
FM(JA Model Only)

(1) ダミーアンテナ

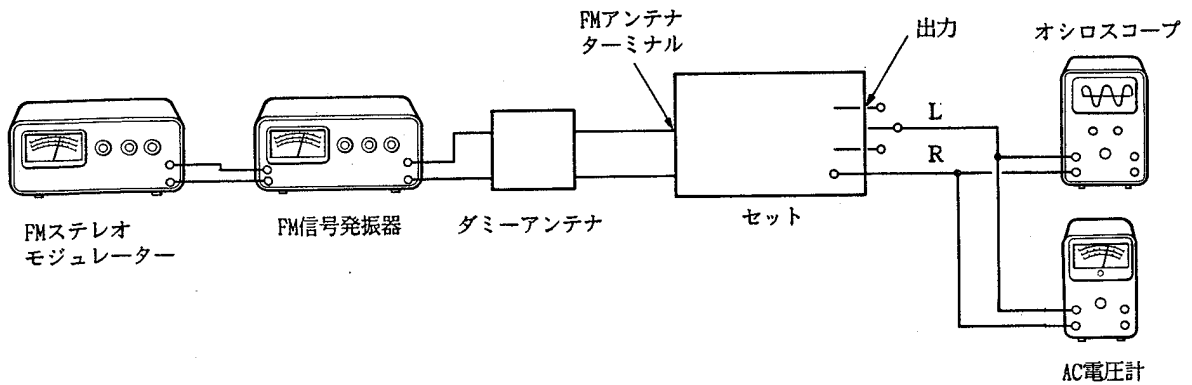


<15図>

(2) 接続図



<16図>



<17図>

(3) スイッチ類のセット位置

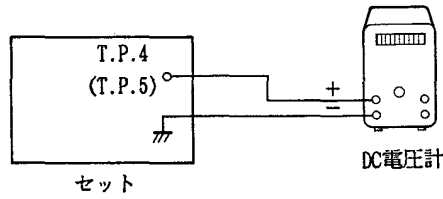
- 電源スイッチ.....ON
- FM/AM/TVスイッチ.....FM
- その他.....OFF

(4) 調整方法 (JAモデル)

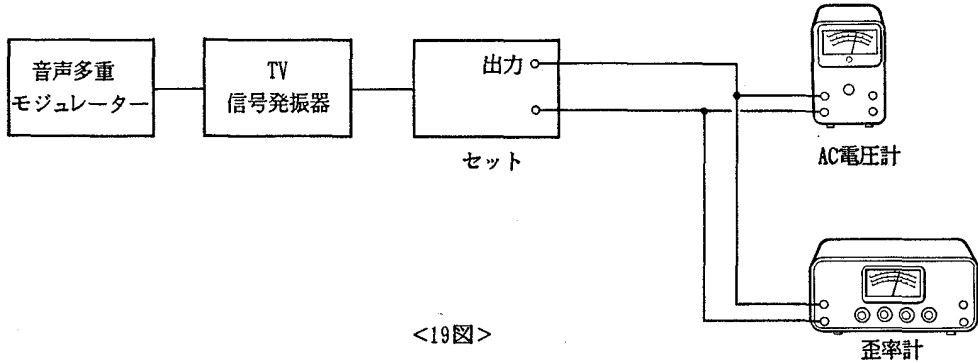
順 序	調整項目	発振器周波数	受信周波数	調整箇所	テストポイント	接続図	調整方法
1	IF調整	84MHz 65dBf Non Modulation	84MHz	L105	T.P.2 T.P.3	16図	L105で $0 \pm 20\text{mV}$ に調整
2	モノラル歪調整	84MHz 36dBf 1KHz, 75KHz Deviation	84MHz	VR204 L206 L205 L101 L208 L209	出力 (L,R)	16図	VR202 を時計方向, VR201 を反時計方向に廻し切り, VR404 で出力を700mV に設定し, VR204 を反時計方向に廻し切り, 少しずつ戻し歪が2度目に小さくなる所で最小にする。VR404 を再度700mV に設定し, L206, L205, L101, L208, L209の順で歪を最小にする。
3	ステレオ歪調整	84MHz 36dBf 1KHz, 75KHz Deviation	84MHz	L104	出力 (L,R)	16図	L104で歪を最小にする。
4	パルス検波出力調整	84MHz 36dBf 1KHz, 75KHz Deviation	84MHz	VR404	出力 (L,R)	16図	レック・キャル・スイッチ-ON VR404 で700mV+1.5dB に調整
5	PLL 検波出力歪調整	84MHz 36dBf 1KHz, 75KHz Deviation	84MHz	VR201 VR203 L202	出力 (L,R)	16図	VR201 を時計方向に廻し切り, VR203 で出力を700mV+0.5dB に調整し, L202で歪を最小にする。
6	PLL/パルス検波出力 切換レベル調整	84MHz 36dBf 1KHz, 75KHz Deviation	84MHz	VR201	出力 (L,R)	16図	VR201 で700mV+0.5dB から700mV+1.5dB に変化の様調整
7	PLL 検波出力調整	84MHz 36dBf 1KHz, 75KHz Deviation	84MHz	VR203	出力 (L,R)	16図	レック・キャル・スイッチ-ON VR203 で700mV+1.5dB に調整
8	SIG IND 点灯調整	84MHz 19dBf 1KHz, 75KHz Deviation	84MHz	VR103 VR102	出力 (L,R)	16図	VR103 を反時計方向に廻し切り, VR102 でシグナル・インディケータ第1灯が点灯する様調整
9	IF, NARROW ゲイン調整	84MHz 19dBf 1KHz, 75KHz Deviation	84MHz	VR101	出力 (L,R)	16図	NARROW SW-ON VR101 でシグナル・インディケータが点灯する様調整
10	セパレーション調整	84MHz 60dBf 1KHz, 75KHz Deviation L(R)信号	84MHz	VR401 VC401 VR402 VC402	出力 (L,R)	17図	Lchを受信し, Rchへのもれ波形をVR401, VC401 で最小にする。 (Rchも同様にVR402, VC402 で最小にする)

TV(JA Model Only)

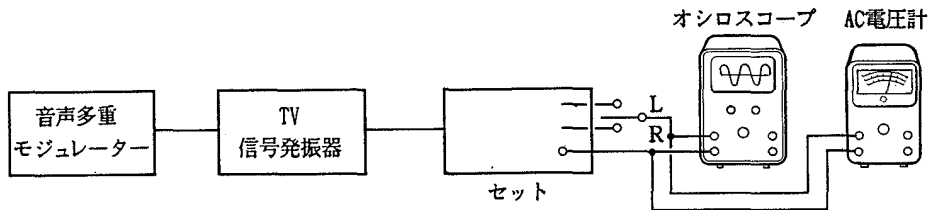
(1) 接続図



<18図>



<19図>



<20図>

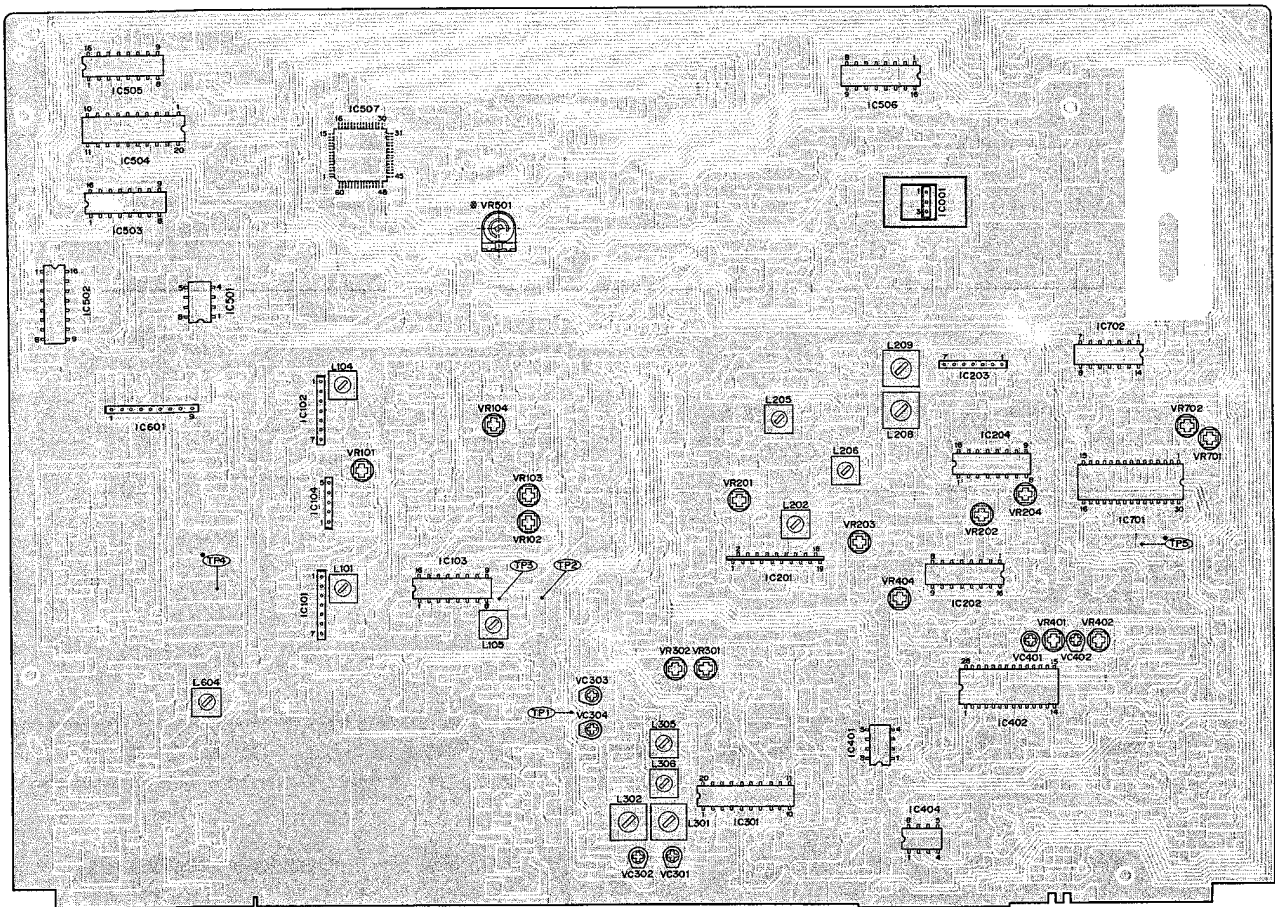
(2) スイッチ類のセット位置

- 電源スイッチ.....ON
- FM/AM/TVスイッチ.....TV
- その他.....OFF

(3) 調整方法 (JAモデル)

順 序	調整項目	発振器周波数	受信周波数	調整箇所	テストポイント	接続図	調整方法
1	AGC 電圧調整	2ch 101.75MHz 75dB $\mu$ 1KHz, 25KHz Deviation	2ch 101.75MHz	VR104	T.P.4	18図	VR104 で $\pm 1.0V$ に調整
2	感度調整	2ch 101.75MHz 20dB $\mu$ Non Modulation	2ch 101.75MHz	L604	出力	19図	L604で歪を最小に調整
3	FILTER調整	2ch 101.75MHz 64dB $\mu$ ステレオ	2ch 101.75MHz	VR701	T.P.5	18図	VR701 で電圧を最大に調整
4	セパレーション調整	2ch 101.75MHz L(R)信号 1KHz, 25KHz Deviation	2ch 101.75MHz	VR702	出力	20図	VR702 で L $\rightarrow$ R, R $\rightarrow$ L のもれが同一になる様調整

# Adjustment Locations

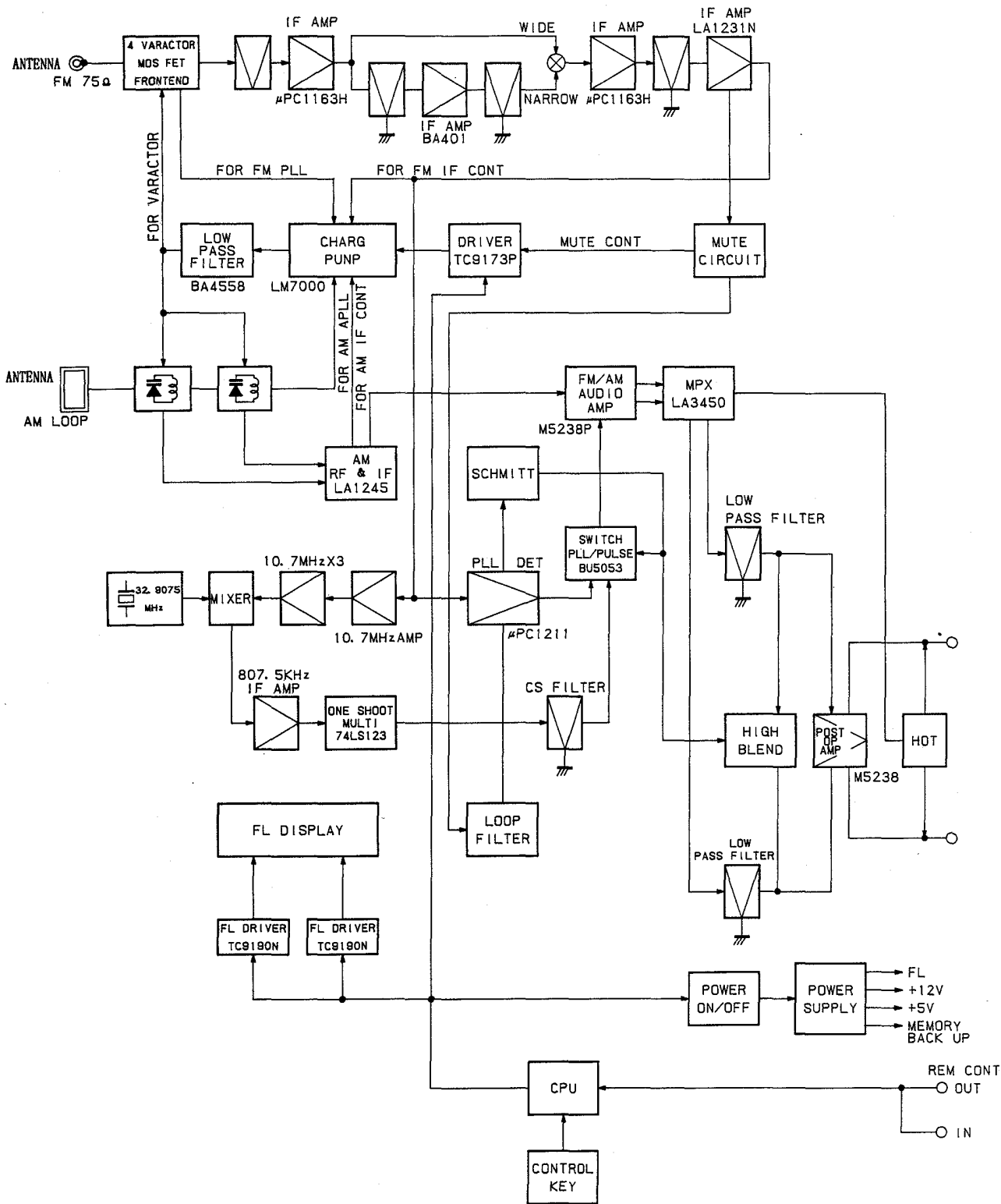


Note: \* For Japanese model only (JA)  
 ■ For North American model only (UZ)  
 \* For General Foreign model only (EK)  
 \* For General Foreign model only (T-03S1)  
 \* For West Germany model only (T-117L, S1)  
 \* For West Germany model only (T-03L, S1)  
 Others - Common

Figure 21  
<21☒>

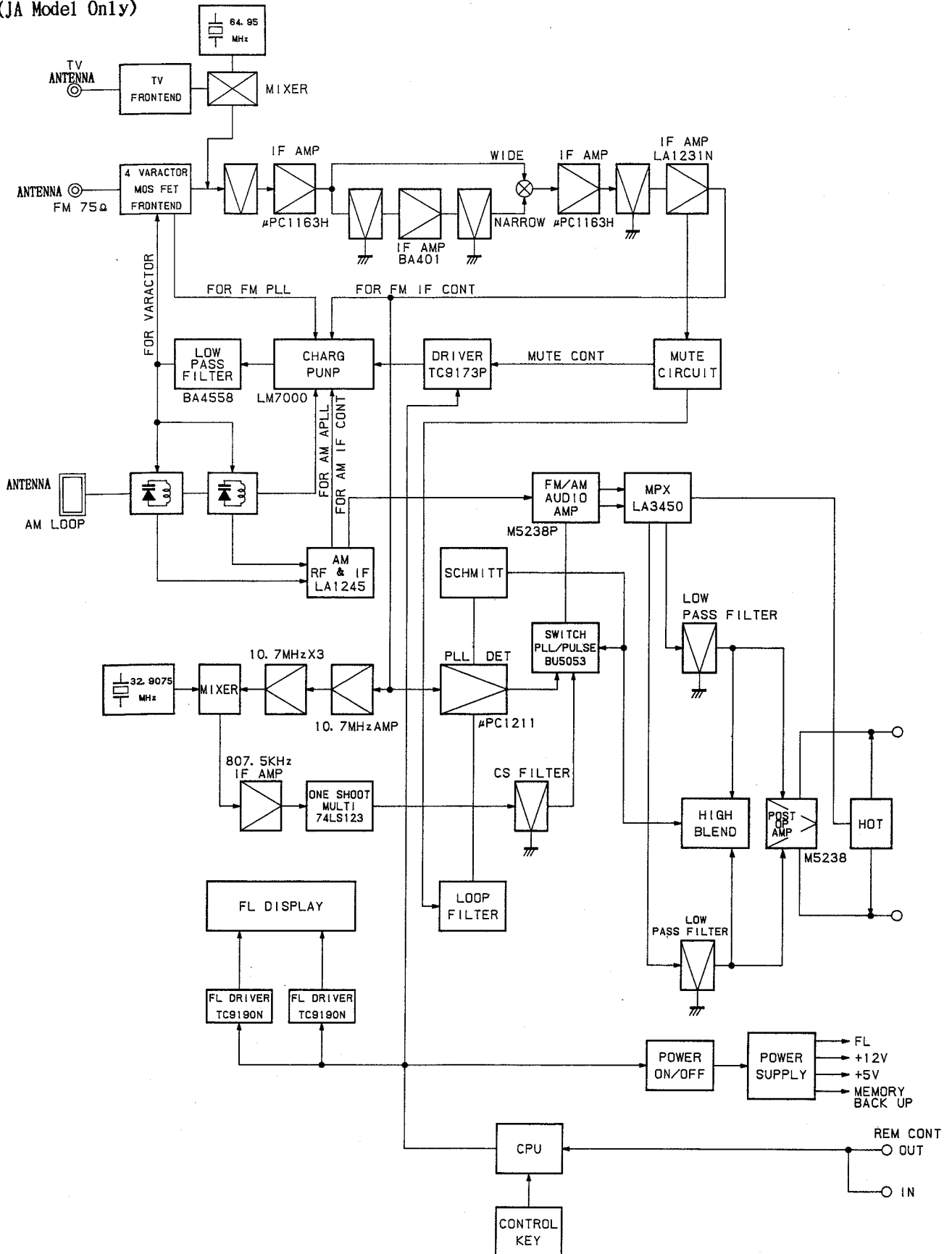
# Block Diagram

(SD/EK/UZ Model)



# Block Diagram

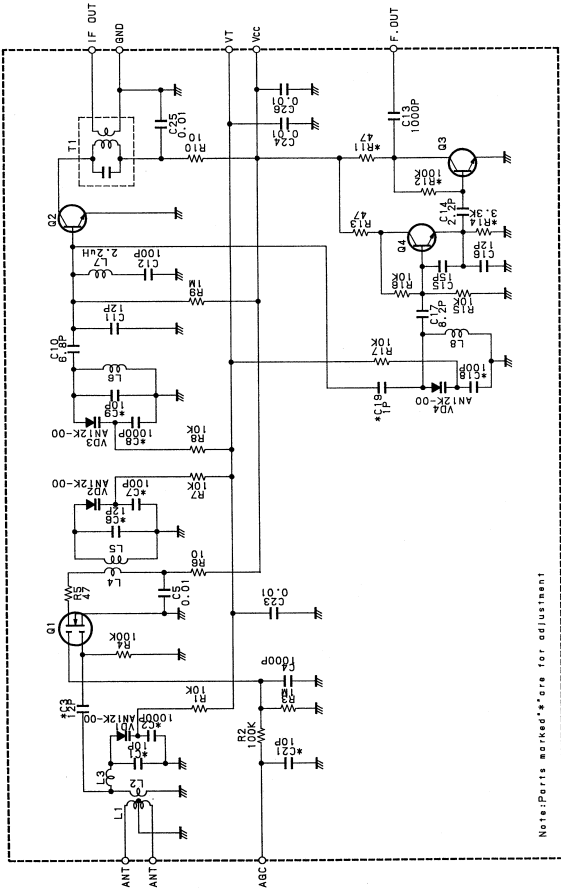
(JA Model Only)





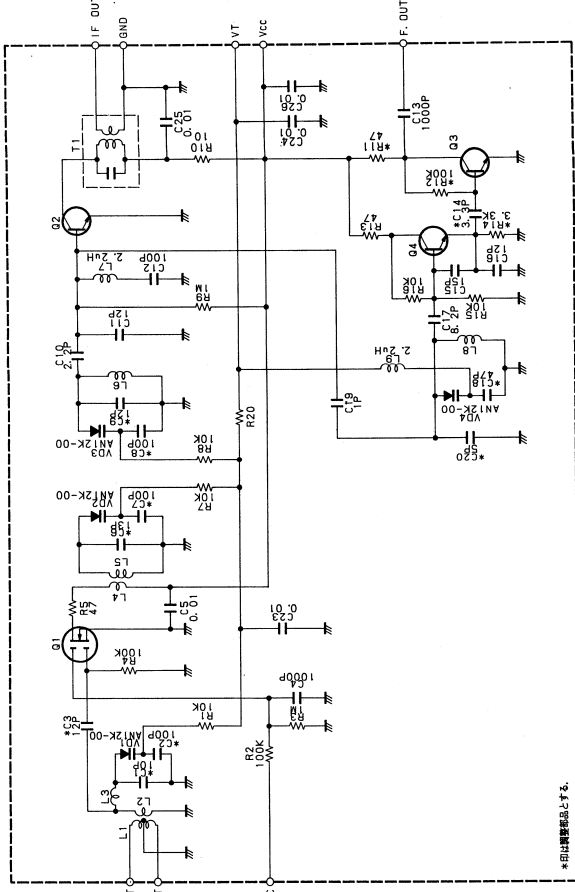
# FM Tuner Schematic Diagram

FM TUNER (EX, UZ Model only)



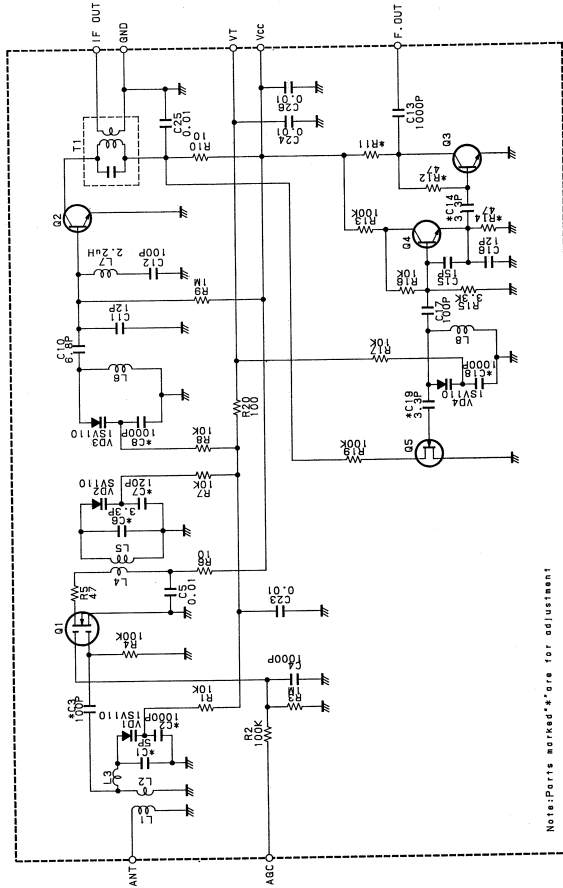
Note: Parts marked \* are for adjustment

FM チューナー (JA Model only)



\*組立調整品

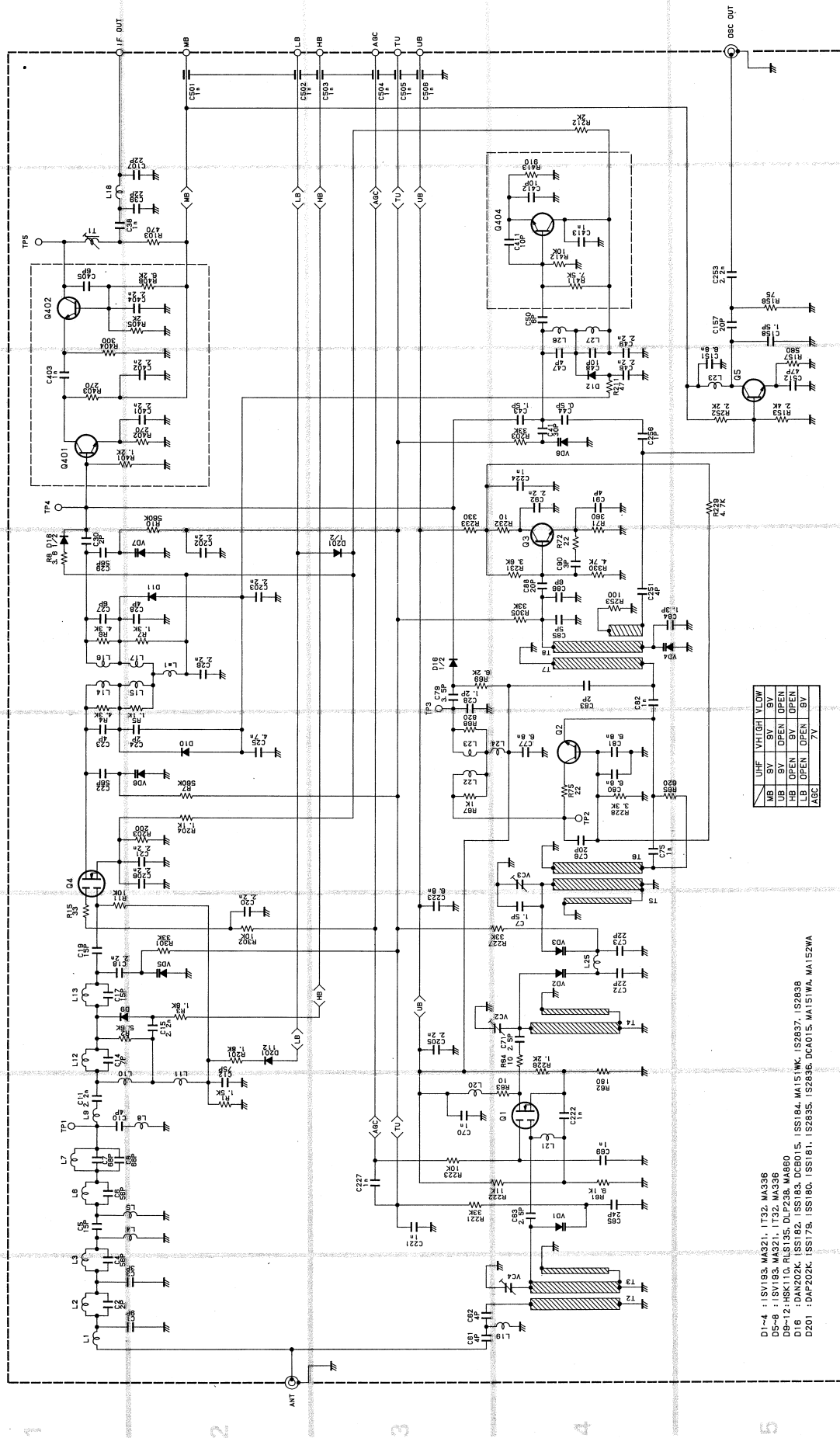
FM TUNER (SD Model only)



Note: Parts marked \* are for adjustment

T-117/T-117L  
T-03/T-03L

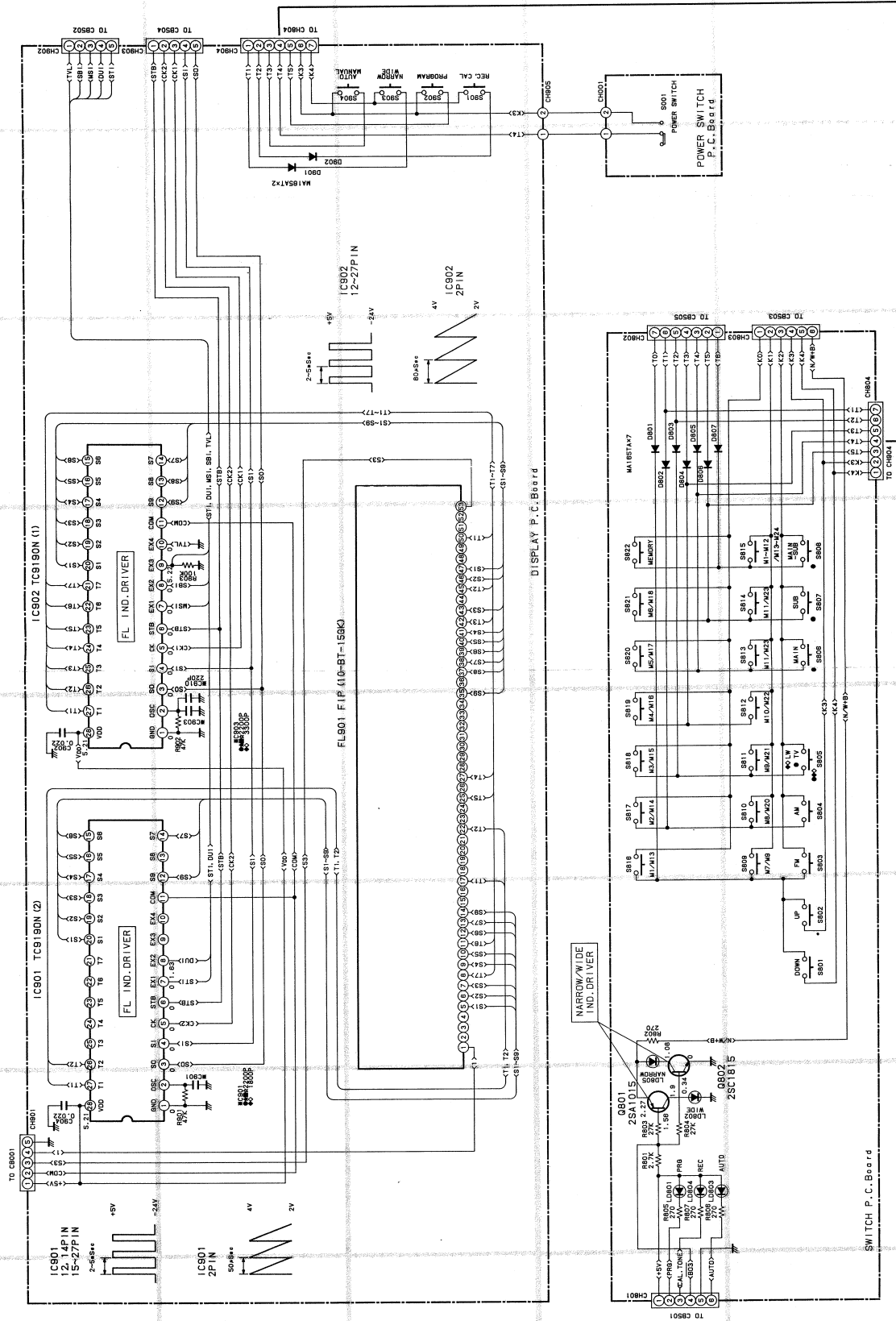
# TV Tuner Schematic Diagram (JA model only)



	UHF	VLWH	VLOW	
MB	5V	5V	5V	5V
UB	5V	OPEN	OPEN	OPEN
LB	5V	OPEN	5V	OPEN
UB	OPEN	5V	5V	5V
AGC				7V

- D1-4 : 1SV193, MA321, 1T32, MA338
- D5-8 : 1SV193, MA321, 1T32, MA338
- D9-12: HSK110, RLS135, DLP238, MA860
- D16 : DAN202K, ISS182, ISS183, DCB015, ISS184, MA151WK, IS2837, IS2838
- D201 : DAP202K, ISS179, ISS180, ISS181, IS2835, IS2836, DCA015, MA151WA, MA152WA

# Schematic Diagram Switch, Display (1/3)

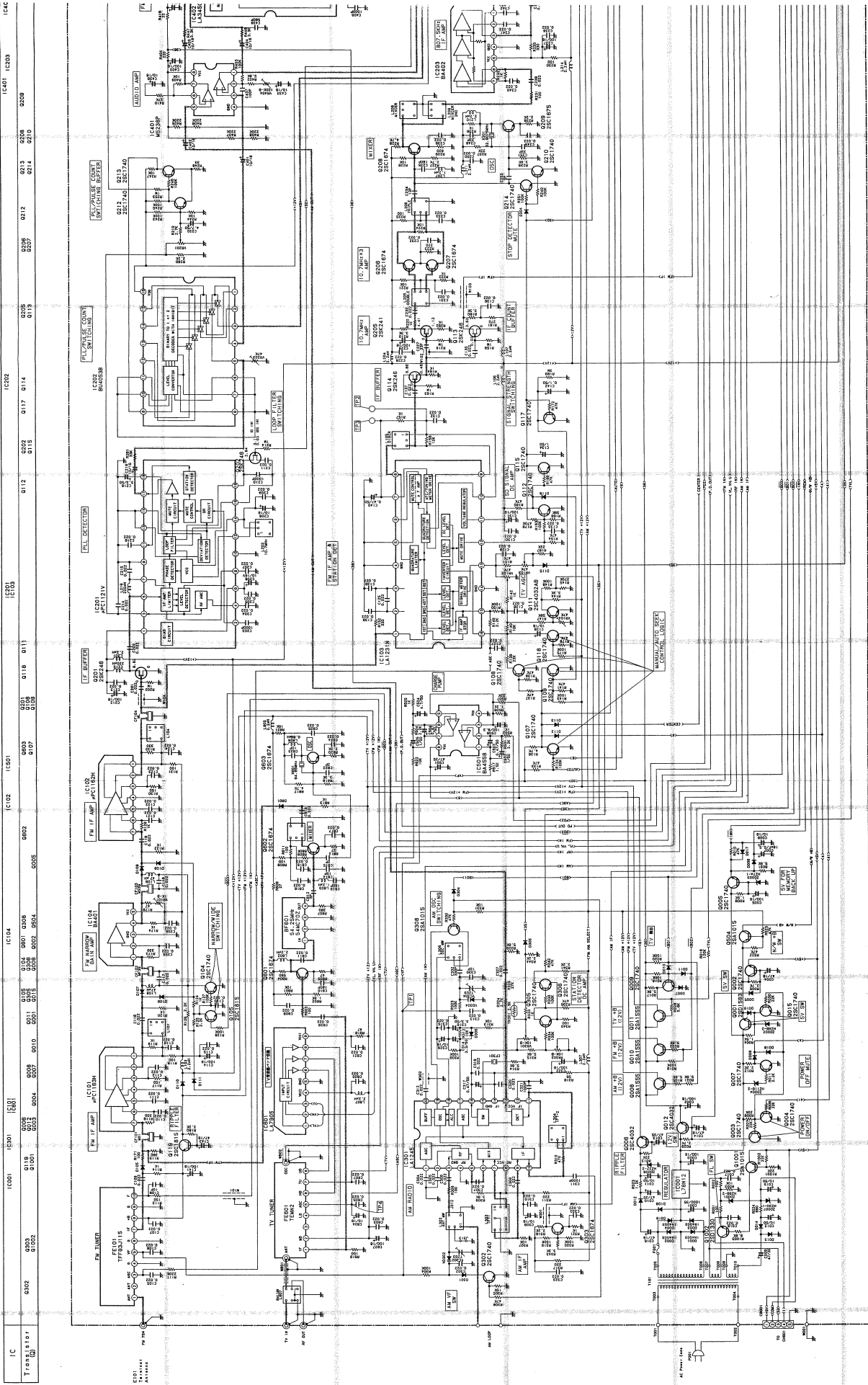


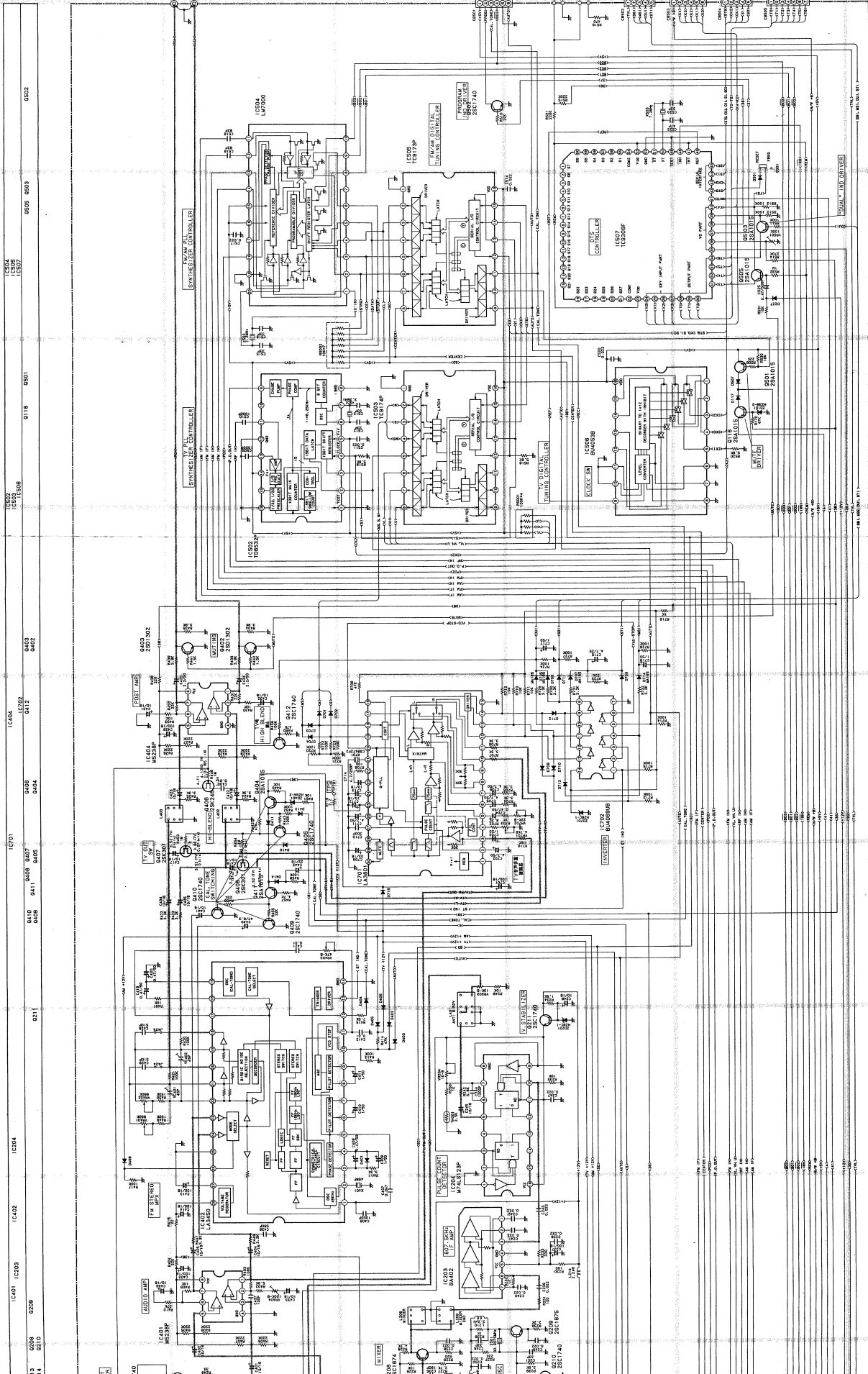
T-117/T-117L  
T-03/T-03L

● : For Japanese model only (JA)  
 ■ : For North American model only (UZ)  
 ★ : For General Foretgn model only (BK)  
 ◆ : For West Germany model only (T-117L SD)  
 ☆ : For General Foretgn model only (T-03 EX)  
 ◇ : For West Germany model only (T-03L SD) Others : Common



# Schematic Diagram Main (2/3) (JA model)





P

N

S

R

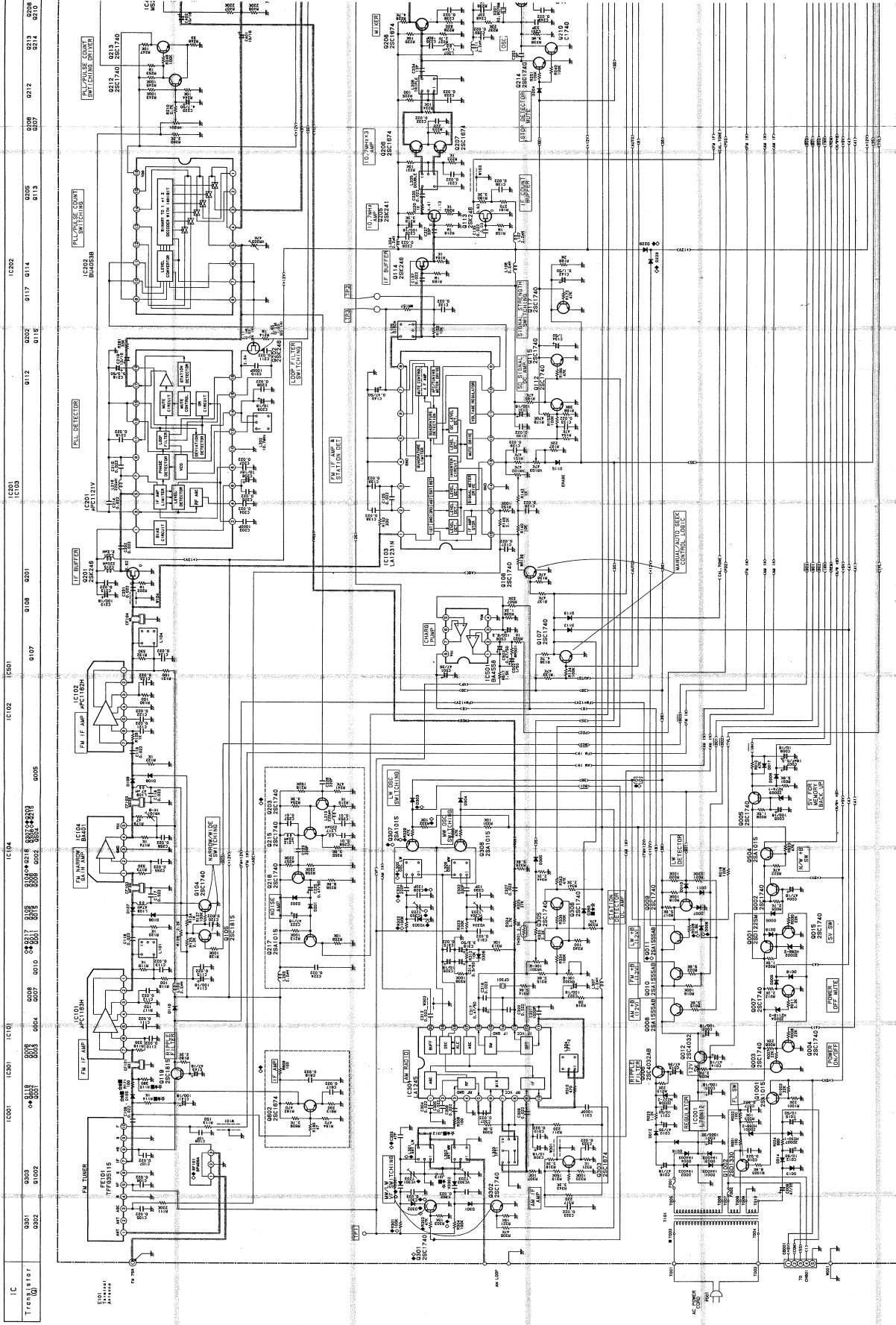
W

A

I

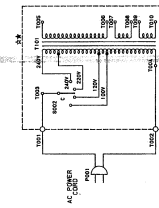
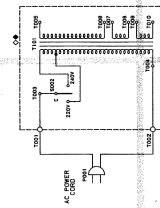
13	1C401	1C203	1C402	1C204	1C403	1C205	1C404	1C206	1C405	1C207	1C406	1C208	1C407	1C209	1C408	1C210	1C409	1C211	1C410	1C212	1C411	1C213	1C412	1C214	1C413	1C215	1C414	1C216	1C415	1C217	1C416	1C218	1C417	1C219	1C418	1C220	1C419	1C221	1C420	1C222	1C421	1C223	1C422	1C224	1C423	1C225	1C424	1C226	1C425	1C227	1C428	1C229	1C429	1C230	1C430	1C231	1C432	1C233	1C434	1C235	1C435	1C236	1C437	1C238	1C439	1C239	1C440	1C240	1C441	1C242	1C443	1C244	1C445	1C246	1C447	1C248	1C449	1C250	1C450	1C251	1C452	1C253	1C454	1C255	1C456	1C257	1C458	1C259	1C459	1C260	1C460	1C261	1C462	1C263	1C464	1C265	1C466	1C267	1C468	1C269	1C469	1C270	1C470	1C271	1C472	1C273	1C474	1C275	1C476	1C277	1C478	1C279	1C479	1C280	1C480	1C281	1C482	1C283	1C484	1C285	1C486	1C287	1C488	1C289	1C489	1C290	1C490	1C291	1C492	1C293	1C494	1C295	1C496	1C297	1C498	1C299	1C499	1C300	1C501	1C502	1C503	1C504	1C505	1C506	1C507	1C508	1C509	1C510	1C511	1C512	1C513	1C514	1C515	1C516	1C517	1C518	1C519	1C520	1C521	1C522	1C523	1C524	1C525	1C526	1C527	1C528	1C529	1C530	1C531	1C532	1C533	1C534	1C535	1C536	1C537	1C538	1C539	1C540	1C541	1C542	1C543	1C544	1C545	1C546	1C547	1C548	1C549	1C550	1C551	1C552	1C553	1C554	1C555	1C556	1C557	1C558	1C559	1C560	1C561	1C562	1C563	1C564	1C565	1C566	1C567	1C568	1C569	1C570	1C571	1C572	1C573	1C574	1C575	1C576	1C577	1C578	1C579	1C580	1C581	1C582	1C583	1C584	1C585	1C586	1C587	1C588	1C589	1C590	1C591	1C592	1C593	1C594	1C595	1C596	1C597	1C598	1C599	1C600	1C601	1C602	1C603	1C604	1C605	1C606	1C607	1C608	1C609	1C610	1C611	1C612	1C613	1C614	1C615	1C616	1C617	1C618	1C619	1C620	1C621	1C622	1C623	1C624	1C625	1C626	1C627	1C628	1C629	1C630	1C631	1C632	1C633	1C634	1C635	1C636	1C637	1C638	1C639	1C640	1C641	1C642	1C643	1C644	1C645	1C646	1C647	1C648	1C649	1C650	1C651	1C652	1C653	1C654	1C655	1C656	1C657	1C658	1C659	1C660	1C661	1C662	1C663	1C664	1C665	1C666	1C667	1C668	1C669	1C670	1C671	1C672	1C673	1C674	1C675	1C676	1C677	1C678	1C679	1C680	1C681	1C682	1C683	1C684	1C685	1C686	1C687	1C688	1C689	1C690	1C691	1C692	1C693	1C694	1C695	1C696	1C697	1C698	1C699	1C700	1C701	1C702	1C703	1C704	1C705	1C706	1C707	1C708	1C709	1C710	1C711	1C712	1C713	1C714	1C715	1C716	1C717	1C718	1C719	1C720	1C721	1C722	1C723	1C724	1C725	1C726	1C727	1C728	1C729	1C730	1C731	1C732	1C733	1C734	1C735	1C736	1C737	1C738	1C739	1C740	1C741	1C742	1C743	1C744	1C745	1C746	1C747	1C748	1C749	1C750	1C751	1C752	1C753	1C754	1C755	1C756	1C757	1C758	1C759	1C760	1C761	1C762	1C763	1C764	1C765	1C766	1C767	1C768	1C769	1C770	1C771	1C772	1C773	1C774	1C775	1C776	1C777	1C778	1C779	1C780	1C781	1C782	1C783	1C784	1C785	1C786	1C787	1C788	1C789	1C790	1C791	1C792	1C793	1C794	1C795	1C796	1C797	1C798	1C799	1C800	1C801	1C802	1C803	1C804	1C805	1C806	1C807	1C808	1C809	1C810	1C811	1C812	1C813	1C814	1C815	1C816	1C817	1C818	1C819	1C820	1C821	1C822	1C823	1C824	1C825	1C826	1C827	1C828	1C829	1C830	1C831	1C832	1C833	1C834	1C835	1C836	1C837	1C838	1C839	1C840	1C841	1C842	1C843	1C844	1C845	1C846	1C847	1C848	1C849	1C850	1C851	1C852	1C853	1C854	1C855	1C856	1C857	1C858	1C859	1C860	1C861	1C862	1C863	1C864	1C865	1C866	1C867	1C868	1C869	1C870	1C871	1C872	1C873	1C874	1C875	1C876	1C877	1C878	1C879	1C880	1C881	1C882	1C883	1C884	1C885	1C886	1C887	1C888	1C889	1C890	1C891	1C892	1C893	1C894	1C895	1C896	1C897	1C898	1C899	1C900	1C901	1C902	1C903	1C904	1C905	1C906	1C907	1C908	1C909	1C910	1C911	1C912	1C913	1C914	1C915	1C916	1C917	1C918	1C919	1C920	1C921	1C922	1C923	1C924	1C925	1C926	1C927	1C928	1C929	1C930	1C931	1C932	1C933	1C934	1C935	1C936	1C937	1C938	1C939	1C940	1C941	1C942	1C943	1C944	1C945	1C946	1C947	1C948	1C949	1C950	1C951	1C952	1C953	1C954	1C955	1C956	1C957	1C958	1C959	1C960	1C961	1C962	1C963	1C964	1C965	1C966	1C967	1C968	1C969	1C970	1C971	1C972	1C973	1C974	1C975	1C976	1C977	1C978	1C979	1C980	1C981	1C982	1C983	1C984	1C985	1C986	1C987	1C988	1C989	1C990	1C991	1C992	1C993	1C994	1C995	1C996	1C997	1C998	1C999	1C1000
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# Schematic Diagram Main (3/3) (EK/SD/UZ model)



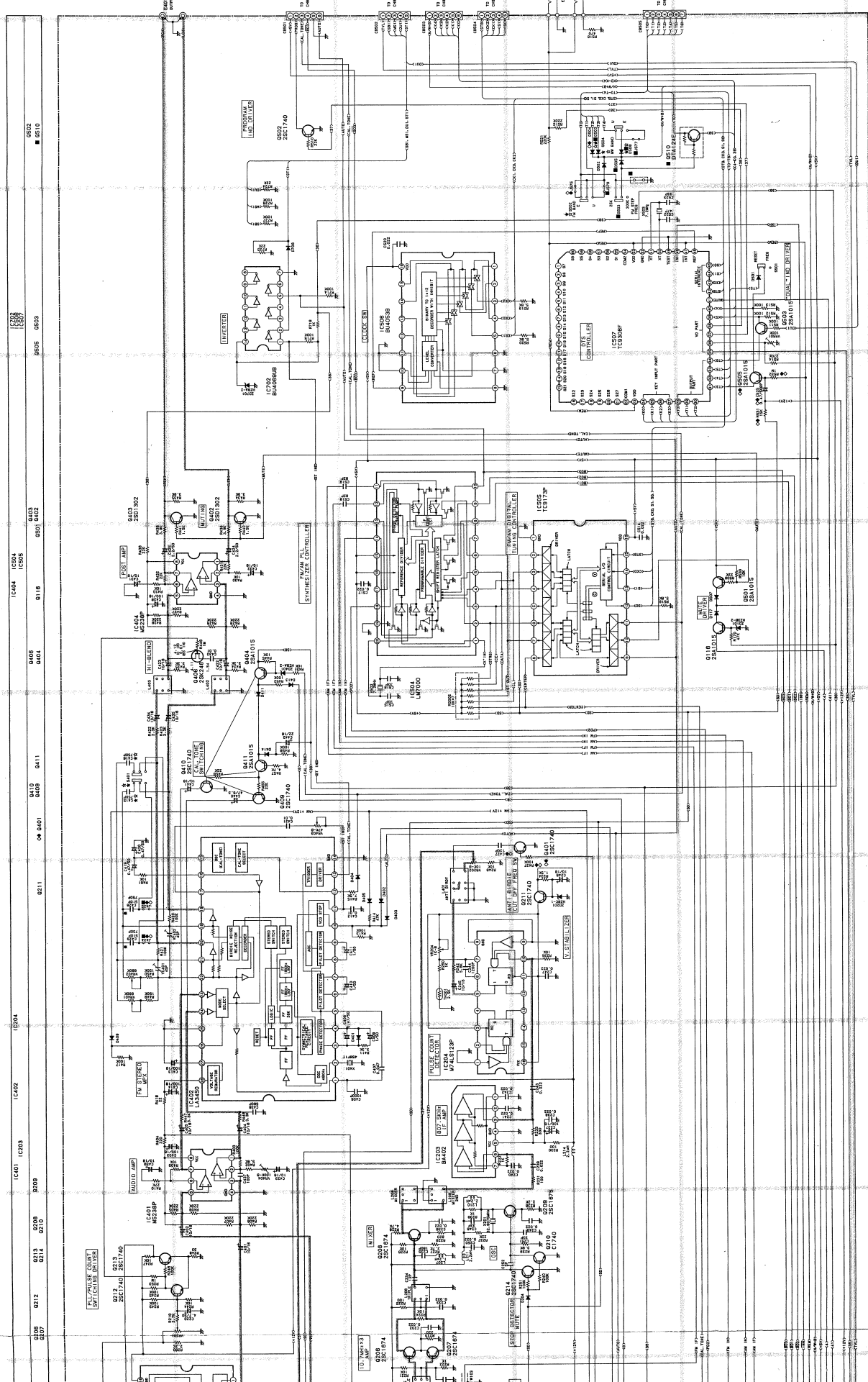
IC	IC00	IC01	IC02	IC03	IC04	IC05	IC06	IC07	IC08	IC09	IC10	IC11	IC12	IC13	IC14	IC15	IC16	IC17	IC18
Transistor	0501	0502	0503	0504	0505	0506	0507	0508	0509	0510	0511	0512	0513	0514	0515	0516	0517	0518	0519
IC	0601	0602	0603	0604	0605	0606	0607	0608	0609	0610	0611	0612	0613	0614	0615	0616	0617	0618	0619
IC	0701	0702	0703	0704	0705	0706	0707	0708	0709	0710	0711	0712	0713	0714	0715	0716	0717	0718	0719
IC	0801	0802	0803	0804	0805	0806	0807	0808	0809	0810	0811	0812	0813	0814	0815	0816	0817	0818	0819
IC	0901	0902	0903	0904	0905	0906	0907	0908	0909	0910	0911	0912	0913	0914	0915	0916	0917	0918	0919
IC	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019
IC	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119
IC	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219

Part No.	Qty	Part Name	Spec.
279000	1	AC POWER	250V 50/60Hz
279001	1	AC POWER	250V 50/60Hz
279002	1	AC POWER	250V 50/60Hz
279003	1	AC POWER	250V 50/60Hz
279004	1	AC POWER	250V 50/60Hz
279005	1	AC POWER	250V 50/60Hz



A H G F D C B A





T-17L, T-03/  
T-03L

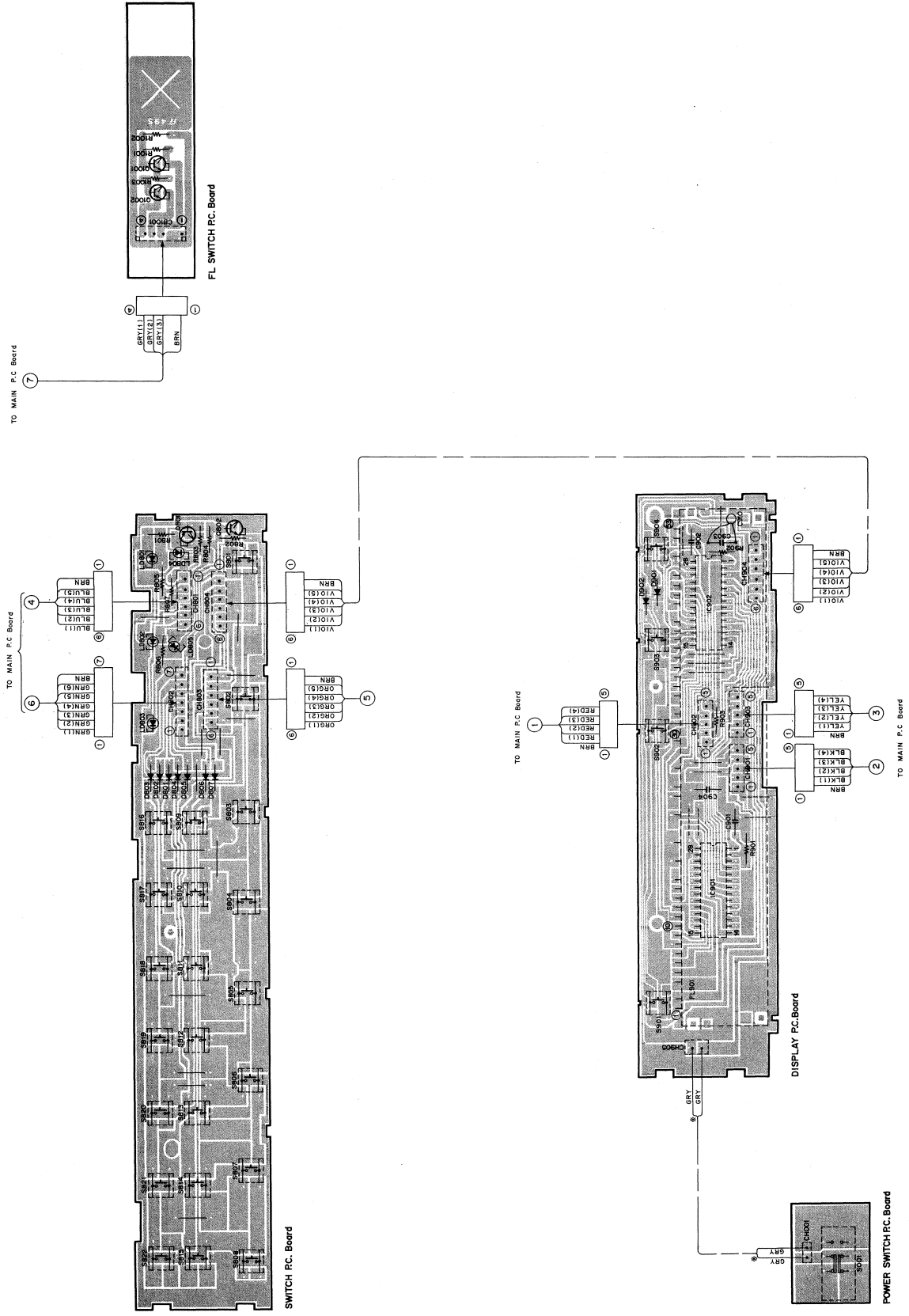
★ : For General Foreign model only (EX)    ◆ : For North American model only (UZ)    ◆ : For West Germany model only (T-17L SD)  
 ☆ : For General Foreign model only (T-03 EX)    ◇ : For West Germany model only (T-03L SD)    Others : Common



T-117/T-117L  
T-03/T-03L

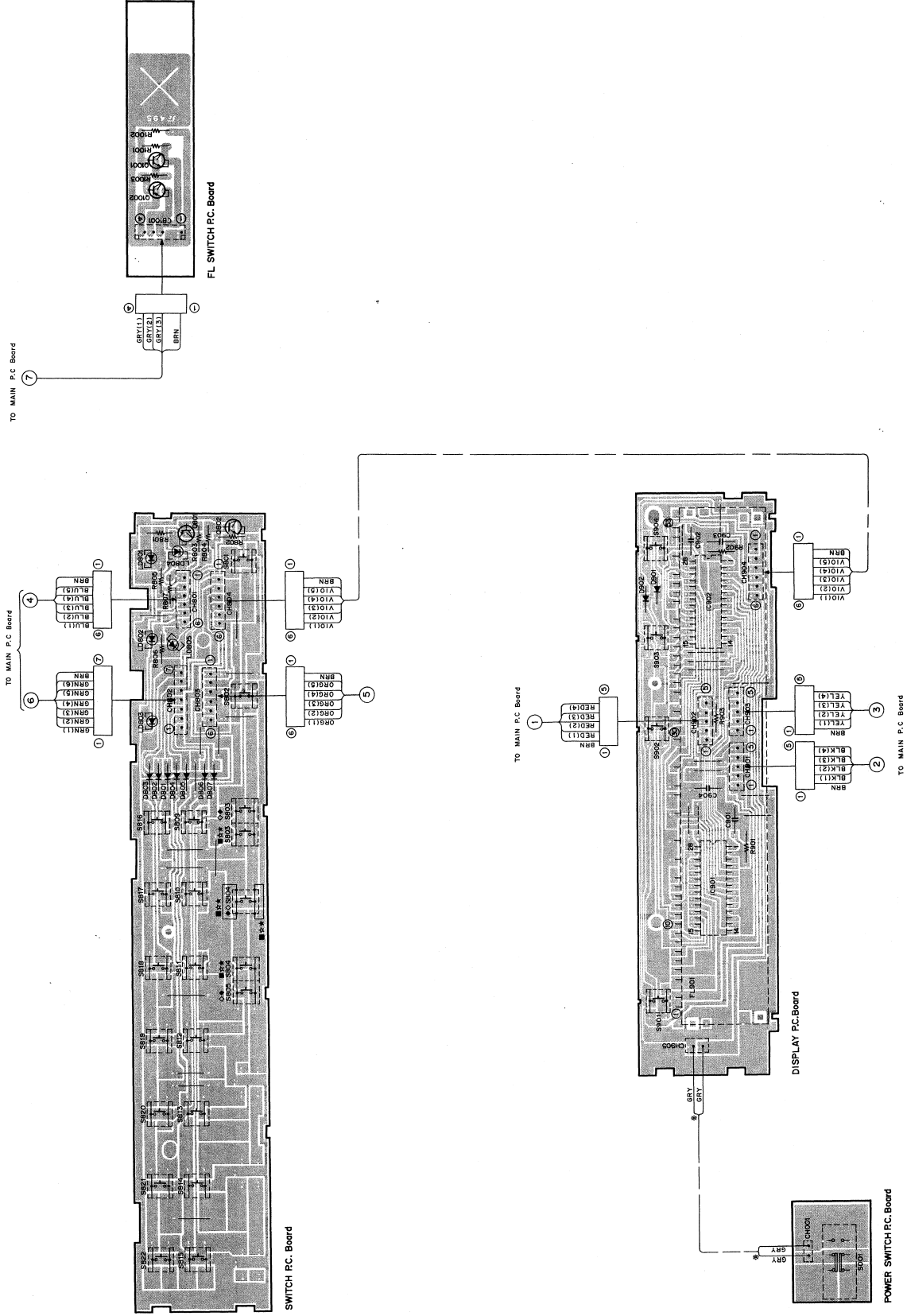
# Parts Layout on P.C. Boards and Wiring Diagram

SWITCH P.C. Board/DISPLAY P.C. Board/POWER SWITCH P.C. Board /FL SWITCH P.C.Board (JA Model only)



T-117/T-117L  
T-03/T-03L

SWITCH P.C. Board/DISPLAY P.C. Board/POWER SWITCH P.C. Board /FL SWITCH P.C. Board (BX/SD/UZ Model only)

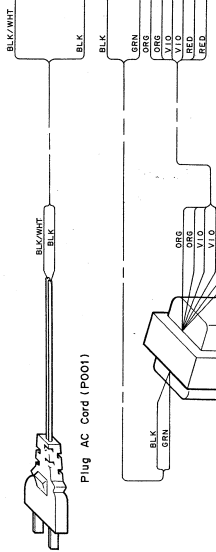
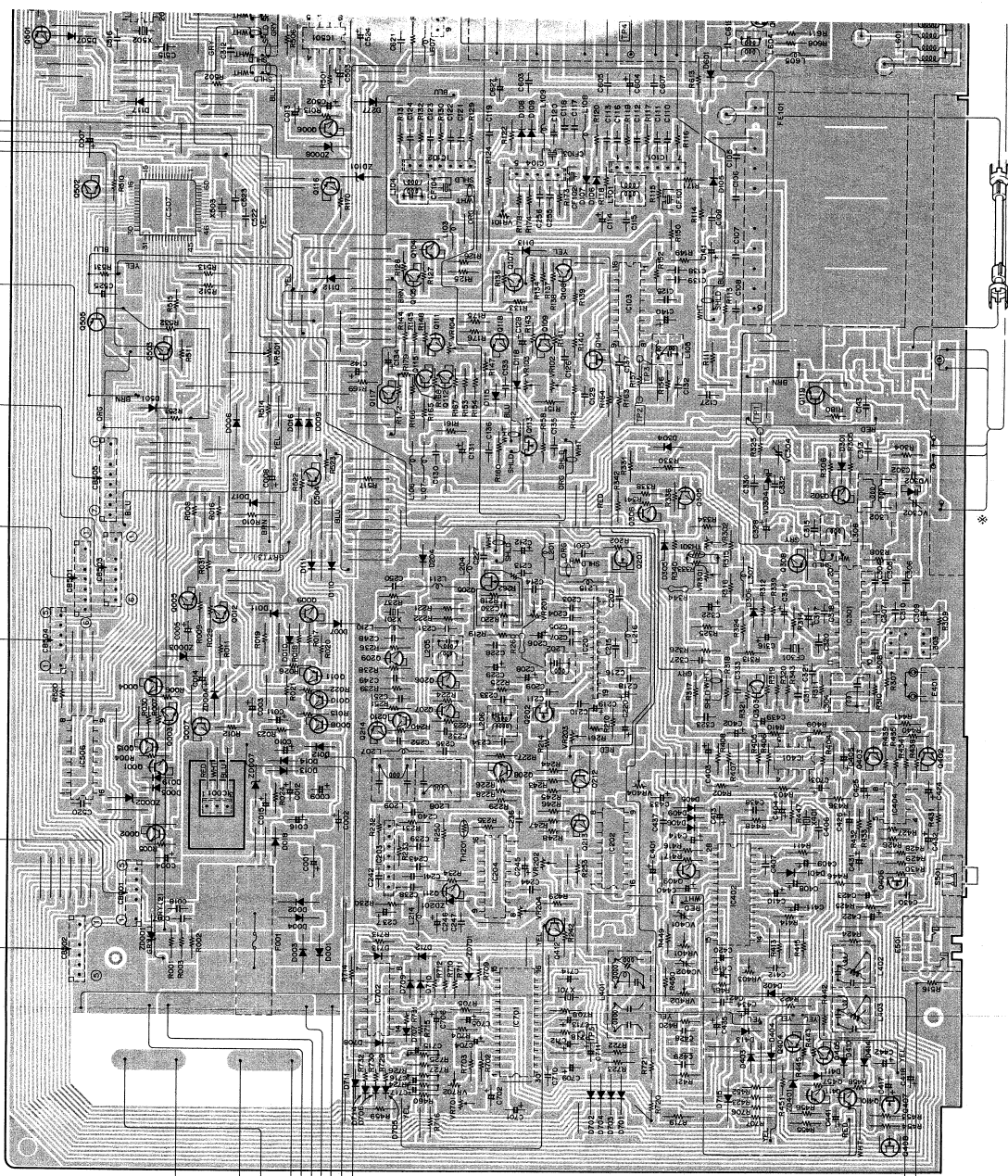
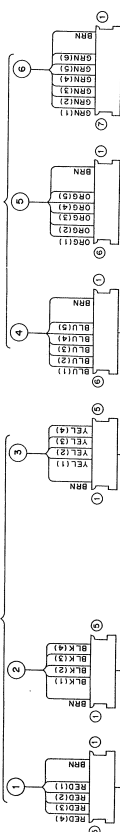


T-117/T-117L  
T-03/T-03L

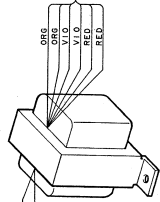
TO FL SWITCH P.C. Board

TO SWITCH P.C. Board

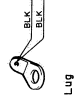
TO DISPLAY P.C. Board



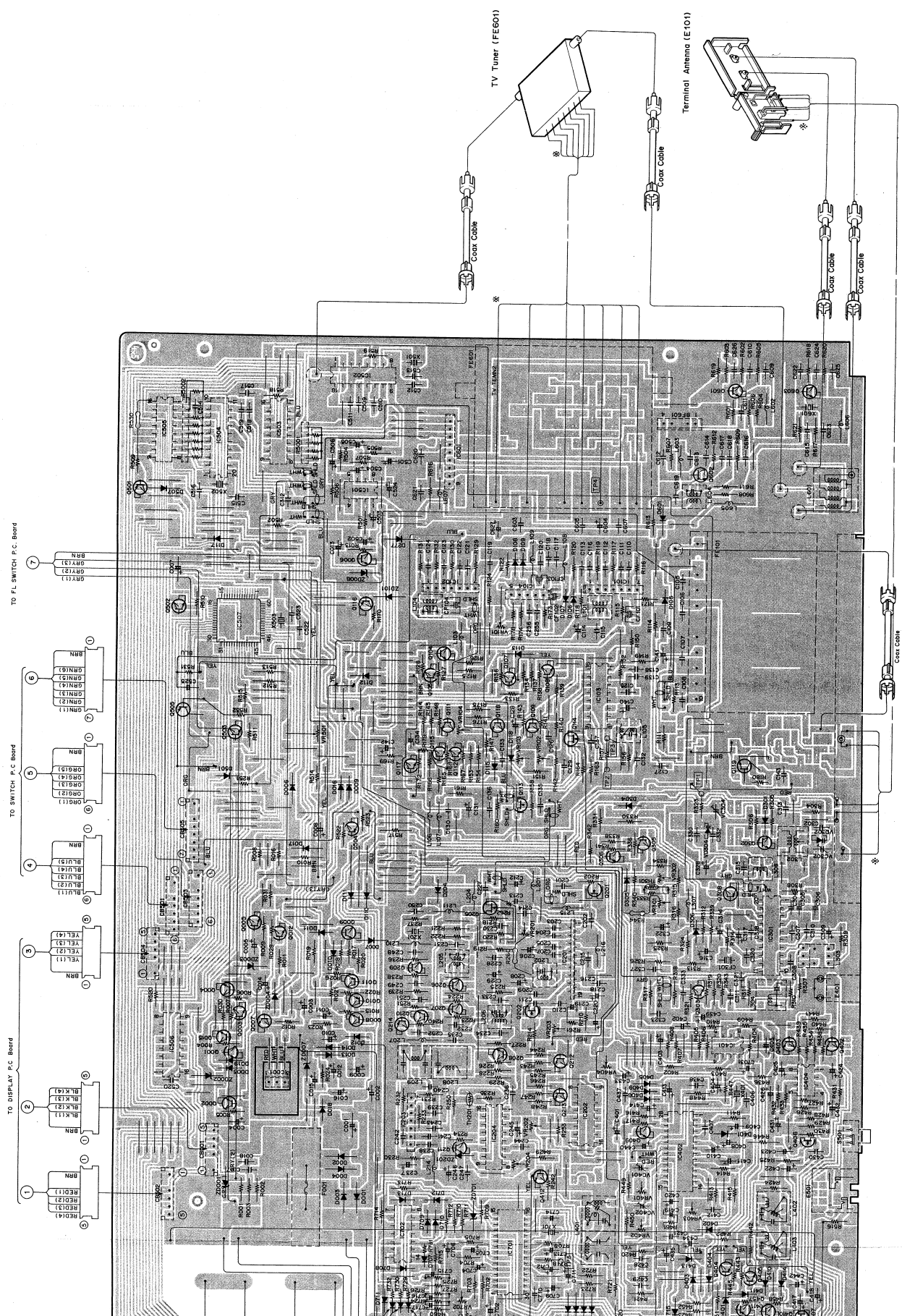
Plug AC Cord (P001)



Trans (T101)



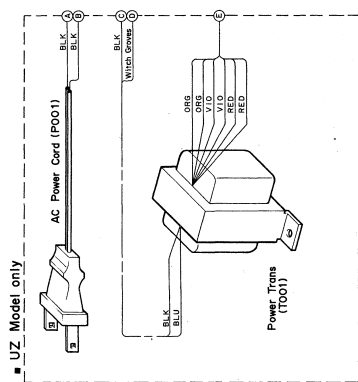
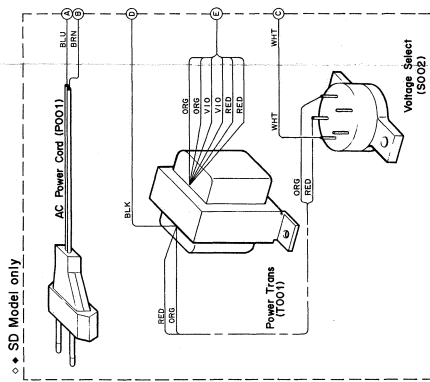
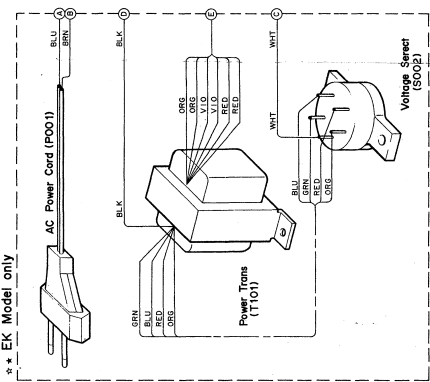
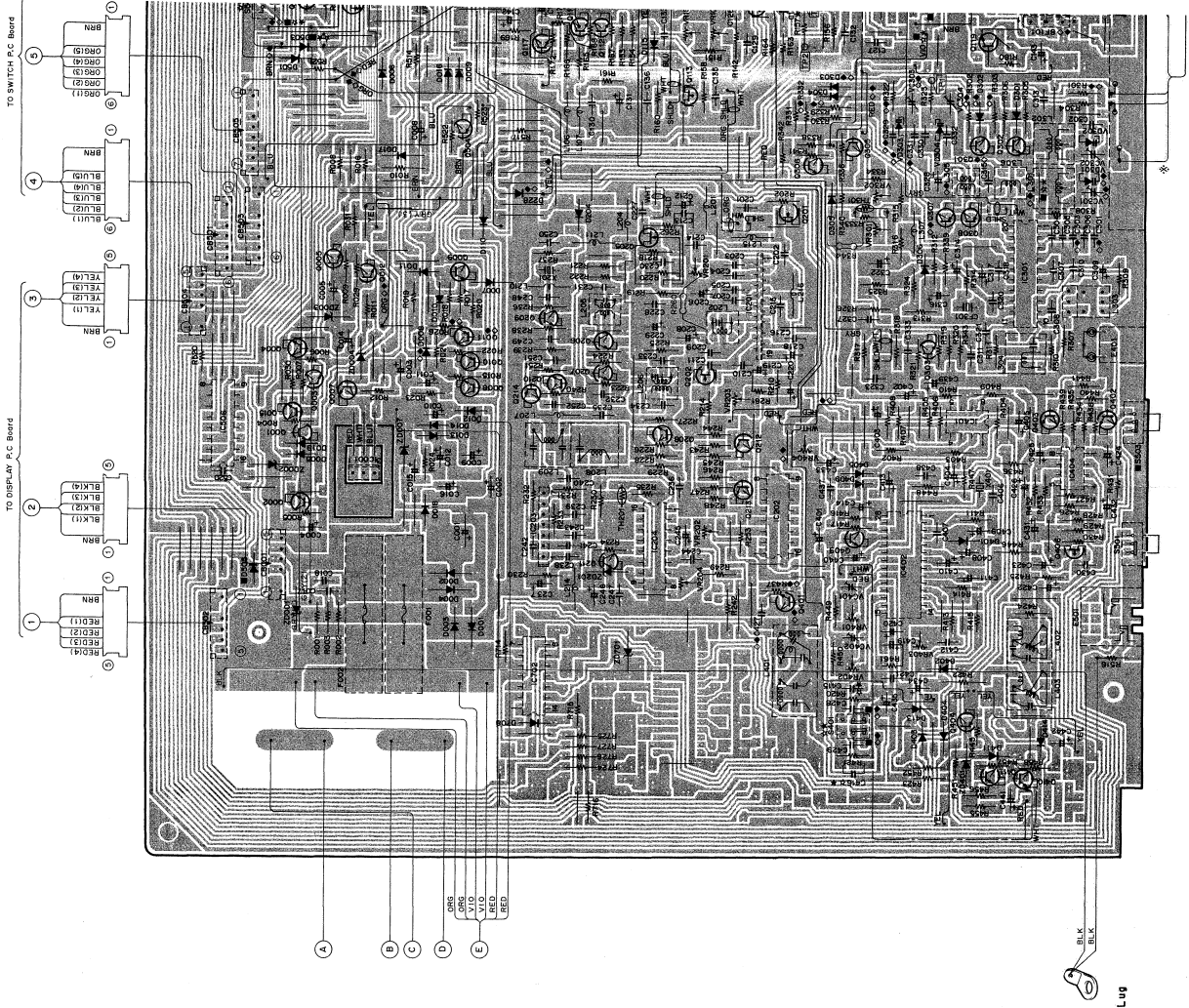
LUG



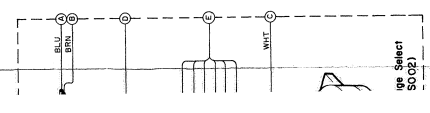
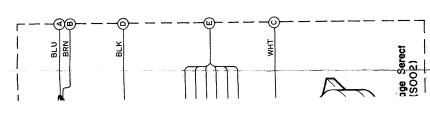
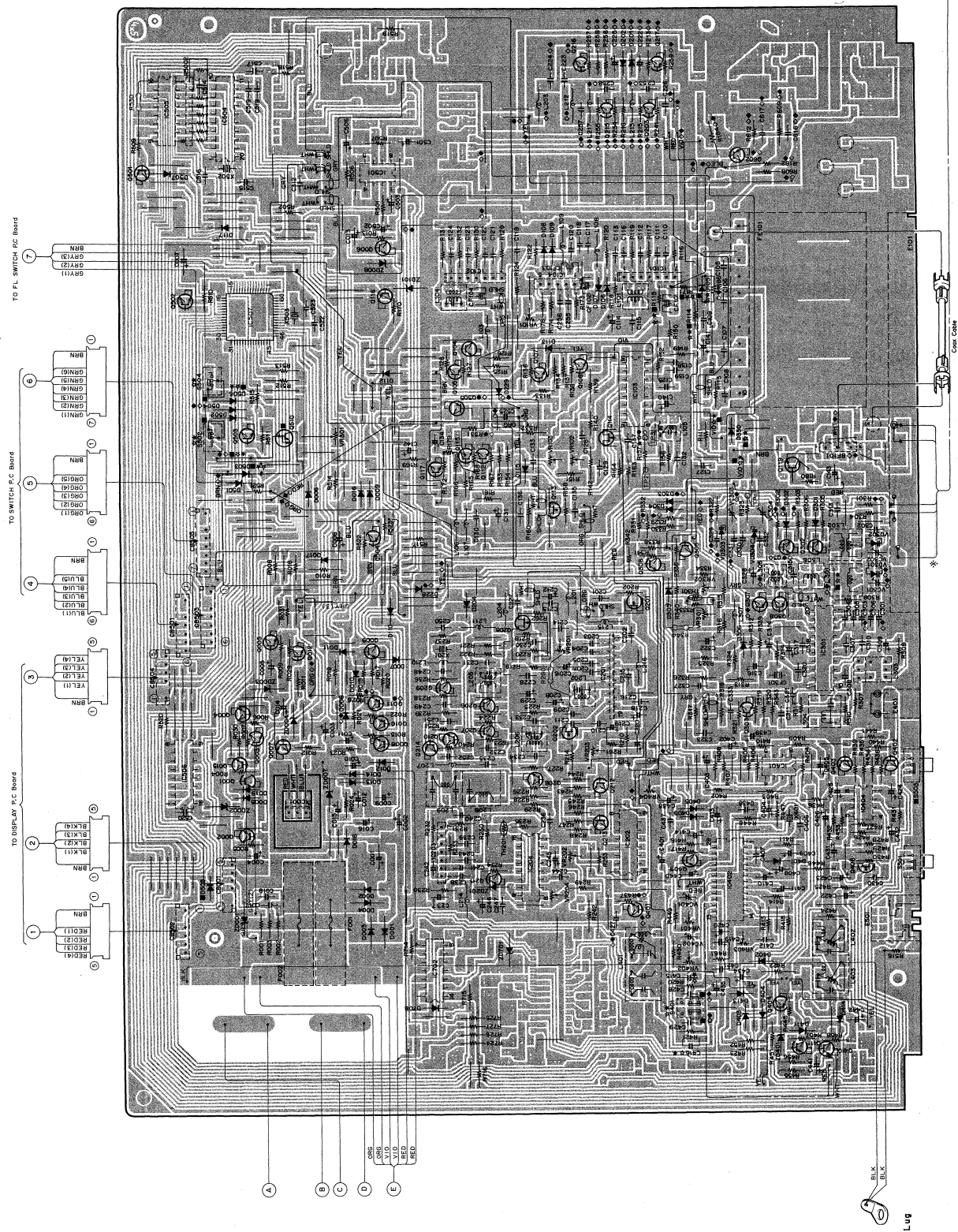


MAIN P.C. Board (EK/SD/UZ Model only)

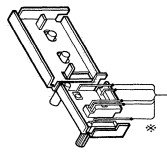
T-117/T-117L  
T-03/T-03L



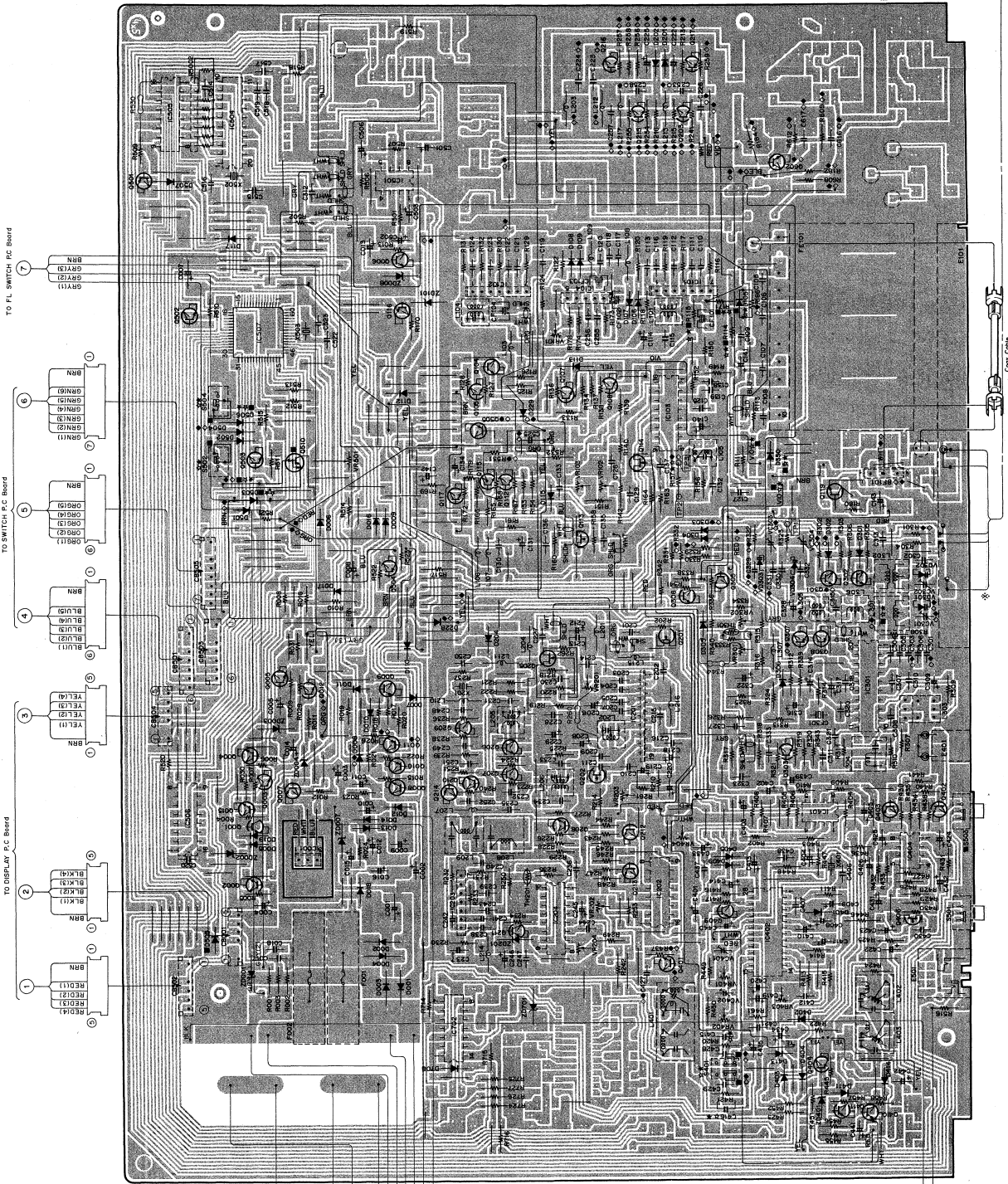
T-117/T-117L  
T-03/T-03L



Terminal Antenna (E101)



T-117/T-117L  
T-03/T-03L



TO FL SWITCH PC Board

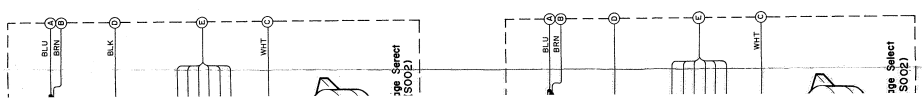
TO SWITCH P.C Board

TO DSR/AN P.C Board

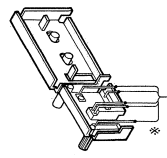
TO DSR/AN P.C Board

CRS  
CRS  
V.U  
REG  
REG

A  
B  
C  
D  
E



Terminal Antenna (E10)



# Electrical Parts List

Resistor: Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

μF=microfarads, pF=picofarads

Abbreviations			
RES.-Resistor	PP.-Polypropylene		
CER.-Ceramic	MYL.-Mylar		
CAP.-Capcitor	ELY.-Electrolytic		
TR.-TransistoR	POLY.-Polystrol		
Symbol No.	Part No.	Description	
Main P.C. Board			
IC's			
IC001	51T56583F07	L78N12	
IC101	51T84601F01	μ PC1183H	
IC102	51T84601F01	μ PC1183H	
IC103	51T50855F01	LA1231N	
IC104	51T72216F01	BA401	
IC201	51T84606F01	μ PC1211V	
IC202	51T69181F01	BU4053B	
IC203	51T62863F01	BA402	
IC204	51T56534F01	M74LS123P	
IC301	51T53323F01	LA1245	
IC401	51T80136F01	M5238P	
IC402	51T84610F01	LA3450	
IC404	51T80136F01	M5238P	
IC501	51T65380F01	BA4558	
● IC502	51T84659F01	TD6352P	
● IC503	51T84657F01	TC9174P	
IC504	51T84660F01	LM7000	
IC505	51T84658F01	TC9173P	
IC506	51T69181F01	BU4053B	
IC507	51T92066F01	TC9306F	
● IC601	51T84594F01	LA7905	
● IC701	51T84611F01	LA3801	
IC702	51T68998F01	BU4069UB	
Transistors			
● Q001	48T90204F03	2SD1563	
■ Q001	48T63085F01	2SD1225M	
★ Q001	48T63085F01	2SD1225M	
◆ Q001	48T63085F01	2SD1225M	
◇ Q001	48T63085F01	2SD1225M	
☆ Q001	48T63085F01	2SD1225M	
Q002	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
Q003	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
Q004	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
Q005	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
Q006	48T82761F01	2SC4032AB	
Q007	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
Q008	48T82910F01	2SA1555AB	
Q009	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
● Q010	48T82910F01	2SA1555AB	
◆ Q011	48T82910F01	2SA1555AB	
◇ Q011	48T82910F01	2SA1555AB	
Q012	48T82761F01	2SC4032AB	
Q015	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
Q104	48T81103F01	2SC1740	
Q105	48T81103F01	2SC1740	
Q107	48T81103F01	2SC1740	
Q108	48T81103F01	2SC1740	
● Q109	48T81103F01	2SC1740	
● or	48T81101F01	2SC1815	
● Q111	48T82761F01	2SC4032AB	
Q112	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
Q113	48T66948F01	FET. 2SK246	
Q114	48T66948F01	FET. 2SK246	
Q115	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
Q116	48T81102F01	2SA1015	
or	48T81104F01	2SA933A	
Q117	48T81103F01	2SC1740	
or	48T81101F01	2SC1815	
● Q118	48T81103F01	2SC1740	
● or	48T81101F01	2SC1815	
Q119	48T81101F01	2SC1815	
Q201	48T66948F01	FET. 2SK246	
Q202	48T66948F01	FET. 2SK246	
◇ Q203	48T81103F01	2SC1740	
◇ or	48T81101F01	2SC1815	
◆ Q203	48T81103F01	2SC1740	
◆ or	48T81101F01	2SC1815	
Q205	48T63926F03	2SK241	
Q206	48S40732P02	2SC1674	
Q207	48S40732P02	2SC1674	
Q208	48S40732P02	2SC1674	
Q209	48S44580J03	2SC1675	

Note: ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
 ★ : For General Foreign model only (EK)      ◆ : For West Germany model only (T-117L SD)  
 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)      Others : Common



Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
Q210	48T81103F01	2SC1740			Q403	48T57305F01	2SD1302		
or	48T81101F01	2SC1815			Q404	48T81102F01	2SA1015		
Q211	48T81103F01	2SC1740			or	48T81104F01	2SA933A		
or	48T81101F01	2SC1815			● Q405	48T81103F01	2SC1740		
Q212	48T81103F01	2SC1740			● or	48T81101F01	2SC1815		
or	48T81101F01	2SC1815			Q406	48T66948F01	FET, 2SK246		
Q213	48T81103F01	2SC1740			● Q407	48T52122F02	FET, 2SK301		
or	48T81101F01	2SC1815			● Q408	48T52122F02	FET, 2SK301		
Q214	48T81103F01	2SC1740			Q409	48T57305F01	2SD1302		
or	48T81101F01	2SC1815			Q410	48T81103F01	2SC1740		
◇ Q215	48T81103F01	2SC1740			or	48T81101F01	2SC1815		
◇ or	48T81101F01	2SC1815			Q411	48T81102F01	2SA1015		
◆ Q215	48T81103F01	2SC1740			or	48T81104F01	2SA933A		
◆ or	48T81101F01	2SC1815			● Q412	48T81103F01	2SC1740		
◆ Q216	48T81103F01	2SC1740			● or	48T81101F01	2SC1815		
◆ or	48T81101F01	2SC1815			Q501	48T81102F01	2SA1015		
◇ Q216	48T81103F01	2SC1740			or	48T81104F01	2SA933A		
◇ or	48T81101F01	2SC1815			Q502	48T81103F01	2SC1740		
◆ Q217	48T81102F01	2SA1015			or	48T81101F01	2SC1815		
◆ or	48T81104F01	2SA933A			Q503	48T81102F01	2SA1015		
◇ Q217	48T81102F01	2SA1015			or	48T81104F01	2SA933A		
◇ or	48T81104F01	2SA933A			Q504	48T81102F01	2SA1015		
◆ Q301	48T81103F01	2SC1740			or	48T81104F01	2SA933A		
◆ or	48T81101F01	2SC1815			● Q505	48T81102F01	2SA1015		
◇ Q301	48T81103F01	2SC1740			◇ Q505	48T81102F01	2SA1015		
◇ or	48T81101F01	2SC1815			◆ Q505	48T81102F01	2SA1015		
Q302	48T81103F01	2SC1740			■ Q510	48T62964F03	DTA124E		
or	48T81101F01	2SC1815			● Q601	48S40732P02	2SC1674		
Q303	48S40732P02	2SC1674			● Q602	48S40732P02	2SC1674		
Q305	48T81103F01	2SC1740			◇ Q602	48S40732P02	2SC1674		
or	48T81101F01	2SC1815			◇ Q602	48S40732P02	2SC1674		
Q306	48T81103F01	2SC1740			● Q603	48S44580J03	2SC1675		
or	48T81101F01	2SC1815			Diodes				
◆ Q307	48T81102F01	2SA1015			D001	48S40477U01	1N4003		
◆ or	48T81104F01	2SA933A			D002	48S40477U01	1N4003		
◇ Q307	48T81102F01	2SA1015			D003	48S40477U01	1N4003		
◇ or	48T81104F01	2SA933A			D004	48S40477U01	1N4003		
Q308	48T81102F01	2SA1015			D005	48T44813F01	MA165TA		
or	48T81104F01	2SA933A			D006	48T44813F01	MA165TA		
◆ Q401	48T81103F01	2SC1740			D007	48T44813F01	MA165TA		
◆ or	48T81101F01	2SC1815			◆ D008	48T44813F01	MA165TA		
◇ Q401	48T81103F01	2SC1740			◇ D008	48T44813F01	MA165TA		
◇ or	48T81101F01	2SC1815			D009	48T44813F01	MA165TA		
Q402	48T57305F01	2SD1302							

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 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)      Others : Common

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
	D010	48T44813F01 MA165TA		D402	48T44813F01 MA165TA
	D011	48T44813F01 MA165TA		D403	48T44813F01 MA165TA
	D012	48T44813F01 MA165TA		D404	48T44813F01 MA165TA
	D013	48T44813F01 MA165TA		D405	48T44813F01 MA165TA
	D014	48T44813F01 MA165TA	●	D406	48T44813F01 MA165TA
	D016	48T44813F01 MA165TA		D409	48T44813F01 MA165TA
	D017	48T44813F01 MA165TA	●	D410	48T44813F01 MA165TA
	D018	48T44813F01 MA165TA		D411	48T44813F01 MA165TA
	D019	48T44813F01 MA165TA		D413	48T44813F01 MA165TA
●	D105	48T44813F01 MA165TA		D414	48T44813F01 MA165TA
■	D105	48T44813F01 MA165TA		D501	48T44813F01 MA165TA
☆	D105	48T44813F01 MA165TA	■	D502	48T44813F01 MA165TA
★	D105	48T44813F01 MA165TA	★	D502	48T44813F01 MA165TA
	D106	48T44813F01 MA165TA	◆	D502	48T44813F01 MA165TA
	D107	48T44813F01 MA165TA	◇	D502	48T44813F01 MA165TA
	D108	48T44813F01 MA165TA	☆	D502	48T44813F01 MA165TA
	D109	48T44813F01 MA165TA	■	D503	48T44813F01 MA165TA
	D110	48T44813F01 MA165TA	★	D503	48T44813F01 MA165TA
●	D111	48T44813F01 MA165TA	☆	D503	48T44813F01 MA165TA
	D112	48T44813F01 MA165TA	◆	D504	48T44813F01 MA165TA
	D113	48T44813F01 MA165TA	◇	D504	48T44813F01 MA165TA
	D115	48T44813F01 MA165TA	■	D505	48T44813F01 MA165TA
	D117	48T44813F01 MA165TA	■	D506	48T44813F01 MA165TA
●	D118	48T44813F01 MA165TA	★	D506	48T44813F01 MA165TA
◆	D201	48T44813F01 MA165TA	☆	D506	48T44813F01 MA165TA
◇	D201	48T44813F01 MA165TA		D507	48T44813F01 MA165TA
◆	D202	48T44813F01 MA165TA	●	D601	48T44813F01 MA165TA
◇	D202	48T44813F01 MA165TA	●	D701	48T44813F01 MA165TA
	D204	48T44813F01 MA165TA	●	D702	48T44813F01 MA165TA
●	D227	48T44813F01 MA165TA	●	D703	48T44813F01 MA165TA
◆	D228	48T44813F01 MA165TA	●	D704	48T44813F01 MA165TA
◇	D228	48T44813F01 MA165TA	●	D705	48T44813F02 MA165
◆	D229	48T44813F02 MA165	●	D706	48T44813F02 MA165
◇	D229	48T44813F02 MA165	●	D707	48T44813F02 MA165
	D301	48T44813F01 MA165TA		D708	48T44813F01 MA165TA
◆	D302	48T44813F01 MA165TA	●	D709	48T44813F01 MA165TA
◇	D302	48T44813F01 MA165TA	●	D710	48T44813F01 MA165TA
◆	D303	48T44813F01 MA165TA	●	D711	48T44813F01 MA165TA
◇	D303	48T44813F01 MA165TA	●	D712	48T44813F01 MA165TA
	D304	48T44813F01 MA165TA	●	D713	48T44813F01 MA165TA
	D305	48T44813F01 MA165TA	●	D714	48T44813F02 MA165
	D306	48T44813F01 MA165TA	●	D715	48T44813F01 MA165TA
■	D350	48T44813F02 MA165	ZD001	48T52739F38	Zener HZ6B-2
★	D350	48T44813F02 MA165	ZD002	48T52739F38	Zener HZ6B-2
	D401	48T44813F01 MA165TA	ZD003	48T52739F43	Zener HZ7A-1

Note : ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
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 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)      Others : Common

Symbol No.	Part No.	Description		
	ZD004	48T52739F65	Zener HZ11B-2	
	ZD007	48T52739F97	Zener HZ30-1	
	ZD008	48T52739F95	Zener HZ27-2	
	ZD101	48T52739F11	Zener HZ3B-2	
	ZD201	48T52739F40	Zener HZ6C-1	
●	ZD401	48T52739F53	Zener HZ9A-2	
■	ZD701	48T52739F40	Zener HZ6C-1	
★	ZD701	48T52739F35	Zener HZ6A-2	
◆	ZD701	48T52739F35	Zener HZ6A-2	
☆	ZD701	48T52739F35	Zener HZ6A-2	
◇	ZD701	48T52739F35	Zener HZ6A-2	
◆	VD301	48T52826F01	Varactor SVC321SP-A2	
◇	VD301	48T52826F01	Varactor SVC321SP-A2	
	VD302	48T52826F01	Varactor SVC321SP-A2	
◆	VD303	48T52826F01	Varactor SVC321SP-A2	
◇	VD303	48T52826F01	Varactor SVC321SP-A2	
	VD304	48T52826F01	Varactor SVC321SP-A2	
Switches				
★	S401	40T72577F01	SI1de SSSS22	
☆	S401	40T72577F01	SI1de SSSS22	
	S501	40T84669F01	SI1de SSSJ1(C)	
★	S502	40T72576F01	SI1de SSSS21	
☆	S502	40T72576F01	SI1de SSSS21	
■	S503	40T84669F01	SI1de SSSJ1	
★	S504	40T72576F01	SI1de SSSS21	
☆	S504	40T72576F01	SI1de SSSS21	
Filters				
◆	BF101	91T74482F01	BPMB6A	
◇	BF101	91T74482F01	BPMB6A	
●	BF801	91T84599F01	SAP54MC70Z	
	CF101	91T84599F01	SFE10.7MXK	
	CF102	91T84599F01	SFE10.7MS3G	
	CF103	91T84599F01	SFE10.7MS3G	
	CF104	91T51131F02	SFE10.7 ML-A	
	CF301	91T60378F01	CER. BFU450C4N	
	L401	91T84609F01	ANT. BIRDY	
	L402	91T66943F01	MPX	
	L403	91T66943F01	MPX	

Symbol No.	Part No.	Description		
Crystal/Ceramic Locks				
	X201	48T84608F02	NDK 32.9075MHZ	
●	X501	48T84664F01	3.2M NDK	
	X502	48T84663F01	7.2M NDK	
	X503	48T84663F01	7.2M NDK	
●	X601	48T84595F01	NDK 64.95MHZ	
	X401	91T84689F03	Ceramic Lock 456F11	
●	X701	91T84612F01	Ceramic Lock CSB472F2	
Capacitors				
	C001	23S41198U66	ELY. 1000 $\mu$ F/35V	
	C002	23S40657F14	ELY. 100 $\mu$ F/16V	
	C003	23S40657F14	ELY. 100 $\mu$ F/16V	
	C004	23S40657F13	ELY. 47 $\mu$ F/16V	
	C005	23S40657F14	ELY. 100 $\mu$ F/16V	
	C007	23T74513F06	ELY. 18 $\mu$ F/5.5V	
	C008	23S40657F10	ELY. 10 $\mu$ F/16V	
	C009	23S40657F26	ELY. 47 $\mu$ F/35V	
	C010	23S40657F26	ELY. 47 $\mu$ F/35V	
	C011	23S40657F32	ELY. 10 $\mu$ F/50V	
	C012	23S40657F32	ELY. 10 $\mu$ F/50V	
	C013	23S40657F26	ELY. 47 $\mu$ F/35V	
	C014	23S40657F13	ELY. 47 $\mu$ F/16V	
	C015	23S40657F32	ELY. 10 $\mu$ F/50V	
	C016	23S40657F13	ELY. 47 $\mu$ F/16V	
	C017	08S40805F21	CER. 0.022 $\mu$ F	
	C018	08S40805F21	CER. 0.022 $\mu$ F	
	C105	08S40805F21	CER. 0.022 $\mu$ F	
	C106	08S40805F21	CER. 0.022 $\mu$ F	
	C107	08S40805F21	CER. 0.022 $\mu$ F	
	C108	21S40655F11	CER. 10pF	
	C109	08S40805F21	CER. 0.022 $\mu$ F	
	C110	08S40805F21	CER. 0.022 $\mu$ F	
	C111	08S40805F21	CER. 0.022 $\mu$ F	
	C112	08S40805F21	CER. 0.022 $\mu$ F	
	C113	08S40805F21	CER. 0.022 $\mu$ F	
	C114	23S40657F14	ELY. 100 $\mu$ F/16V	
	C115	08S40805F21	CER. 0.022 $\mu$ F	
	C116	08S40805F21	CER. 0.022 $\mu$ F	
	C117	08S40805F21	CER. 0.022 $\mu$ F	
	C118	08S40805F21	CER. 0.022 $\mu$ F	
	C119	08S40805F21	CER. 0.022 $\mu$ F	
	C120	08S40805F21	CER. 0.022 $\mu$ F	
	C121	08S40805F21	CER. 0.022 $\mu$ F	
	C122	08S40805F21	CER. 0.022 $\mu$ F	

Note: ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
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 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)      Others : Common  
 When replacing varactor diodes, VD301 ~VD304, always diode with the same rank.

Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
	C123	08S40805F21	CER. 0.022 $\mu$ F		◇	C224	08S40805F21	CER. 0.022 $\mu$ F	
	C124	08S40805F21	CER. 0.022 $\mu$ F		◆	C225	23S40657F27	ELY. 0.47 $\mu$ F/50V	
	C125	08S40805F21	CER. 0.022 $\mu$ F		◇	C225	23S40657F27	ELY. 0.47 $\mu$ F/50V	
	C126	08S40805F21	CER. 0.022 $\mu$ F		◆	C226	21S40655F27	CER. 220pF	
	C127	08S40805F21	CER. 0.022 $\mu$ F		◇	C226	21S40655F27	CER. 220pF	
●	C128	23S40657F10	ELY. 10 $\mu$ F/16V			C227	21S40655F17	CER. 33pF	
	C129	08S40805F21	CER. 0.022 $\mu$ F			C228	08S40805F21	CER. 0.022 $\mu$ F	
	C130	08S40805F21	CER. 0.022 $\mu$ F			C229	23S40657F14	ELY. 100 $\mu$ F/16V	
	C131	23S40657F14	ELY. 100 $\mu$ F/16V			C230	08S40805F21	CER. 0.022 $\mu$ F	
	C132	08S40805F21	CER. 0.022 $\mu$ F			C231	08S40805F21	CER. 0.022 $\mu$ F	
	C133	08S40805F21	CER. 0.022 $\mu$ F			C232	08S40805F21	CER. 0.022 $\mu$ F	
	C134	23S40657F28	ELY. 1 $\mu$ F/50V			C233	08S40805F21	CER. 0.022 $\mu$ F	
	C135	08S40805F21	CER. 0.022 $\mu$ F			C234	21S40655F12	CER. 12pF	
	C136	08S40805F21	CER. 0.022 $\mu$ F			C235	21S40655F26	CER. 180pF	
	C137	08S40805F21	CER. 0.022 $\mu$ F			C236	08S40805F21	CER. 0.022 $\mu$ F	
	C138	08S40805F21	CER. 0.022 $\mu$ F			C237	23S40657F14	ELY. 100 $\mu$ F/16V	
	C139	08S40805F21	CER. 0.022 $\mu$ F			C238	08S40805F21	CER. 0.022 $\mu$ F	
	C140	23S40657F27	ELY. 0.47 $\mu$ F/50V			C239	08S40805F21	CER. 0.022 $\mu$ F	
	C141	23S40657F14	ELY. 100 $\mu$ F/16V			C240	08S40805F21	CER. 0.022 $\mu$ F	
	C142	23T42478F18	ELY. 0.1 $\mu$ F/50V			C241	08S40805F21	CER. 0.022 $\mu$ F	
	C143	23S41198U27	ELY. 47 $\mu$ F/16V			C242	08S40805F21	CER. 0.022 $\mu$ F	
	C201	08S40805F21	CER. 0.022 $\mu$ F			C243	08S40805F21	CER. 0.022 $\mu$ F	
	C202	08S40805F21	CER. 0.022 $\mu$ F			C244	08S40805F08	CER. 1200pF	
	C203	08S40805F07	CER. 1000pF			C245	23S40657F10	ELY. 10 $\mu$ F/16V	
	C204	08S40805F21	CER. 0.022 $\mu$ F			C246	23S40657F10	ELY. 10 $\mu$ F/16V	
	C205	08S40805F21	CER. 0.022 $\mu$ F			C247	08S40805F21	CER. 0.022 $\mu$ F	
	C206	23S40657F10	ELY. 10 $\mu$ F/16V			C248	21S40655F17	CER. 33pF	
	C207	08S40805F21	CER. 0.022 $\mu$ F			C249	08S40805F21	CER. 0.022 $\mu$ F	
	C208	23S40657F10	ELY. 10 $\mu$ F/16V			C250	08S40805F21	CER. 0.022 $\mu$ F	
	C209	08S40805F21	CER. 0.022 $\mu$ F			C251	21S40655F17	CER. 33pF	
	C210	08S40805F07	CER. 1000pF			C252	21S40655F06	CER. 5pF	
	C211	08S40805F21	CER. 0.022 $\mu$ F		◆	C253	08S40656F13	MYL. 0.01 $\mu$ F	
	C212	23S40657F14	ELY. 100 $\mu$ F/16V		◇	C253	08S40656F13	MYL. 0.01 $\mu$ F	
	C213	08S40805F21	CER. 0.022 $\mu$ F			C255	08S40805F21	CER. 0.022 $\mu$ F	
	C214	08S40805F21	CER. 0.022 $\mu$ F			C256	08S40805F21	CER. 0.022 $\mu$ F	
	C215	08S40805F21	CER. 0.022 $\mu$ F		◆	C257	08S40656F13	MYL. 0.01 $\mu$ F	
	C216	08S40805F21	CER. 0.022 $\mu$ F		◇	C257	08S40656F13	MYL. 0.01 $\mu$ F	
	C218	23S40657F30	ELY. 3.3 $\mu$ F/50V		◆	C258	08S40656F13	MYL. 0.01 $\mu$ F	
	C219	23T43247F09	ELY. 10 $\mu$ F/16V		◇	C258	08S40656F13	MYL. 0.01 $\mu$ F	
	C220	23S40657F31	ELY. 4.7 $\mu$ F/50V		◆	C301	08S40805F21	CER. 0.022 $\mu$ F	
◆	C222	23S40657F13	ELY. 47 $\mu$ F/16V		◇	C301	08S40805F21	CER. 0.022 $\mu$ F	
◇	C222	23S40657F13	ELY. 47 $\mu$ F/16V			C302	08S40805F21	CER. 0.022 $\mu$ F	
◆	C223	21S40655F27	CER. 220pF		◆	C303	21S40655F19	CER. 47pF	
◇	C223	21S40655F27	CER. 220pF		◇	C303	21S40655F19	CER. 47pF	
◆	C224	08S40805F21	CER. 0.022 $\mu$ F			C304	08S40805F21	CER. 0.022 $\mu$ F	

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Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
C305	08S40805F21	CER. 0.022 $\mu$ F	● C417	23S40657F10	ELY. 10 $\mu$ F/16V
C306	08S40805F21	CER. 0.022 $\mu$ F	● C418	23S40657F10	ELY. 10 $\mu$ F/16V
C307	08S40805F21	CER. 0.022 $\mu$ F	C419	23T43247F04	ELY. 0.47 $\mu$ F/50V
C308	08S40805F21	CER. 0.022 $\mu$ F	C420	23S40657F27	ELY. 0.47 $\mu$ F/50V
C309	23S40657F10	ELY. 10 $\mu$ F/16V	C421	08S40656F13	MYL. 0.01 $\mu$ F
C310	08S40805F21	CER. 0.022 $\mu$ F	C422	23S40657F10	ELY. 10 $\mu$ F/16V
C311	08S40805F07	CER. 1000pF	C423	23S40657F10	ELY. 10 $\mu$ F/16V
C312	08S40805F21	CER. 0.022 $\mu$ F	C424	23S40657F29	ELY. 2.2 $\mu$ F/50V
C313	08S40805F21	CER. 0.022 $\mu$ F	C425	23S40657F29	ELY. 2.2 $\mu$ F/50V
C314	23S40657F30	ELY. 3.3 $\mu$ F/50V	C426	23S40657F14	ELY. 100 $\mu$ F/16V
C315	08S40805F21	CER. 0.022 $\mu$ F	◆ C427	21S40655F24	CER. 120pF
C316	23S40657F30	ELY. 3.3 $\mu$ F/50V	◇ C427	21S40655F24	CER. 120pF
C317	23S40657F27	ELY. 0.47 $\mu$ F/50V	● C428	08T52448F06	PP. 510pF
C318	08S40805F21	CER. 0.022 $\mu$ F	■ C428	08T52448F10	PP. 750pF
C320	08S40805F21	CER. 0.022 $\mu$ F	★ C428	08T52448F06	PP. 510pF
C321	08S40805F07	CER. 1000pF	◆ C428	08T52448F06	PP. 510pF
C322	23S40657F14	ELY. 100 $\mu$ F/16V	☆ C428	08T52448F06	PP. 510pF
C323	08S40805F21	CER. 0.022 $\mu$ F	◇ C428	08T52448F06	PP. 510pF
C327	08S40805F21	CER. 0.022 $\mu$ F	● C429	08T52448F06	PP. 510pF
C328	23S40657F10	ELY. 10 $\mu$ F/16V	■ C429	08T52448F10	PP. 750pF
◆ C329	21S40655F24	CER. 120pF	★ C429	08T52448F06	PP. 510pF
◇ C329	21S40655F24	CER. 120pF	◆ C429	08T52448F06	PP. 510pF
C330	21S40655F11	CER. 10pF	☆ C429	08T52448F06	PP. 510pF
◆ C331	21S40655F27	CER. 220pF	◇ C429	08T52448F06	PP. 510pF
◇ C331	21S40655F27	CER. 220pF	C430	08S40656F13	MYL. 0.01 $\mu$ F
C332	21S40655F29	CER. 330pF	C431	23S40657F10	ELY. 10 $\mu$ F/16V
C333	08S40805F21	CER. 0.022 $\mu$ F	C432	23S40657F10	ELY. 10 $\mu$ F/16V
C401	23S40657F10	ELY. 10 $\mu$ F/16V	C433	23S40657F10	ELY. 10 $\mu$ F/16V
C402	23S40657F10	ELY. 10 $\mu$ F/16V	C434	23S40657F10	ELY. 10 $\mu$ F/16V
C403	23S40657F14	ELY. 100 $\mu$ F/16V	C435	23S40657F10	ELY. 10 $\mu$ F/16V
C404	23S40657F10	ELY. 10 $\mu$ F/16V	C437	21S40655F23	CER. 100pF
C405	23S40657F10	ELY. 10 $\mu$ F/16V	C438	08T52448F07	PP. 560pF
C406	08S40805F07	CER. 1000pF	C439	23S40657F10	ELY. 10 $\mu$ F/16V
C407	08S40656F21	MYL. 0.047 $\mu$ F	C440	23S40657F02	ELY. 47 $\mu$ F/6.3V
C408	23S40657F27	ELY. 0.47 $\mu$ F/50V	C441	23S40657F10	ELY. 10 $\mu$ F/16V
C409	23S40657F28	ELY. 1 $\mu$ F/50V	C442	23S40657F11	ELY. 22 $\mu$ F/16V
C410	23S40657F28	ELY. 1 $\mu$ F/50V	C501	23S40657F26	ELY. 47 $\mu$ F/35V
C411	23S40657F28	ELY. 1 $\mu$ F/50V	C502	23S40657F28	ELY. 1 $\mu$ F/50V
C412	08S40656F13	MYL. 0.01 $\mu$ F	C503	23S40657F27	ELY. 0.47 $\mu$ F/50V
C413	23S40657F14	ELY. 100 $\mu$ F/16V	● C504	23S40657F27	ELY. 0.47 $\mu$ F/50V
C414	23S40657F14	ELY. 100 $\mu$ F/16V	● C505	23S40657F28	ELY. 1 $\mu$ F/50V
★ C415	08T52448F10	PP. 750pF	C506	23S40657F03	ELY. 100 $\mu$ F/6.3V
☆ C415	08T52448F10	PP. 750pF	● C509	08S40805F07	CER. 1000pF
★ C416	08T52448F10	PP. 750pF	● C510	08S40805F07	CER. 1000pF
☆ C416	08T52448F10	PP. 750pF	● C511	08S40805F21	CER. 0.022 $\mu$ F

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Symbol No.	Part No.	Description			Symbol No.	Part No.	Description		
●	C512	21S40655F17	CER. 33pF		●	C704	23S40657F27	ELY. 0.47 $\mu$ F/50V	
●	C513	21S40655F17	CER. 33pF		●	C705	23S40657F31	ELY. 4.7 $\mu$ F/50V	
	C514	08S40805F21	CER. 0.022 $\mu$ F		●	C706	23S40657F31	ELY. 4.7 $\mu$ F/50V	
	C515	21S40655F17	CER. 33pF		●	C709	23S40657F12	ELY. 33 $\mu$ F/16V	
	C516	21S40655F17	CER. 33pF		●	C710	08T42081U12	POLY. 300pF	
	C517	08S40805F21	CER. 0.022 $\mu$ F		●	C711	23S40657F31	ELY. 4.7 $\mu$ F/50V	
	C518	21S40655F22	CER. 82pF		●	C712	23S40657F10	ELY. 10 $\mu$ F/16V	
	C519	21S40655F22	CER. 82pF		●	C713	23S40657F10	ELY. 10 $\mu$ F/16V	
	C520	08S40805F21	CER. 0.022 $\mu$ F		●	C714	23T42477F09	ELY. B.P 4.7 $\mu$ F/25V	
	C522	21S40655F19	CER. 47P		●	C715	23T43247F08	ELY. 4.7 $\mu$ F/25V	
	C523	21S40655F17	CER. 33pF		●	C716	23T43247F05	ELY. 1 $\mu$ F/50V	
●	C524	23S40657F31	ELY. 4.7 $\mu$ F/50V		●	C717	23T43247F05	ELY. 1 $\mu$ F/50V	
●	C525	23T41366F39	ELY. B.P 0.47 $\mu$ F/50V		◆	VC301	20T47503F02	Trimmer TZ03 (RED)	
◆	C525	23T41366F39	ELY. B.P 0.47 $\mu$ F/50V		◇	VC301	20T47503F02	Trimmer TZ03 (RED)	
◇	C525	23T41366F39	ELY. B.P 0.47 $\mu$ F/50V			VC302	20T47503F02	Trimmer TZ03 (RED)	
●	C603	08S40805F21	CER. 0.022 $\mu$ F		◆	VC303	20T47503F02	Trimmer TZ03 (RED)	
●	C604	23S40657F10	ELY. 10 $\mu$ F/16V		◇	VC303	20T47503F02	Trimmer TZ03 (RED)	
●	C605	08S40805F21	CER. 0.022 $\mu$ F			VC304	20T47503F02	Trimmer TZ03 (RED)	
●	C607	08S40805F21	CER. 0.022 $\mu$ F			VC401	20T47503F03	Trimmer TZ03 (YEL)	
●	C609	08S40805F21	CER. 0.022 $\mu$ F			VC402	20T47503F03	Trimmer TZ03 (YEL)	
●	C610	21S40655F26	CER. 180pF		Coils				
●	C611	08S40805F21	CER. 0.022 $\mu$ F			L101	24T84602F01	1FT. 10.7MHA (BLK)	
●	C612	21S40655F06	CER. 5pF			L103	24T50508F14	IND. 2.2 $\mu$ H	
●	C613	21S40655F26	CER. 180pF			L104	24T84602F01	1FT. 10.7MHA (BLK)	
●	C614	21S40655F13	CER. 15pF			L105	24T84605F01	DISCR.	
●	C615	21S40655F03	CER. 2pF			L106	24T50508F14	IND. 2.2 $\mu$ H	
●	C616	08S40805F21	CER. 0.022 $\mu$ F			L107	24T50508F14	IND. 2.2 $\mu$ H	
◆	C616	08S40805F21	CER. 0.022 $\mu$ F			L108	24T50508F30	IND. 47 $\mu$ H	
◇	C616	08S40805F21	CER. 0.022 $\mu$ F			L109	24T50508F30	IND. 47 $\mu$ H	
●	C617	08S40805F21	CER. 0.022 $\mu$ F			L201	24T50508F14	IND. 2.2 $\mu$ H	
◆	C617	08S40805F21	CER. 0.022 $\mu$ F			L202	24T84607F01	VCO 10.7MHZ	
◇	C617	08S40805F21	CER. 0.022 $\mu$ F		◆	L203	24T50508F14	IND. 2.2 $\mu$ H	
●	C618	08S40805F21	CER. 0.022 $\mu$ F		◇	L203	24T50508F14	IND. 2.2 $\mu$ H	
●	C619	08S40805F21	CER. 0.022 $\mu$ F			L204	24T50508F14	IND. 2.2 $\mu$ H	
●	C620	08S40805F21	CER. 0.022 $\mu$ F			L205	24T74509F01	10.7DOUBLER (BLK)	
●	C621	08S40805F21	CER. 0.022 $\mu$ F			L206	24T74510F01	32.1TRIPLER	
●	C622	21S40655F03	CER. 2pF			L207	24T50508F11	IND. 1.2 $\mu$ H	
●	C623	21S40655F11	CER. 10pF			L208	24T74511F01	0.8MIXER	
●	C624	08S40805F21	CER. 0.022 $\mu$ F			L209	24T80074F01	0.8MIXER 2ND	
●	C625	08S40805F21	CER. 0.022 $\mu$ F			L210	24T50508F14	IND. 2.2 $\mu$ H	
●	C626	08S40805F21	CER. 0.022 $\mu$ F			L211	24T50508F14	IND. 2.2 $\mu$ H	
●	C627	23S40657F14	ELY. 100 $\mu$ F/16V						
●	C701	23S40657F14	ELY. 100 $\mu$ F/16V						
●	C702	23S40657F31	ELY. 4.7 $\mu$ F/50V						
●	C703	23S40657F28	ELY. 1 $\mu$ F/50V						

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Symbol No.	Part No.	Description		
◆	L212	24T50508F38	IND. 220 $\mu$ H	
◇	L212	24T50508F38	IND. 220 $\mu$ H	
◆	L213	24T50508F38	IND. 220 $\mu$ H	
◇	L213	24T50508F38	IND. 220 $\mu$ H	
	L214	24T50508F14	IND. 2.2 $\mu$ H	
	L215	24T50508F38	IND. 220 $\mu$ H	
	L216	24T50508F38	IND. 220 $\mu$ H	
◆	L217	24T50508F38	IND. 220 $\mu$ H	
◇	L217	24T50508F38	IND. 220 $\mu$ H	
◆	L301	24T90785F01	Trans. LW ANT	
◇	L301	24T90785F01	Trans. LW ANT	
	L302	24T90784F01	Trans. MW ANT	
	L303	24T67274F01	SFL450B-3 (WHT)	
	L304	24T53327F01	AM IF (BLK)	
◆	L305	24T57627F01	Trans. LW OSC (BLK)	
◇	L305	24T57627F01	Trans. LW OSC (BLK)	
	L306	24T53326F01	Trans. AM OSC	
	L307	24T50508F14	IND. 2.2 $\mu$ H	
●	L601	24T84590F01	BALUN. 75-75	
●	L602	24T50508F14	IND. 2.2 $\mu$ H	
●	L603	24T50508F11	IND. 1.2 $\mu$ H	
●	L604	24T84596F01	IFT. 10.7MHZ (BLK)	
●	L605	24T50508F14	IND. 2.2 $\mu$ H	
●	L606	24T50508F08	IND. 0.68 $\mu$ H	
●	L607	24T50508F14	IND. 2.2 $\mu$ H	
Resistors/Thermistors				
●	R5001	51T51133F02	Block 100K ohm x4	
	R5002	51T51133F03	Block 10K ohm x7	
	VR101	18T42748F07	SOL V 1K ohm	
	VR102	18T42748F17	SOL V 47K ohm	
	VR103	18T42748F17	SOL V 47K ohm	
●	VR104	18T42748F17	SOL V 47K ohm	
	VR201	18T42748F13	SOL V 10K ohm	
	VR202	18T42748F13	SOL V 10K ohm	
	VR203	18T42748F17	SOL V 47K ohm	
	VR204	18T42748F07	SOL V 1K ohm	
	VR301	18T42748F13	SOL V 10K ohm	
	VR302	18T42748F13	SOL V 10K ohm	
	VR401	18T42748F24	SOL V 680K ohm	
	VR402	18T42748F24	SOL V 680K ohm	
	VR403	18T42748F17	SOL V 47K ohm	
	VR404	18T42748F19	SOL VR 100K ohm	
	VR501	18C42061J16	VARIABLE 100K ohm	
●	VR701	18T42748F11	VOL. 4.7K-B	
●	VR702	18T42748F15	SOL V 22K ohm	
	TH201	48T57369F13	Thermistor 2.5K ohm	
	TH301	48T57369F13	Thermistor 2.5K ohm	

Symbol No.	Part No.	Description		
Jack				
●	E401	09T84616F01	Plate phone T5855	
■	E401	09T84616F01	Plate phone T5855	
★	E401	09T84616F01	Plate phone T5855	
◆	E401	09T84616F01	Plate phone T5855	
☆	E401	09T84616F02	Plate phone T5855	
◇	E401	09T84616F02	Plate phone T5855	
	E501	09T84124F01	Head phone MINI W	
Station Switch P.C. Board				
Transistors				
	Q801	48T81102F01	2SA1015	
	or	48T81104F01	2SA933A	
	Q802	48S43525F02	2SC1815	
Diodes				
	D801	48T44813F01	MA165TA	
	D802	48T44813F01	MA165TA	
	D803	48T44813F01	MA165TA	
	D804	48T44813F01	MA165TA	
	D805	48T44813F01	MA165TA	
	D806	48T44813F01	MA165TA	
	D807	48T44813F01	MA165TA	
Switches				
	S801	40T84654F01	SKHHQW (DOWN)	
	S802	40T84654F01	SKHHQW (UP)	
	S803	40T84654F01	SKHHQW (FM)	
	S804	40T84654F01	SKHHQW (AM)	
●	S805	40T84654F01	SKHHQW (TV)	
◆	S805	40T84654F01	SKHHQW (LW)	
◇	S805	40T84654F01	SKHHQW (LW)	
●	S806	40T84654F01	SKHHQW (MAIN)	
●	S807	40T84654F01	SKHHQW (SUB)	
●	S808	40T84654F01	SKHHQW (MAIN-SUB)	
	S809	40T84654F01	SKHHQW (M7/M9)	
	S810	40T84654F01	SKHHQW (M8/M20)	
	S811	40T84654F01	SKHHQW (M9/M21)	
	S812	40T84654F01	SKHHQW (M10/M22)	
	S813	40T84654F01	SKHHQW (M11/M23)	
	S814	40T84654F01	SKHHQW (M12/M24)	
	S815	40T84654F01	SKHHQW (M1~M12/M13 ~M24)	
	S816	40T84654F01	SKHHQW (M1/M13)	
	S817	40T84654F01	SKHHQW (M2/M14)	
	S818	40T84654F01	SKHHQW (M3/M15)	

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Symbol No.	Part No.	Description		
S819	40T84654F01	SKHHQW (M4/M16)		
S820	40T84654F01	SKHHQW (M5/M17)		
S821	40T84654F01	SKHHQW (M6/M18)		
S822	40T84654F01	SKHHQW (MEMORY)		
FL/Display P.C. Board				
IC's				
IC901	51T84655F01	TC9190N		
IC902	51T84655F01	TC9190N		
Diodes				
D901	48T44813F01	MA165TA		
D902	48T44813F01	MA165TA		
Switches				
S901	40T84654F01	SKHHQW (REC. CAL)		
S902	40T84654F01	SKHHQW (PROC)		
S903	40T84654F01	SKHHQW (1F BAND)		
S904	40T84654F01	SKHHQW (AUTO SEEK)		
Capacitors				
● C901	08T65480F53	CER. 2200P		
◆ C901	08T65480F52	CER. 1800P		
■ C901	08T65480F53	CER. 2200P		
★ C901	08T65480F53	CER. 2200P		
☆ C901	08T65480F53	CER. 2200P		
◇ C901	08T65480F52	CER. 1800P		
C902	08T65480F62	CER. 0.022 $\mu$ F		
● C903	08T65480F53	CER. 2200pF		
◆ C903	08S65480F55	CER. 3300P		
■ C903	08T65480F53	CER. 2200P		
★ C903	08T65480F53	CER. 2200P		
☆ C903	08T65480F53	CER. 2200P		
◇ C903	08S65480F55	CER. 3300P		
C904	08T65480F62	CER. 0.022 $\mu$ F		
● C910	21C45322G25	CER. 220P		
FL Switch P.C. Board				
Transistors				
Q1001	48T81102F01	2SA1015		
Q1002	48T57337F03	2SD1330		

Symbol No.	Part No.	Description		
Miscellaneous				
● E101	09T84167F01	Terminal, Antenna		
■ E101	09T84167F02	Terminal, Antenna Mult		
★ E101	09T84167F02	Terminal, Antenna Mult		
◆ E101	09T84167F02	Terminal, Antenna Mult		
☆ E101	09T84167F02	Terminal, Antenna Mult		
◇ E101	09T84167F02	Terminal, Antenna Mult		
● F001	65T55050F08	Fuse, MF60NR 1A-125V		
■ F001	65T52486F03	Fuse, MF61NM 1A-125V		
★ F001	65T42077U13	Fuse, Semko T-500mA		
◆ F001	65T42077U13	Fuse, Semko T-500mA		
☆ F001	65T42077U13	Fuse, Semko T-500mA		
◇ F001	65T42077U13	Fuse, Semko T-500mA		
■ F002	65T52486F01	Fuse, MF61NM 0.5A-125V		
★ F002	65T42077U10	Fuse, Semko T-250mA		
◆ F002	65T42077U10	Fuse, Semko T-250mA		
☆ F002	65T42077U10	Fuse, Semko T-250mA		
◇ F002	65T42077U10	Fuse, Semko T-250mA		
FL901	65T84168F01	Meter, FL 10-BT-15GK		
LD801	48T66616F02	LED, SLR-54VR3 (RED)		
LD802	48T66616F02	LED, SLR-54VR3 (RED)		
LD803	48T66616F02	LED, SLR-54VR3 (RED)		
LD804	48T66616F02	LED, SLR-54VR3 (RED)		
LD805	48T66616F02	LED, SLR-54VR3 (RED)		
● P001	28T66771F01	AC Power Cord		
■ P001	28T40916U01	AC Power Cord		
★ P001	28T43812P03	AC Power Cord		
◆ P001	28T43812P04	AC Power Cord		
☆ P001	28T43812P03	AC Power Cord		
◇ P001	28T43812P04	AC Power Cord		
S001	40T84672F01	Switch, Push SPUL12 (Power)		
★ S002	40T80258F03	Switch, Volt Select 2C		
◆ S002	40T80258F03	Switch, Volt Select 2C		
☆ S002	40T80258F01	Switch, Volt Select 4C		
◇ S002	40T80258F03	Switch, Volt Select 2C		
● T101	25T84662F01	Power Trans		
■ T101	25T84662F04	Power Trans		
★ T101	25T84662F03	Power Trans		
◆ T101	25T84662F02	Power Trans		
☆ T101	25T84662F03	Power Trans		
◇ T101	25T84662F02	Power Trans		

Note: ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
 ★ : For General Foreign model only (EK)      ◆ : For West Germany model only (T-117L SD)  
 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)      Others : Common



# Cabinet Assembly Parts List

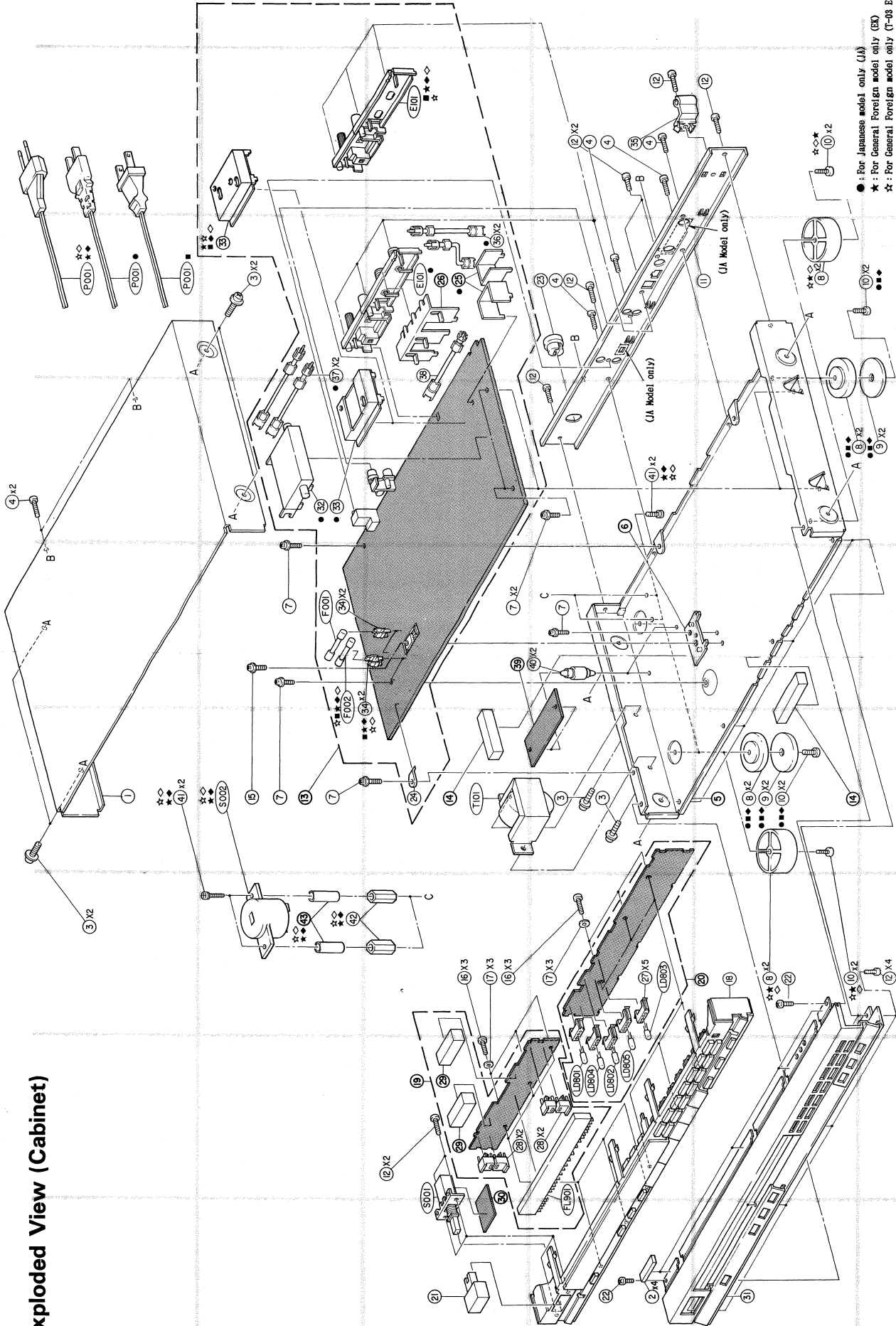
Note: The parts without part numbers are not supplied.

Symbol No.	IN-dex	Part No.	Description	Symbol No.	IN-dex	Part No.	Description		
●	1	1-D	15D81388F01	Cover, Top	●	27	4-C	09T58943F09	Holder, Wire 2P
■	1	1-D	15D81388F01	Cover, Top	■	28	4-B	07A83876F01	Support, FL
★	1	1-D	15D81388F01	Cover, Top	★	31	5-A	64D83791F01	Panel, Front
◆	1	1-D	15D81388F01	Cover, Top	◆	31	5-A	64D83791F02	Panel, Front
☆	1	1-D	15D81388F02	Cover, Top	☆	31	5-A	64D83791F02	Panel, Front
◇	1	1-D	15D81388F02	Cover, Top	◇	31	5-A	64D83791F03	Panel, Front
	2		75S72374F66	Cushion, Rubber	☆	31	5-A	64D83791F05	Panel, Front
	3		03S40036U01	Screw, W/washer (M4x8)	◇	31	5-A	64D83791F04	Panel, Front
	4		03A82468F01	Screw, Bind (M3x10)	●	32	2-F	77T84591F01	TV, Tuner TEMN2. (FE601)
	7		03C42723U01	Screw, Cup (M3x6)	●	33	2-F	77T84597F01	FM, Tuner TFFG3J115 (FE101)
●	8		01A80230F01	Assembly, Trannleg	■	33	2-F	77T84597F03	FM, Tuner TFFG3U114A (FE101)
■	8		01A80230F01	Assembly, Trannleg	★	33	2-F	77T84597F03	FM, Tuner TFFG3U114A (FE101)
◆	8		01A80230F01	Assembly, Trannleg	◇	33	2-F	77T84597F02	FM, Tuner TFFG3E127A (FE101)
★	8		75T57059F01	PAD Trannleg	☆	33	2-F	77T84597F03	FM, Tuner TFFG3U114A (FE101)
◇	8		75T57059F01	PAD Trannleg	◇	33	2-F	77T84597F02	FM, Tuner TFFG3E127A (FE101)
☆	8		75T57059F01	PAD Trannleg	☆	33	2-F	77T84597F03	FM, Tuner TFFG3U114A (FE101)
●	9		75A67064F01	Felt	◇	33	2-F	77T84597F02	FM, Tuner TFFG3E127A (FE101)
■	9		75A67064F01	Felt					
◆	9		75A67064F01	Felt					
	10		03S44205G20	Screw, Pan (M4x12)					
●	11	5-G	15C83802F01	Cover, Rear	●	34	2-E	09T51960F01	Holder, Fuse
■	11	5-G	15C83802F05	Cover, Rear	■	34	2-E	09T51960F01	Holder, Fuse
★	11	5-G	15C83802F02	Cover, Rear	★	34	2-E	09T51410F01	Holder, Fuse (Semko)
◆	11	5-G	15C83802F03	Cover, Rear	◆	34	2-E	09T51410F01	Holder, Fuse (Semko)
☆	11	5-G	15C83802F07	Cover, Rear	☆	34	2-E	09T51410F01	Holder, Fuse (Semko)
◇	11	5-G	15C83802F06	Cover, Rear	◇	34	2-E	09T51410F01	Holder, Fuse (Semko)
	12		03S71031F04	Screw, Bind (M3x8)		35	4-H	55T84876F01	Lock, Antenna Holder
	15		03C42723U02	Screw, Cup (M3x8)	●	36	3-G	01T84592F02	Assembly, Coax Cable RCA
	16		03S71031F02	Screw, Bind (M2.6x8)	●	37	2-F	01T84592F01	Assembly, Coax Cable
	17		04A53398F01	Washer, Nylon (M2.6)		38	3-F	01T84592F03	Assembly, Coax Cable B.I.M
●	18	5-C	01C84828F01	Assembly, Frame Front		40	4-E	43T93516F01	Spacer P.C. Board
■	18	5-C	01C90593F01	Assembly, Frame Front	★	41	1-D	03D40014G49	Screw, W/washer (M3x8)
★	18	5-C	01C90598F01	Assembly, Frame Front	◆	41	1-D	03D40014G49	Screw, W/washer (M3x8)
◆	18	5-C	01C90791F01	Assembly, Frame Front	☆	41	1-D	03D40014G49	Screw, W/washer (M3x8)
☆	18	5-C	01C92804F01	Assembly, Frame Front	◇	41	1-D	03D40014G49	Screw, W/washer (M3x8)
◇	18	5-C	01C92203F01	Assembly, Frame Front	★	42	2-C	47C64899F44	Shaft
●	21	3-A	36B70885F07	Knob, Power	◆	42	2-C	47C64899F44	Shaft
■	21	3-A	36B70885F07	Knob, Power	☆	42	2-C	47C64899F44	Shaft
★	21	3-A	36B70885F07	Knob, Power	◇	42	2-C	47C64899F44	Shaft
◆	21	3-A	36B70885F07	Knob, Power	●	44		14S56709F01	Insulator, Transistor
☆	21	3-A	36B70885F08	Knob, Power					
◇	21	3-A	36B70885F08	Knob, Power					
	22		03S44205G40	Screw, Bind (M3x4)					
	23	4-G	43B41825J02	Support Cord					
	24	3-D	29A41814G01	Lug					

Note: ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
 ★ : For General Foreign model only (EK)      ◆ : For West Germany model only (T-117L SD)  
 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)      Others : Common

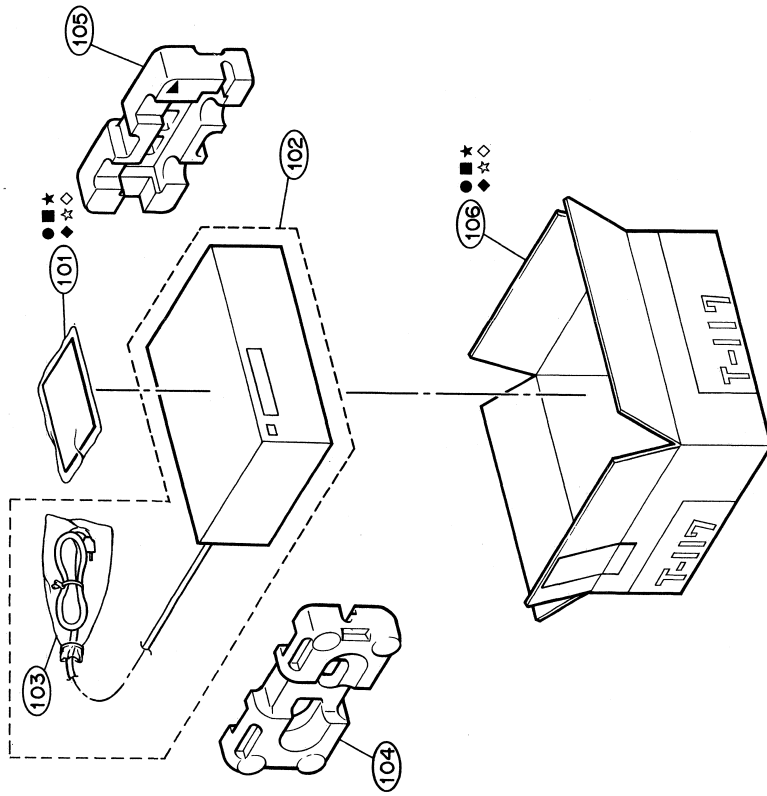
# Exploded View (Cabinet)

T-117/T-117L  
T-03/T-03L



- : For Japanese model only (JA)
  - ★ : For General Foreign model only (BX)
  - ☆ : For North American model only (T-08 BX)
  - : For North American model only (T-08 BX)
  - ◇ : For West Germany model only (T-17L, S0)
  - ◇ : For West Germany model only (T-08L, S0)
- Others : Common

### Packing Method View



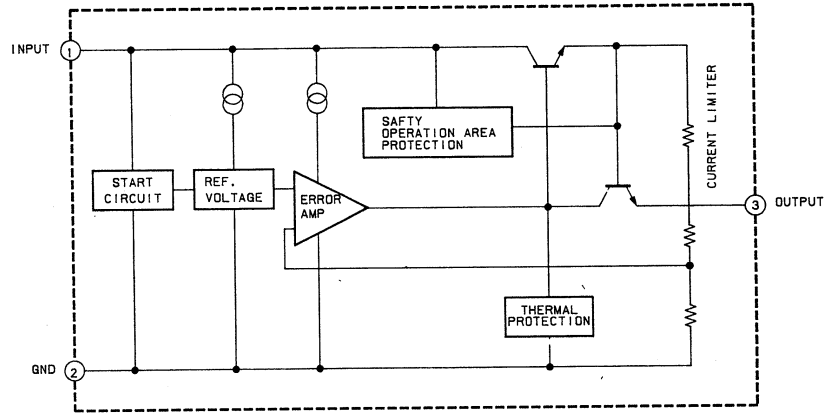
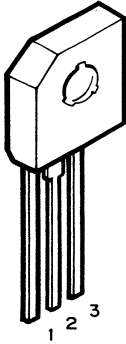
### Packing Assembly Parts List

Symbol No.	Part No.	Description	Part No.	Description
● 101-1	68P8332F28	Owner's Manual		
■ 101-1	68P8332F28	Owner's Manual		
★ 101-1	68P8332F30	Owner's Manual		
◆ 101-1	68P8332F30	Owner's Manual		
☆ 101-1	68P83710F10	Owner's Manual		
◇ 101-1	68P83710F10	Owner's Manual		
● 101-2	65T90254F01	Antenna, FM		
■ 101-2	65T90254F02	Antenna, FM		
★ 101-2	65T90254F02	Antenna, FM		
◆ 101-2	65T90254F02	Antenna, FM		
☆ 101-2	65T90254F02	Antenna, FM		
◇ 101-2	65T90254F02	Antenna, FM		
● 101-3	65T84674F01	Antenna, AM		
■ 101-4	28T84675F01	Plug, F-Type (FM)		
★ 101-5	09T71169F01	Plug, TV, Antenna		
◆ 101-5	09T71169F01	Plug, TV, Antenna		
☆ 101-5	09T71169F01	Plug, TV, Antenna		
◇ 101-5	09T71169F01	Plug, TV, Antenna		
● 101-6	28T76821F08	Plug, Output		
■ 101-7	01T82091F01	Assy. Mini Plug Cord		
★ 101-8	28T87347F01	Plug Audio Cable		
◆ 101-8	28T87347F01	Plug Audio Cable		
☆ 102	56B40442T07	Packing, Front Frame		
◇ 103	56B40230008	Sack, Polyethylene		
● 104	56D81391F01	Packing, Tray		
■ 105	56D81391F02	Packing, Tray		
★ 106	56S77001F96	Carton, Packing		
◆ 106	56S8338F15	Carton, Packing		
☆ 106	56S8338F15	Carton, Packing		
◇ 106	56S8338F16	Carton, Packing		
● 106	56S8338F20	Carton, Packing		
■ 106	56S8338F19	Carton, Packing		

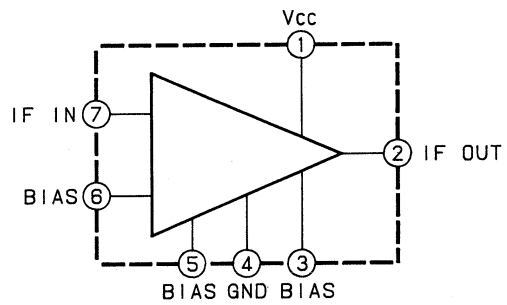
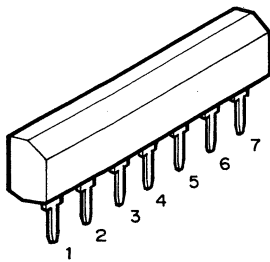
Note: ● : For Japanese model only (JA)    ◆ : For North American model only (UZ)  
 ★ : For General Foreign model only (EX)    ◇ : For West German model only (T-117L SD)  
 ☆ : For General Foreign model only (T-03 EX)    ◇ : For West German model only (T-03L SD) Others : Common

# Semi-Conductor Lead Identifications

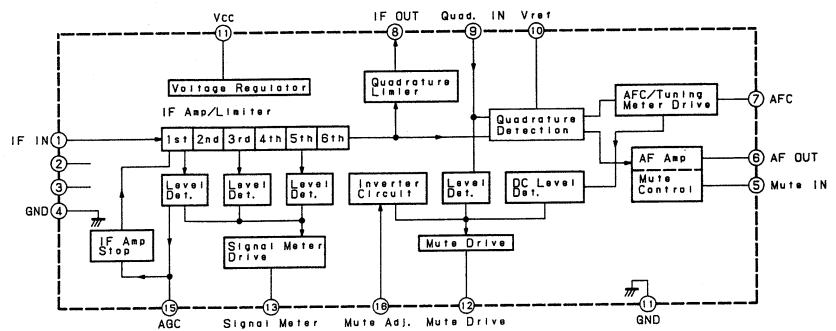
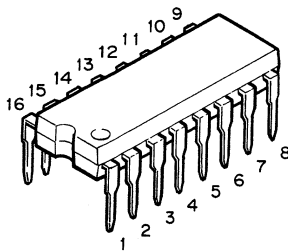
L78N12: IC001



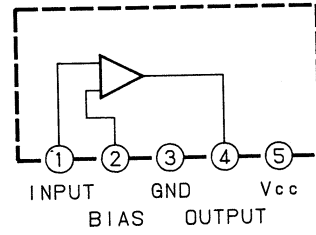
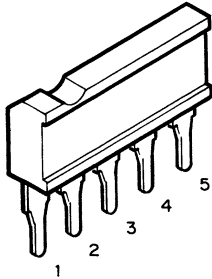
$\mu$  PC1163H: IC101,102



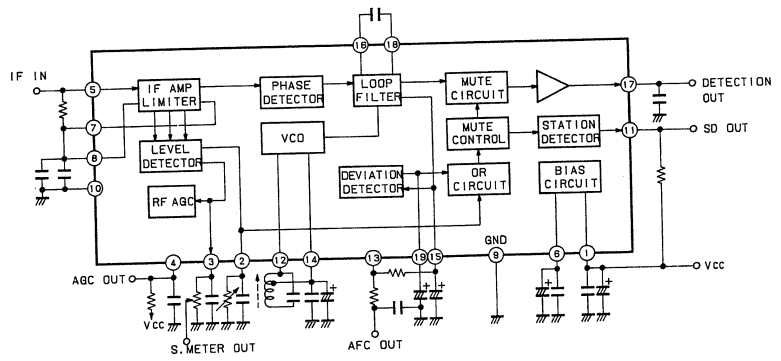
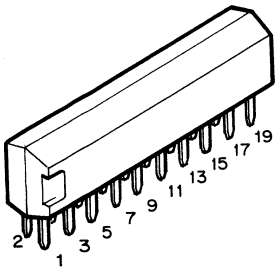
LA1231N: IC103



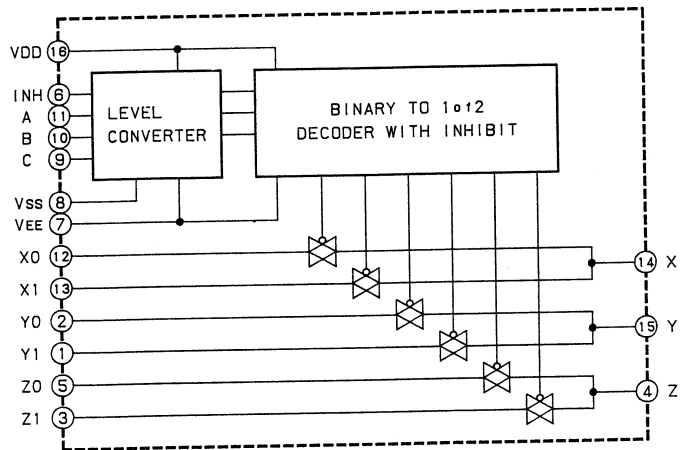
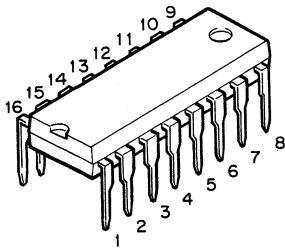
BA401:IC104



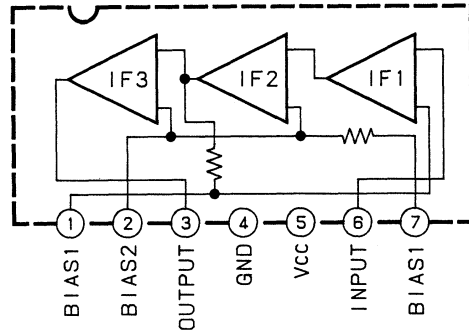
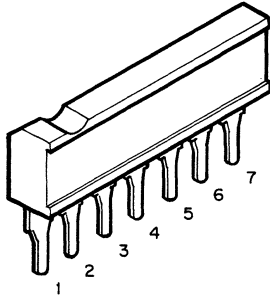
$\mu$ PC1211V:IC201



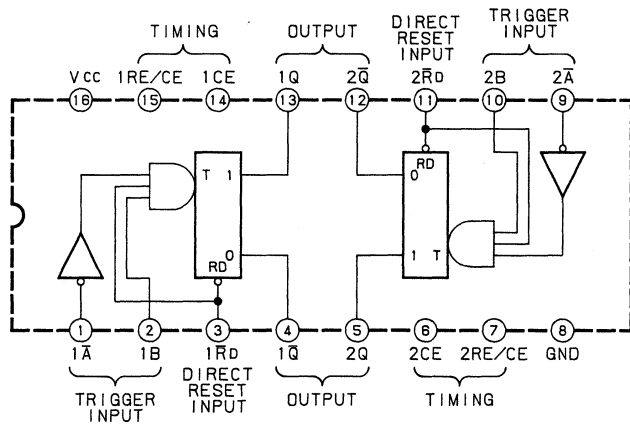
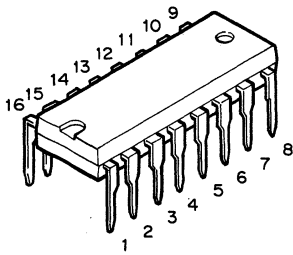
BU4053B:IC202,506



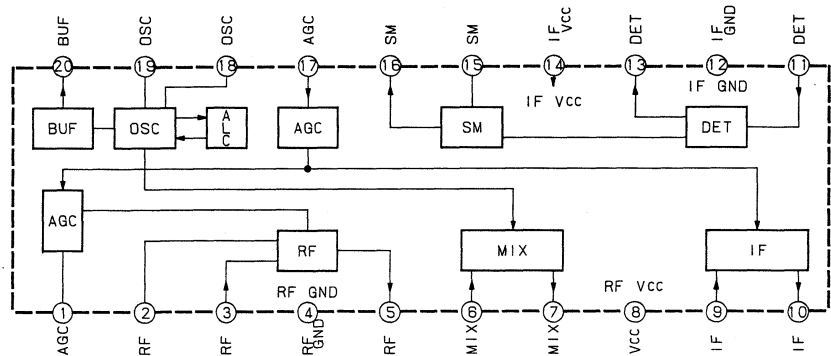
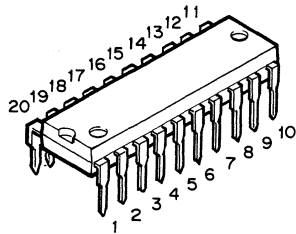
BA402: IC203



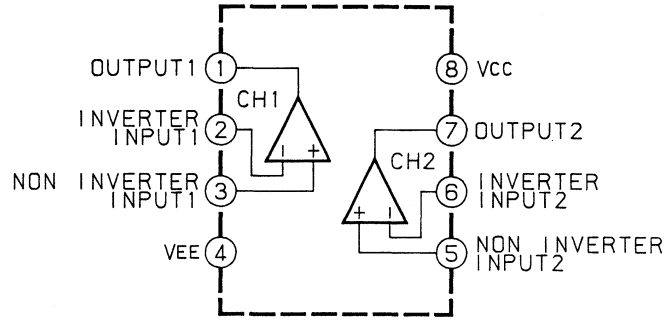
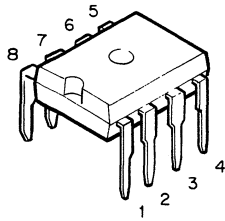
M74LS123P: IC204



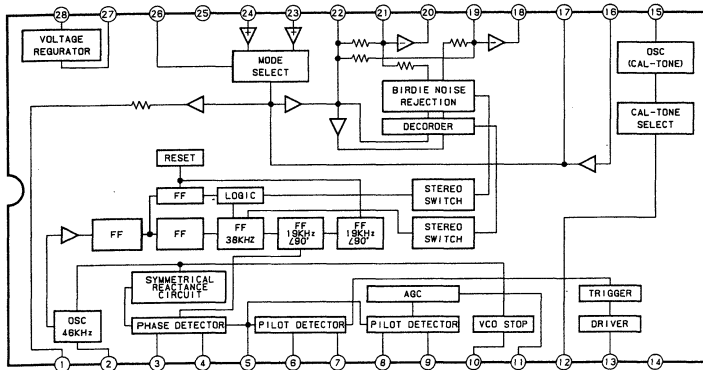
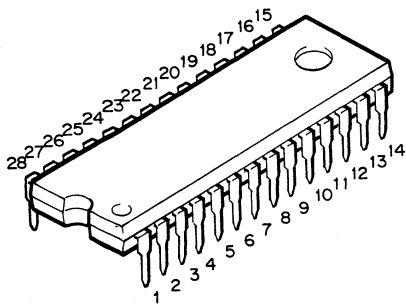
LA1245: IC301



M5238P: IC401.404

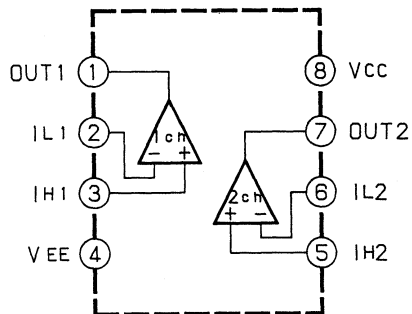
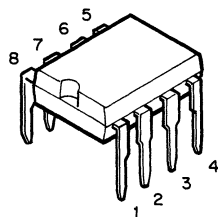


LA3450: IC402

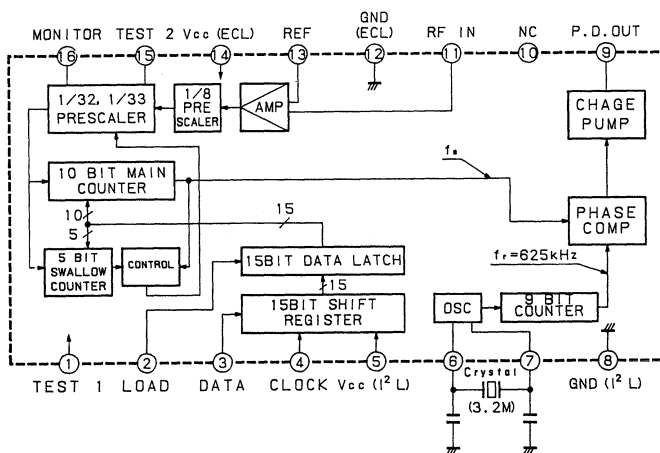
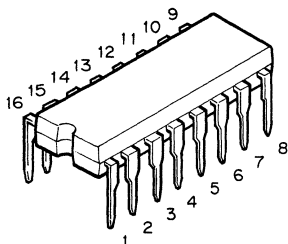


Pin No	DESCRIPTION
1	COMPOSITE AMP OUT
2	OSC
3	LOOP FILTER
4	LOOP FILTER
5	PLL IN
6	PILOT SYNC DETECT FILTER
7	PILOT SYNC DETECT FILTER
8	PILOT SYNC DETECT FILTER
9	PILOT SYNC DETECT FILTER
10	VCO STOP
11	PILOT CANCEL
12	CAL-TONE CONTROL
13	STEREO INDICATOR
14	GND
15	CAL-TONE OSC OUT
16	CAL-TONE IN
17	PILOT CANCEL IN
18	POST AMP OUT
19	POST AMP IN
20	POST AMP OUT
21	POST AMP IN
22	SEPARATION ADJ
23	AM IN
24	FM IN
25	SIGNAL GND
26	AM/FM SELECT
27	V REF
28	POWER SUPPLY

BA4558:1C501

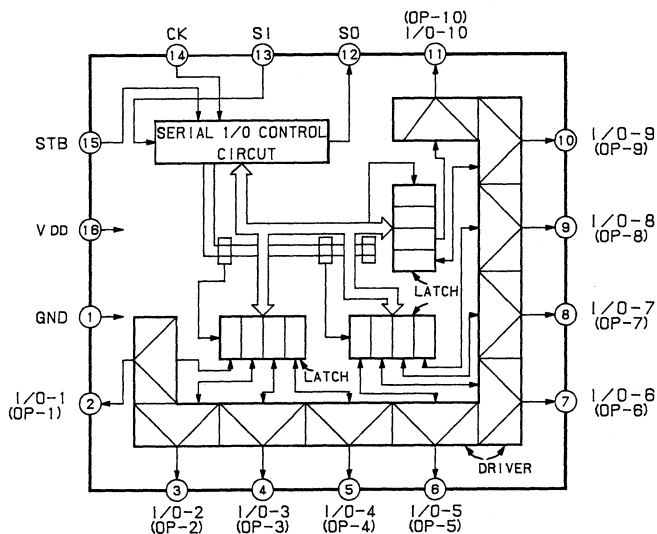
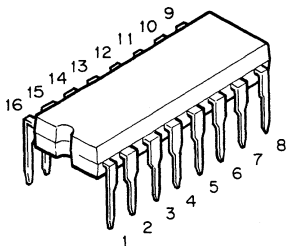


TD6352P:1C502 ●



TC9173P:1C505

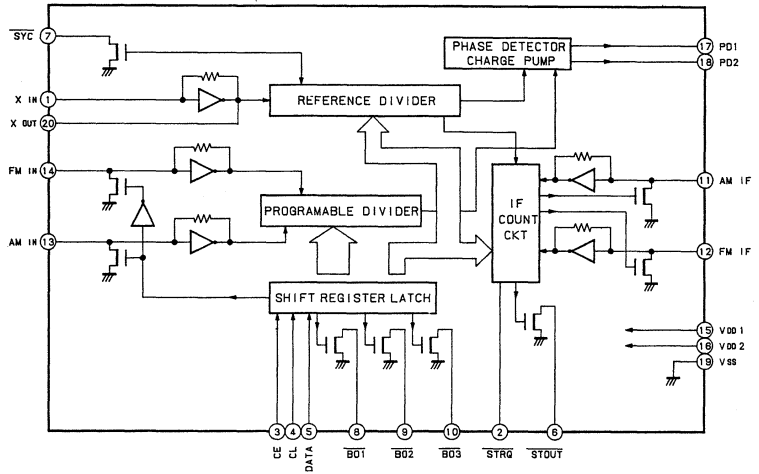
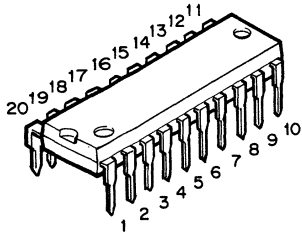
TC9174P:1C503 ●



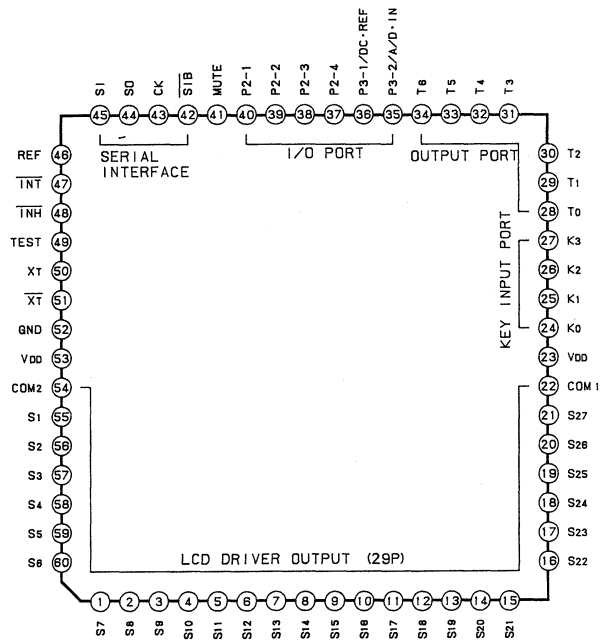
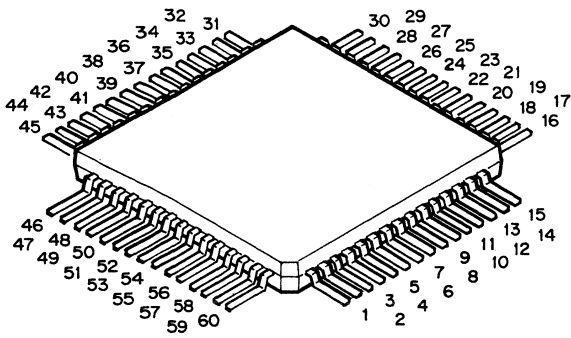
Note: ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
 ★ : For General Foreign model only (EK)      ◆ : For West Germany model only (T-117L SD)  
 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)      Others : Common



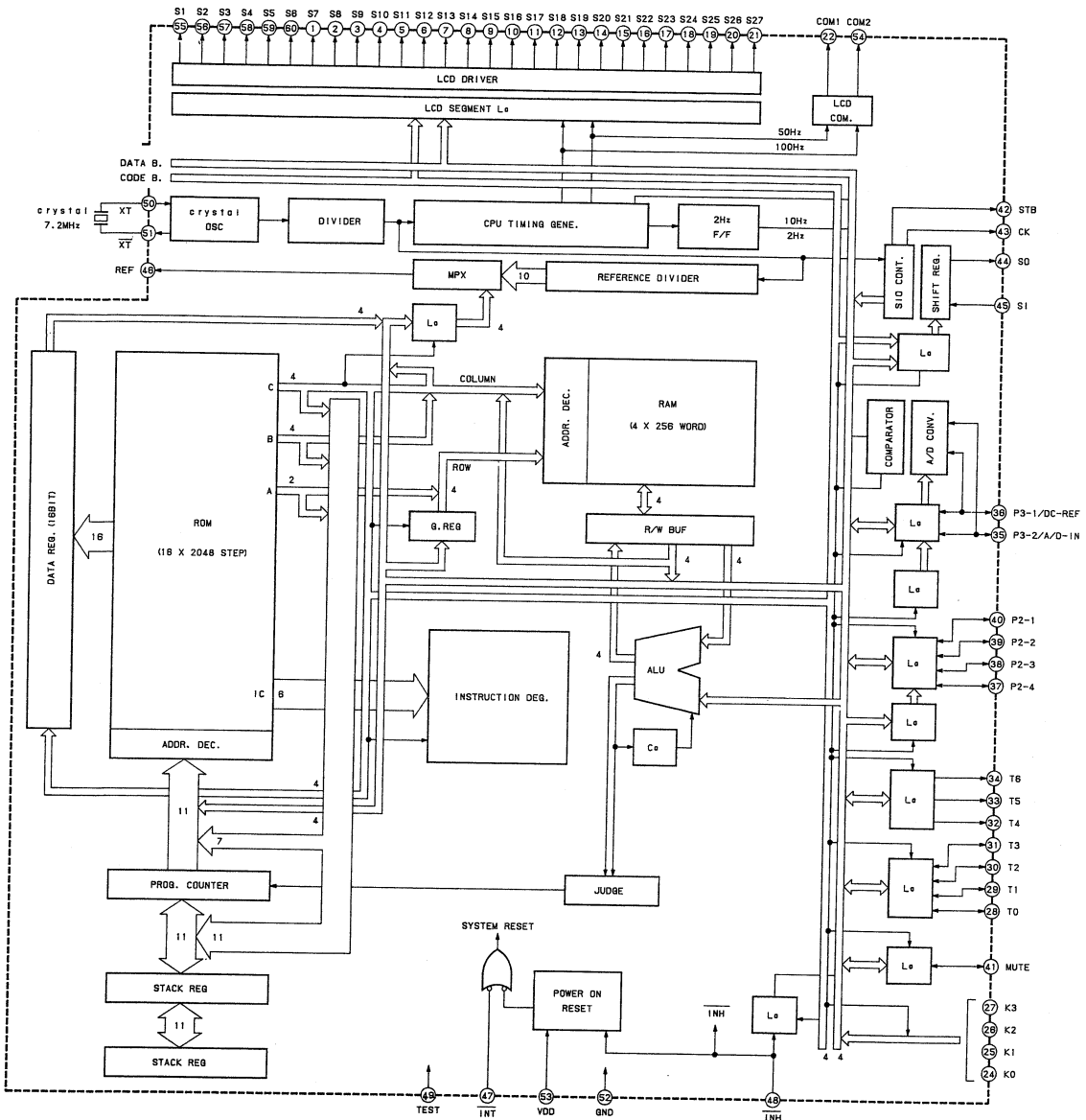
LM7000:IC504



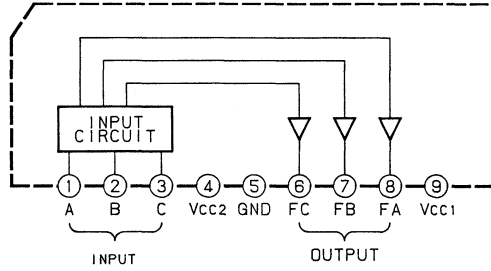
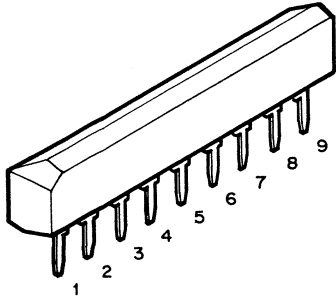
TC9306F:IC507 (1/2)



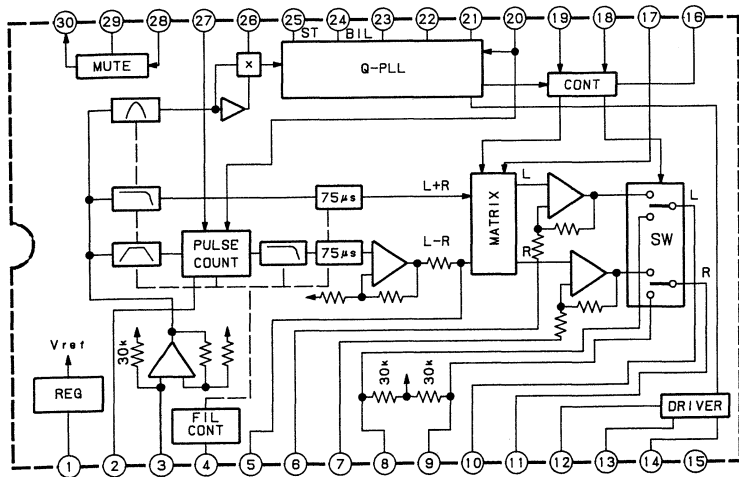
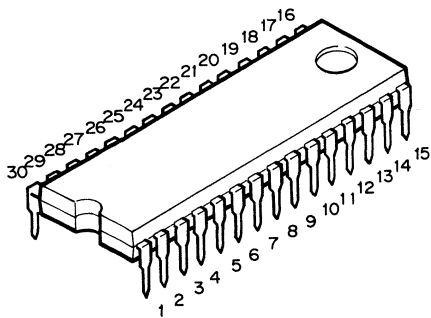
TC9306F: IC507 (2/2)



LA7905: IC601 ●



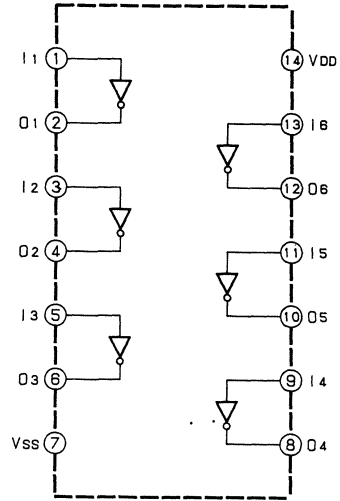
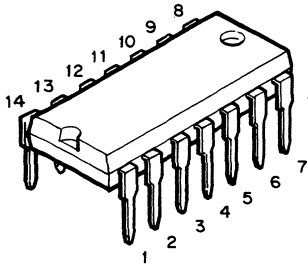
LA3801: IC701 ●



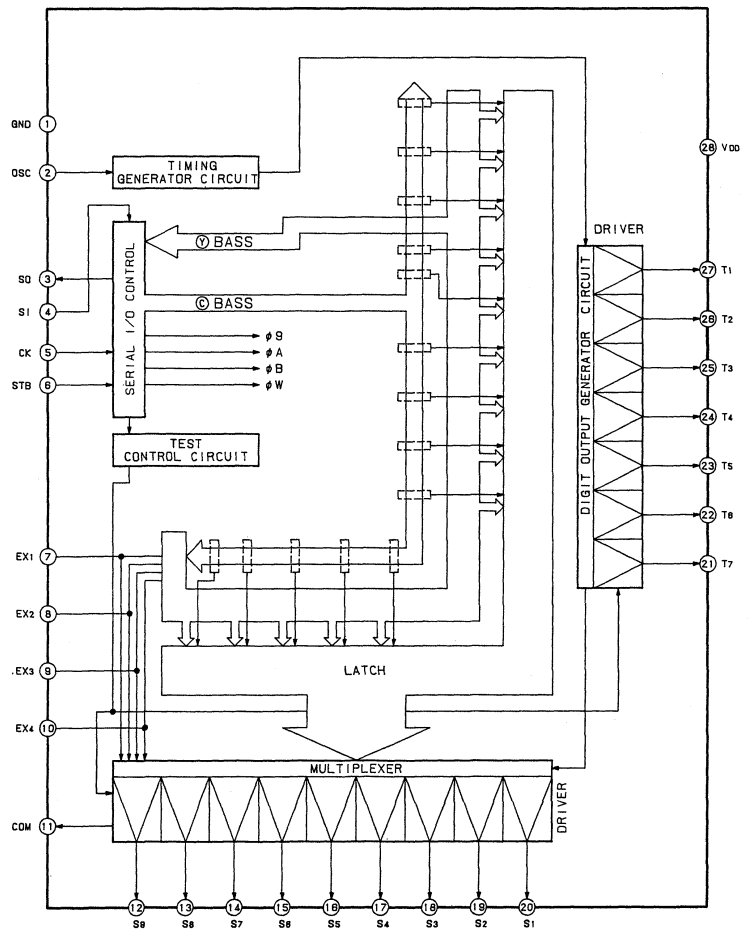
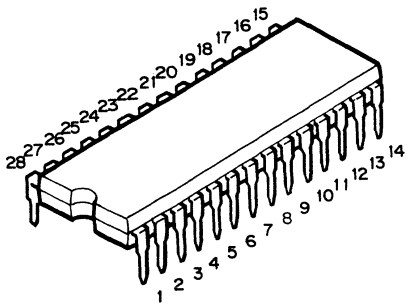
Pin No	DESCRIPTION
1	Vcc
2	PULSE COUNT BIAS
3	TV IN
4	FILTER ADJ.
5	SEPALATION ADJ.
6	L CH (MAIN) GAIN
7	R CH (SUB) GAIN
8	FM (L) IN
9	FM (R) IN
10	AM (L) OUT
11	AM (R) OUT
12	ST IND.
13	BIL. (MAIN) IND.
14	BIL. (SUB) IND.
15	GND
16	TV/FM
17	PALARTY
18	BIL. (MAIN)
19	BIL. (SUB)
20	VCO-STOP
21	CERAMIC FILTER
22	PLL LPF
23	PLL LPF
24	BIL. SYNCHRONOUS DETECTION LPF
25	ST SYNCHRONOUS DETECTION LPF
26	AM DETECTION LPF
27	PULSE COUNT LPF
28	MUTE IN
29	Vcc ON/OFF MUTE
30	MUTE DRIVE

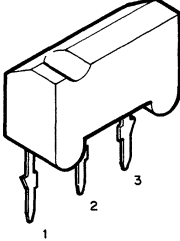
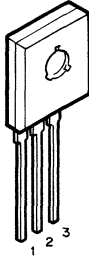
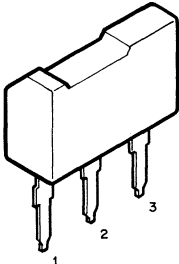
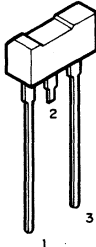

Note: ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
 ★ : For General Foreign model only (EK)      ◆ : For West Germany model only (T-117L SD)  
 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)    Others : Common

BU4069UB: IC702

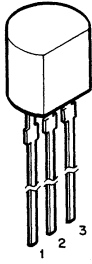
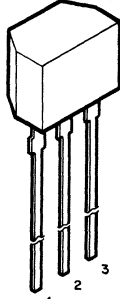

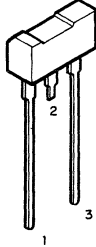
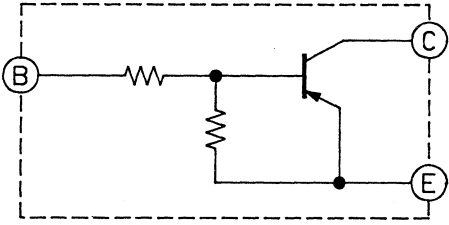


TC9190N: IC901.902



<p>2SD1330:Q1002</p>  <p>1. Emitter 2. Collector 3. Base</p>	<p>2SD1563:Q001●</p>  <p>1. Emitter 2. Collector 3. Base</p>
<p>2SD1225M:Q001 ☆★◇◆■</p>  <p>1. Emitter 2. Collector 3. Base</p>	<p>2SA1555AB:Q008,010,011●◇◇ 2SC4032AB:Q006,012,111●</p>  <p>1. Emitter/GND 2. Collector/OUT 3. Base/IN</p>
<p>2SA1015:Q1001,505●◇◇</p> <p>2SA1015: Q116,308,404,411,501,503,504,217◇◇ 2SA933A: Q307◇◇,801,116</p> <p>2SC1740: Q002,003,004,005,007,009,015,104,105,107,108,109●,112,115,117,118●,210,211,212,213, 2SC1815: Q214,302,305,306,405●,410,412●,502,203◇◇,215◇◇,216◇◇,301◇◇,401◇◇</p> <p>2SC1815:Q119,802</p> <p>2SC1674:Q206,207,208,303,601●,602●◇◇</p> <p>2SC1675:Q209,603●</p> <p>2SD1302:Q402,403,409</p>  <p>1. Emitter 2. Collector 3. Base</p>	

Note: ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
 ★ : For General Foreign model only (EK)      ◆ : For West Germany model only (T-117L SD)  
 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)    Others : Common

<p>2SK246:Q113,114,201,202,406</p>  <p>1. Source 2. Gate 3. Drain</p>	<p>2SK241:Q205</p>  <p>1. Drain 2. Source 3. Gate</p>
<p>2SK301:Q407●, 408●</p>  <p>1. Drain 2. Gate 3. Source</p>	
<p>DTA124EL:Q510■</p>  <p>1. Emitter 2. Collector 3. Base</p> 	

Note: ● : For Japanese model only (JA)      ■ : For North American model only (UZ)  
 ★ : For General Foreign model only (EK)      ◆ : For West Germany model only (T-117L SD)  
 ☆ : For General Foreign model only (T-03 EK)      ◇ : For West Germany model only (T-03L SD)      Others : Common