

Service Manual

COLOR TELEVISION

CHASSIS : CM-907S

Model : DTC-14D9/20D9/21D9 ME/MP/MT/MZ

DTC-14D2/21D2 ME/MP/MT/MZ

DTC-1420/2120 ME/MP/MT/MZ

DTC-21U8/2131/2132 ME/MP/MT/MZ

MODEL OPTION LIST

MODEL	TEXT	PIP
ME	O	O
MP	X	O
MT	O	X
MZ	X	X

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1. SPECIFICATIONS

Items	Model	DTC-14D9/20D9/21D9 ME/MP/MT/MZ DTC-14D2/21D2 ME/MP/MT/MZ DTC-1420/2120 ME/MP/MT/MZ DTC-21U8/2131/2132 ME/MP/MT/MZ
TV Standard	Color system	PAL/SECAM, NTSC-4.43(AV)
	Sound system	B/G, D/K, I
Rated Voltage		AC 100~250V, 50/60Hz
Power consumption		14"=80W, 20"=90W, 21"=95W, 21"(Flat)=95W
Sound Output Power		5W+5W(14",20"), 7W+7W(21",21"flat)
Channel Coverage		VHF-L : IC1-S6CH (43.25MHz~140.25MHz) VHF-H : IC1-S36CH (147.25MHz~423.25MHz) UHF : S37-C57CH(431.25MHz~863.25MHz)
Tuning System		FS Tuning System
Program No. Indication		ON-Screen Display
Program Selection		100 Programs
Aux. Terminal		AV input 1,2(front), DVD1, DVD2 AV output 1 (RCA) [TV signal]
Remote Control Unit		R44C07
Screen size		14" : 37Cm (Diagonal) 20" : 48Cm (Diagonal) 21", 21"flat : 51Cm (Diagonal)

2. SAFETY INSTRUCTION

NOTE

BEFORE SERVICING THIS CHASSIS READ THE “X-RAY RADIATION PRECAUTIONS”, “SAFETY PRECAUTIONS” AND “PRODUCT SAFETY NOTICE” BELOW.

X-RAY RADIATION PRECAUTIONS

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not exceed the specified limit. The nominal value of the high voltage of this receiver is 25kV(21”) at max beam current. The high voltage must not, under any circumstances, exceed 27kV(21”). Each time a receiver requires servicing, the high voltage should be checked. It is recommended the reading of the high voltage recorded as a part of the service recorded as a part of the service records. It is important to use an accurate and reliable high voltage meter.
2. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continuous RADIATION protection, the replacement tube must be exactly the same type tube as specified in the “PART LIST”.

SAFETY PRECAUTIONS

1. Potentials of high voltage are present when this receiver is operating. Operation of the receiver outside the cabinet or with the back cover removed involves a shock hazard from the receiver.
- 1) Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment.
- 2) Always discharge the picture tube to avoid the shock hazard before removing the anode cap.
- 3) Discharge the high potential of the picture tube before handling the tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled.
2. If any FUSE in this TV receiver is blown, replace it with the FUSE specified in the “PART LIST”.
3. When replacing a high wattage resistor (oxide metal film resistor) in circuit board, keep the resistor 10mm away from circuit board.
4. Keep wires away from high voltage or high temperature components.
5. This receiver must operate between AC 100-240 volts, 50/60Hz. NEVER connect to DC supply or any other power or frequency.

PRODUCT SAFETY

Many electrical and mechanical parts in this chassis have special safety-related characteristics.

These characteristics are often passed unnoticed by a visual inspection and the X-RAY RADIATION protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc.

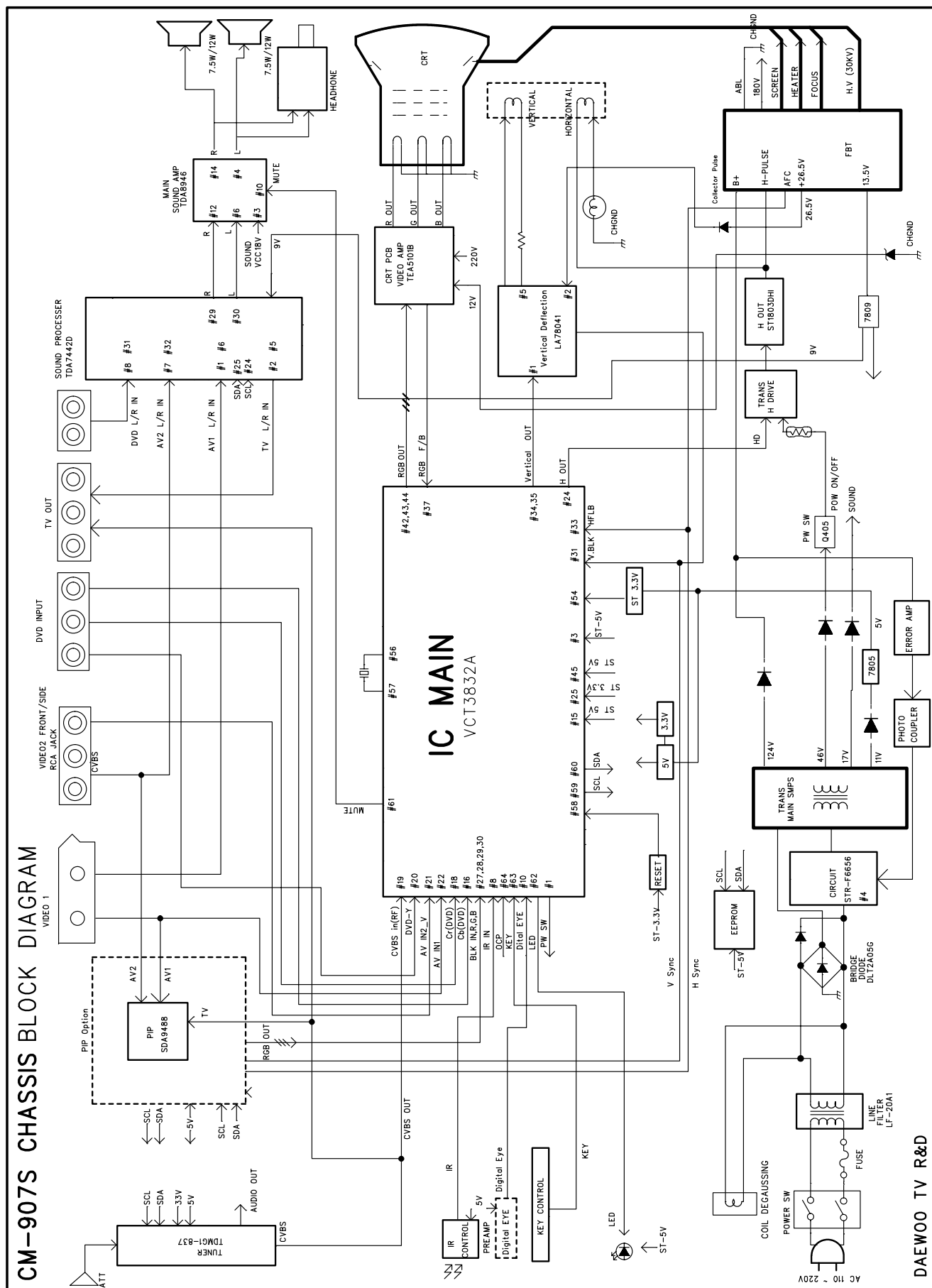
Replacement parts which have these special safety characteristics are identified in this manual and its supple-

ments, electrical components having such features are identified by designated symbol $\triangle$ on the “PART LIST”.

Before replacing any of these components, read the “PARTLIST” in this manual carefully.

The use of substitute replacement part which do not have the same safety characteristics as specified in the “PART LIST” may create X-RAY RADIATION.

3. CIRCUIT BLOCK DIAGRAM



4. ALIGNMENT INSTRUCTIONS

1. SERVICE REMOCON & EEPROM PRESETTING DATA

1-1. SERVICE REMOCON : R-34SVC (S/N:48B3034SVC)

1-2. EEPROM PRESETTING DATA

KEY	Name	Details	DEFAULT	14"/20"	21"/21FLAT	remark
S1	Heat-Run	-	-	-	-	
S2	Screen	-	-	-	-	
S3	Sound Test	-	-	-	-	
S4	Picture Test	-	-	-	-	
S5	BCL THD/GAIN	-	130/12	110/12-130/12	145/12-145/12	
S6	Geometry	V-CENTER	3700	←	←	
		V-SIZE	95			
		H-CENTER	70			
		V LINEAR	16	←	←	
		S CORRECT	11	←	←	
S7	PIP	P H POS	45	←	←	
		P V POS	30	←	←	
		P R/G/B Peak	150/150/150	←	←	
		P CONT	04	←	←	
		P BRIGHT	01	←	←	
S8	WHITE BALANCE	R/G/B DRIVE	170/170/170	←	←	
		R/G/B BIAS	60/60/60	←	←	
S9	SUB BRIGHT	BRM	130	135	135	
Sleep	TXT TEST		TXT ON/OFF	←	←	
SIZE	GAME TEST		GAME ON/OFF	←	←	
S11	OPTION	PIP	ON	←	←	
		DIGIT EYE	ON	←	←	
		TEXT SEL	OFF	←	←	
		LARGE	OFF	←	←	
		VIDEO FRAME	OFF	←	←	
		HOTEL VOL	0	←	←	
		HOTEL MODE	OFF	←	←	
S12	Shipping	-	-			
SVC Main Menu		CONT	56	←	←	For Sub-Bright Adjust Reference
		IBRM	16	←	←	For screen Adjust Rdference

ALIGNMENT INSTRUCTIONS

■ SVC KEY EXPLAIN

(S5) **BCL THD** : MAX BEAM CURRENT ADJUST,DIFFERENT DATA FOR INCH.

BCL GAIN : AVERAGE BEAM ADJUST.

(S6) **GEOMETRY** : PAL (50Hz) adjust.

AV NTSC is auto correction.

---> H-CENTER(-1),V-SIZE(0),V-CENTER(+600),V-LINEARITY(-6)

S-CORRECTION(0),H-PALLEL(0)

(S10) **NORMAL** : PICTURE NORMAL data setting.

(SLEEP) : TXT CHECK ON LINE

(SIZE) : GAME FUNCTION CHECK ON LINE

(S11) **OPTION**

- **HOTEL VOLUME** : HOTEL MODE MAX VOL DATA SETTING

- **HOTEL MODE OFF** : ON--> VOL MAX SET& INSTALL DONT OPERATING

* Software option for Function Change

PIP (ON)	- ON : With PIP Models (DTC-xxxxME seiese)
	- OFF : Without PIP Models (DTC-xxxxMT serie)
Digital EYE (ON)	- ON : Enable the Digital Sensor (for all Model)
	- OFF : Disable the Digital Sensor
LARGE (OFF)	- ON : For 29 inch Models CM-907
	- OFF : For 14~21" inch Models CM-907S
TEXT sel. (OFF)	LATIN : English,French,Swedish,Czech,German,Spanish,Italian,Estonian EAST: English,Slovakian,Hungarian,Serbian,Albanian,Polish,Turkian,Rumanian RUSSIA : English,Russian,Bulgaian,Ukrainian,Serbian,Montenegro PERSIAN : English,Farsi ARAB : English,Arabic OFF : Teletext Language depends on OSD Language selection ※ Note : If OSD language & text selec. is different then Teletext depends on Text selec.

2.The confirmation of Protection circuit

Protection circuit confirmation is omitted in case of mass production in the factory

2-1. Over Current Protecior (OCP) circuit confirmation

2-1-1. Receive PAL RETMA PATTERN(signal of company:2CH., PAL-B) and adjust STANDARD MODE in PICTURE.

2-1-2. Connect 1M Ω 1/2W between BASE of Q801 and GND, to confirm operating of PROTECTOR.

The next place, to confirm normal operation when the resister(1M Ω) is removed.

2-1-3. After Main Power Switch OFF/ON, to confirm normal operation of picture and sound when turn the set on by remocon.

3.The adjustment of SCREEN

- 3-1. Confirm the presetting 'IBRM' data of EEPROM according to CRT.
- 3-2. Press the [S2] KEY of SVC Remocon, horizontal line will be displayed.
- 3-3. Adjust SCREEN V/R of FBT so that the horizontal line reach the cut-off point.
- 3-4 To be completed adjustment of screen. Press the [S2] key to escape screen adjustment mode.

4.The adjustment of FOCUS

- 4-1. Receive PAL RETMA PATTERN(signal of company:2CH., PAL-B).
- 4-2. Adjust the picture to best distinct picture of 350 Line by revolve Focus Volume.

5.The adjustment of WHITE BALANCE

- 5-1. NITSUKI Setting : Set Nitsuki to the 'Auto Mode' , Reference to the 'B' , and System to the 'PAL' .
- 5-2. Setting the Normal Stats
 - 5-2-1. Adjust Picture to Normal mode.
 - 5-2-2. Adjust the Gain of Nitsuki to suitability by manual when condition is Normal.
 - Adjust the standard illumination take within limit bright of Nitsuki and luminosity of SET into account.
 - Exhortative Standard illumination, : High 70Cd/m², LOW BEAM : about 15Cd/m²"
 - 5-2-3. Press the [S8]key of SVC remocon to adjustment of Whit Balance.
X=0.288, Y=0.301
 - 5-2-4. Memorize in Nitsuki after Adjustment of White Balance.
- 5-3. Adjustment of White Balance
 - 5-3-1.Receive Nitsuki signal.
 - 5-3-2.Adjust Picture to Normal mode.
 - 5-3-3.The Adjustment of High Beam : Adjust R-DRIVE and G-DRIVE to R,G,B BAR come to center.
 - 5-3-4.The Adjustment of Low Beam : Adjust R-BIAS and G-BIAS to R,G,B BAR come to center.
 - 5-3-5.Repeat 5-3-3 and 5-3-4 to R,G,B BAR come to within center ± 1 .

6.The adjustment of GEOMETRY

- 6-1. Press the [S-6]key on the SVC remocon to call up the Geometry mode.
And then, Geometry OSD will be displayed.
- 6-1-1. All adjustment is base on PAL(50Hz),
but it can be base on NTSC(60Hz) in case of need.
- 6-2. The adjustment of VERTICAL CENTER
 - 6-2-1.Receive PAL RETMA pattern(signal of company:PAL-B 2CH).
 - 6-2-2.Press the PR up/down Keys(▲/▼) to select V CENTER.
Adjust with Vol Up/Down (◀/▶) keys so that the center mark of the CRT may be located on the horizontal line in the middle of the pattern. In case of no center mark, adjust with Vol Up/Down (◀/▶) keys to obtain a vertically symmetrical pattern.

ALIGNMENT INSTRUCTIONS

6-3. The adjustment of VERTICAL SIZE

6-3-1. Receive PAL RETMA pattern(signal of company:PAL-B 2CH).

6-3-2. Press the PR up/down Keys (▲/▼) to select V-SIZE.

Adjust with Vol Up/Down (◀/▶) keys so that the upper and the lower of RETMA pattern may be located at the boundaries of the screen.

6-4. The adjustment of HORIZONTAL CENTER

6-4-1. Receive PAL RETMA pattern(signal of company:PAL-B 2CH).

6-4-2. Press the PR up/down Keys (▲/▼) to select V-SIZE.

Referring to the both side scales, adjust with Vol Up/Down (◀/▶) keys so that RETMA pattern may be symmetrical.

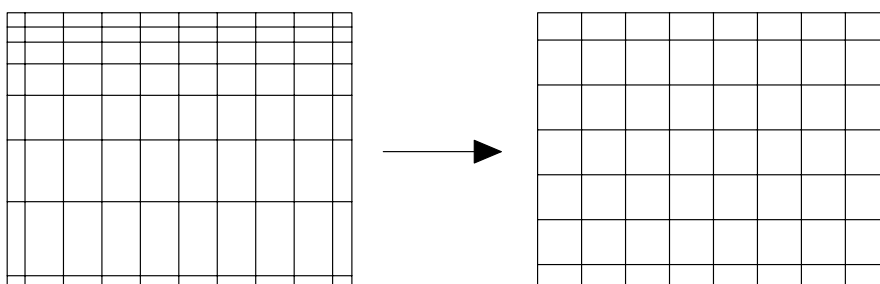
6-5. The adjustment of Vertical Linearity

6-5-1. Receive PAL CROSSHATCH pattern(signal of company:PAL-B 5CH).

6-5-2. Fix adjustment of Vertical Linearity after EEPROM presetting, but it can be adjusted in case of need.

6-5-3. Press the PR up/down Keys (▲/▼) to select V LINEAR.

Adjust Vertical Linearity with Vol Up/Down (◀/▶) keys.



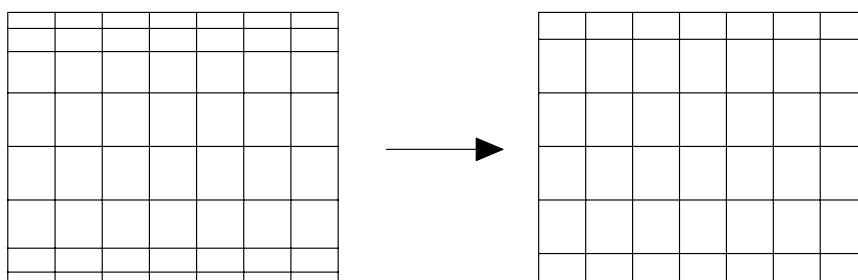
6-6. The adjustment of VERTICAL S-Correction

6-6-1. Receive PAL CROSSHATCH pattern(signal of company:PAL-B 5CH).

6-6-2. Fix adjustment of Vertical S-Correction after EEPROM DATA presetting, but it can be adjusted in case of need.

6-6-3. Press the PR up/down Keys (▲/▼) to select S CORRECT.

Adjust S-Correction with Vol Up/Down (◀/▶) keys.



7. THE ADJUSTMENT OF SUB-PICTURE (SUB-BRIGHT, SUB-CONTRAST)

7-1. Receive PAL RETMA PATTERN(signal of company:2CH., PAL-B)

7-2. Press the [S9] KEY of SVC Remocon, BRM OSD will be displayed.

7-3. The adjustment of SUB-BRIGHT

7-3-1. Press the PR up/down Keys (▲/▼) to select SUB-BRIGHT in SUB-PICTURE MENU.

Adjust SUB-BRIGHT with Vol Up/Down (◀/▶) keys.

7-3-2. Adjust With BRM, When SUB-BRIGHT is lacking in margin of adjustment.

7-3-3. Standard of adjustment : Adjust till instant of 1, 2th cordon disappear in RETMA CONTRAST CHART(signal of company).

7-3-4. When Sub-Picture mode was exited after SUB's adjustment, Normal vlaue is brighter(about 18%) than adjustment-point(about 10%) of adjustment-mode because BRIGHT is set to rise 2~3 step.

8. THE ADJUSTMENT OF PIP

8-1. Receive PAL RETMA pattern(signal of company:PAL-B 2CH) and Color Bar.

8-2. Press the [S7] KEY of SVC Remocon, PIP-Adjustment OSD will be displayed.

8-3. Fix adjustment of PIP after EEPROM DATA presetting,
but it can be adjusted in case of need.

8-4. Adjust PIP after GEOMETRY, WHITE BALANCE and SUB-BRIGHT are adjusted.

8-5. List of adjustment

① PIP H POSITON : Adjustment of H-position Sub-Picture,

(Reference : Presetting Value of EEPROM = 45)

② PIP V POSITON : Adjustment of V-position of Sub-Picture,

(Reference : Presetting Value of EEPROM = 30)

③ PIP R/G/B Peak : Adjustment of Gain of PIP IC R,G,B Output

(Reference : Presetting Value of EEPROM = 130)

④ P CONTRAST : Adjustment of AC Gain(Contrast) of PIP IC RGB Output

(Reference : Presetting Value of EEPROM = 04)

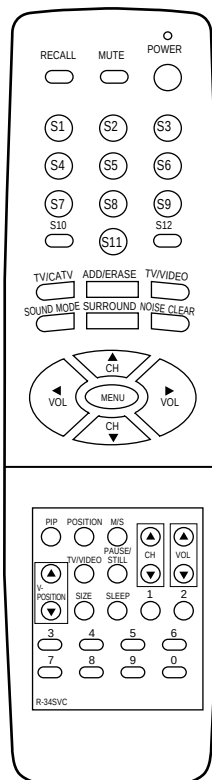
⑤ P BRIGHT : Adjustment of DC Level(SUB BRIGHT) of PIP IC RGB Output

(Reference : Presetting Value of EEPROM = 00)

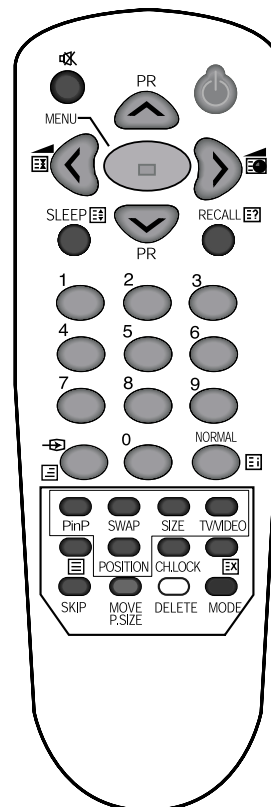
ALIGNMENT INSTRUCTIONS

9. REMOCON

9-1. SERVICE REMOCON



9-2. USER REMOCON



9-3. SERVICE REMOCON

- 1) Enter SERVICE MODE : Press keys of User Remocon, as follows.
Ch91, Sharpness 0, Skip(red), Move(green), Menu.
- 2) Choice SERVICE MENU : Pr-Up/Down
- 3) Enter SERVICE SUB MENU : Vol-Up/Down

5. CM-907S TYPICAL SERVICE DATA

CM-907S CHASSIS SETTING LIST

NO	CH	PATTERN	BAND	V.FREQ.	Sound SYSTEM	Color SYSTEM	ADJUSTMENT
2	PAL H-2CH		VL	64.25	BG	PAL	
7	PAL H-7CH		VH	182.25	BG	PAL	
9	PAL H-9CH		VH	196.25	BG	PAL	
10	PAL H-10CH		VH	209.25	BG	PAL	
28	PAL H-28CH		U	527.25	BG	PAL	
30	PAL-40CH	W/B	U	623.25		AUTO	W/B
31	PAL-2CH	RETMA	VL	48.25	BG	AUTO	FOCUS, V-CENTER, V-SIZE, V-SLOPE H-CENTER, SCREEN
32	PAL-47CH	C/HATCH	U	679.25	I	AUTO	“ CONVERGENCE, ADJUSTMENT”
33	PAL-10CH	COLOR BAR	VH	210.25	BG	PAL	“ SCREEN, AGC”
34	PAL-4CH	DEM	VL	62.25	BG	PAL	“ SOUND, Teletext check”
35	PAL-12CH	PHILIPS	VH	224.25	BG	SECAM	SECAM COLOR CHECK
36	PAL-18CH	RETMA	U	511.25	DK	AUTO	SOUND

CM-907S TYPICAL SERVICE DATA

KEY	Name	Details					remark
			14"	20"	21"	21" F	
S5	BCL THD/GAIN	-	85 /12	130/12	140/12	145/12	WHITE PEAK : ON
	WHITE PEAK		ON				
S6	Geometry	H-CENTER	100	100	80	80	
		V-CENTER	3910	3850	3790	3520	
		V-SIZE	82	88	118	123	
		H-SIZE	1520		1520		NOT USE
		PARA	-122	-122	-122	-122	NOT USE
		V-LINEARITY	11	11	16	16	
		S-CORRECTION	11	11	11	11	
		CORNER	120	120	120	120	NOT USE
		H-BOW	-517	-517	-517	-517	NOT USE
		H-PARA	20	20	20	20	NOT USE
		EW TRAP	121	121	121	121	NOT USE
S7	PIP	P H POS	45				
		P V POS	30				
		P R/G/B Peak	130				
		P CONT	4				
		P BRIGHT	5				
S8	WHITE BALANCE	R/G/B DRIVE	170/170/170		170/170/170		
		R/G/B BIAS	60/60/60		60/60/60		
S9	SUB BRIGHT	BRM	135	135	135	135	
S10	NORMAL DATA	BRIGHT	32				
		CONTRAST	58				
		COLOR	32				
		SHARPNESS	48				
S11	OPTION	PIP	ME/MP: ON, MT/MZ: OFF				
		DIGIT. EYE	ON				
		TEXT SEL.	TEXT OPTION				
		TELETEXT	ME/MT: ON, MP/MZ: OFF				
		LARGE	OFF				
		VID FRAME	OFF				
		HOTEL VOL	+00000				
		HOTELMODE	OFF				
S12	Shipping	-					
SVC Main Menu		CONT	32				
		BRM	140				For Screen Adjust Reference

6. ELECTRICAL PARTS LIST

DTC-21D9ME

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
ZZ100	48B484C07	TRANSMITTER REMOCON	R-44C07 (AA)	
ZZ110	PTACPWD691	ACCESSORY AS	DTC-21D9ME	
0100	4850Q00810	BATTERY	R6P/LN	
0200	48586054K1	MANUAL INSTRUCTION	DTM-2082CW	
M001	4858213801	BAG INSTRUCTION	L.D.P.E T0.05X250X400	
ZZ120	PTBCSHD691	COVER BACK AS	DTC-21D9ME	
M211	4852162401	COVER BACK	HIPS BK 21D9	
M781	4857817610	CLOTH BLACK	FELT 300X20X0.7	
ZZ130	PTPKCPD691	PACKING AS	DTC-21D9ME	
10	6520010100	STAPLE PIN	AUTO W65	
M801	4858059900	BOX CARTON	SW-3	
M811	4858100P00	PAD	EPS 14D9	
M821	4858219201	BAG P.E	P.E FOAM T0.5X1100X950	
ZZ131	48519A5310	CRT GROUND NET	2101S-1015-1P	
ZZ132	58G0000147	COIL DEGAUSSING	DC-21SF	
ZZ140	PTCACAD691	CABINET AS	DTC-21D9ME	
40	2TF01612CL	TAPE FILAMENT	0.15X12mmX55mm	
M201A	4856013300	SCREW CRT FIXING	30X80 BK	
M201B	4856215404	WASHER RUBBER	CR T4.0	
M201C	4856013302	SCREW CRT FIXING	30X190 BK	
M211A	7172401412	SCREW TAPPTITE	TT2 TRS 4X14 MFZN BK	
M211B	7178301212	SCREW TAPPTITE	TT2 WAS 3X12 MFZN BK	
M541	4855415800	SPEC PLATE	150ART P/E FILM (C/TV)	
M591A	4856013610	SCREW SPKR FIX	L=16 A=17	
M681	4856812001	TIE CABLE	NYLON66 DA100	
SP01A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	
SP01B	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	
V901	4859630860	CRT	A51EFK135X01	
ZZ200	PTFMSJD691	MASK FRONT AS	DTC-21D9ME	
M191	4854953901	BUTTON CH	ABS GY 21D9	
M191A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	
M201	4852082601	MASK FRONT	HIPS GY 21D9	
M481	4854863501	BUTTON POWER	ABS GY 21D9	
M481A	4856716000	SPRING	SWPA PIE0.5	
M531	4855548301	DECO SENSOR	PC SMOG 21D9	
M561	4855617500	MARK BRAND	CU AU+ABS BK	
M591	4855936101	DECO EYE	ABS BLUE	
M591B	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	
ZZ210	PTSPPPWD691	SPEAKER AS	DTC-21D9ME	
P601A	4850704531	CONNECTOR	YH025-04+YRT205+ULW800400	
SP01	4858311110	SPEAKER	12W 8 OHM SP-58126F	
SP02	4858311110	SPEAKER	12W 8 OHM SP-58126F	
ZZ290	PTMPMSD691	PCB MAIN MANUAL AS	DTC-21D9ME	
10	2193102005	SOLDER BAR	SN:PB=63:47 S63S-1320	
30	2291050616	FLUX SOLDER	JS-64T3	
40	2291050301	FLUX SOLVENT	IM-1000	
C406	CMYH3C822J	C MYLAR	1.6KV BUP 8200PF J	
C408	CMYE2D514J	C MYLAR	200V PU 0.51MF J	
C801	CL1UC3104M	C LINE ACROSS	WORLD AC250V 0.1UF M R.47	
C804	CEYN2G181P	C ELECTRO	400V LHS 180MF (25X35)	
C806	CBYB3D152K	C CERA SEMI	2KV BL(N) 1500PF K	
C811	CH1BFE222M	C CERA AC	U/C/V AC400V 2200PF	
D812	DRGP30J—	DIODE	RGP30J	
D814	DRGP30J—	DIODE	RGP30J	
F801	5F3GB4022L	FUSE GLASS TUBE	V/S TL 4A 250V MF51	
HP01	4859102130	JACK EARPHONE	YSC-1537	
I301	PTA2SW7106	HEAT SINK ASS'Y	1LA78041— + 7174301011	
00001	1LA78041—	IC VERTICAL	LA78041	
0000A	4857027106	HEAT SINK	SPCC T1.0+SN	
0000B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
I501	1V3834DW08	IC MICOM MCM	VCT3834F-DW08	

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
I601	PTA2SW8228	HEAT SINK ASS'Y	1TDA8946J- + 7174301211	
00001	1TDA8946J-	IC AUDIO AMP	TDA8946J	
0000A	4857028228	HEAT SINK	AL EX BK	
0000B	7174301211	SCREW TAPPTITE	TT2 RND 3X12 MFZN	
I602	1TDA7442—	IC AUDIO PROCESSOR	TDA7442	
I701	124LC16B1B	IC MEMORY	24LC16B1B	
I801	PTA2SW7920	HEAT SINK ASS'Y	1STRF6656- + 7174301011	
00001	1STRF6656-	IC POWER	STR-F6656	
0000A	4857027920	HEAT SINK	AL EX BK	
0000B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
I802	1LTV817C—	IC PHOTO COUPLER	LTV-817C	
I803	1DP123—	IC ERROR AMP	DP123	
I804	PTZ2SW6900	HEAT SINK ASS'Y	1K1A7805P1 + 7174300811	
00001	1K1A7805P1	IC REGULATOR	KIA7805API	
0000A	4857026900	HEAT SINK	AL EX	
0000B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
I805	PTR2SW6900	HEAT SINK ASS'Y	1K1A7809P1 + 7174301011	
00001	1K1A7809P1	IC REGULATOR	K1A7809API	
0000A	4857026900	HEAT SINK	AL EX	
0000B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
I806	1LP295033-	IC REGULATOR	LP2950 3.3V	
I901	PTA3SW1101	HEAT SINK ASS'Y	1TEA5101B- + 7174300811	
00001	1TEA5101B-	IC VIDEO AMP	TEA5101B	
0000A	4857031101	HEAT SINK	A1050P-24 T=2.0	
0000B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
ID01	1PNA4603H-	IC PHOTO SENSOR	PNA4603H	
IF01	1TS0P1238W	IC PREAMP	TS0P1238W1	
JP02	4859108450	JACK PIN BOARD	YSC03P-4120-14A	
JV01	4859110950	JACK PIN BOARD	YS01-0001	
JV02	4859111750	JACK PIN BOARD	PH-JB-9515	
L401	58H0000020	COIL H-LINEARITY	L-76(76.5UH)	
LF801	5PLF3143G-	FILTER LINE	LF-3143G	
M351	DLH2PR5MHS	LED HOLDER AS	LH-2P-R-5M-H3	
M371	4856815400	CLAMP WIRE	NYLON 66	
M372A	4853747800	RETA PCB	NYLON 66	
M372B	4853747800	RETA PCB	NYLON 66	
M373	4856812001	TIE CABLE	NYLON66 DA100	
P401	4859240120	CONN WAFER	YFW500-06	
P501A	4850706518	CONNECTOR	YH025-06+YST025+ULW=500	
P502A	4850705503	CONNECTOR	YH025-05+YBNH250+ULW=300	
P904	4859281320	CONN WAFER	TAC-L18X-A3	
PDA01	4850703518	CONNECTOR	YH025-03+YBNH250+ULW=200	
PW801	4859902910	CORD POWER AS	KKP419C-BL102NG+TUBE=2100	
Q401	PTJ2SW7200	HEAT SINK ASS'Y	TST1803DH- + 7174301011	
00001	TST1803DH-	TR	ST1803DHI	
0000A	4857027200	HEAT SINK	AL T1.0	
0000B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	
R801	DDC7R0M290	POSISTOR	EPCPD7R0M290	
R803	RX10T109KS	R CEMENT	10W 1 OHM K TRIPOD SMALL	
SCT01	4859304130	SOCKET CRT	ISHG93S	
SW801	5S40101143	SW POWER PUSH	PS3-22SP (P.C.B)	
T401	50H0000231	FBT	LTC-505	
T402	50D10A3—	TRANS DRIVE	TD-10A3	
T801	50M4445B3-	TRANS SMPS	TSM-4445B3	
TU01	4859723730	TUNER VARACTOR	TMDG1-837	
X501	5XE20R250E	CRYSTAL QUARTZ	HC-49/U 20.2500MHZ 30PPM	
ZZ200	PTMPJ0D691	PCB MAIN (RHU) AS	DTC-21D9ME	
C310	CEXF1E102V	C ELECTRO	25V RSS 1000MF (13X20) TP	
C413	CEXF1E102V	C ELECTRO	25V RSS 1000MF (13X20) TP	
C419	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C420	CEXF2E220V	C ELECTRO	250V RSS 22MF (13X20) TP	

ELECTRICAL PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
C424	CEXF1V471V	C ELECTRO	35V RSS 470MF (10X20) TP	
C541	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C631	CEXF1E222V	C ELECTRO	25V RSS 2200MF (16X25) TP	
C817	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	
C818	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	
C819	CEXF2A470V	C ELECTRO	100V RSS 47MF (10X16) TP	
C821	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C908	CCXB3D102K	C CERA	2KV B 1000PF K (TAPPING)	
ZZ200	PTMPJBD691	PCB MAIN M-10 AS	DTC-21D9ME	
10	2TM18006BE	TAPE MASKING	6.2X500	
E001	4856310300	EYE LET	BSR T0.2 (R1.6)	
E002	4856310300	EYE LET	BSR T0.2 (R1.6)	
E003	4856310300	EYE LET	BSR T0.2 (R1.6)	
E005	4856310300	EYE LET	BSR T0.2 (R1.6)	
E006	4856310300	EYE LET	BSR T0.2 (R1.6)	
E008	4856310300	EYE LET	BSR T0.2 (R1.6)	
E009	4856310300	EYE LET	BSR T0.2 (R1.6)	
E010	4856310300	EYE LET	BSR T0.2 (R1.6)	
E011	4856310300	EYE LET	BSR T0.2 (R1.6)	
E012	4856310300	EYE LET	BSR T0.2 (R1.6)	
E013	4856310300	EYE LET	BSR T0.2 (R1.6)	
E014	4856310300	EYE LET	BSR T0.2 (R1.6)	
E015	4856310300	EYE LET	BSR T0.2 (R1.6)	
E017	4856310300	EYE LET	BSR T0.2 (R1.6)	
E020	4856310300	EYE LET	BSR T0.2 (R1.6)	
E021	4856310300	EYE LET	BSR T0.2 (R1.6)	
E022	4856310300	EYE LET	BSR T0.2 (R1.6)	
E023	4856310300	EYE LET	BSR T0.2 (R1.6)	
E024	4856310300	EYE LET	BSR T0.2 (R1.6)	
E025	4856310300	EYE LET	BSR T0.2 (R1.6)	
E026	4856310300	EYE LET	BSR T0.2 (R1.6)	
E027	4856310300	EYE LET	BSR T0.2 (R1.6)	
E028	4856310300	EYE LET	BSR T0.2 (R1.6)	
E029	4856310600	EYE LET	BSR T0.2 (R2.3)	
E030	4856310600	EYE LET	BSR T0.2 (R2.3)	
E031	4856310600	EYE LET	BSR T0.2 (R2.3)	
E032	4856310600	EYE LET	BSR T0.2 (R2.3)	
E033	4856310600	EYE LET	BSR T0.2 (R2.3)	
E034	4856310600	EYE LET	BSR T0.2 (R2.3)	
E035	4856310600	EYE LET	BSR T0.2 (R2.3)	
E036	4856310600	EYE LET	BSR T0.2 (R2.3)	
E037	4856310600	EYE LET	BSR T0.2 (R2.3)	
E038	4856310600	EYE LET	BSR T0.2 (R2.3)	
E039	4856310600	EYE LET	BSR T0.2 (R2.3)	
E040	4856310600	EYE LET	BSR T0.2 (R2.3)	
E041	4856310600	EYE LET	BSR T0.2 (R2.3)	
E043	4856310600	EYE LET	BSR T0.2 (R2.3)	
E046	4856310600	EYE LET	BSR T0.2 (R2.3)	
E048	4856310600	EYE LET	BSR T0.2 (R2.3)	
E050	4856310600	EYE LET	BSR T0.2 (R2.3)	
N001	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
N002	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
N003	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
N004	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
P501	485923192S	CONN WAFER	YW025-06 (STICK)	
P502	485923182S	CONN WAFER	YW025-05 (STICK)	
P601	485923172S	CONN WAFER	YW025-04 (STICK)	
PD01	485923162S	CONN WAFER	YW025-03 (STICK)	
R105	RS01Z472J-	R M-OXIDE FILM	1W 4.7K OHM J (TAPPING)	
R404	RS01Z751J-	R M-OXIDE FILM	1W 750 OHM J (TAPPING)	
R406	RS01Z103J-	R M-OXIDE FILM	1W 10K OHM J (TAPPING)	

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
R410	RS01Z229J-	R M-OXIDE FILM	1W 2.2 OHM J (TAPPING)	
R413	RS01Z100J-	R M-OXIDE FILM	1W 10 OHM J (TAPPING)	
R414	RS01Z472J-	R M-OXIDE FILM	1W 4.7K OHM J (TAPPING)	
R418	RS01Z249J-	R M-OXIDE FILM	1W 2.4 OHM J (TAPPING)	
R420	RS01Z519J-	R M-OXIDE FILM	1W 5.1 OHM J (TAPPING)	
R431	RS02Z200JS	R M-OXIDE FILM	2W 20 OHM J SMALL	
R804	RS02Z683JS	R M-OXIDE FILM	2W 68K OHM J SMALL	
R807	RF02Z158K-	R FUSIBLE	2W 0.15 OHM K (TAPPING)	
R813	RF02Z568K-	R FUSIBLE	2W 0.56 OHM K (TAPPING)	
R907	RS01Z683J-	R M-OXIDE FILM	1W 68K OHM J (TAPPING)	
R908	RS01Z683J-	R M-OXIDE FILM	1W 68K OHM J (TAPPING)	
R909	RS01Z683J-	R M-OXIDE FILM	1W 68K OHM J (TAPPING)	
ZZ200	PTMPJRD691	PCB MAIN RADIAL AS	DTC-21D9ME	
C104	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP	
C105	CEXF1C331V	C ELECTRO	16V RSS 330MF (8X11.5) TP	
C108	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C301	CMXM2A473J	C MYLAR	100V 0.047MF J (TP)	
C302	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
C303	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C304	CMXM2A123J	C MYLAR	100V 0.012MF J (TP)	
C305	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP	
C307	CXSL2H100D	C CERA	500V SL 10PF D (TAPPING)	
C308	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C311	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C320	CXED1H109Q	C ELECTRO	50V RT 1MF (6.3X11) TP	
C402	CCXF1H102Z	C CERA	50V F 1000PF Z (TAPPING)	
C403	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)	
C405	CEXF2A100V	C ELECTRO	100V RSS 10MF (6.3X11) TP	
C409	CEXF2C339V	C ELECTRO	160V RSS 3.3MF (8X16) TP	
C410	CCXB2H471K	C CERA	500V B 470PF K (TAPPING)	
C412	CCXB2H221K	C CERA	500V B 220PF K (TAPPING)	
C415	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C417	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C418	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C421	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)	
C502	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
C503	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C505	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C507	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C508	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C509	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C510	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C511	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C512	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C514	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C518	CEXF1C331V	C ELECTRO	16V RSS 330MF (8X11.5) TP	
C520	CXCH1H151J	C CERA	50V CH 150PF J (TAPPING)	
C524	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C525	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C527	CXCH1H309C	C CERA	50V CH 3PF C	
C528	CXCH1H309C	C CERA	50V CH 3PF C	
C530	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C542	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C543	CCXF1H104Z	C CERA	50V F 0.1MF Z	
C544	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C545	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	
C551	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
C575	CEXF1H220V	C ELECTRO	50V RSS 22MF (5X11) TP	
C581	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C582	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C583	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	

ELECTRICAL PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
C584	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C585	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C606	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
C611	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C612	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C615	CCXF1H104Z	C CERA	50V F 0.1MF Z	
C617	CMXM2A682J	C MYLAR	100V 6800PF J (TP)	
C618	CMXM2A682J	C MYLAR	100V 6800PF J (TP)	
C619	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C620	CMXM2A682J	C MYLAR	100V 6800PF J (TP)	
C621	CMXM2A682J	C MYLAR	100V 6800PF J (TP)	
C624	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
C625	CEXF1H220V	C ELECTRO	50V RSS 22MF (5X11) TP	
C626	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	
C627	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
C628	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
C629	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
C802	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	
C803	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	
C805	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
C807	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C808	CMXM2A182J	C MYLAR	100V 1800PF J (TP)	
C809	CCXB3A471K	C CERA	1KV B 470PF K (T)	
C810	CCXB1H152K	C CERA	50V B 1500PF K (TAPPING)	
C812	CCXB3A471K	C CERA	1KV B 470PF K (T)	
C813	CCXB3A471K	C CERA	1KV B 470PF K (T)	
C814	CCXB3A471K	C CERA	1KV B 470PF K (T)	
C825	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
C826	CEXF1H220V	C ELECTRO	50V RSS 22MF (5X11) TP	
C827	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C828	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C833	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C905	CMXL2E104K	C MYLAR	250V MEU 0.1MF K	
C906	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
CS01	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
CS02	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
F801A	4857415001	CLIP FUSE	PFC5000-0702	
F801B	4857415001	CLIP FUSE	PFC5000-0702	
G901	4SG0DX0001	SPARK GAP	SSG-102-A1(1.0KV) TAP	
G902	4SG0DX0001	SPARK GAP	SSG-102-A1(1.0KV) TAP	
G903	4SG0DX0001	SPARK GAP	SSG-102-A1(1.0KV) TAP	
I702	1K1A7025AP	IC RESET	KIA7025AP	
L812	58CX430599	COIL CHOKE	AZ-9004Y 940K TP	
Q101	TKTC3198Y-	TR	KTC3198Y	
Q301	TKTC3198Y-	TR	KTC3198Y	
Q402	TKTC3207—	TR	KTC3207 (TP)	
Q403	TKTC3198Y-	TR	KTC3198Y	
Q405	TKSC2330Y-	TR	KSC2330Y (TP)	
Q502	TKTA1266Y-	TR	KTA1266Y (TP)	
Q503	TKTA1266Y-	TR	KTA1266Y (TP)	
Q504	TKTA1266Y-	TR	KTA1266Y (TP)	
Q505	TKTC3198Y-	TR	KTC3198Y	
Q506	TKTC3198Y-	TR	KTC3198Y	
Q507	TKTA1266Y-	TR	KTA1266Y (TP)	
Q508	TKTC3198Y-	TR	KTC3198Y	
Q509	TKSC2330Y-	TR	KSC2330Y (TP)	
Q510	TKTA1266Y-	TR	KTA1266Y (TP)	
Q511	TKTC3198Y-	TR	KTC3198Y	
Q581	TKTC3198Y-	TR	KTC3198Y	
Q582	TKTC3198Y-	TR	KTC3198Y	
Q583	TKTC3198Y-	TR	KTC3198Y	

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
Q584	TKTC3198Y-	TR	KTC3198Y	
Q585	TKTC3197—	TR	KTC3197 (TP)	
Q586	TKTC3198Y-	TR	KTC3198Y	
Q601	TKTC3198Y-	TR	KTC3198Y	
Q602	TKTC3198Y-	TR	KTC3198Y	
Q801	TKSA1013Y-	TR	KSA1013Y (TP)	
QF01	TKTC3198Y-	TR	KTC3198Y	
R302	RN02B471JS	R METAL FILM	2W 470 OHM J SMALL	
R303	RN02B129JS	R METAL FILM	2W 1.2 OHM J SMALL	
R304	RN01B221JS	R METAL FILM	1W 220 OHM J SMALL	
R305	RN02B331JS	R METAL FILM	2W 330 OHM J SMALL	
R312	RN02B681JS	R METAL FILM	2W 680 OHM J SMALL	
R407	RN02B102JS	R METAL FILM	2W 1K OHM J SMALL	
R422	RN02B159JS	R METAL FILM	2W 1.5 OHM J SMALL	
R423	RN02B360JS	R METAL FILM	2W 36 OHM J SMALL	
R820	RN02B150JS	R METAL FILM	2W 15 OHM J SMALL	
R821	RN02B150JS	R METAL FILM	2W 15 OHM J SMALL	
R830	RN02B101JS	R METAL FILM	2W 100 OHM J SMALL	
R922	RN02B100JS	R METAL FILM	2W 10 OHM J SMALL	
SW701	5S50101090	SW TACT	THVH472GCA	
SW702	5S50101090	SW TACT	THVH472GCA	
SW703	5S50101090	SW TACT	THVH472GCA	
SW704	5S50101090	SW TACT	THVH472GCA	
SW705	5S50101090	SW TACT	THVH472GCA	
SW706	5S50101090	SW TACT	THVH472GCA	
ZZ200	PTMPJAD691	PCB MAIN AXIAL AS	DTC-21D9ME	
10	2TM14006LB	TAPE MASKING	3M #232 6.0X2000M	
20	2TM10006LB	TAPE MASKING	3M #232-MAP-C 6.2X2000M	
A001	4859806893	PCB MAIN	330X246	
C102	CBZP1C103M	C CERA SEMI	16V Y5S 0.01MF M (AXIAL)	
C312	CCZB1H104K	C CERA	HIBK 50V 0.1MF K AXL 52MM	
C407	CCZB1H331K	C CERA	50V B 330PF K (AXIAL)	
C504	CCZF1H473Z	C CERA	50V F 0.047MF Z	
C515	CCZF1H223Z	C CERA	50V F 0.022MF Z	
C516	CCZF1H223Z	C CERA	50V F 0.022MF Z	
C517	CCZF1H223Z	C CERA	50V F 0.022MF Z	
C529	CCZB1H331K	C CERA	50V B 330PF K (AXIAL)	
C532	CCZB1H331K	C CERA	50V B 330PF K (AXIAL)	
C534	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C538	CCZB1H221K	C CERA	50V B 220PF K (AXIAL)	
C539	CCZB1H221K	C CERA	50V B 220PF K (AXIAL)	
C540	CCZB1H221K	C CERA	50V B 220PF K (AXIAL)	
C546	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C552	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C601	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C602	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C603	CCZB1H104K	C CERA	HIBK 50V 0.1MF K AXL 52MM	
C604	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C607	CCZB1H104K	C CERA	HIBK 50V 0.1MF K AXL 52MM	
C608	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C609	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C610	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C613	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C614	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C616	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C622	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C623	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C630	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C632	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C633	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C634	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	

ELECTRICAL PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
C635	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C832	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C901	CCZB1H471K	C CERA	50V B 470PF K (AXIAL)	
C902	CCZB1H471K	C CERA	50V B 470PF K (AXIAL)	
C903	CCZB1H471K	C CERA	50V B 470PF K (AXIAL)	
CD01	CCZF1H103Z	C CERA	50V F 0.01MF Z	
D101	DUZ33B—	DIODE ZENER	UZ-33B	
D102	DUZ5R6BM—	DIODE ZENER	UZ-5.6BM	
D301	D1N4004S—	DIODE	1N4004S	
D311	DUZ33B—	DIODE ZENER	UZ-33B	
D312	DUZ33B—	DIODE ZENER	UZ-33B	
D401	D1N4937G—	DIODE	1N4937G (TAPPING)	
D405	DUZ9R1BM—	DIODE ZENER	UZ-9.1BM	
D406	DRGP15J—	DIODE	RGP15J	
D407	D1N4937G—	DIODE	1N4937G (TAPPING)	
D410	D1N4937G—	DIODE	1N4937G (TAPPING)	
D411	DUZ12BM—	DIODE ZENER	UZ-12BM (UNIZON)	
D412	D1N4148—	DIODE	1N4148 (TAPPING)	
D501	D1N4148—	DIODE	1N4148 (TAPPING)	
D502	D1N4148—	DIODE	1N4148 (TAPPING)	
D503	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
D504	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
D505	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
D506	D1N4148—	DIODE	1N4148 (TAPPING)	
D507	D1N4148—	DIODE	1N4148 (TAPPING)	
D508	D1N4148—	DIODE	1N4148 (TAPPING)	
D510	DUZ2R7B—	DIODE ZENER	UZ-2.7B	
D511	D1N4148—	DIODE	1N4148 (TAPPING)	
D512	D1N4148—	DIODE	1N4148 (TAPPING)	
D513	D1N4148—	DIODE	1N4148 (TAPPING)	
D514	D1N4148—	DIODE	1N4148 (TAPPING)	
D581	DUZ5R6BM—	DIODE ZENER	UZ-5.6BM	
D582	DUZ5R6BM—	DIODE ZENER	UZ-5.6BM	
D583	DUZ5R6BM—	DIODE ZENER	UZ-5.6BM	
D589	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
D592	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
D593	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
D594	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
D601	D1N4148—	DIODE	1N4148 (TAPPING)	
D602	D1N4148—	DIODE	1N4148 (TAPPING)	
D802	DLT2A05G—	DIODE	LT2A05G (TP)	
D803	DLT2A05G—	DIODE	LT2A05G (TP)	
D804	DLT2A05G—	DIODE	LT2A05G (TP)	
D805	DLT2A05G—	DIODE	LT2A05G (TP)	
D806	D1N4937G—	DIODE	1N4937G (TAPPING)	
D807	D1N4937G—	DIODE	1N4937G (TAPPING)	
D808	D1N4937G—	DIODE	1N4937G (TAPPING)	
D809	D1N4937G—	DIODE	1N4937G (TAPPING)	
D811	DUZ3R3B—	DIODE ZENER	UZ-3.3B	
D813	D1N4937G—	DIODE	1N4937G (TAPPING)	
D816	DRGP15J—	DIODE	RGP15J	
D902	D1N4937G—	DIODE	1N4937G (TAPPING)	
DD01	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
DF01	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
DF02	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
J001	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J002	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J003	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J004	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J006	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J007	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
J008	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J009	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J010	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J011	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J012	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J013	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J014	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J015	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J016	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J017	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J018	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J019	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J020	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J021	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J022	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J023	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J025	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J026	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J027	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J028	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J029	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J030	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J031	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J032	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J033	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J034	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J035	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J036	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J037	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J038	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J039	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J040	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J041	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J042	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J043	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J044	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J045	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J046	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J047	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J048	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J049	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J050	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J051	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J052	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J053	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J054	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J055	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J056	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J057	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J058	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J059	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J060	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J061	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J062	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J063	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J064	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J065	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J066	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J067	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J068	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J069	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	

ELECTRICAL PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
J070	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J071	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J072	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J073	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J074	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J075	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J076	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J077	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J078	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J079	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J080	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J081	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J082	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J083	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J084	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J085	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J086	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J087	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J088	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J089	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J090	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J091	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J092	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J093	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J094	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J095	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J096	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J097	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J098	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J099	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J100	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J101	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J102	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J103	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J104	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J105	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J106	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J107	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J108	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J109	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J110	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J111	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J112	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J113	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J114	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J115	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J116	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J117	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J118	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J119	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J121	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J122	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J123	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J124	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J125	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J126	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J127	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J128	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J129	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J130	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J131	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
J132	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
L101	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
L402	5CPZ109M02	COIL PEAKING	1UH M (AXIAL 3.5MM)	
L501	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
L502	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
L503	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
L504	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
L505	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
L506	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
L507	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
L508	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
L602	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
L801	5MC0000100	COIL BEAD	HC-3550	
L813	5MC0000100	COIL BEAD	HC-3550	
L814	5MC0000100	COIL BEAD	HC-3550	
LD01	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
R103	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R106	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R107	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R108	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R109	RD-AZ512J-	R CARBON FILM	1/6 5.1K OHM J	
R110	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R113	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R301	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	
R306	RD-AZ273J-	R CARBON FILM	1/6 27K OHM J	
R307	RD-AZ333J-	R CARBON FILM	1/6 33K OHM J	
R309	RD-AZ113J-	R CARBON FILM	1/6 11K OHM J	
R310	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
R311	RD-AZ391J-	R CARBON FILM	1/6 390 OHM J	
R319	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R321	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R322	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R323	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R352	RN-4Z1803F	R METAL FILM	1/4 180K OHM F	
R353	RN-4Z1502F	R METAL FILM	1/4 15K OHM F	
R401	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	
R403	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R405	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J	
R408	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R409	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R411	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R412	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R415	RD-4Z562J-	R CARBON FILM	1/4 5.6K OHM J	
R424	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R501	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R502	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R503	RD-AZ203J-	R CARBON FILM	1/6 20K OHM J	
R504	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R505	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R506	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
R507	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R508	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R509	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R510	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	
R511	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J	
R512	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J	
R513	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
R514	RD-AZ271J-	R CARBON FILM	1/6 270 OHM J	
R515	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	
R516	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R517	RD-AZ181J-	R CARBON FILM	1/6 180 OHM J	

ELECTRICAL PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
R518	RD-AZ181J-	R CARBON FILM	1/6 180 OHM J	
R519	RD-AZ181J-	R CARBON FILM	1/6 180 OHM J	
R520	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R521	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R522	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R523	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
R524	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
R525	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	
R526	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R527	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R528	RD-AZ824J-	R CARBON FILM	1/6 820K OHM J	
R529	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R530	RD-AZ201J-	R CARBON FILM	1/6 200 OHM J	
R531	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R533	RD-AZ271J-	R CARBON FILM	1/6 270 OHM J	
R534	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R536	RD-AZ271J-	R CARBON FILM	1/6 270 OHM J	
R537	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R539	RD-AZ271J-	R CARBON FILM	1/6 270 OHM J	
R540	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R541	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J	
R542	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J	
R543	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J	
R544	RD-AZ220J-	R CARBON FILM	1/6 22 OHM J	
R545	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R546	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R547	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	
R548	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	
R549	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	
R555	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R558	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
R559	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
R560	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R561	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R562	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R563	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	
R565	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R566	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R567	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R568	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	
R581	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
R582	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R583	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R584	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R585	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R586	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
R587	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R588	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R589	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R590	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R591	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
R592	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
R593	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R594	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R595	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R596	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
R597	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
R598	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	
R599	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R601	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R603	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
R604	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R605	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	
R606	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J	
R607	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J	
R608	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R609	RD-AZ391J-	R CARBON FILM	1/6 390 OHM J	
R610	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
R611	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
R612	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J	
R613	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J	
R614	RD-AZ829J-	R CARBON FILM	1/6 8.2 OHM J	
R615	RD-AZ829J-	R CARBON FILM	1/6 8.2 OHM J	
R616	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R617	RD-AZ512J-	R CARBON FILM	1/6 5.1K OHM J	
R618	RD-AZ829J-	R CARBON FILM	1/6 8.2 OHM J	
R619	RD-AZ829J-	R CARBON FILM	1/6 8.2 OHM J	
R701	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R702	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R806	RD-4Z821J-	R CARBON FILM	1/4 820 OHM J	
R809	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	
R810	RD-2Z100J-	R CARBON FILM	1/2 10 OHM J	
R811	RD-4Z123J-	R CARBON FILM	1/4 12K OHM J	
R812	RC-2Z565KP	R CARBON COMP	1/2 5.6M OHM K	
R814	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J	
R815	RD-4Z163J-	R CARBON FILM	1/4 16K OHM J	
R816	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R817	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R825	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
R826	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
R901	RD-2Z102J-	R CARBON FILM	1/2 1K OHM J	
R902	RD-2Z102J-	R CARBON FILM	1/2 1K OHM J	
R903	RD-2Z102J-	R CARBON FILM	1/2 1K OHM J	
R904	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	
R905	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	
R906	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	
R910	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R911	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R912	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R913	RD-AZ821J-	R CARBON FILM	1/6 820 OHM J	
R914	RD-AZ821J-	R CARBON FILM	1/6 820 OHM J	
R915	RD-AZ821J-	R CARBON FILM	1/6 820 OHM J	
R916	RD-AZ432J-	R CARBON FILM	1/6 4.3K OHM J	
R917	RD-AZ432J-	R CARBON FILM	1/6 4.3K OHM J	
R918	RD-AZ432J-	R CARBON FILM	1/6 4.3K OHM J	
RD01	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J	
RF01	RD-AZ241J-	R CARBON FILM	1/6 240 OHM J	
RF02	RD-AZ391J-	R CARBON FILM	1/6 390 OHM J	
RF03	RD-AZ681J-	R CARBON FILM	1/6 680 OHM J	
RF04	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
RF05	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RF06	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
RF09	RD-AZ131J-	R CARBON FILM	1/6 130 OHM J	
RF10	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
RF11	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
RF8	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
RS01	RD-AZ151J-	R CARBON FILM	1/6 150 OHM J	
RS02	RD-AZ151J-	R CARBON FILM	1/6 150 OHM J	
ZZ400	PTPMMSD691	PCB PIP MANUAL AS	DTC-21D9ME	
IP02	1K78R33—	IC REGULATOR	KIA78R33API	
PP01	4859279820	CONN WAFER	TAC-L18P-A3 (ANGLE)	
XP01	5XE20R250E	CRYSTAL QUARTZ	HC-49/U 20.2500MHZ 30PPM	

ELECTRICAL PARTS LIST

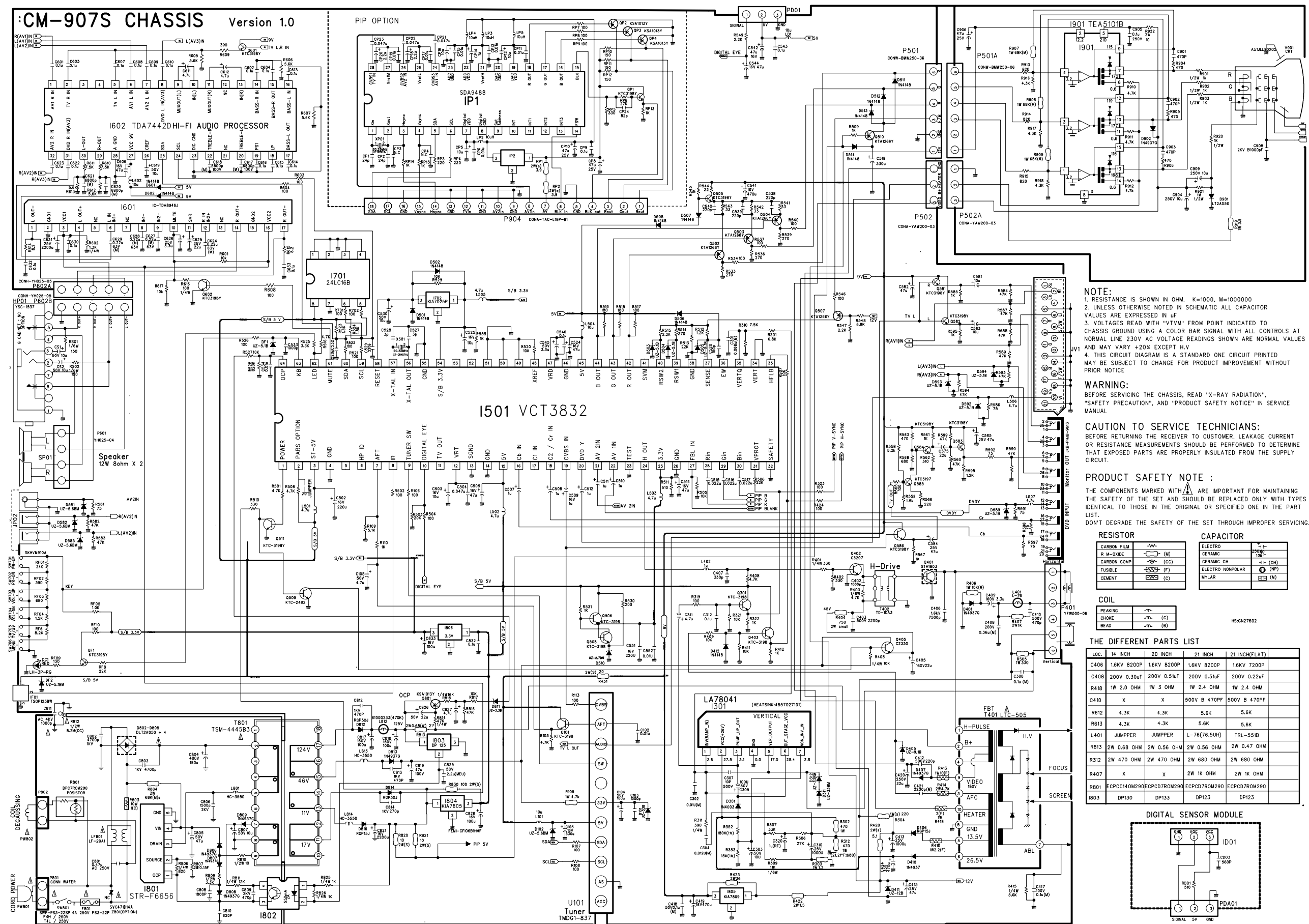
LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
ZZ200	PTPMJ2D691	PCB PIP CHIP B AS	DTC-21D9ME	
IP01	1SDA9488XE	IC CHIP PIP	SDA9488X	
ZZ200	PTPMJRD691	PCB PIP RADIAL AS	DTC-21D9ME	
CP01	CXCH1H240J	C CERA	50V CH 24PF J (TAPPING)	
CP02	CXCH1H240J	C CERA	50V CH 24PF J (TAPPING)	
CP03	CCXB1H222K	C CERA	50V B 2200PF K (TAPPING)	
CP05	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
CP08	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
CP10	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	
CP11	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
CP12	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
CP14	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
CP16	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
CP18	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
CP20	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
CP21	CMXM2A473J	C MYLAR	100V 0.047MF J (TP)	
CP22	CMXM2A473J	C MYLAR	100V 0.047MF J (TP)	
CP23	CMXM2A473J	C MYLAR	100V 0.047MF J (TP)	
QP01	TKTC3198Y-	TR	KTC3198Y	
QP02	TKSA1013Y-	TR	KSA1013Y (TP)	
QP03	TKSA1013Y-	TR	KSA1013Y (TP)	
QP04	TKSA1013Y-	TR	KSA1013Y (TP)	
ZZ200	PTPMJAD691	PCB PIP AXIAL AS	DTC-21D9ME	
10	2TM14006LB	TAPE MASKING	3M #232 6.0X2000M	
20	2TM10006LB	TAPE MASKING	3M #232-MAP-C 6.2X2000M	
A001	4859812524	PCB PIP	88X54.5(197X246/8) C1B	
CP06	CBZP1C103M	C CERA SEMI	16V Y5S 0.01MF M (AXIAL)	
CP09	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
CP13	CCZF1H103Z	C CERA	50V F 0.01MF Z	
CP15	CCZF1H103Z	C CERA	50V F 0.01MF Z	
CP17	CCZF1H103Z	C CERA	50V F 0.01MF Z	

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
CP19	CCZF1H103Z	C CERA	50V F 0.01MF Z	
CP24	CCZB1H820K	C CERA	50V B 82PF K (AXIAL)	
DP02	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
DP03	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
DP04	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
JP01	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
JP02	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
JP03	RD-4Z569J-	R CARBON FILM	1/4 5.6 OHM J	
JP04	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
JP05	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
JP06	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
JP07	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
LP02	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
LP03	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
LP04	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
LP05	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	
RP01	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
RP02	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
RP03	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
RP04	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J	
RP05	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	
RP06	RD-AZ273J-	R CARBON FILM	1/6 27K OHM J	
RP07	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
RP08	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
RP09	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
RP10	RD-AZ151J-	R CARBON FILM	1/6 150 OHM J	
RP11	RD-AZ151J-	R CARBON FILM	1/6 150 OHM J	
RP12	RD-AZ151J-	R CARBON FILM	1/6 150 OHM J	
RP13	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RP14	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
RP15	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	

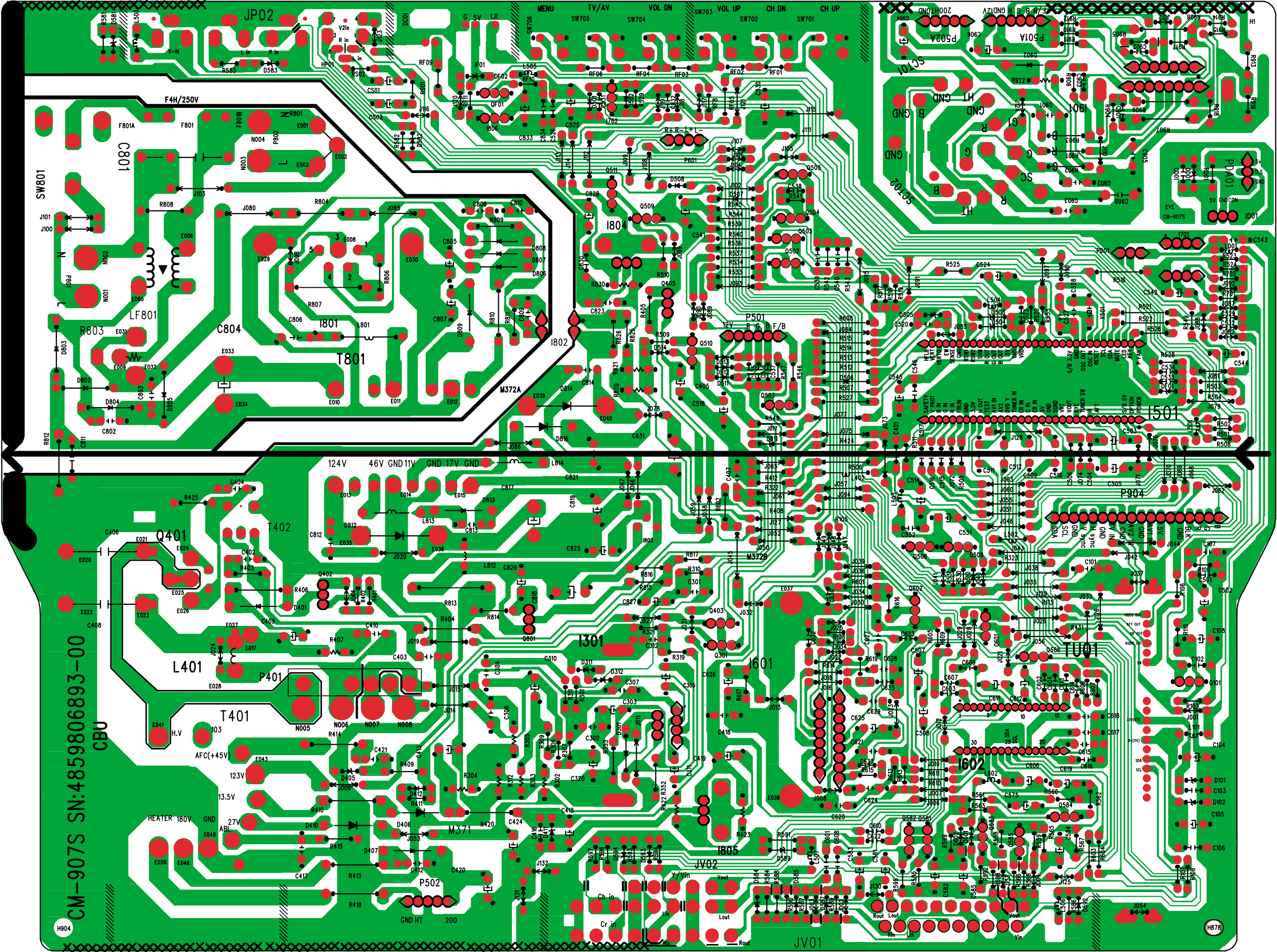
7. EACH MODEL PARTS LIST

loc	part_nm	14inch	20inch	21inch	21inch(Flat)
C406	C Mylar	1.6KV BUP 8200PF J	1.6KV BUP 8200PF J	1.6KV BUP 8200PF J	1.6KV BUP 7200PF J
C408	C Mylar	200V PU 0.3MF J	200V PU 0.51MF J	200V PU 0.51MF J	200V PU 0.22MF J
C410	C Cera	X	X	500V B 470PF K (TAPPING)	500V B 470PF K (TAPPING)
I803	IC ERROR AMP	DP130	DP133	DP123	DP123
J024	WIRE COPPER	AWG22 1/0.65 TIN COATING	AWG22 1/0.65 TIN COATING	X	X
L401	Coil H-Linearity	JUMPER	JUMPER	L-76(76.5UH)	TRL-551B
R312	R Metal Film	2W 470 OHM J SMALL	2W 470 OHM J SMALL	2W 680 OHM J SMALL	2W 680 OHM J SMALL
R407	R Metal Film	X	X	2W 1K OHM J SMALL	2W 1K OHM J SMALL
R418	R M-Oxide Film	1W 2 OHM J	1W 3 OHM J (TAPPING)	1W 2.4 OHM J (TAPPING)	1W 2.4 OHM J (TAPPING)
R612	R Carbon Film	1/6 4.3K OHM J	1/6 4.3K OHM J	1/6 5.6K OHM J	1/6 5.6K OHM J
R613	R Carbon Film	1/6 4.3K OHM J	1/6 4.3K OHM J	1/6 5.6K OHM J	1/6 5.6K OHM J
R801	Posistor	ECPC140M290	ECPCD7ROM290	ECPCD7ROM290	ECPCD7ROM290
R813	R Fusible	2W 0.68 OHM K (TAPPING)	2W 0.56 OHM K (TAPPING)	2W 0.56 OHM K (TAPPING)	2W 0.47 OHM K (TAPPING)
SCT01	Socket CRT	ISMGO3S INCHANG	ISMGO3S INCHANG	ISHG93S	ISHG93S
P501A	CONNECTOR	YH025-06+YBNH250+ULW=400	YH025-06+YST025+ULW=500	YH025-06+YST025+ULW=500	YH025-06+YST025+ULW=500
P502A	CONNECTOR	YH025-05+YBNH250+ULW=200	YH025-05+YBNH250+ULW=300	YH025-05+YBNH250+ULW=300	YH025-05+YBNH250+ULW=300
P601A	CONNECTOR	YH025-04+YRT205ULW600300	YH025-04+YRT205ULW800400	YH025-04+YRT205ULW800400	YH025-04+YRT205ULW800400
SP01	SPEAKER	SP-5090F03	SP-5090F03	12W 8 OHM SP-58126F	12W 8 OHM SP-58126F
SP02	SPEAKER	SP-5090F03	SP-5090F03	12W 8 OHM SP-58126F	12W 8 OHM SP-58126F

8. Schmetic Diagram



9. Printed Circuit Board



10. Mechanical Exploded View

10-1 14D9

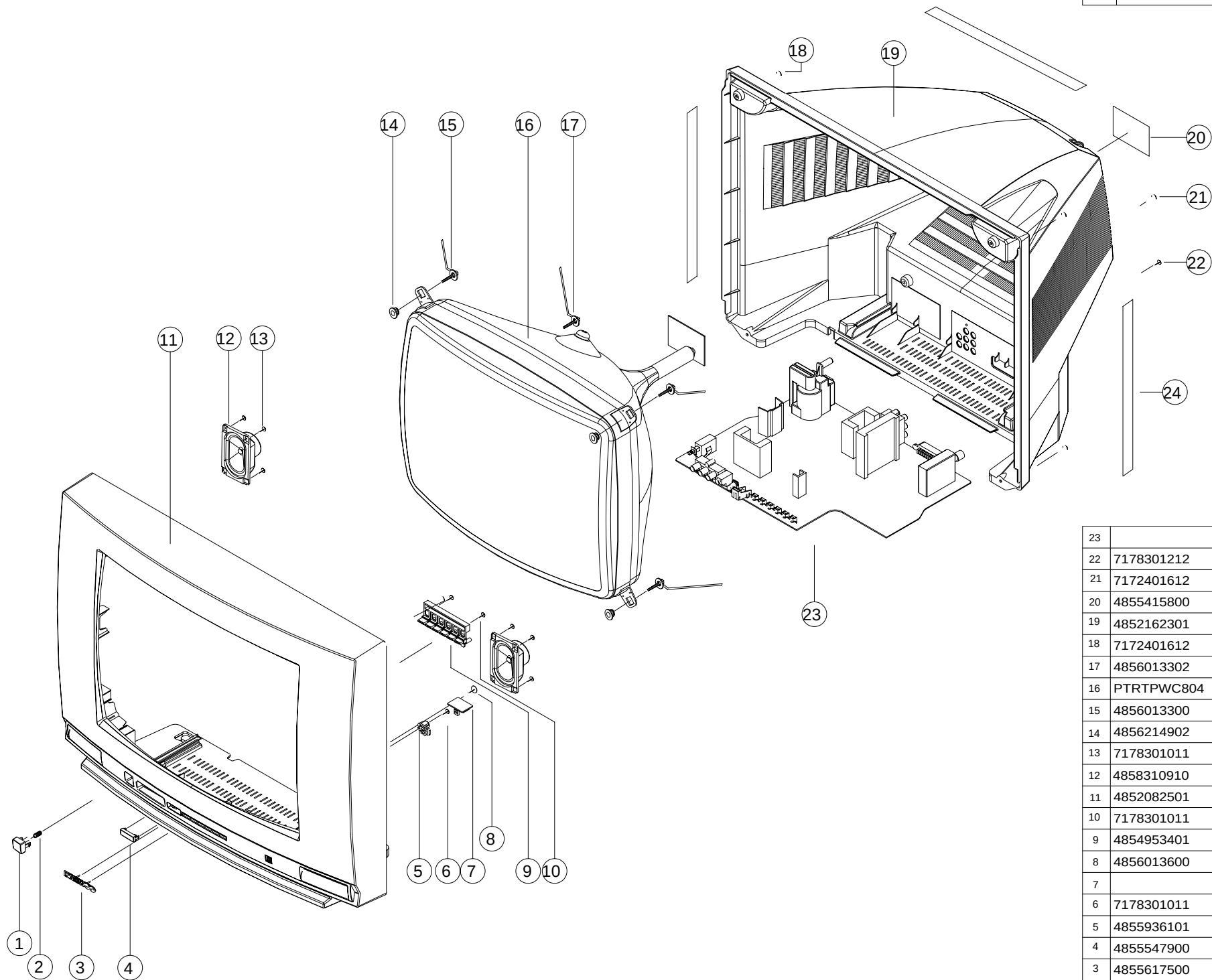
Exploded view diagram of a television set. The diagram shows the main cabinet (15) with various components and fasteners labeled with numbers 1 through 25. The components include the main PCB (15), RETA PCB (14), MAIN PCB (15), and various fasteners and covers. The diagram also shows the internal components like the CRT (17) and the main PCB (15).

25	4855415800	SPEC PLATE	1	150ART P/E FILM	
24	4857817611	CLOTH BLACK	1	FELT 200X20X0.7	
23	7172401412	SCREW TAPPTITE	5	TT2 TRS 4X14 MFZN BK	
22	7178301212	SCREW TAPPTITE	1	TT2 WAS 3X12 MFZN BK	
21	4857817640	CLOTH BLACK	2	FELT 100X20X0.7	
20	4852162101	COVER BACK	1	HIPS BK	
19	4856013351	SCREW CRT FIXING	2	30X140 YL	
18	4856013350	SCREW CRT FIXING	2	30X80 BK	
17	48519A4710	CRT AS (14")	1	1401S-1015-1P	
16	4856215402	WASHER RUBBER	4	CR T2.0	
15		MAIN PCB	1	CM-907S	
14	4853747800	RETA PCB	2	NYLON 66	
13	7178301011	SCREW TAPPTITE	2	A34KQV42X	5+12
12	4854953401	BUTTON CH	1	ABS GY	
11	7178301011	SCREW TAPPTITE	8	TT2 WAS 3X10 MFZN	
10	4858310910	SPEAKER	2	SP-5090F03	
9	4856013600	SCREW SPKR FIX	1	SWRM+SECC	5+8
8		DIGITAL EYE PCB	1		
7	7178301011	SCREW TAPPTITE	1	TT2 WAS 3X10 MFZN	5+6
6	4855936101	DECO EYE	1	ABS BLUE	
5	4852082201	MASK FRONT	1	HIPS GY	
4	48556171SD	MARK BRAND	1	SILVER DIA-CUTTING	
3	4855547900	DECO SENSOR	1	PC SMOG	
2	4856715600	SPRING	1	SWPA PIE 0.4	
1	4854863101	BUTTON POWER	1	ABS GY	

No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
UNITS	m/m	Designed by	Checked by	Inspected by	Approved by
SCALE	N/S	K.G.S			
		02/02/18			
Daewoo Electronics CO.,LTD.		MODEL	DTD-14D 9MZ	D	485009 KC
Team 4, TV Research Center		REFERENCE	CM-90 7S	N	

Mechanical Exploded View

10-2 20D9

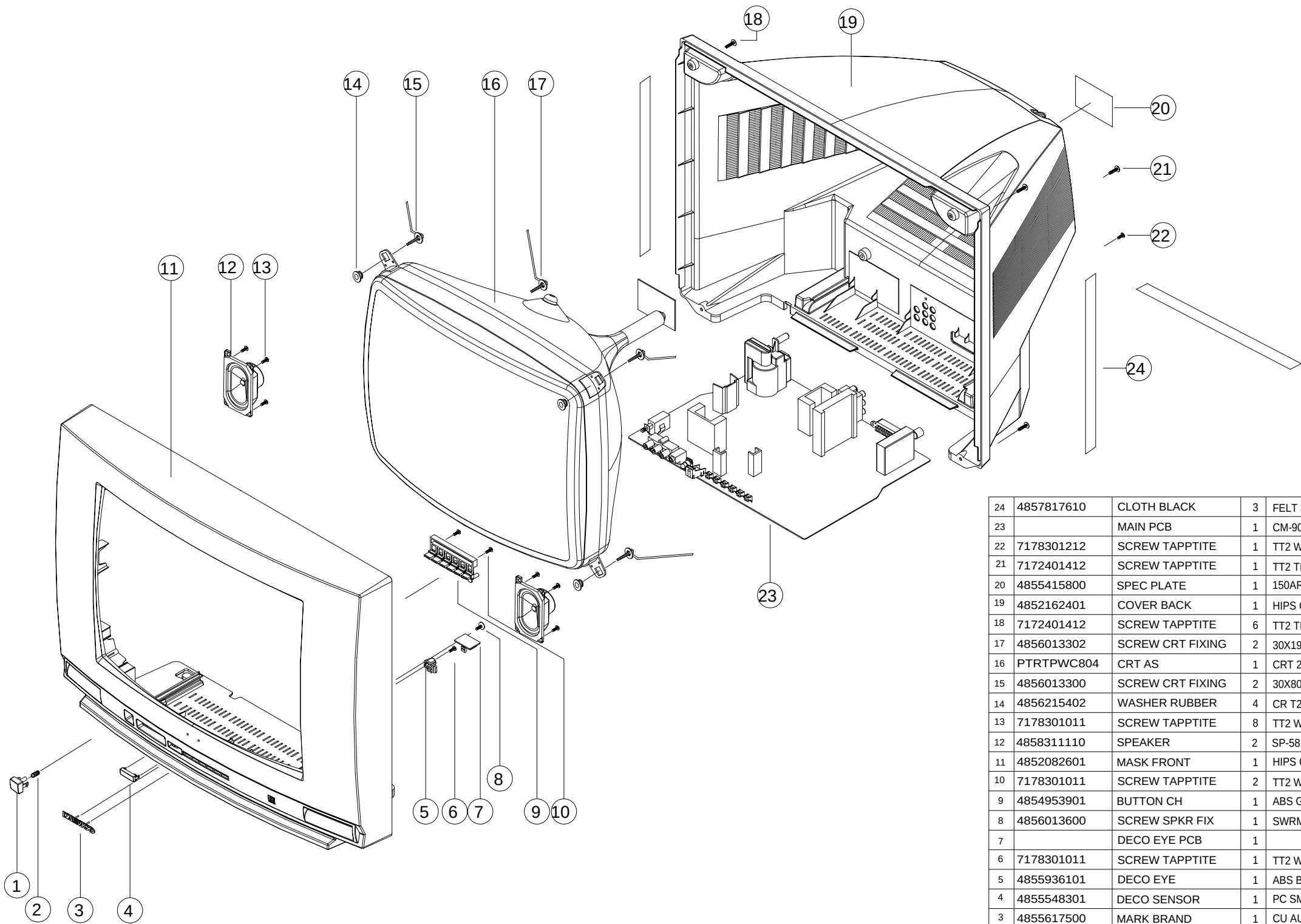


REV	LIST OF MODIFICATION	REASON OF MODIFICATION	DATE	NAME	APPR
1					
2					

23		MAIN PCB	1	CM-907S	
22	7178301212	SCREW TAPPTITE	1	TT2 WAS 3X12 MFZN BK	23+19
21	7172401612	SCREW TAPPTITE	1	TT2 TRS 4X16 MFZN BK	23+19
20	4855415800	SPEC PLATE	1	150ART P/E FILM	
19	4852162301	COVER BACK	1	HIPS BK	
18	7172401612	SCREW TAPPTITE	4	TT2 TRS 4X16 MFZN BK	19+11
17	4856013302	SCREW CRT FIXING	2	30X190 BK	16+11
16	PTRTPWC804	CRT AS	1	CRT 20"	
15	4856013300	SCREW CRT FIXING	2	30X80 BK	16+11
14	4856214902	WASHER RUBBER	4	CR T0.2	
13	7178301011	SCREW TAPPTITE	8	TT2 WAS 3X10 MFZN	12+11
12	4858310910	SPEAKER	2	SP-5090F03	
11	4852082501	MASK FRONT	1	HIPS GY	
10	7178301011	SCREW TAPPTITE	2	TT2 WAS 3X10 MFZN	9+11
9	4854953401	BUTTON CH	1	ABS GY	
8	4856013600	SCREW SPKR FIX	1	SWRM+SECC	7+11
7		DECO EYE PCB	1		
6	7178301011	SCREW TAPPTITE	1	TT2 WAS 3X10 MFZN	5+11
5	4855936101	DECO EYE	1	ABS BLUE	
4	4855547900	DECO SENSOR	1	PC SMOG	
3	4855617500	MARK BRAND	1	CU AU+ABS BK	
2	4856716000	SPRING	1	SWPA 0.4	
1	4854863101	BUTTON POWER	1	ABS GY	
No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
UNITS	-	Designed by GJ YANG	Checked by	Inspected by	Approved by
SCALE	N.S				
		DAEWOO Electronics CO.,LTD. Mechanical Design Team, TV Research Center	MODEL REFERENCE	DTD-20D9 CM-90 7S	D/N 485009KE
		PART NAME DEVELOPMENT DWG			

Mechanical Exploded View

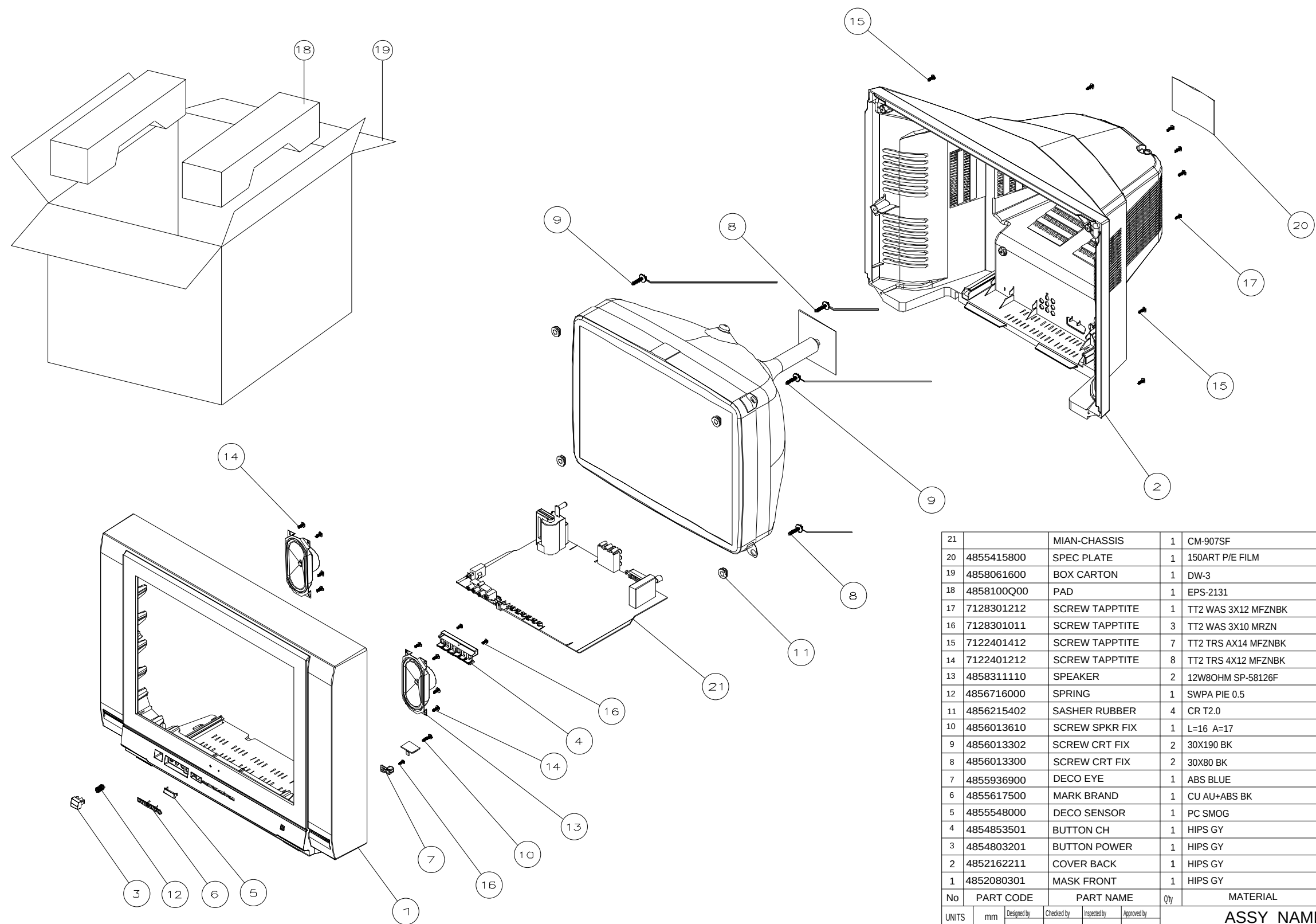
10-3 21D9



24	4857817610	CLOTH BLACK	3	FELT 300X20X0.7	
23		MAIN PCB	1	CM-907S	
22	7178301212	SCREW TAPPTITE	1	TT2 WAS 3X12 MFZN BK	23+19
21	7172401412	SCREW TAPPTITE	1	TT2 TRS 4X14 MFZN BK	23+19
20	4855415800	SPEC PLATE	1	150ART P/E FILM	
19	4852162401	COVER BACK	1	HIPS GY	
18	7172401412	SCREW TAPPTITE	6	TT2 TRS 4X14 MFZN BK	19+11
17	4856013302	SCREW CRT FIXING	2	30X190 BK	16+11
16	PTRTPWC804	CRT AS	1	CRT 21"	
15	4856013300	SCREW CRT FIXING	2	30X80 BK	16+11
14	4856215402	WASHER RUBBER	4	CR T2	
13	7178301011	SCREW TAPPTITE	8	TT2 WAS 3X10 MFZN	12+11
12	4858311110	SPEAKER	2	SP-58126F	
11	4852082601	MASK FRONT	1	HIPS GY	
10	7178301011	SCREW TAPPTITE	2	TT2 WAS 3X10 MFZN	9+11
9	4854953901	BUTTON CH	1	ABS GY	
8	4856013600	SCREW SPKR FIX	1	SWRM+SECC	7+11
7		DECO EYE PCB	1		
6	7178301011	SCREW TAPPTITE	1	TT2 WAS 3X10 MFZN	5+11
5	4855936101	DECO EYE	1	ABS BLUE	
4	4855548301	DECO SENSOR	1	PC SMOG	
3	4855617500	MARK BRAND	1	CU AU+ABS BK	
2	4856716000	SPRING	1	SWPA 0.4	
1	4854863501	BUTTON POWER	1	ABS GY	
No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
UNITS	-	Designed by	Checked by	Inspected by	Approved by
SCALE	N.S		y.k.park		
PART NAME					
DEVELOPMENT DWG					
DAEWOO Electronics Corp.			MODEL	DTD-21D9	D N 485009LA
Mechanical Design Team, TV Research Center			REFERENCE	CM-907S	

Mechanical Exploded View

10-4 2131



21		MIAN-CHASSIS	1	CM-907SF	
20	4855415800	SPEC PLATE	1	150ART P/E FILM	
19	4858061600	BOX CARTON	1	DW-3	
18	4858100Q00	PAD	1	EPS-2131	
17	7128301212	SCREW TAPPTITE	1	TT2 WAS 3X12 MFZNBK	
16	7128301011	SCREW TAPPTITE	3	TT2 WAS 3X10 MRZN	
15	7122401412	SCREW TAPPTITE	7	TT2 TRS AX14 MFZNBK	
14	7122401212	SCREW TAPPTITE	8	TT2 TRS 4X12 MFZNBK	
13	4858311110	SPEAKER	2	12W8OHM SP-58126F	
12	4856716000	SPRING	1	SWPA PIE 0.5	
11	4856215402	SASHER RUBBER	4	CR T2.0	
10	4856013610	SCREW SPKR FIX	1	L=16 A=17	
9	4856013302	SCREW CRT FIX	2	30X190 BK	
8	4856013300	SCREW CRT FIX	2	30X80 BK	
7	4855936900	DECO EYE	1	ABS BLUE	21D8
6	4855617500	MARK BRAND	1	CU AU+ABS BK	
5	4855480000	DECO SENSOR	1	PC SMOG	
4	4854853501	BUTTON CH	1	HIPS GY	
3	4854803201	BUTTON POWER	1	HIPS GY	
2	4852162211	COVER BACK	1	HIPS GY	CM-907S CORE
1	4852080301	MASK FRONT	1	HIPS GY	
No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
UNITS	mm	Designed by Y.W.KANG	Checked by J.K	Inspected by KIM	Approved by S.D.PARK
SCALE	N.S	ASSY NAME DEVELOPMENT DWG(1/1)			
DAEWOO Electronics Corp. Mechanical Design Team, TV Research Center			MODEL DTC/DTD-2131	D N	485009JY
			REFERENCE CM-907S		

1. Introduction

The VCT 38xxA/B is an IC family of high-quality single-chip TV processors. Modular design and a submicron technology allow the economic integration of features in all classes of TV sets. The VCT 38xxA/B family is based on functional blocks contained and approved in existing products like VDP 3120B, TPU 3050S, and CCZ 3005K.

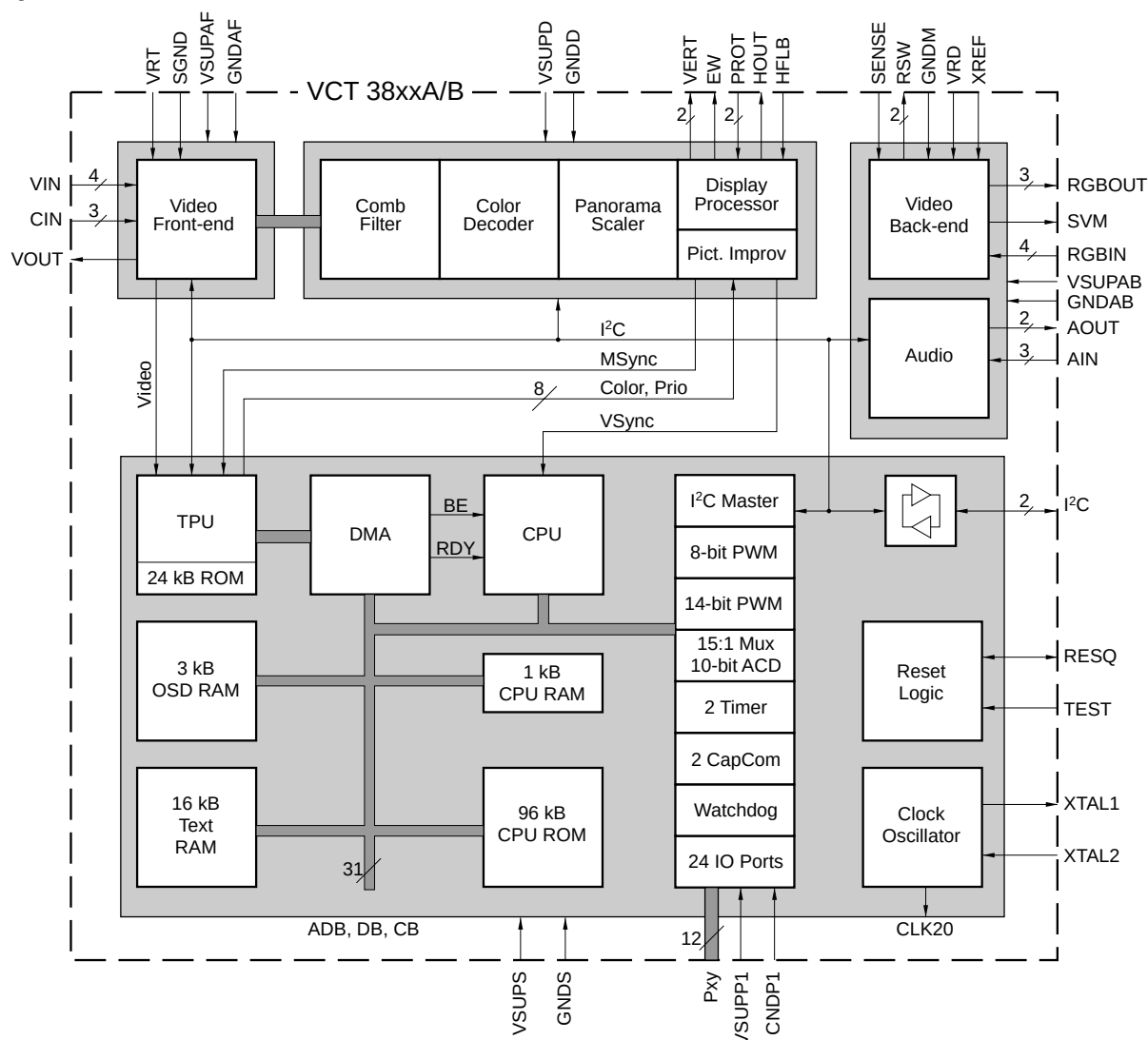
Each member of the family contains the entire video, display, and deflection processing for 4:3 and 16:9 50/ 60-Hz TV sets. The integrated microcontroller is supported by a powerful OSD generator with integrated teletext acquisition which can be upgraded with on-chip page memory. With volume control and audio input select the basic audio features for mono TV sets are integrated. An overview of the VCT 38xxA/B single-chip TV processor family is given in Fig. 1–1 on page 7.

The VCT 38xxA/B family offers a rich feature set, covering the whole range of state-of-the-art 50/60-Hz TV applications.

In comparison to the VCT 38xxA the VCT 38xxB offers the following features:

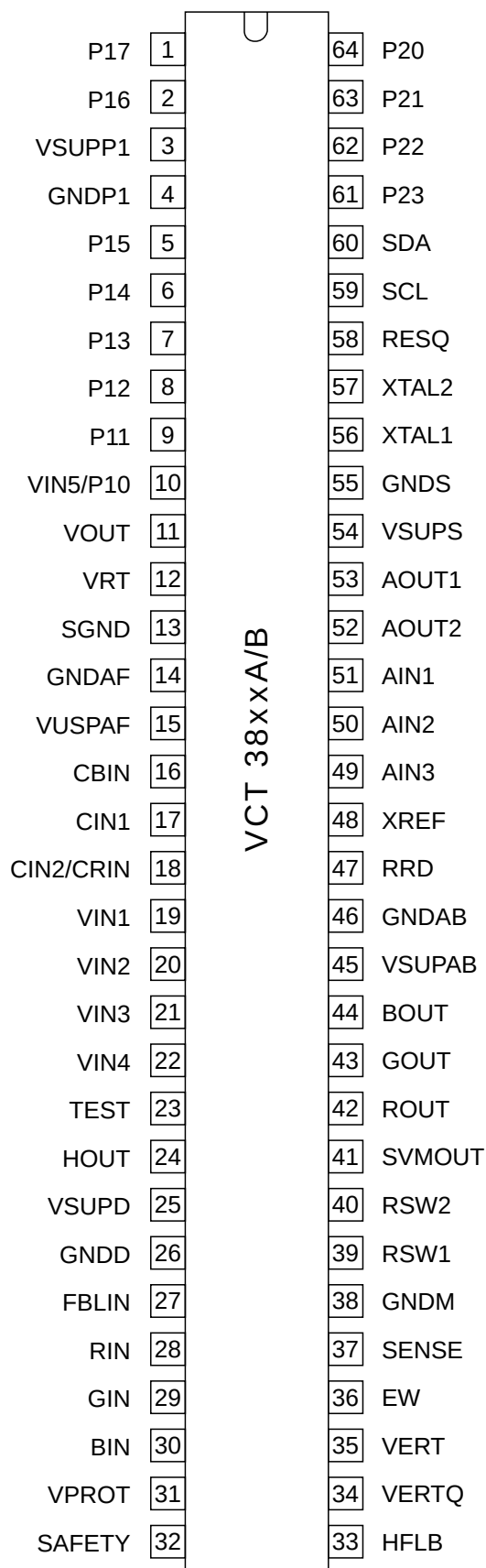
- one additional composite video input
- analog luma/chroma adder for video output
- closed caption module
- additional 12k character ROM

2. Chip Architecture



VCT 38xxA/B

3. Pin Configuration



4. Pin Connections and Short descriptions

NC=not connected

LV=if not used, leave vacant

X=obligatory;connect as described in circuit diagram

IN=Input

OUT=Output

SUPPLY=Supply Pin

Pin No. PSDIP 64-pin	Pin Name	Type	Connection (if not used)	Short Description
1	P17	IN/OUT	LV	Port 1, Bit 7
2	P16	IN/OUT	LV	Port 1, Bit 6
3	VSUP _{P1}	SUPPLY	X	Supply Voltage, Port 1
4	GND _{P1}	SUPPLY	X	Ground, Port 1
5	P15	IN/OUT	LV	Port 1, Bit 5
6	P14	IN/OUT	LV	Port 1, Bit 4
7	P13	IN/OUT	LV	Port 1, Bit 3
8	P12	IN/OUT	LV	Port 1, Bit 2
9	P11	IN/OUT	LV	Port 1, Bit 1
10	P10 / VIN5	IN/OUT	LV	Port 1, Bit 0 Analog Video 5 Input(VCT 38xxB only!)
11	VOUT	OUT	LV	Analog Video Output
12	VRT	IN	X	Reference Voltage Top, Video ADC
13	SGND	IN	GND _{AF}	Signal Ground for Analog Input
14	GND _{AF}	SUPPLY	X	Ground, Analog Front-end
15	VSUP _{AF}	SUPPLY	X	Supply Voltage, Analog Front-end
16	CBIN	IN	VRT	Analog Component Cb Input
17	CIN1	IN	VRT	Analog Chroma 1 Input
18	CIN2/CRIN	IN	VRT	Analog Chroma 2 Input Analog Component Cr Input
19	VIN1	IN	VRT	Analog Video 1 Input
20	VIN2	IN	VRT	Analog Video 2 Input
21	VIN3	IN	VRT	Analog Video 3 Input
22	VIN4	IN	VRT	Analog Video 4 Input
23	TEST	IN	GND	Test Pin, reserved for Test
24	HOUT	OUT	X	Horizontal Drive Output
25	VSUP _D	SUPPLY	X	Supply Voltage, Digital Circuitry
26	GND _D	SUPPLY	X	Supply, Digital Circuitry
27	FBLIN	IN	GND _{AB}	Fast Blank Input
28	RIN	IN	GND _{AB}	Analog Red Input
29	GIN	IN	GND _{AB}	Analog Green Input
30	BIN	IN	GND _{AB}	Analog Blue Input
31	VPROT	IN	GND _D	Vertical Protection Input
32	SAFETY	IN	GND _D	Safety Input
33	HFLB	IN	HOUT	Horizontal Flyback Input
34	VERTQ/ INTLC	OUT	LV	Differential Vertical Sawtooth Output Interlace Control Output

Pin No. PSDIP 64-pin	Pin Name	Type	Connection (if not used)	Short Description
35	VERT	OUT	LV	Differential Vertical Sawtooth Output
36	EW	OUT	LV	Vertical Parabola Output
37	SENSE	IN	GND _{AB}	Sense ADC Input
38	GNDM	SUPPLY	X	Ground, MADC Input
39	RSW1	OUT	LV	Range Switch1 for Measurement ADC
40	RSW2	OUT	LV	Range Switch2 for Measurement ADC
41	SVMOUT	OUT	VSUP _{AB}	Scan Velocity Modulation Output
42	ROUT	OUT	VSUP _{AB}	Analog Red Output
43	GOUT	OUT	VSUP _{AB}	Analog Green Output
44	BOUT	OUT	VSUP _{AB}	Analog Blue Output
45	VSUP _{AB}	SUPPLY	X	Supply Voltage, Analog Back-end
46	GND _{AB}	SUPPLY	X	Ground, Analog Back-end
47	VRD	IN	X	DAC Reference
48	XREF	IN	X	Regerence Input for RGB DACs
49	AIN3	IN	GND _s	Analog Audio 3Input
50	AIN2	IN	GND _s	Analog Audio 2Input
51	AIN1	IN	GND _s	Analog Audio 1Input
52	AOUT2	OUT	LV	Analog Audio 2 Output
53	AOUT1	OUT	LV	Analog Audio 1 Output
54	VSUP _s	SUPPLY	X	Supply Voltage, Standby
55	GND _s	SUPPLY	X	Ground, Standby
56	XTAL1	IN	X	Analog Crystal Input
57	XTAL2	OUT	X	Analog Crystal Output
58	RESQ	IN/OUT	X	Reset Input/Output, Active Low
59	SCL	IN/OUT	X	I ² C Bus Clock
60	SDA	IN/OUT	X	I ² C Bus Data
61	P23	IN/OUT	LV	Port 2, Bit 3
62	P22	IN/OUT	LV	Port 2, Bit 2
63	P21	IN/OUT	LV	Port 2, Bit 1
64	P20	IN/OUT	LV	Port 2, Bit 0

5. Pin Descriptions for PSDIP64 package

Pin 1,2,5-10, P17 P10 I/O Port (Fig. 6–27)

These pins provide CPU controlled I/O ports. P10 can be configured as video input VIN5 (Fig. 6–9) on VCT 38xxB only!

Pin 3, VSUPP1* Supply Voltage, Port 1 Driver This pin is used as supply for the I/O port 1 driver.

Pin 4, GNDP1* Ground, Port 1 Driver

This is the ground reference for the I/O port 1 driver.

Pin 11, VOUT Analog Video Output (Fig. 6–12)

The analog video signal that is selected for the main (luma, CVBS) adc is output at this pin. On VCT 38xxB this pin can also deliver the sum of luma and chroma input signals (S-VHS). An emitter follower is required at this pin.

Pin 12, VRT Reference Voltage Top (Fig. 6–13)

Via this pin, the reference voltage for the A/D converters is decoupled. The pin is connected with 10 F/47 nF to the Signal Ground Pin.

Pin 13, SGND Signal GND for Analog Input

This is the high quality ground reference for the video input signals.

Pin 14, GNDAF* Ground, Analog Front-end

This pin has to be connected to the analog ground. No supply current for the digital stages should flow through this line.

Pin 15, VSUPAF* Supply Voltage, Analog Front-end

This pin has to be connected to the analog supply voltage. No supply current for the digital stages should flow through this line.

Pin 16,18, CBIN,CRIN Analog Chroma Component Input (Fig. 6–11)

These pins are used as the chroma component (CB,CR) inputs required for the analog YUV Interface. The input signal must be AC-coupled. The CRIN pin can alternatively be used as the second SVHS chroma input (CIN2).

Pin 17,18, CIN1,CIN2 Analog Chroma Input (Fig. 6–10)

These are the analog chroma inputs. A S-VHS chroma signal is converted using the chroma (Video 2) AD converter. A resistive divider is used to bias the input signal to the middle of the converter input range. The input signal must be AC-coupled. The CIN2 pin can alternatively be used as the chroma component (CR) input required for the analog YUV Interface.

Pins 19,22, VIN1–4 Analog Video Input (Fig. 6–9)

These are the analog video inputs. A CVBS or S-VHS luma signal is converted using the luma (Video 1) AD converter. The input signal must be AC-coupled.

Pin 23, TEST Test Input (Fig. 6–5)

This pin enables factory test modes. For normal operation, it must be connected to ground.

Pin 24, HOUT Horizontal Drive Output (Fig. 6–16)

This open drain output supplies the drive pulse for the horizontal output stage. The polarity and gating with the flyback pulse are selectable by software.

Pin 25, VSUPD* Supply Voltage, Digital Circuitry

Pin 26, GNDD* Ground, Digital Circuitry

This is the ground reference for the digital circuitry.

Pin 27, FBLIN Fast Blank Input (Fig. 6–18)

These pins are used to switch the RGB outputs to the external analog RGB inputs. The active level (low or high) can be selected by software.

Pin 28,29,30, RIN, GIN, BIN Analog RGB Input (Fig.6–14)

These pins are used to insert an external analog RGB signal, e.g. from a SCART connector which can be switched to the analog RGB outputs with the fast blank signal. The analog back-end provides separate brightness and contrast settings for the external analog RGB signals.

Pin 31, VPROT Vertical Protection Input (Fig. 6–17)

In the event of a malfunction of the vertical deflection stage, the vertical protection circuitry prevents the picture tube from burnig in. During vertical blanking, a signal level of 2.5 V is sensed. If a negative edge cannot be detected, the RGB output signals are blanked.

Pin 32, SAFETY Safety Input (Fig. 6–17)

This is a three-level input. Low level means normal function. At the medium level RGB output signals are blanked. At high level RGB output signals are blanked and horizontal drive is shut off.

Pin 33, HFLB Horizontal Flyback Input (Fig. 6–17)

Via this pin the horizontal flyback pulse is supplied to the VCT 38xxA/B.

Pin 34, VERTQ, INTLC Inverted Vertical Sawtooth Output (Fig. 6–20) / Interlace Output (Fig. 6–19)

This pin supplies the inverted signal of VERT. Together with the VERT pin it can be used to drive symmetrical deflection amplifiers. The drive signal is generated with 15-bit precision. The analog voltage is generated by a 4 bit current-DAC with external resistor and uses digital noise shaping. Alternatively this pin supplies the interlace information, the polarity is programmable.

Pin 35, VERT Vertical Sawtooth Output (Fig. 6–20)

This pin supplies the drive signal for the vertical output stage. The drive signal is generated with 15-bit precision. The analog voltage is generated by a 4 bit current-DAC with external resistor and uses digital noise shaping.

Pin 36, EW East-West Parabola Output (Fig. 6–21)

This pin supplies the parabola signal for the East-West correction. The drive signal is generated with 15 bit precision. The analog voltage is generated by a 4 bit current-DAC with external resistor and uses digital noise shaping.

Pin 37, SENSE Measurement ADC Input (Fig. 6–23)

This is the input of the analog to digital converter for the picture and tube measurement. Three measurement ranges are selectable with RSW1 and RSW2.

Pin 38, GNDM Measurement ADC Reference Input

This is the ground reference for the measurement A/D converter. Connect this pin to GND

Pin 39, 40, RSW1, RSW2 Range Switch for Measuring ADC (Fig. 6–22)

These pins are open drain pull-down outputs. RSW1 is switched off during cutoff and whitedrive measurement. RSW2 is switched off during cutoff measurement only.

Pin 41, SVMOUT Scan Velocity Modulation Output (Fig. 6–15)

This output delivers the analog SVM signal. The D/A converter is a current sink like the RGB D/A converters. At zero signal the output current is 50% of the maximum output current.

Pin 42, 43, 44, ROUT, GOUT, BOUT Analog RGB Output (Fig. 6–15)

These pins are the analog Red/Green/Blue outputs of the back-end. The outputs are current sinks.

Pin 45, VSUPAB* Supply Voltage, Analog Back-end

This pin has to be connected to the analog supply voltage. No supply current for the digital stages should flow through this line.

Pin 46, GNDAB* Ground, Analog Back-end

This pin has to be connected to the analog ground. No supply current for the digital stages should flow through this line.

Pin 47, VRD DAC Reference Decoupling (Fig. 6–24)

Via this pin the DAC reference voltage is decoupled by an external capacitor. The DAC output currents depend on this voltage, therefore a pull-down transistor can be used to shut off all beam currents. A decoupling capacitor of 4.7 F in parallel to 100 nF (low inductance) is required.

Pin 48, XREF DAC Current Reference (Fig. 6–24)

External reference resistor for DAC output currents, typical 10 k Ω to adjust the output current of the D/A converters. (see recommended operating conditions). This resistor has to be connected to analog ground as closely as possible to the pin.

Pin 49, 50, 51, AIN13 Analog Audio Input (Fig. 6–25)

The analog input signal from TUNER or SCART is fed to this pin. The input signal must be AC-coupled. Alternatively these pins can be used as digital input port (Fig. 6–25).

Pin 52, 53, AOUT1, AOUT2 Analog Audio Output (Fig. 6–26)

These pins are the analog audio outputs. Connections to these pins must use a 680 ohm series resistor as closely as possible to these pins. The output signals are intended to be AC coupled. Alternatively these pins can be used as digital input port (Fig. 6–26).

Pin 54, VSUPS* Supply Voltage, Standby

Pin 55, GNDS* Ground, Standby

This is the ground reference for the standby circuitry.

Pins 56 and 57, XTAL1 Crystal Input and XTAL2 Crystal Output (Fig. 6–7)

These pins are connected to an 20.25 MHz crystal oscillator which is digitally tuned by integrated shunt capacitances. The CLK20 clock signal is derived from this oscillator.

Pin 58, RESQ Reset Input/Output (Fig. 6–6)

A low level on this pin resets the VCT 38xxA/B. The internal CPU can pull down this pin to reset external devices connected to this pin.

Pin 59, SCL I²C Bus Clock (Fig. 6–6)

This pin connects to the I2C bus clock line. The signal can be pulled down by external slave ICs to slow down data transfer.

Pin 60, SDA I²C Bus Data (Fig. 6–6)

This pin connects to the I2C bus data line.

Pin 6164, P20P23 I/O Port (Fig. 6–27)

These pins provide CPU controlled I/O ports.

6. Pin Circuits

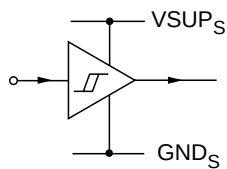


Fig. 6-5 : Input pins TEST, DISINTROM

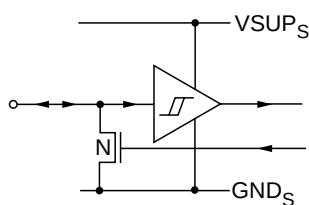


Fig. 6-6 : Input/Output pins RESQ, SDA, SCL

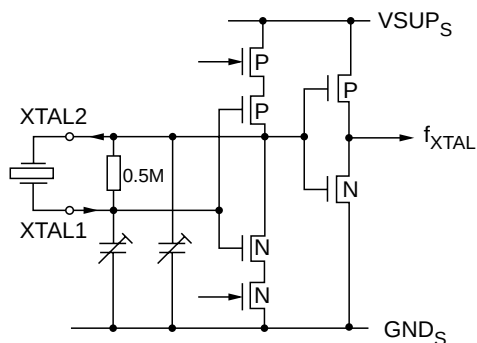


Fig. 6-7 : Input/Output pins XTAL1, XTAL2

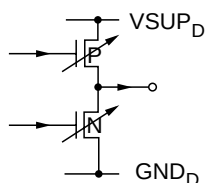


Fig. 6-8 : Output pin CLK20

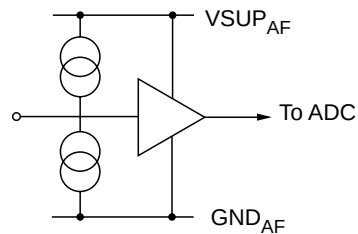


Fig. 6-9 : Input pins VIN1-VIN5

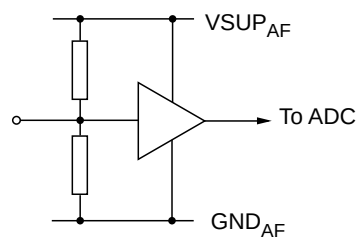


Fig. 6-10 : Input pins CIN1-CIN2

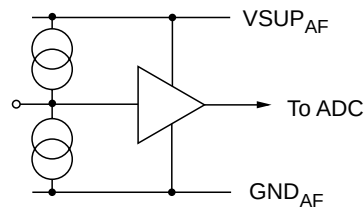


Fig. 6-11 : Input pins CRIN, CBIN

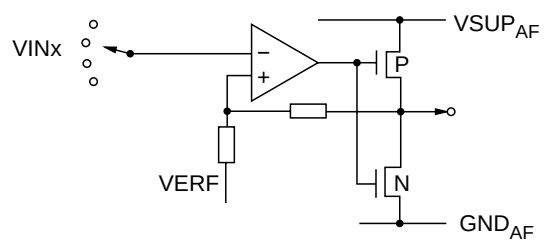


Fig. 6-12 : Output pin VOUT

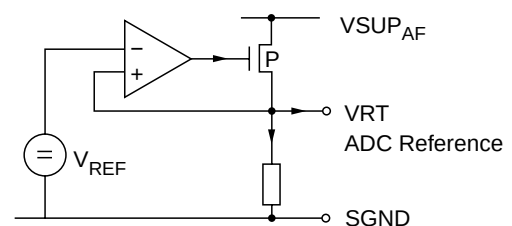


Fig. 6-13 : Supply pins VRT, SGND

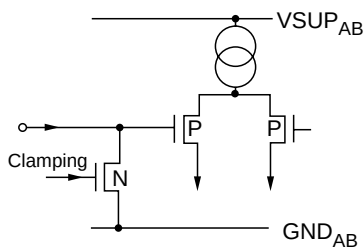


Fig. 6-14 : Input pins RIN, GIN, BIN

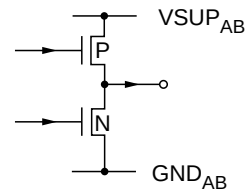


Fig. 6-19 : Output pin INTLC

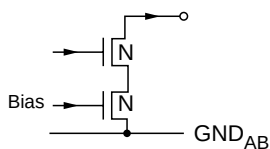


Fig. 6-15 : Output pin ROUT, GOUT, BOUT, SVMOUT

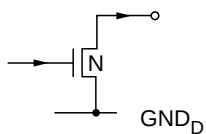


Fig. 6-16 : Output pins HOUT

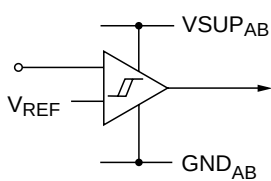


Fig. 6-17 : Input pins SAFETY, VPROT, HGLB

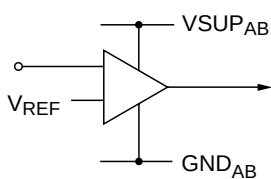


Fig. 6-18 : Input pins FBIN

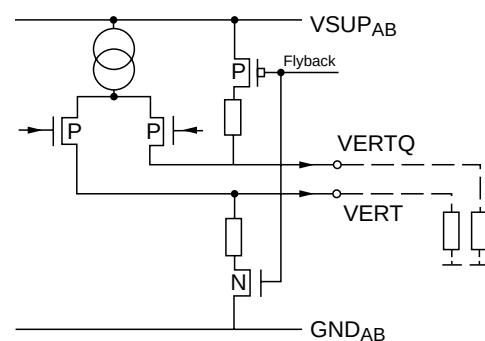


Fig. 6-20 : Output pins VERT, VERTQ

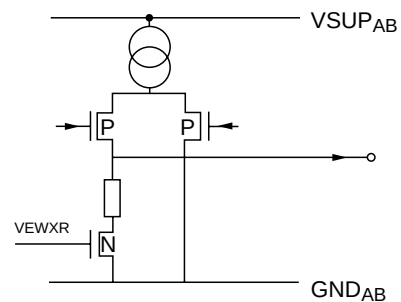


Fig. 6-21 : Output pin EW

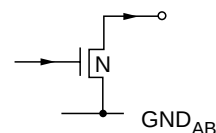


Fig. 6-22 : Output pins RSW1, RSW2

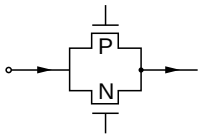


Fig. 6-23 : Input pins SENSE

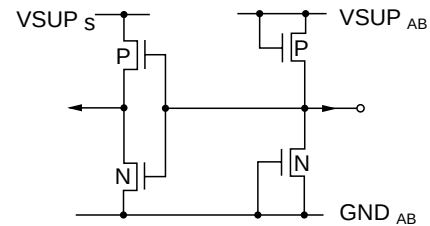


Fig. 6-28 : Input pins P42-P46

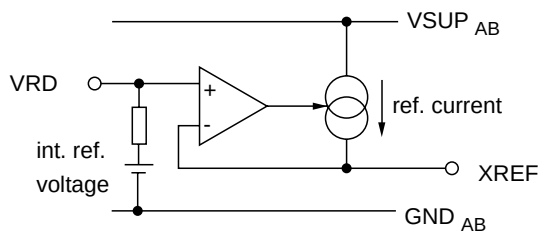


Fig. 6-24 : Supply pins XREF, VRD

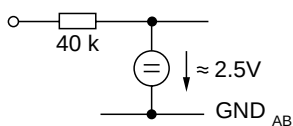


Fig. 6-25 : Input pins AIN1-3

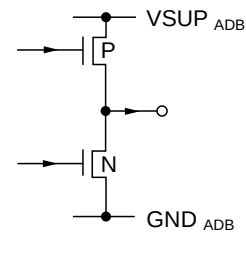


Fig. 6-29 : Output pins ADB0-ADB18, OE1, OE2, WE1, WE2

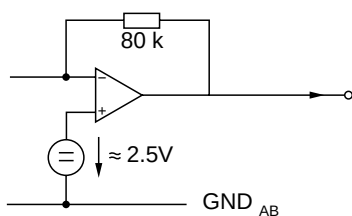


Fig. 6-26 : Output pins AOUT1, AOUT2

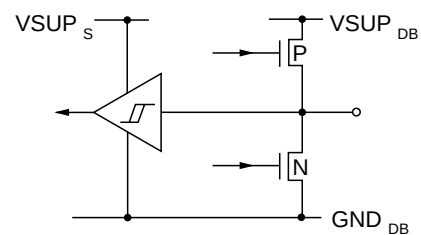


Fig. 6-30 : Input/Output pins DB0-DB7

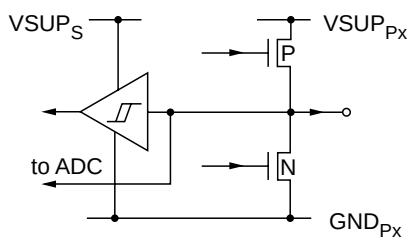


Fig. 6-27 : Input/Output pins P10-P17, P20-P27, P30-P37

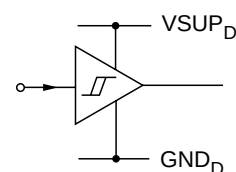
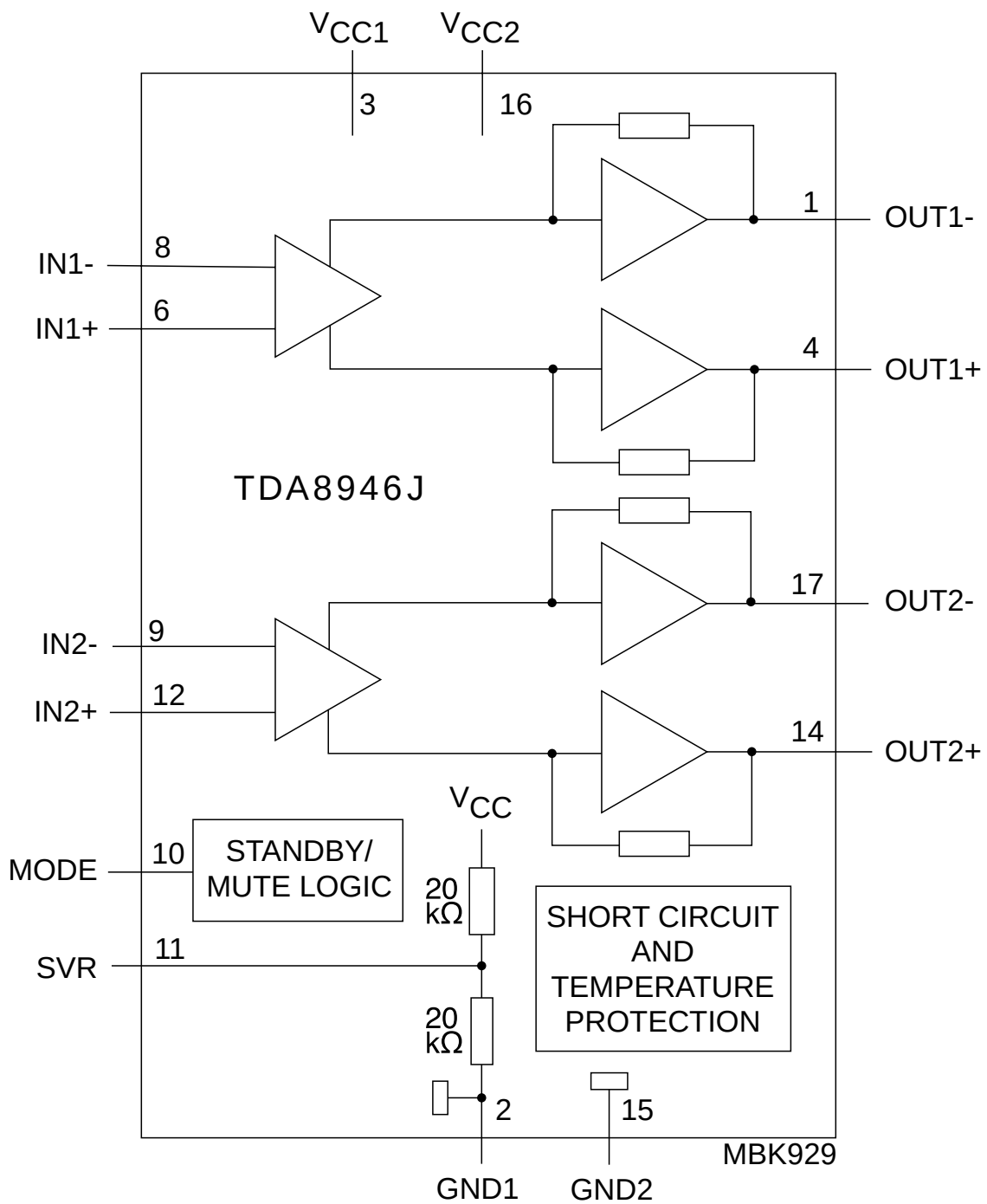


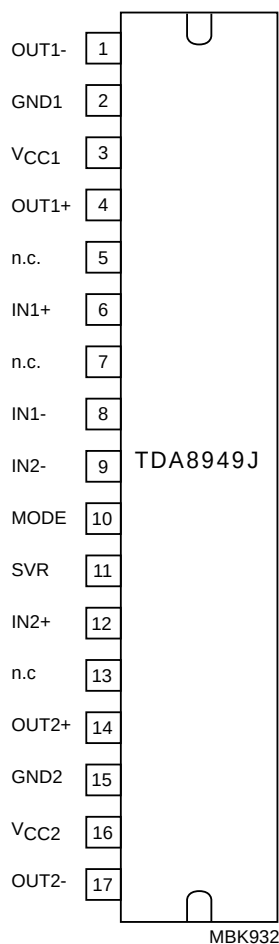
Fig. 6-31 : Input pins VB0-VB7, VBCLK

1. Block Diagram



2. Block Diagram

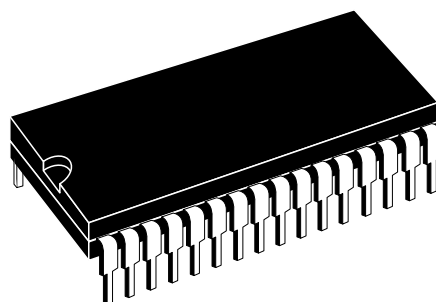
2-1 Pinning



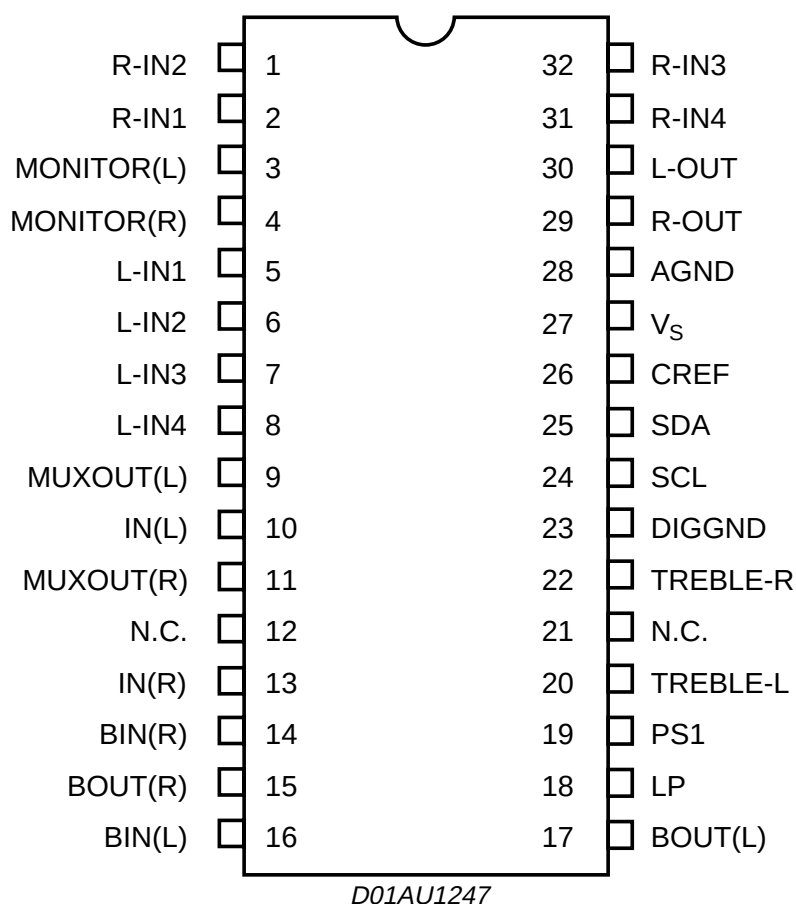
2-2 Pin description

Symbol	Pin	Description
OUT1-	1	negative loudspeaker terminal 1
GND1	2	ground channel 1
Vcc1	3	supply voltage channel 1
OUT1+	4	positive loudspeaker terminal 1
n.c	5	not connected
IN1+	6	positive input 1
n.c	7	not connected
IN1-	8	negative input 1
IN2-	9	negative input 2
MODE	10	mode selection input (standby, mute, operating)
SVR	11	half supply voltage decoupling (ripple rejection)
IN2+	12	positive input 2
n.c	13	not connected
OUT2+	14	positive loudspeaker terminal 2
GND2	15	ground channel 2
Vcc2	16	supply voltage channel 2
OUT2-	17	negative loudspeaker terminal 2

- ◆ 4STEREOINPUTS
- ◆ INPUTATTENUATIONCONTROLIN0.5dB STEP
- ◆ TREBLEANDBASSCONTROL
- ◆ TWOSURROUNDMODEAVAILABLEWITH
4SELECTABLERESPONSES:
 - MUSIC
 - SIMULATEDSTEREO
- ◆ TWOSPEAKERATTENUATORS:
 - 2INDEPENDENTSPEAKERCONTROLS
IN1dBSTEPSFORBALANCEFACILITY
 - INDEPENDENTMUTEFUNCTION
- ◆ ALLFUNCTIONSPROGRAMMABLEVIAI2C-BUS
- ◆ 2MONITOROUTPUT(ONLYFORTDA7442)

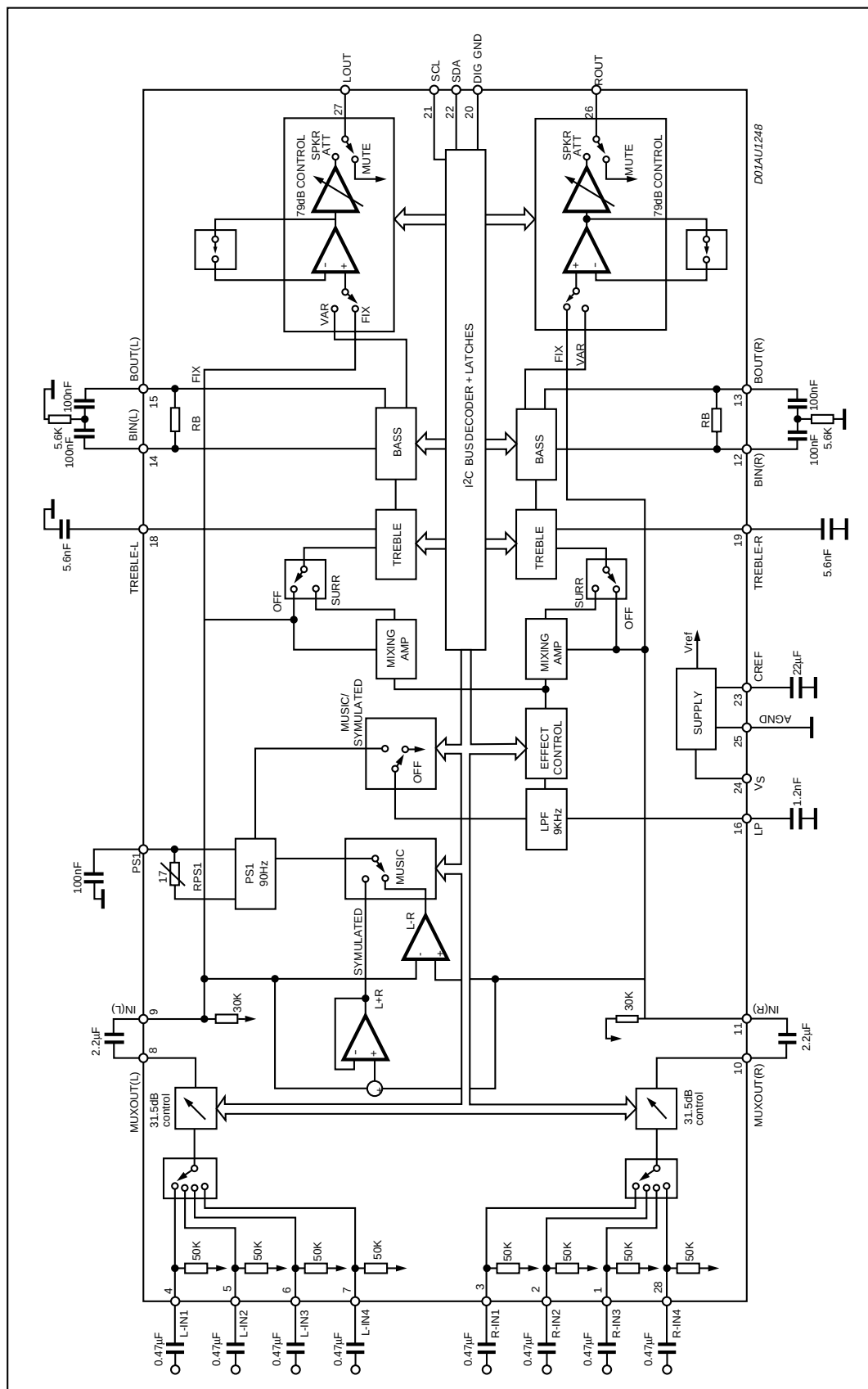


SDIP32



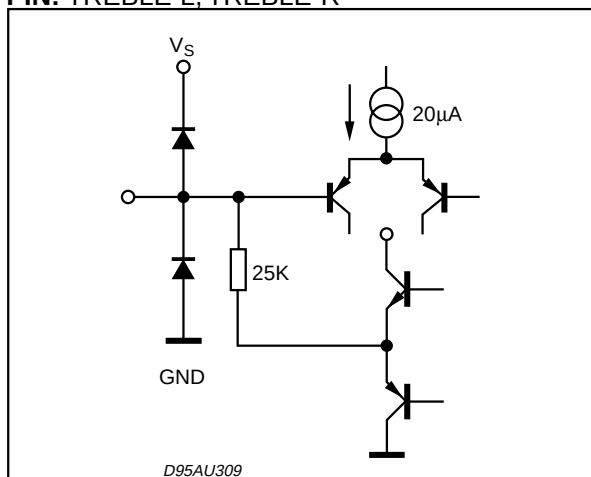
SDIP32

BLOCK DIAGRAM(TDA7442D)

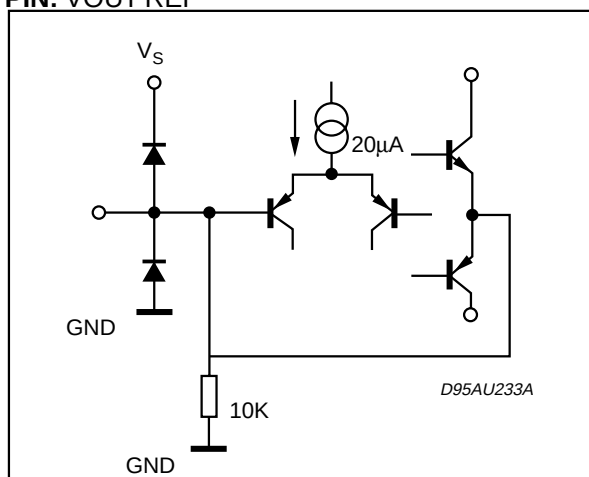


TDA7442 - TDA7442D

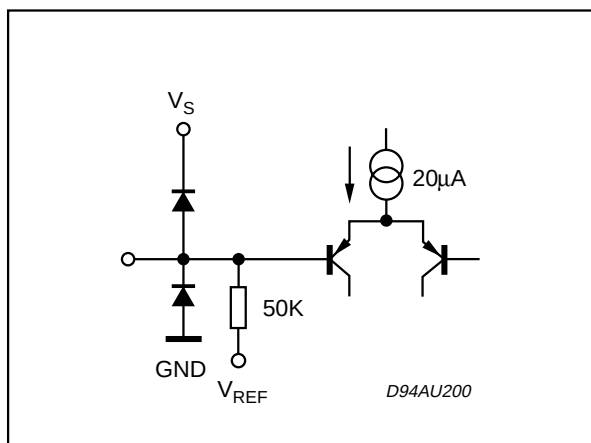
PIN: TREBLE-L, TREBLE-R



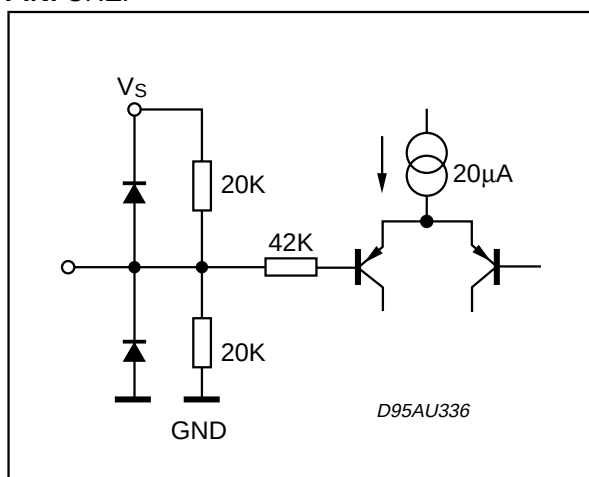
PIN: VOUT REF



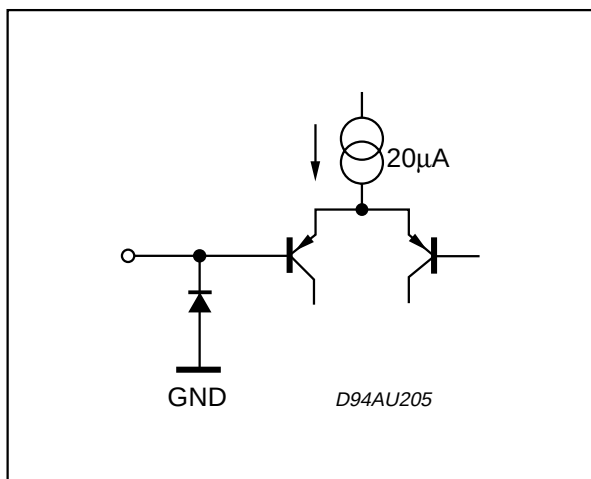
PIN: L-IN, R-IN, L-IN2, R-IN2, L-IN3, R-IN3, L-IN4, R-IN4,



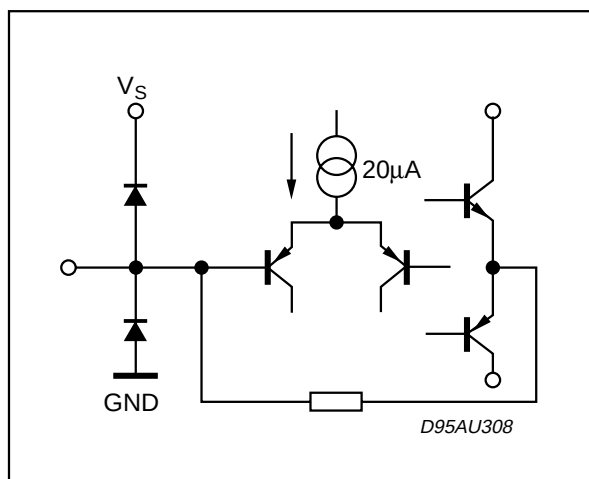
PIN: CREF



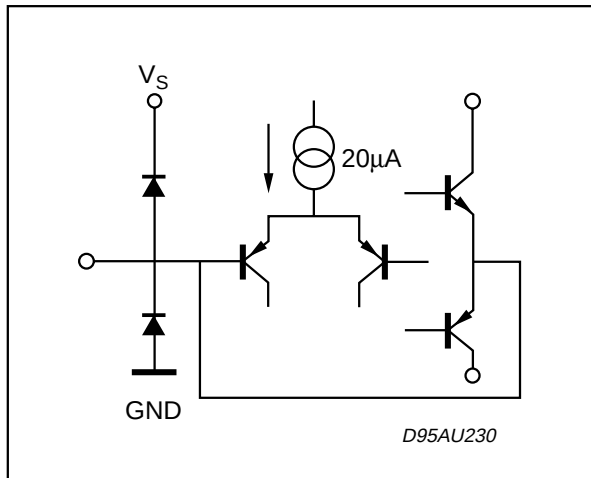
PIN: SCL, SDA



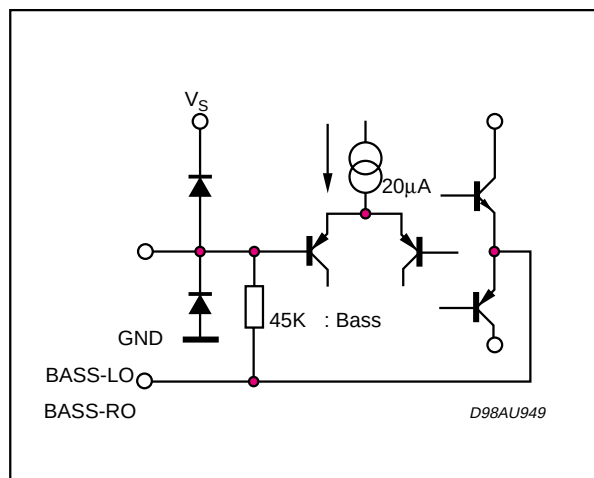
PIN: LP



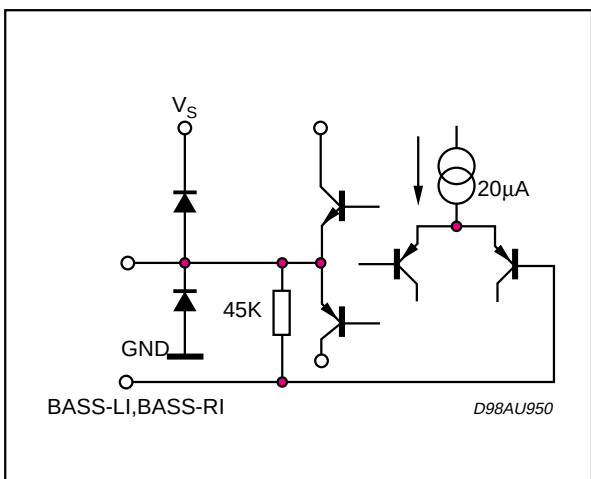
PIN: L-OUT, R-OUT



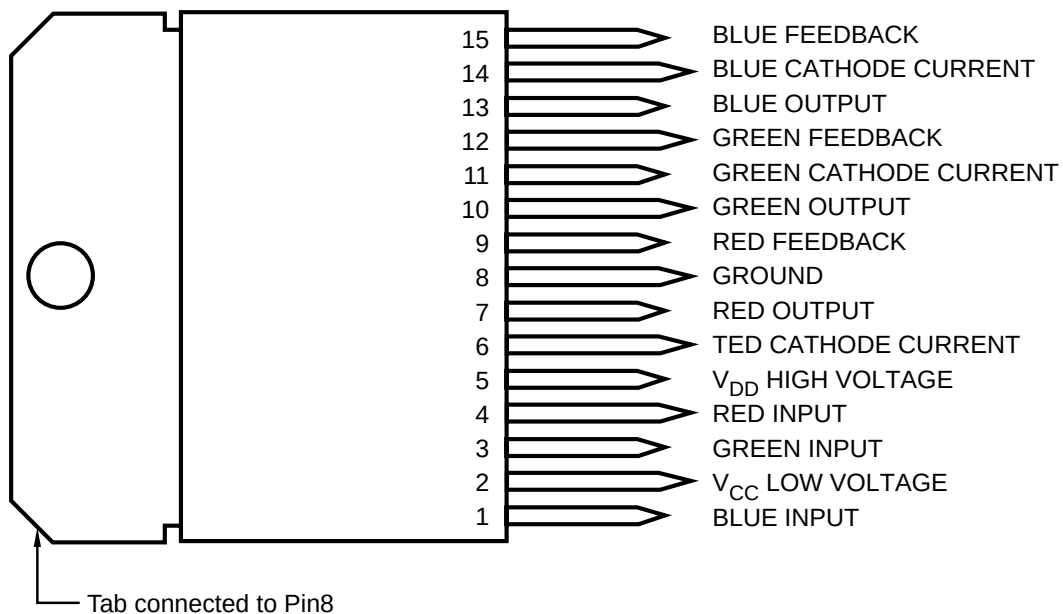
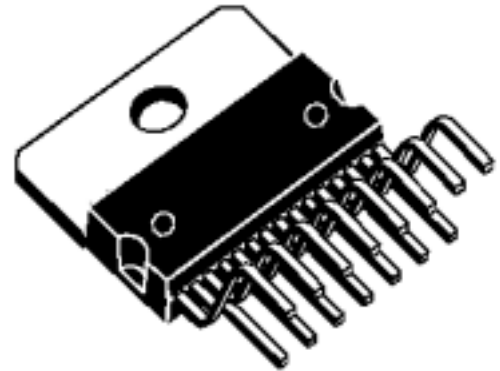
PIN: BASS-LI, BASS-RI



PIN: BASS-LO, BASS-RO



- ◆ BANDWIDTH : 10MHz TYPICAL
- ◆ RISE AND FALL TIME : 50ns TYPICAL
- ◆ CRT CATHODES CURRENT OUTPUTS FOR PARALLEL OR SEQUENTIAL CUT-OFF OR DRIVE ADJUSTMENT
- ◆ FLASHOVER PROTECTION
- ◆ POWER DISSIPATION : 3.5W
- ◆ ESD PROTECTED

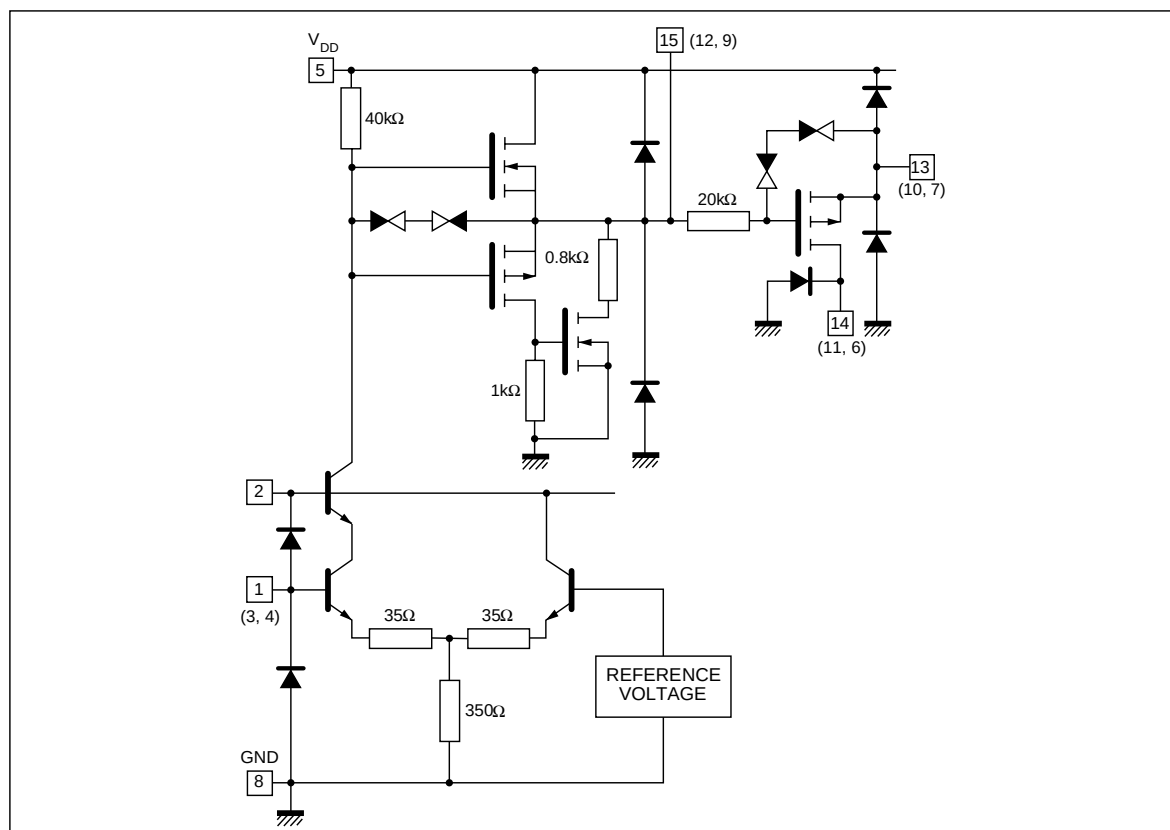


PIN FUNCTION

N	Function	Description
1	Blue Input	Input of the “blue” amplifier. It is a virtual ground with 3.8V bias voltage, 15 microamperss input bias current with 14K Ω input resistance.
2	Vcc	Low voltage power supply, typically 12V.
3	Green Input	See Pin 1.
4	Red Input	See Pin 1.
5	VDD	High voltage power supply, typcally 200V.
6	Red Cathode Current	Provides the video processor with a copy of the DC current flowing into the red cathode, for automatic cut-off or gain adjustment. If this control is not used, Pin 6 must be grounded.
7	Red Output	Output driving the red cathode. Pin 7 is internally protected against CRT arc discharges by a diode limiting the output voltage to VDD.
8	Ground	Also connected to the heatsink.
9	Red Feedback	Output driving the feedback resistor network for the red amplifier.
10	Green Output	See Pin 7.
11	Green Cathode Current	See Pin 6.
12	Green Feedback	See Pin 9.
13	Blue Output	See Pin 7.
14	Blue Cathode Current	See Pin 6.
15	Blue Feedback	See Pin 9.

BLOCK DIAGRAM OF EACH CHANNEL

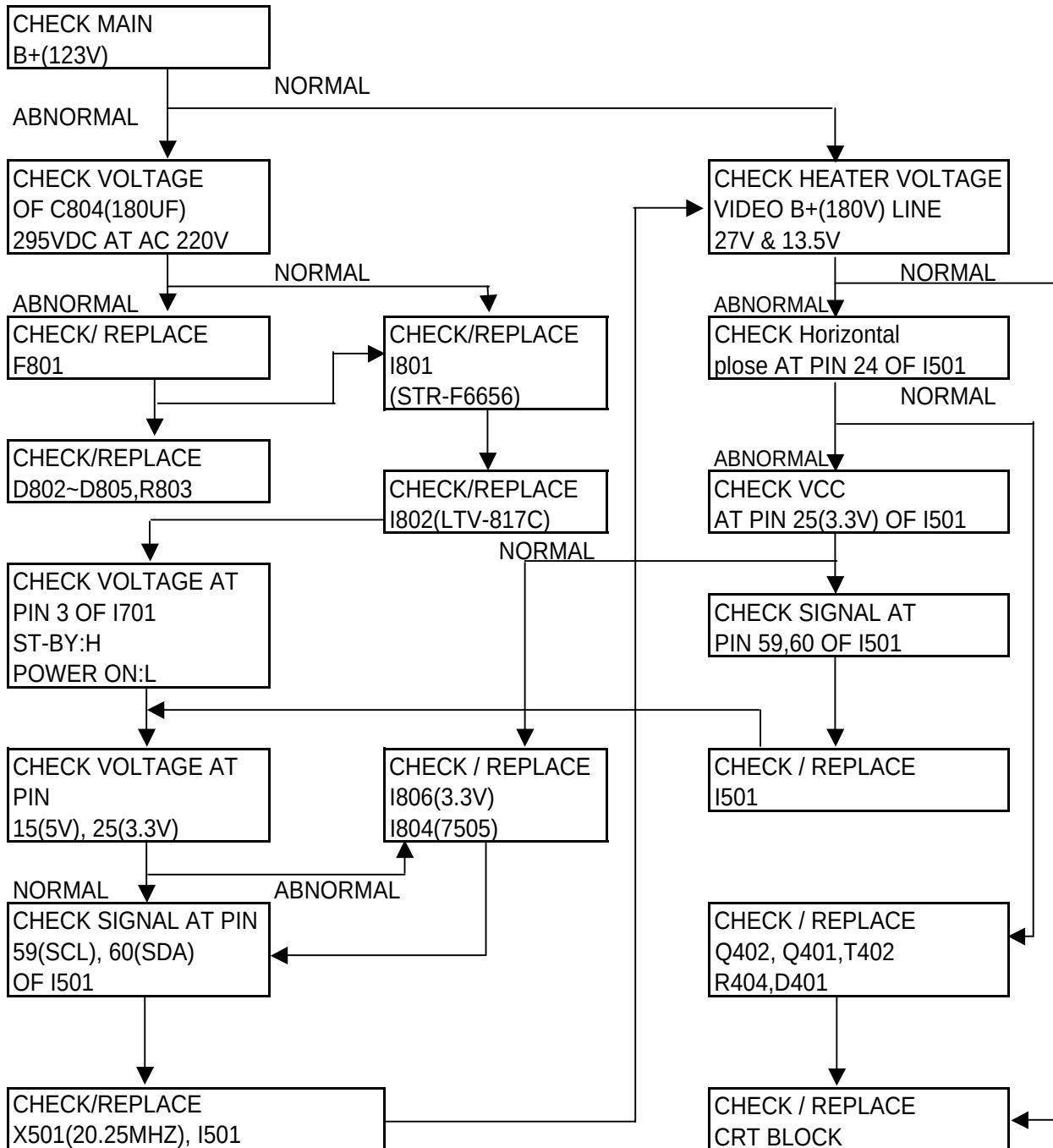
BLOCK DIAGRAM OF EACH CHANNEL



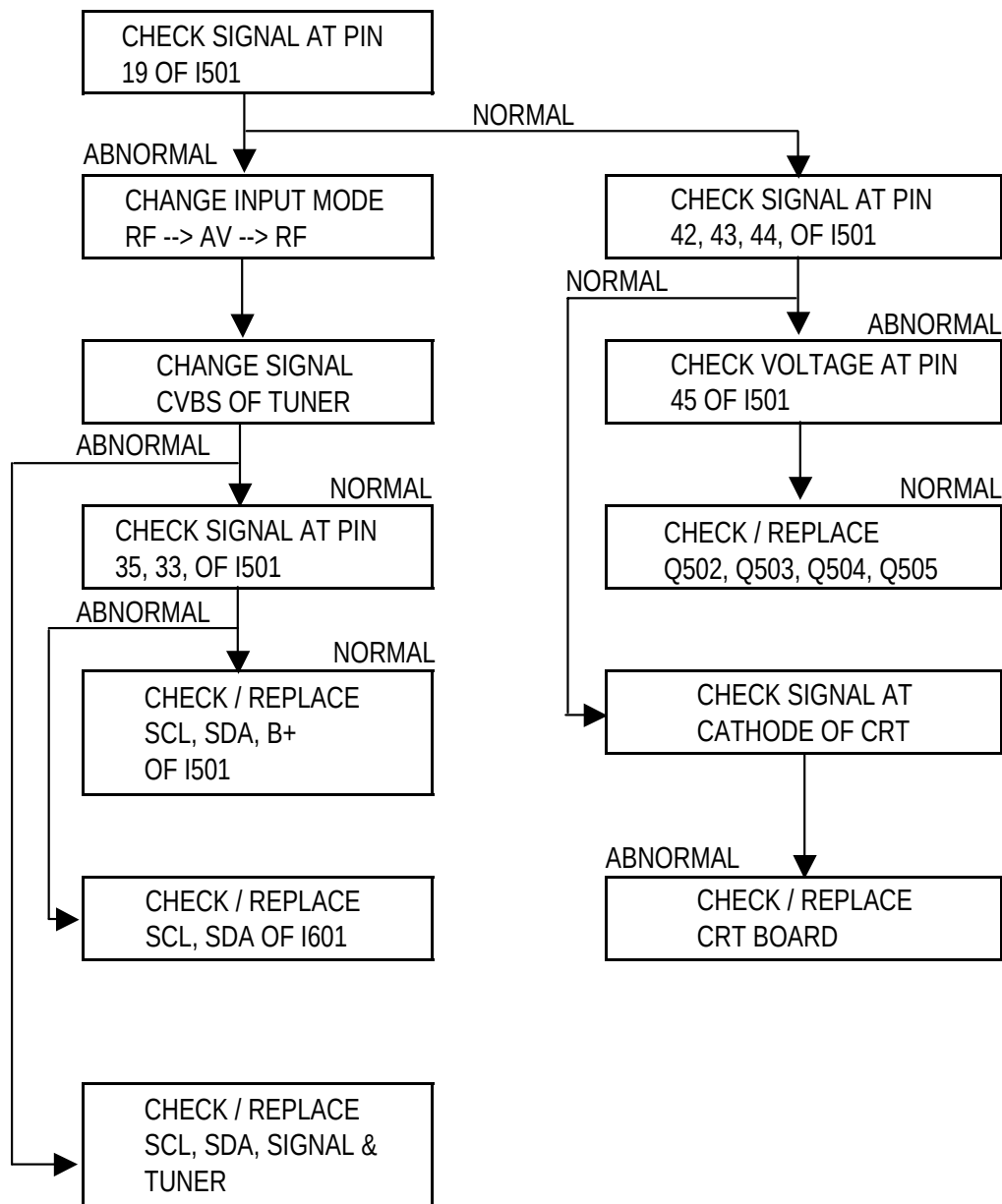
5101B-02 EPS

12. TROUBLE SHOOTING CHARTS

1. NO RASTER

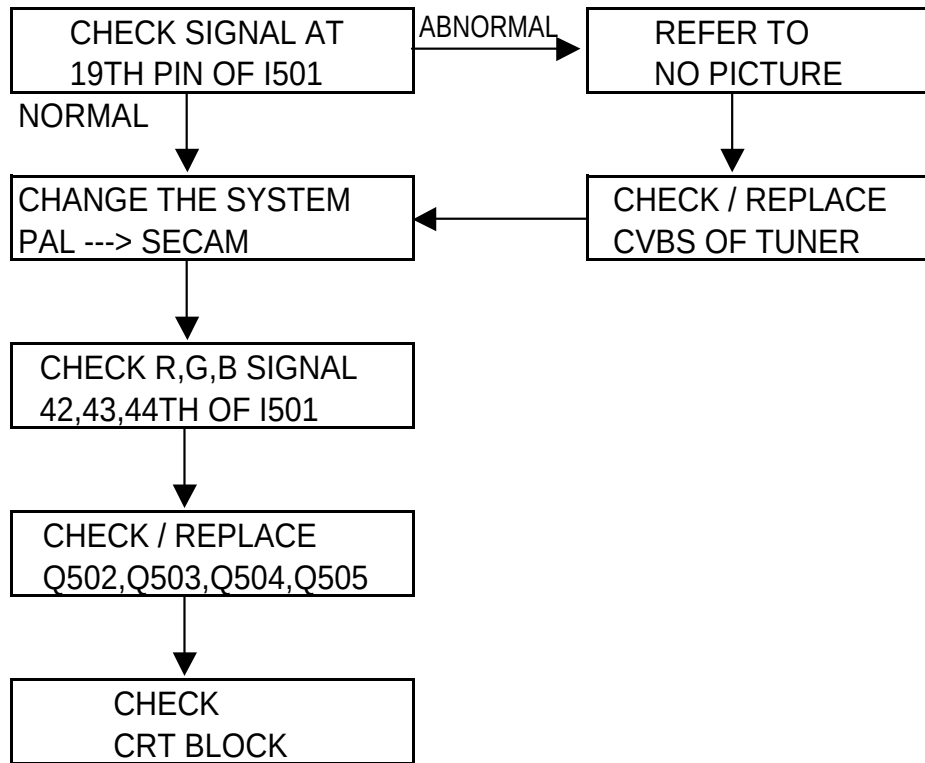


2. NO PICTURE(RASTER OK)

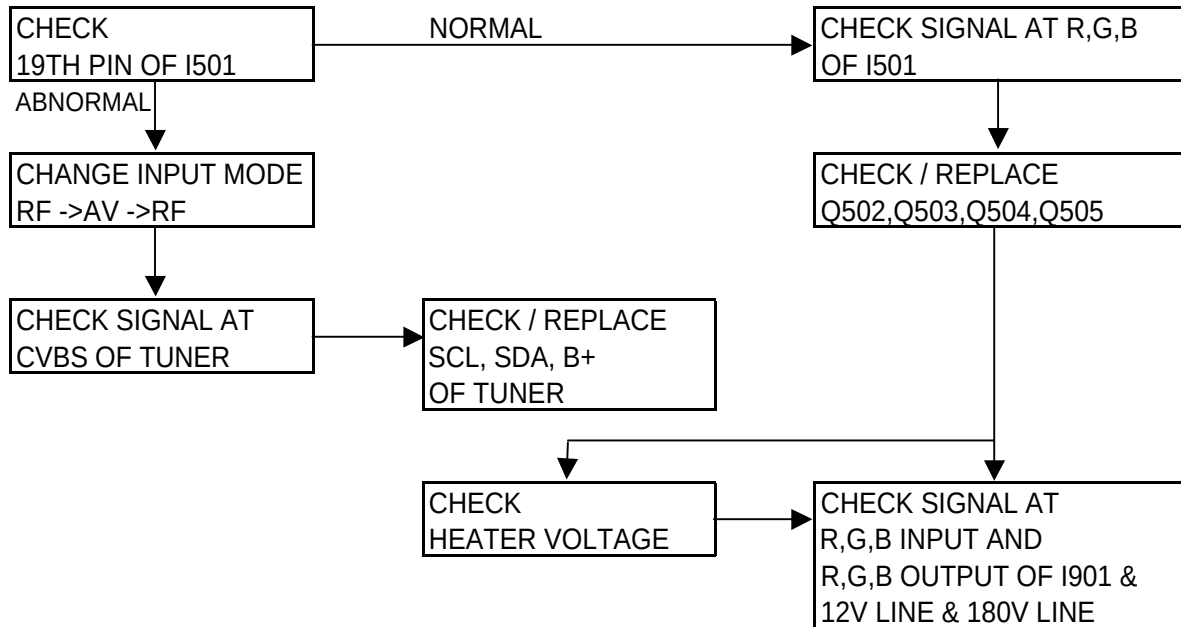


TROUBLE SHOOTING CHARTS

3. NO COLOR

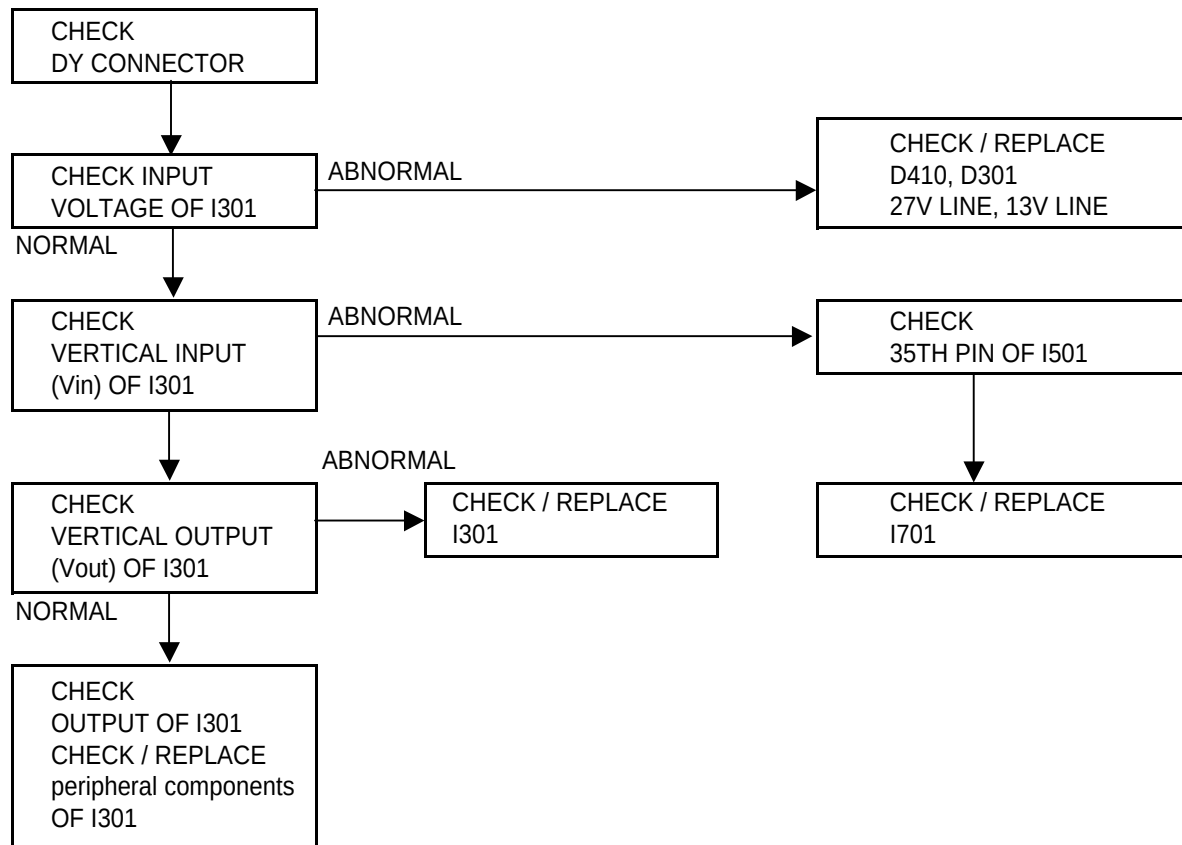


4. NO PICTURE

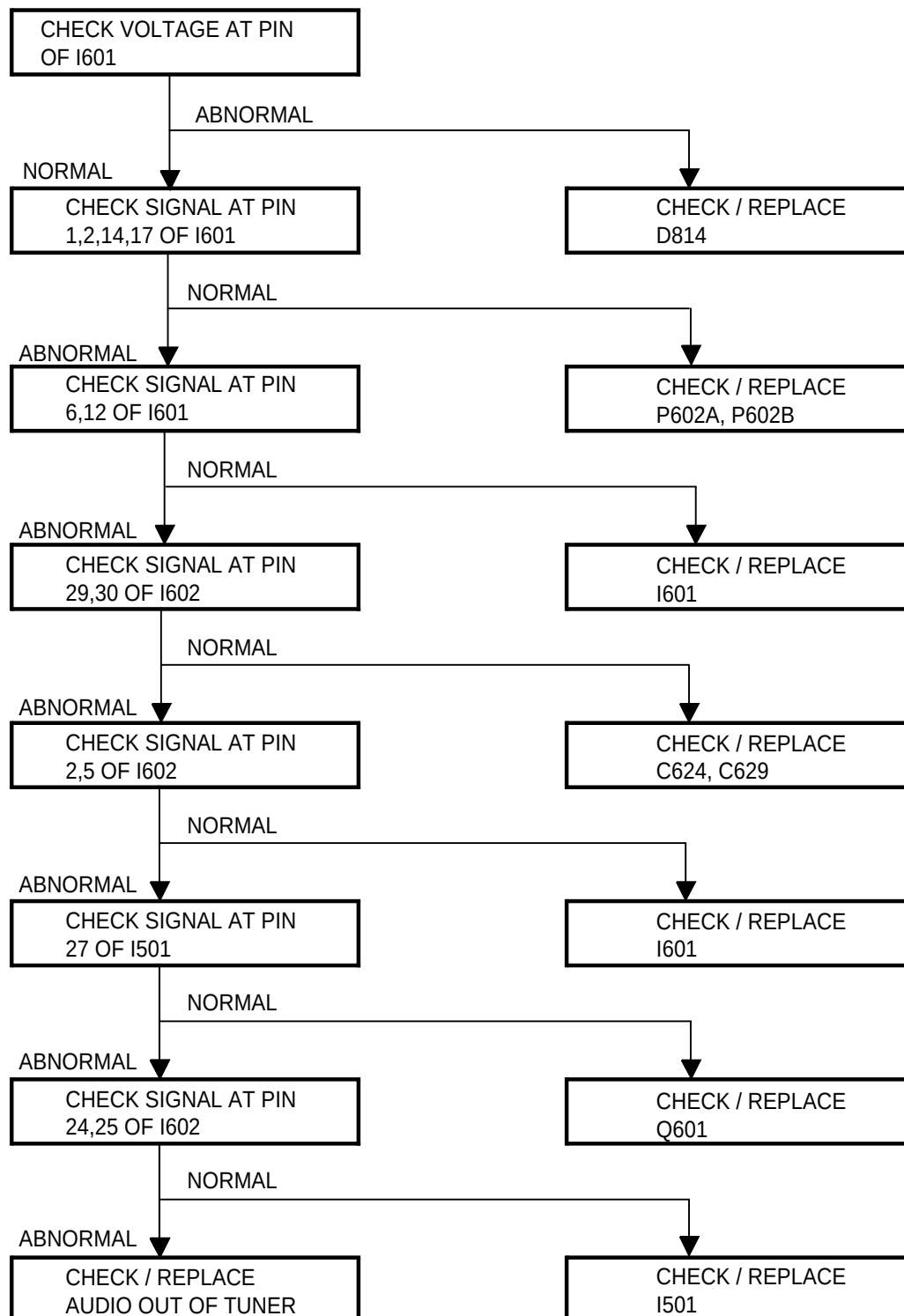


TROUBLE SHOOTING CHARTS

5. NO VERTICAL SCANNING(ONE HORIZONTAL LINE RASTER)

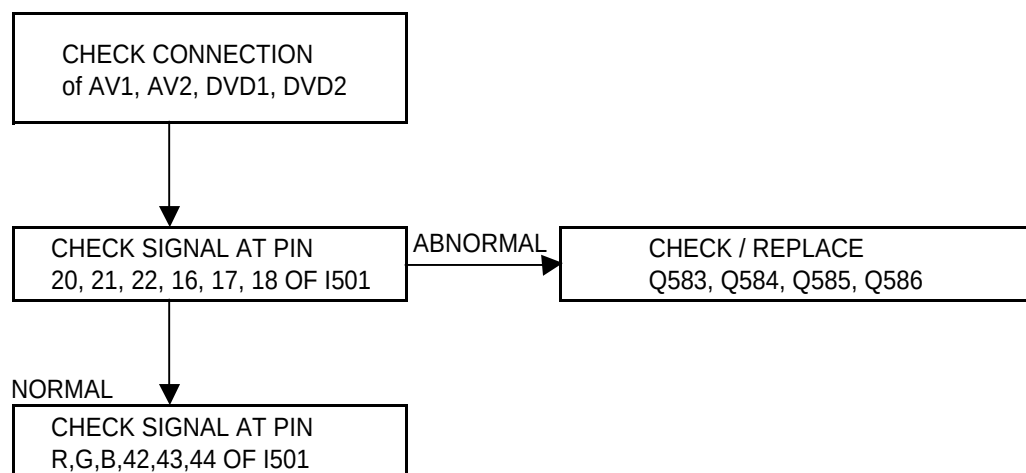


6. NO MIAN SOUND (PICTURE)

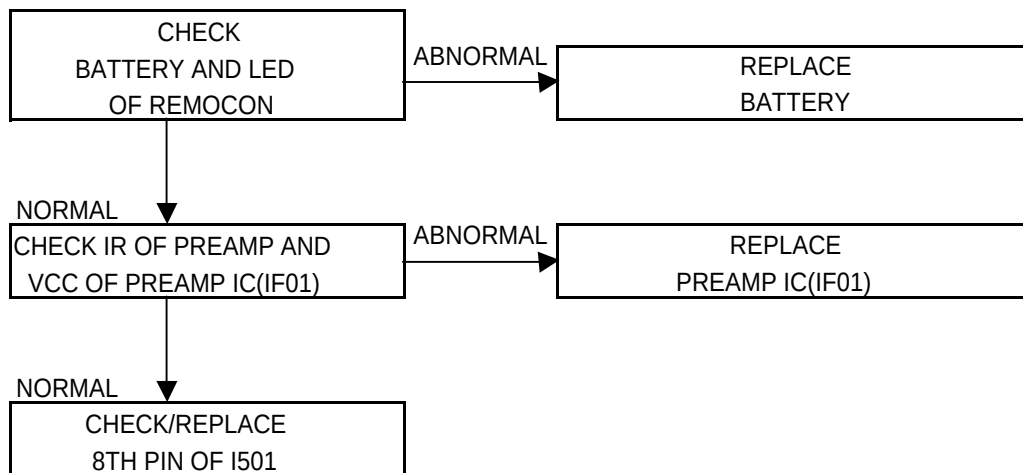


TROUBLE SHOOTING CHARTS

7. NO EXTERNAL AV(RF OK)



8.REMOTE CONTROL UNIT TROUBLE



DAEWOO

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