DAEWOO

Service Manual

Color Television

CHASSIS : CM - 570

System : NTSC, PAL-M,PAL-N

(3 SYSTEM)

MODEL : DTH-20T1FS
DTH-20T2FS
DTH-21T1FS
DTH-21T2FS
DTH-21T5FS
DTH-21T9FS

DAEWOO ELECTRONICS CO., LTD.
OVERSEAS SERVICE DEPT.

■CONTENTS

SPECIFICATIONS

CHASSIS	CM-570
Receiving System	NTSC/PAL-M/PAL-N
Main Voltage	AC 100/220V, 50/60Hz
Power Consumption	75W (20") / 80W (21")
Sound Output	3.0W+3.0W (16 Ω SPEAKER X 2)
Antenna Impedance	75 Ω Unbalanced
Tuning System	Frequency Synthesizer
Number of Memory Channel	181 Channels
Reception Channel	VHF TV LOW:CH2~6 HIGH:CH7~13 UHF TV CH14~CH69 CATV CH1~CH125
Remote Control Unit	R-25C04
Screen Size	20" / 21"(diagonal)
Tuner Type	Varactor Type with PLL
Aux. Terminal	2 Inputs:AV1/ AV2

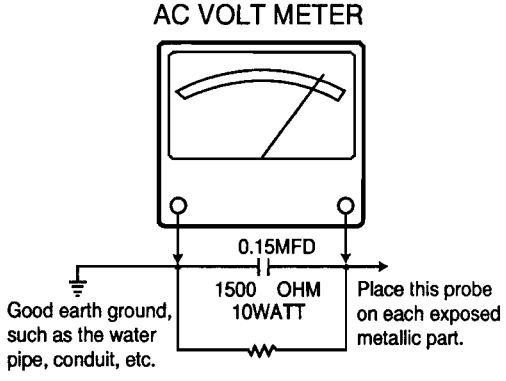
■SAFETY INSTRUCTIONS

■ SAFETY PRECAUTION

WARNING: Service should not be attempted by anyone unfamiliar with the necessary precaution on this receiver.
The following are the necessary precaution to be observed before servicing.

1.Always discharge the picture tube anode to the CRT conductive coating the picture tube. the picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the body while handling.
2.When replacing chassis in the cabinet,always be certain that all the protective devices are put back in place, such as; nonmetallic control knobs, insulating covers, shields, isolation resistor-capacitor network, etc
3.Before retuning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc, to be sure the set is safe to operate without danger of electrical shock.

Plug the AC line cord directly into a AC outlet. Use an AC voltmeter having 500 ohms per volt or more sensitively in the following manner.
Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 mfd, AC type capacitor, between a known good earth ground(water pipe, conduit etc) and the exposed metallic parts, one at a time.
Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 mfd capacitor.
Reverse the ac plug at the ac outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts RMS. This corresponds to 0.2 milliampere, AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



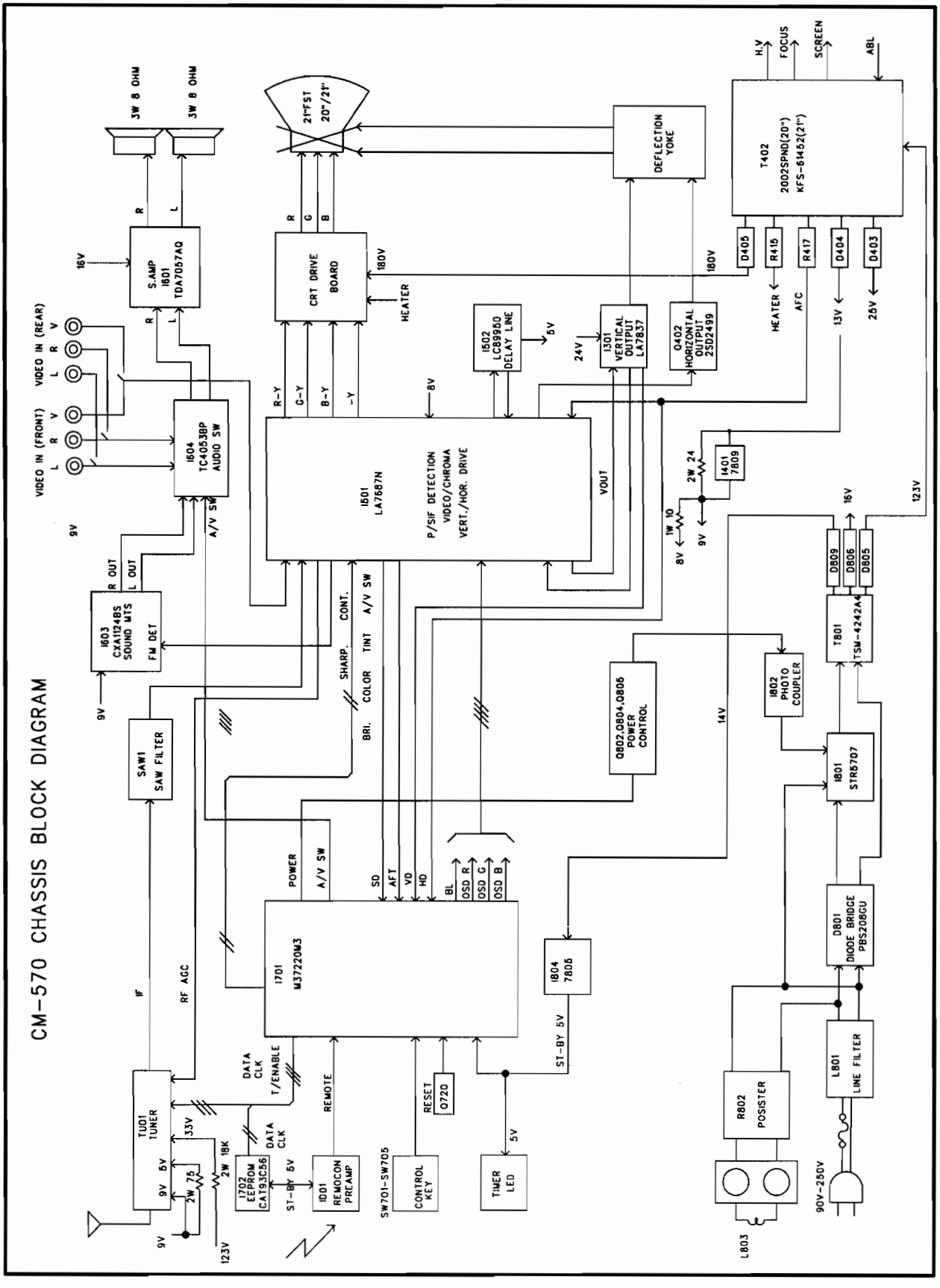
■ PRODUCT SAFETY NOTICE

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 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 supplements;electrical components having such features are identified by shading on the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

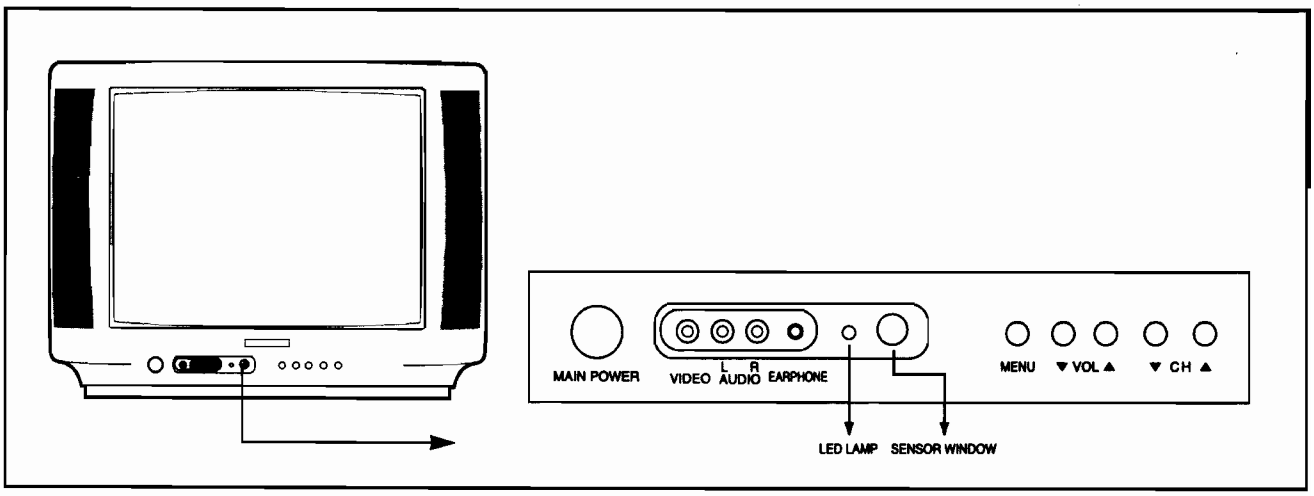
■ SERVICE NOTES

1.When replacing parts or circuit boards, clamp the lead wires to terminal before soldering.
2.When replacing a high wattage resistor(metal oxide film resistor)in the circuit board keep the resistor minimum 1/2 inch away from the circuit board.
3.Keep wires away form high voltage or high temperature components.

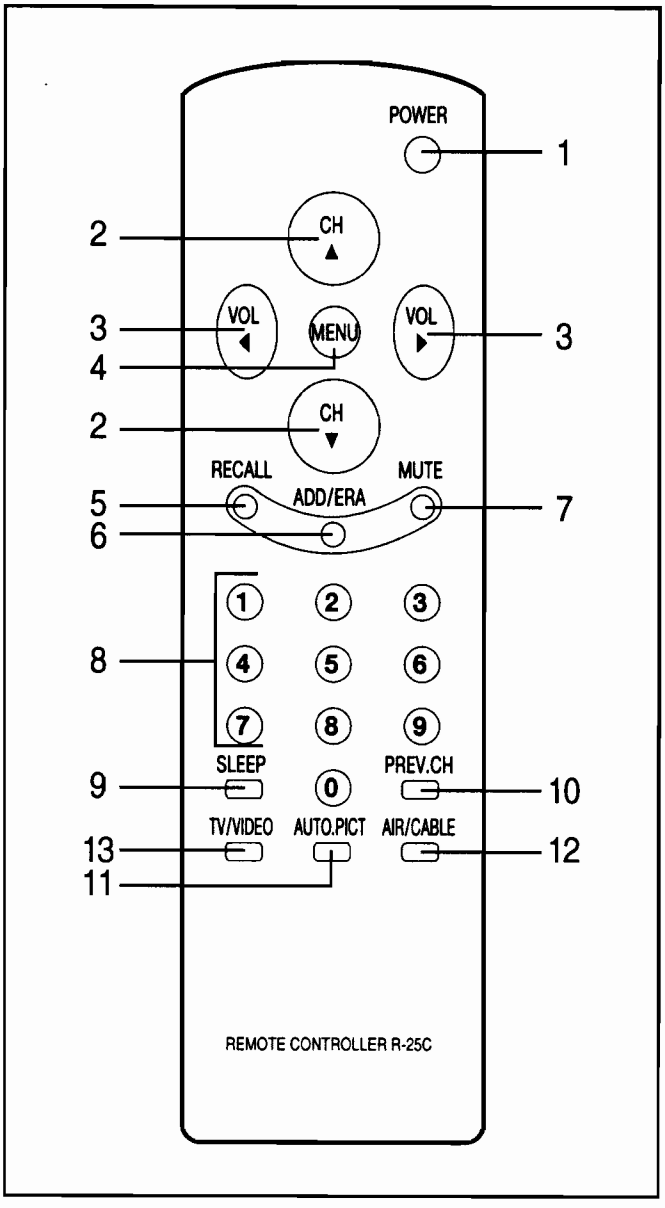
■ CM-570 CHASSIS BLOCK DIAGRAM



■ LOCATION OF CONTROLS



■ REMOTE CONTROL UNIT



1. POWER
Used to turn TV ON or OFF.

2. ▲CH▼
Use these buttons to change channels on your TV, or select items in the menu system.

3. ◀VOL▶
Use these buttons to change your TV's volume, to activate selections in the menu system, or to change audio and video settings.

4. MENU
Use this button to turn TV's menu system on and off.

5. RECALL
Press this button to display the channel number

6. ADD/ERA
Use this button to add a channel to the TV's memory or erase the channel from memory.

7. MUTE
Use to turn the TV's sound on and off.

8. 0-9
Use these buttons to change channels.

9. SLEEP
Use this button to program the TV to turn off after a certain time.

10. PREV.CH
Press this button to return to the previous channel you were watching.

11. AUTO.PICT.
Press this button to return TV's video settings to their original level.

12. AIR/CABLE
Use the button to set up your TV to receive signals from an antenna (AIR) or a cable system (CABLE)

13. TV/VIDEO
Use the button to select TV or VIDEO mode.

■ GENERAL ALIGNMENT INSTRUCTIONS

THIS RECEIVER IS TRANSISTORIZED. SPECIAL CARE MUST BE TAKEN WHEN SERVICING. READ THE FOLLOWING NOTES BEFORE ATTEMPTING ALIGNMENT.

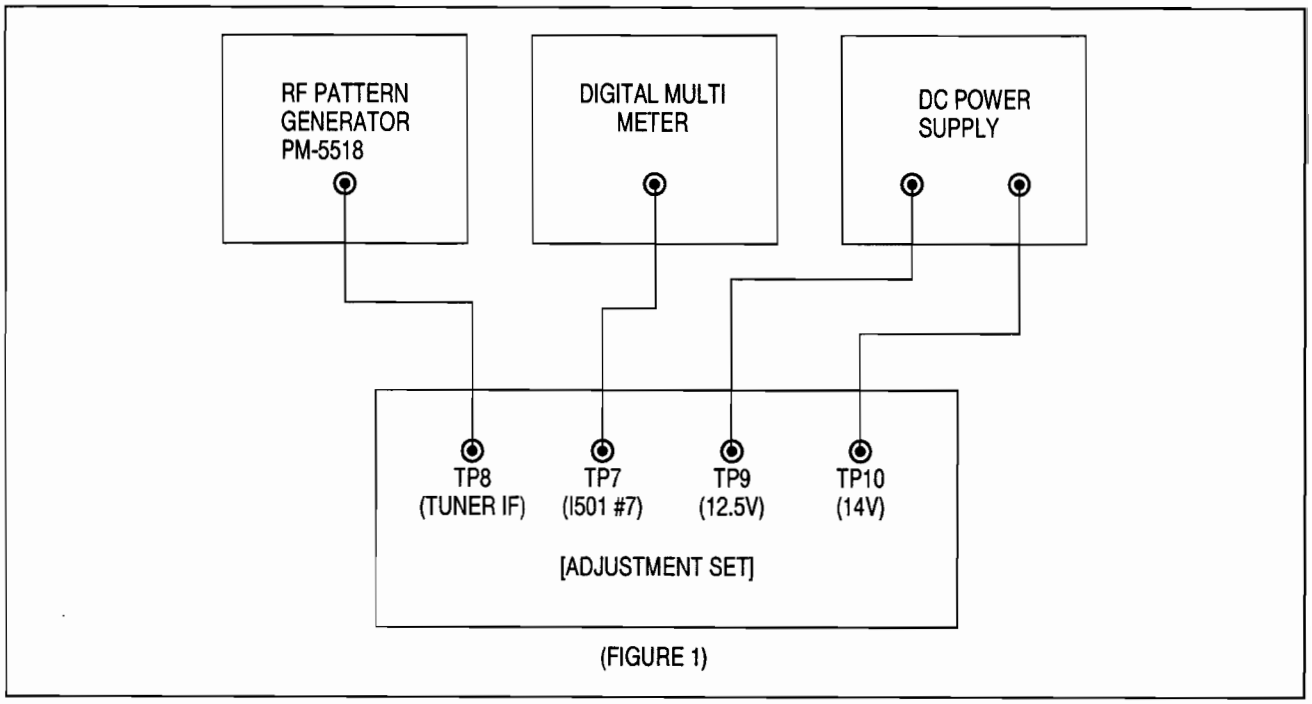
- Alignment requires an exact procedure and should be undertaken only when necessary.
- The test equipment specified or its equivalent is required to perform the alignment properly.The use of a equipment which does not meet these requirements may result in improper alignment.
- Correct matching of the equipment is essential. Failure to proper matching will result in responses which cannot represent the true operation of the receiver.
- The AC Power line voltage should be kept within from 110 to 220 volts while alignment.
- Do not attempt to connect or disconnect any wire while the receiver is in operation.
- Make sure the power cord is disconnected before replacing any parts in the receiver.

TEST EQUIPMENTS.

DC POWER SUPPLY	0V~30V/500mAx2 OUTPUT
RF PATTERN GENERATOR	PHILIPS PM-5518
DIGITAL MULTI METER	FLUKE 8050A
WHITE BALANCE TESTER	NITSUKI 2840
AUDIO SIGNAL GENERATOR	NATIONAL Vp-7422A
OSCILLOSCOPE	2 CHANNEL
RMS VOLT METER	FLUKE 8920A
FREQUENCY COUNTER	1MHz

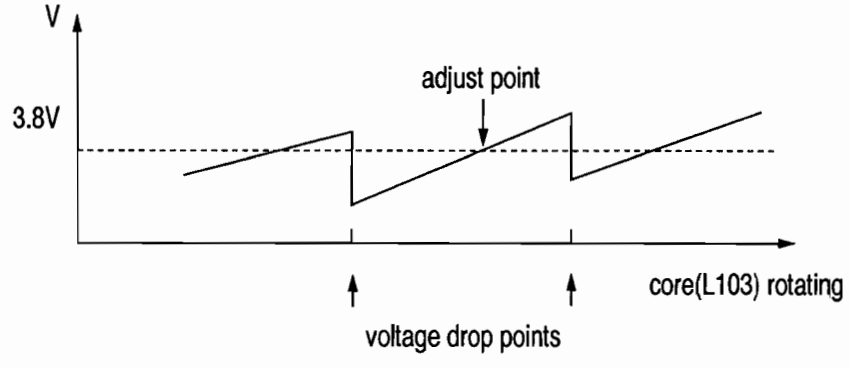
■ PIF VCO ADJUSTMENT

[Measuring Instrument Connection]



(FIGURE 1)

1. Connect the DC POWER SUPPLY to TP9 and TP10.
2. Set the frequency of RF PATTERN GENERATOR with COLOR BAR PATTERN signal to 45.75MHz, and connect the RF output to TP1.
3. Connect the DIGITAL MULTI METER to TP7.
4. Adjust L103 so that the voltage of TP7 becomes 3.8V ± 0.1 Vdc within two DROP-POINTs (FIGURE 2).



(FIGURE 2)

■ SCREEN ADJUSTMENT

1. Turn the SW901 (CRT BOARD).

2. Adjust the SCREEN VOLUME of FBT (T402) in order that the raster disappear.
3. Turn the SW901 to initial position.

■ FOCUS ADJUSTMENT

1. Receive the RETMA pattern.
2. Adjust the FOCUS volume of FBT to obtain the most clear picture.

■ RF AGC ADJUSTMENT

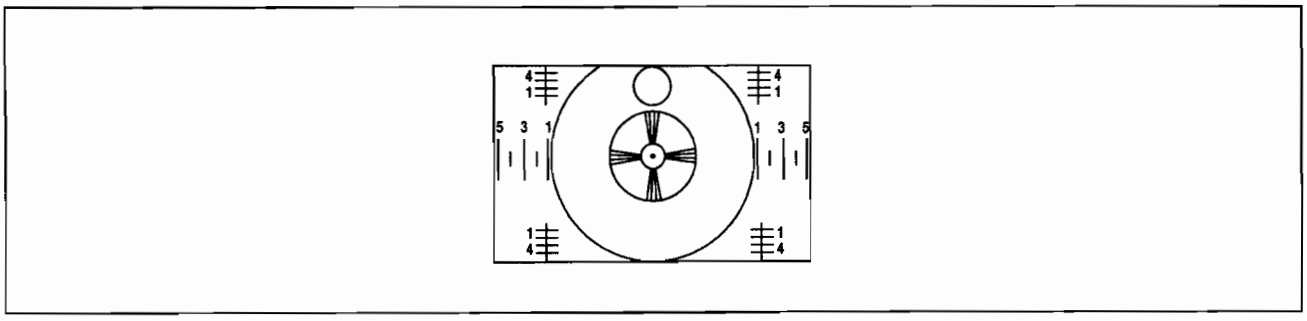
1. Input the COLOR BAR SIGNAL of 65dB to the ANTENNA INPUT.
2. Set the PICTURE CONTROL to STANDARD.
3. Turn completely the RF AGC volume R108 counter-clockwise and turn it clockwise until AGC voltage 5.8 ±0.1V is obtained.
4. If there is the BEAT with strong signal(95 dB over), re-adjust it.

■ VERTICAL CENTER ADJUSTMENT

1. When controlling ITC, adjust the VERTICAL POSITION of D.Y to control the VERTICAL CENTER.
2. Receive the RETMA PATTERN.
3. Set the user control to STANDARD.
4. Adjust the R313 so that the horizontal center of the PATTERN may meet with the mechanical center of CRT.

■ HORIZONTAL CENTER ADJUSTMENT

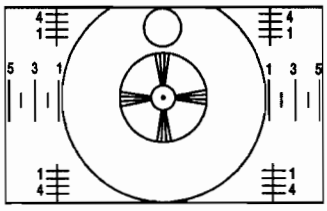
1. Receive the RETMA PATTERN.
2. Set the PICTURE CONTROL to STANDARD.
3. Adjust the R424 in order that the circle may put in the center position of the screen.



(FIGURE 3) VERTICAL and HORIZONTAL center Adjustment

■ VERTICAL HIGHT ADJUSTMENT

1. Receive the RETMA PATTERN.
2. Set the PICTURE CONTROL to STANDARD.
3. Adjust the R304 so that the CENTER of circumference of big circle may meet with the upper and lower sides of screen.



■ WHITE BALANCE ADJUSTMENT

1.Execute HEAT RUN of the TV SET over 30 minutes with SERVICE REMOCON.
2.Connect the signal output of WHITE BALANCE TESTER (Nitsuki 2840) to the ANTENNA (or VIDEO IN) input . Stick and fix the SENSOR to the center position of CRT.
3. Adjust the R,G,B BIAS and G,B DRIVE VOLUME in order that R,G,B of the HIGH and LOW BEAM may meet with the CENTER LED of each measuring instrument.
4. At this time, the memorized coordinates of the WHITE BALANCE TESTER, unless otherwise specified, use following coordinates and color temperature (PAL:9600K 3~50ftL 265 ×295 , NTSC: 10850K 3~50ftL 274 ×289)

■ SUB-BRIGHT ADJUSTMENT

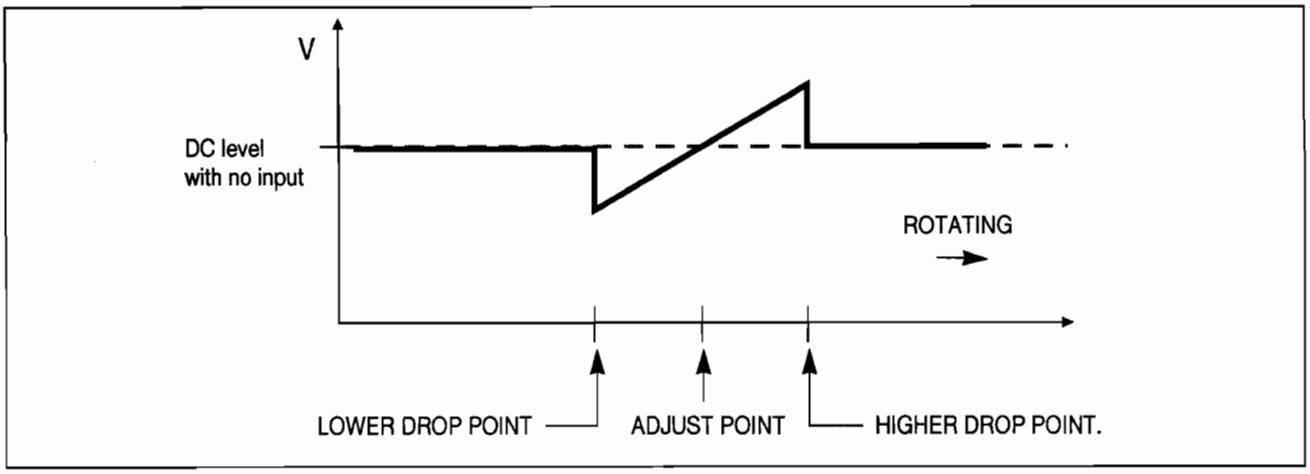
1. Receive the RETMA PATTERN.
2. Set the PICTURE CONTROL to STANDARD.
3. Using the SERVICE REMOCON (9D Key), adjust the SUB-BRIGHT to obtain the gradation pattern as shown.
4. The status that the border between 15% and 20% can be distinguished.

■ SOUND ADJUSTMENT

1. dbx FILTER ADJUST
   A. Remove the solder at SLIT1.
   B. Input the SINE WAVE signal of 23.6KHz, 245mV(rms) to I602 #39(TP1).
   C. Adjust R630 until the output signal of I602 #36(TP2) becomes minimum.

2. SAP FILTER ADJUST
   A. Input SINE WAVE signal of 97.55KHz, 147mV(rms) to I602 #39(TP1).
   B. Adjust R607 until the output signal of I602 #42(TP3) becomes minimum.

3. VCO ADJUST
   A. Input PILOT signal of 15.734KHz, 49mV(rms).
   B. Adjust R611 until the DC level of I602 #40(TP4) becomes same level with NO INPUT.
      Adjusting point must be in the two drop-points(see the figure below).



4. INPUT LEVEL ADJUST
   A. Solder the SLIT1.
   B. Receive the RF signal with 1KHz MONO, SINE WAVE, 100% modulated sound.
   C. Adjust R624 until the Input level of I602 #39(TP1) becomes 245mV(rms).

5. STEREO ADJUST
   A. Input SINE WAVE of 300Hz, 100% MOD. (L CH ONLY) to I602 #39(TP1).
   B. Adjust R620 until the output of I602 #17(TP6) becomes minimum.
   C. Input SINE WAVE of 3KHz, 100% MOD. (L CH ONLY) to I602 #39(TP1).
   D. Adjust R614 until the output of I602 #17(TP6) becomes minimum.
   E. Repeat step A to D until the difference between two output signals
      (TP5 and TP6) is maximized.

■ DESCRIPTION OF CIRCUIT OPERATION

■ FEATURE OF THE CM-570

- •VIDEO, CHROMA, DEFLECTION in one-chip IC.
- •Automatic switching of 3-SYSTEM(NTSC, PAL-M, PAL-N).
- •FS(Frequency Synthesizer) Tunning System.
- •Function of LAST MEMORY against the electric failure.
- •Separation of PIF and SIF.
- •Minimization of Ringing by applying Ringing-less FBT.
- •Auto-compensation of the vertical height level against the frequency change of AC power .
- •OVER CURRENT PROTECTION Circuit.
- •Elimination Circuit of POP NOISE.
- •MONO/ STEREO/ SAP mode enable.

■ OPERATION CHARACTERISTICS OF EACH BLOCK

A.μ-COM (M37220M3) BLOCK

1. μ-COM PIN EXPLANATION

PIN NO.	NAME	FUNCTION	ACTIV	IN/OUT
1	HD	HORIZONTAL SYNCHRONIZED INPUT	↓	IN
2	VD	VERTICAL SYNCHRONIZED INPUT	↓	IN
3	VOLUME	PWM OUTPUT OF 63 LEVEL	HIGH	OUT
4	SAP	SAP DETECT INPUT		IN
5	STEREO	STEREO DETECT INPUT		IN
6	MPX3	CONTROLLING SOUND MODE		OUT
7	MPX1			
8	MPX2			
9	AFT	AFC SIGNAL COMPARATIVE VOLTAGE INPUT FORM BUILT-IN COMPARATOR	-	IN
10	REMOCON	REMOTE CONTROL SIGNAL INPUT TERMINAL		IN
11	50/60	50/60 DISTINCTION INPUT TERMINAL [50Hz=L] [60Hz=H]		IN
12	SD	VIDEO SYNC. SIGNAL INPUT TERMINAL	LOW	IN
13	COLOR KILLER			IN
14	MUTE	VIDEO MUTE OUTPUT TERMINAL [MUTE=H]	HIGH	OUT
15	POWER	POWER CONTROL OUTPUT TERMINAL. [POWER-OFF=L] [POWER-ON=H]	HIGH	OUT
16	PLL ENABLE	ENABLE CONTROL TERMINAL OF PLL IC	LOW	OUT
17	TV/VIDEO	TV/VIDEO CHANGE TERMINAL [TV=L] [VIDEO=H]	-	OUT
18	CNVss	GND	-	-
19	XIN	MAIN CLOCK GENERATING CIRCUIT IN/OUTPUT	-	-
20	XOUT	TERMINAL (4.194304 MHz)	-	-
21	VSS	GND	-	-

CONTROLLING SOUND MODE

	M1	M2	M3
MONO	H	L	M
STEREO	H	L	L
SAP	L	H	M

PIN NO.	NAME	FUNCTION	ACTIVE	IN/OUT
22	VCC	+5V	-	-
23	OSC2	CLOCK IN/OUTPUT TERMINAL USING CRT DISPLAY	-	-
24	OSC1		-	-
25	RESET	RESET INPUT TERMINAL	LOW	IN
26	BUS-2	SYSTEM PICTURE DATA OUTPUT TERMINAL OF 64 LEVEL	HIGH	OUT
27	BUS-1	SYSTEM PICTURE ADDRESS OUTPUT TERMINAL OF 64 LEVEL	HIGH	OUT
28	DATA/KEY OUT	EEPROM IC, PLL IC CONTROL DATA OUTPUT&KEY SCAN TERMINAL	LOW	OUT
29	KEY OUT	KEY SCAN TERMINAL	HIGH	OUT
30	KEY-IN	KEY RETURN INPUT TERMINAL (CH UP, CH DOWN, VOL UP, VOL DOWN, MENU)	LOW	IN
31	KEY-IN		LOW	IN
32	KEY-IN		LOW	IN
33	SOUND MUTE			OUT
34	PAL-N	SYSTEM CONTROL OUTPUT TERMINAL [AT PAL-M OR NTSC=L]	HIGH	OUT
35	PAL-M	SYSTEM CONTROL OUTPUT TERMINAL [AT PAL-N OR NTSC=L]	HIGH	OUT
36	EEP ENABLE	EEPROM IC ENABLE CONTROL TERMINAL&DIODE SWITCH READ	-	OUT
37	CLOCK	EEPROM, PLL IC CLOCK OUTPUT TERMINAL	-	OUT
38	X-RAY	PROTECTION INPUT TERMINAL	HIGH	IN
39	Y'S	OSD DISPLAY OUTPUT TERMINAL	HIGH	OUT
40	B		HIGH	OUT
41	G		HIGH	OUT
42	R		HIGH	OUT

- **FUNCTION OF LAST MEMORY**

  Always holds previous DATA by saving the signal of the DATA, CLOCK, ENABLE on the EEPROM

- **FUNCTION OF AUTO POWER OFF**

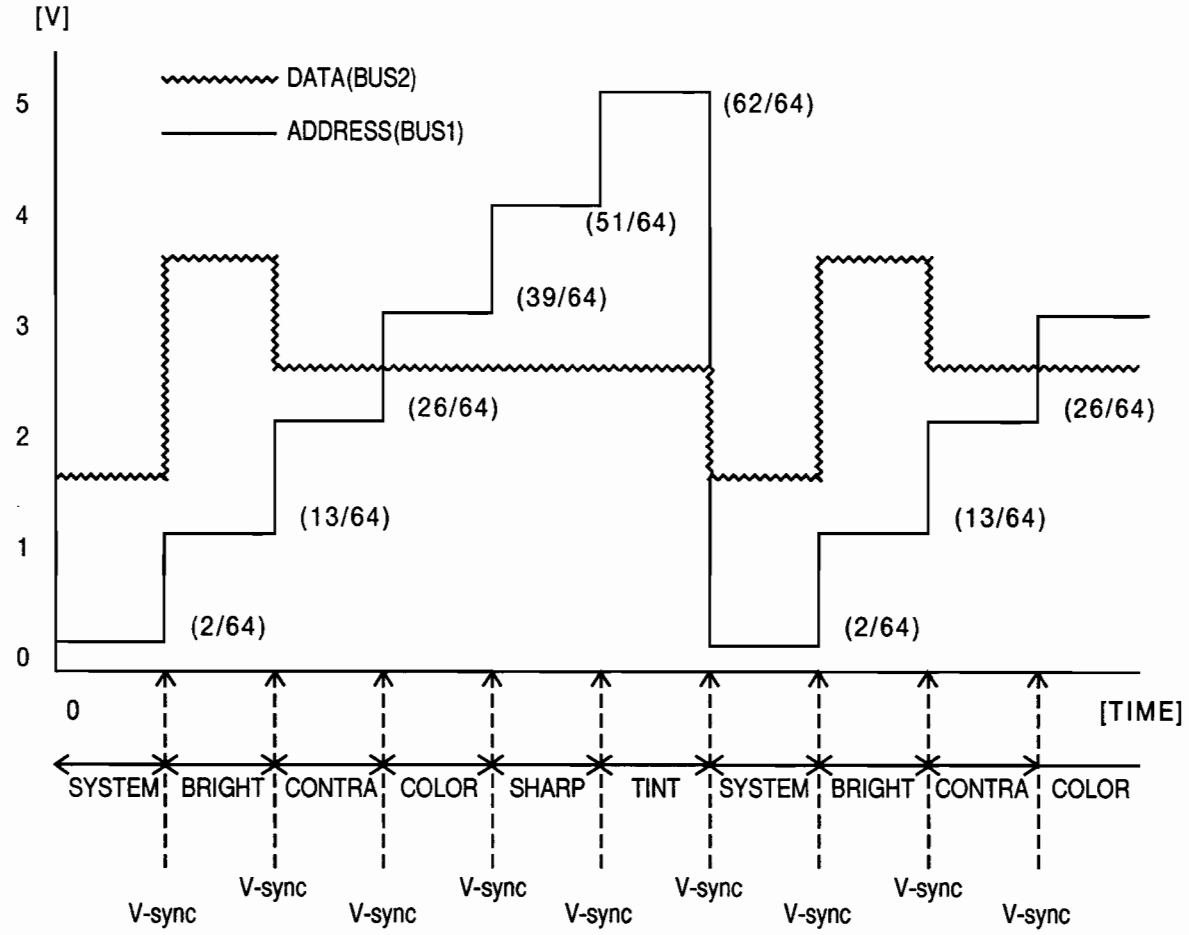
  Set power is automatically off when signal is out during 15 minutes.

- **VIDEO MODE ON SCREEN DISPLAY**

  At video mode, OSD is always displayed when no signal.

2. BUS CONTROL EXPLANATION

1) BUS-1 BUS-2 DATA OUTPUT TIMING DIAGRAM



2) ADDRESS(BUS-1)

· SYSTEM	=	2/64Vcc	=	0.156250V	* Vcc=5[v]
· BRIGHT	=	13/64Vcc	=	1.015625V	
· CONTRAST	=	26/64Vcc	=	2.031250V	
· SHARP	=	39/64Vcc	=	3.046875V	
· COLOR	=	51/64Vcc	=	3.984375V	
· TINT	=	62/64Vcc	=	4.843750V	

DATA(BUS-2) Produce correspondent DATA for each ADDRESS.

EX)WHEN BRIGHT=32 AND BRIGHT INCREMENT=02
ADDRESS(BUS-1)=13/64 VCC
DATA(BUS-2)=(32+2)/64 VCC OUTPUT

3) 3-SYSTEM CONTROL

INPUT:50/60[#11, P23], IDENT[#13, P25]

OUTPUT: BUS1[#27, ADDR], BUS2[#26, DATA], PAL-N[#34, P11], PAL-M[#35, P10]

INPUT		OUTPUT			
50/60[#11]	IDENT[#13]	BUS1[#27]	BUS2[#26]	PAL-N[#34]	PAL-M[#35]
50[LOW]	HIGH	0~0.25V (0.125V)	1.33~2.33V (1.8V)	HIGH	LOW
50[LOW]	LOW	0~0.25V	1.33~2.33V	HIGH	LOW
60[HIGH]	HIGH	0~0.25V	#A *	LOW	Q_{N-1} @
60[HIGH]	LOW	0~0.25V	#B *	LOW	/Q_{N-1} @

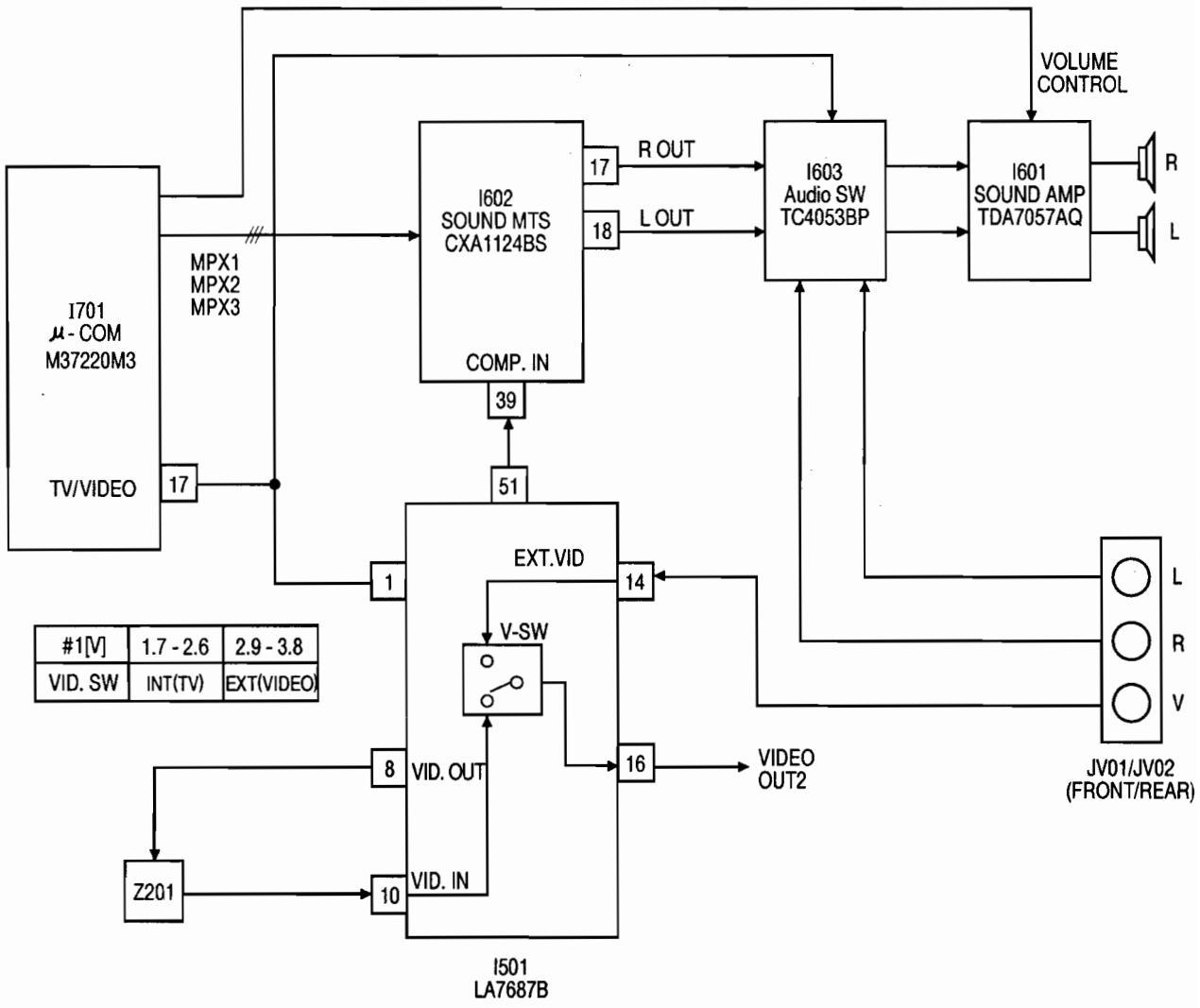
* : The meaning of Q_{N-1} @ is maintenance of pre-state and/Q_{N-1} is invert of pre-state

@ : IF pre-state is HIGH at output PAL-M than #A is 1.33V~2.33V(=1.8V) and #B is 4.0V~5.0V(=4.5V).
IF per-state is LOW at output PAL-M than #A IS 4.0V~5.0V(=4.5V) and #B is 1.33V~2.33V(=1.8V)

B. VIDEO BLOCK

1. TV/VIDEO SWITCHING

1) Switching block diagram



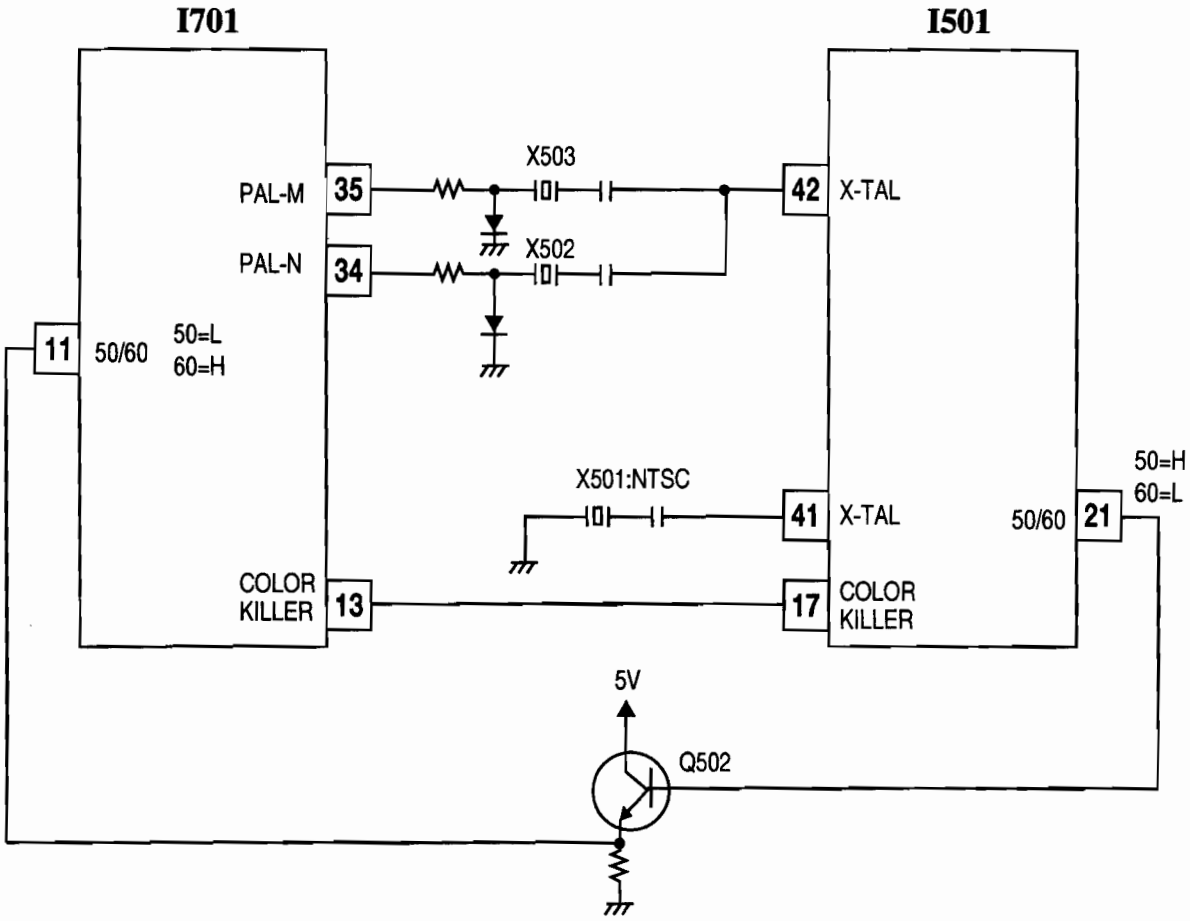
2) Explanation of the operation

- TV signal : after going out the #8, the video detected TV signals, 2Vp-p, go into the #10, 2Vp-p, through 4.5MHz BPF(Band Pass Filter Z201).
- VIDEO signal : The outside video signals from the A/V JACK go into the #14, 2Vp-p.
- Output pulse from the u-com (TV:L, VIDEO:H) go into the #1 of I501 and I603.
- At the #1 of I501, If the input voltage is 1.7~2.6[v], output signal of the #16 is TV signal.
  If the input voltage is 2.9~3.8[v], output signal of the #16 is VIDEO signal.

  At the I603, If the input voltage is Low, output signals are TV signal.
  If the input voltage is High, output signals are VIDEO signal.

2. SYSTEM AUTO SWITCHING

1) Block diagram



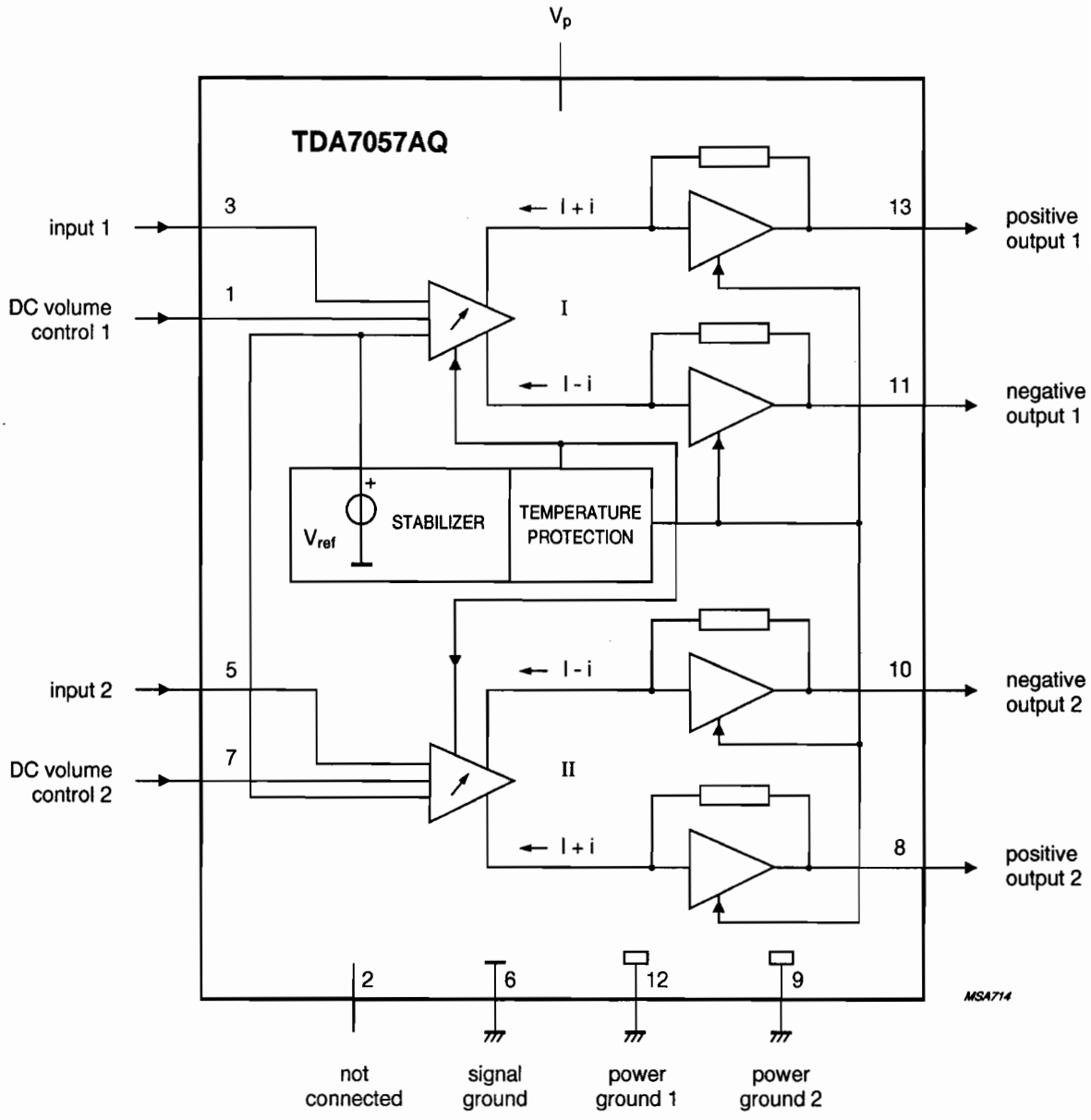
2) Explanation of the operation

- If 50[Hz] of the I501 #21 goes into the #11 of I701, High pulse code out to the #34 so that X503, PAL-N crystal, oscillates.

- If 60[Hz] of the I501 #21 goes into the #11 of I701, the system operates as PAL-M or NTSC-M.
  -High signal of the #35 of the I701 makes X502, PAL-M crystal, oscillate.
  -Low signal of the #35 of the I701 makes X503, NTSC-M crystal, oscillate.

COLOR	VHF	UHF	SCANNING NUMBER	LINE FREQ.	FIELD FREQ.	CHROMINANCE FSC SUB CARRIER
NTSC	M	M	525	15,734[Hz]	60[Hz]	3.579545[MHz]
PAL	M	M	525	15,734[Hz]	60[Hz]	3.575611[MHz]
PAL	N		625	15,625[Hz]	50[Hz]	3.582056[MHz]

C. SOUND AMP BLOCK DIAGRAM

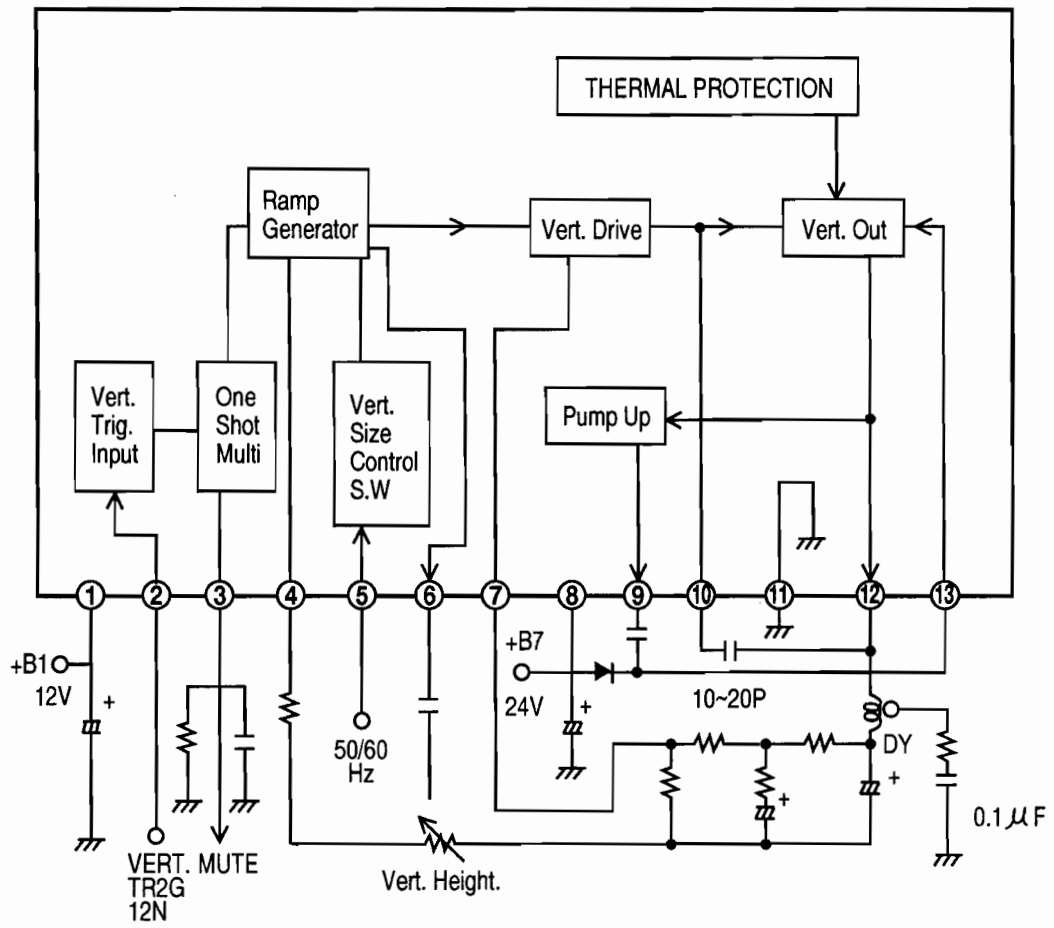


D. DEFLECTION BLOCK

This block can be separated into two part, vertical and horizontal.
Only the vertical circuit is explained here, comprehensibly.

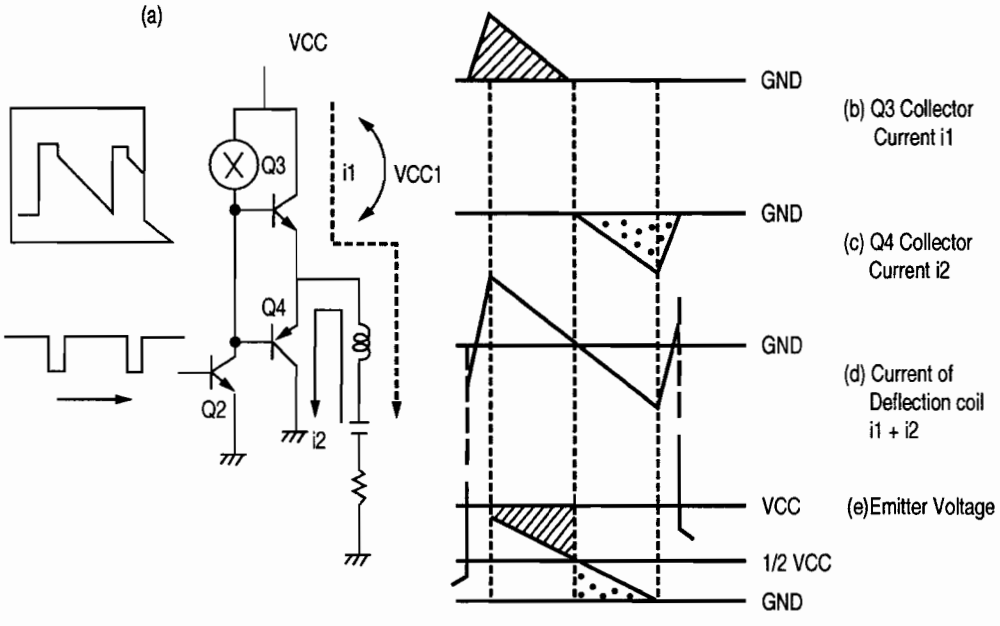
1. BLOCK DIAGRAM OF VERTICAL IC

I 301 LA7837



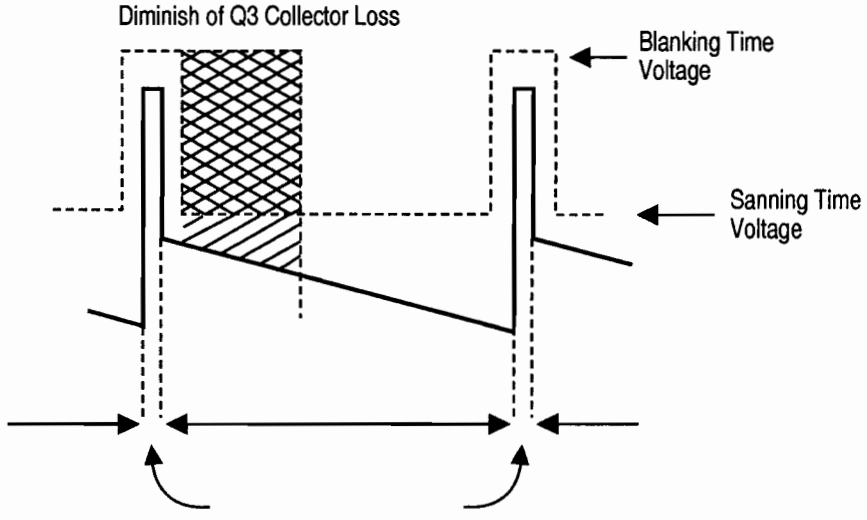
#1: B+(12V)
#2: VERTICAL TRIGGER INPUT
#3: TIME CONSTANT& MUTE
#4: VERTICAL HEIGHT CONTROL
#5: 50/60[Hz]VERTICAL SIZE CONTROL SIGNAL INPUT
#6: RAMP WAVEFORM GENERATION
#7: AC/DC FEEDBACK INPUT TO VERTICAL
8: POWER SUPPLY(VBB):25V
9: PUMP UP OUTPUT
#10: OSC BLOCKING
#11: GND
#12: VERTICAL OUTPUT
#13: POWER SUPPLY FOR VERTICAL OUTPUT

2. OPERATION OF VERTICAL



VERTICAL OUTPUT WAVE

1. In the picture above, (a) shows a fixed Vcc, and (+) (-) current of deflection coil is current (d) which is sum of (a) and (b), and (e) shows EMITTER voltage of Q3, Q4.
2. Collector loss of Q3 is V_{CE1} which is the product of oblique region of (b), (c).
3. Collector loss of Q4 is product of dot region of (c), (e).
4. To reduce collector loss of Q3, if bring down the voltage during scanning time as shown in the picture (b), V_{CE1} become lower so that the loss diminish.



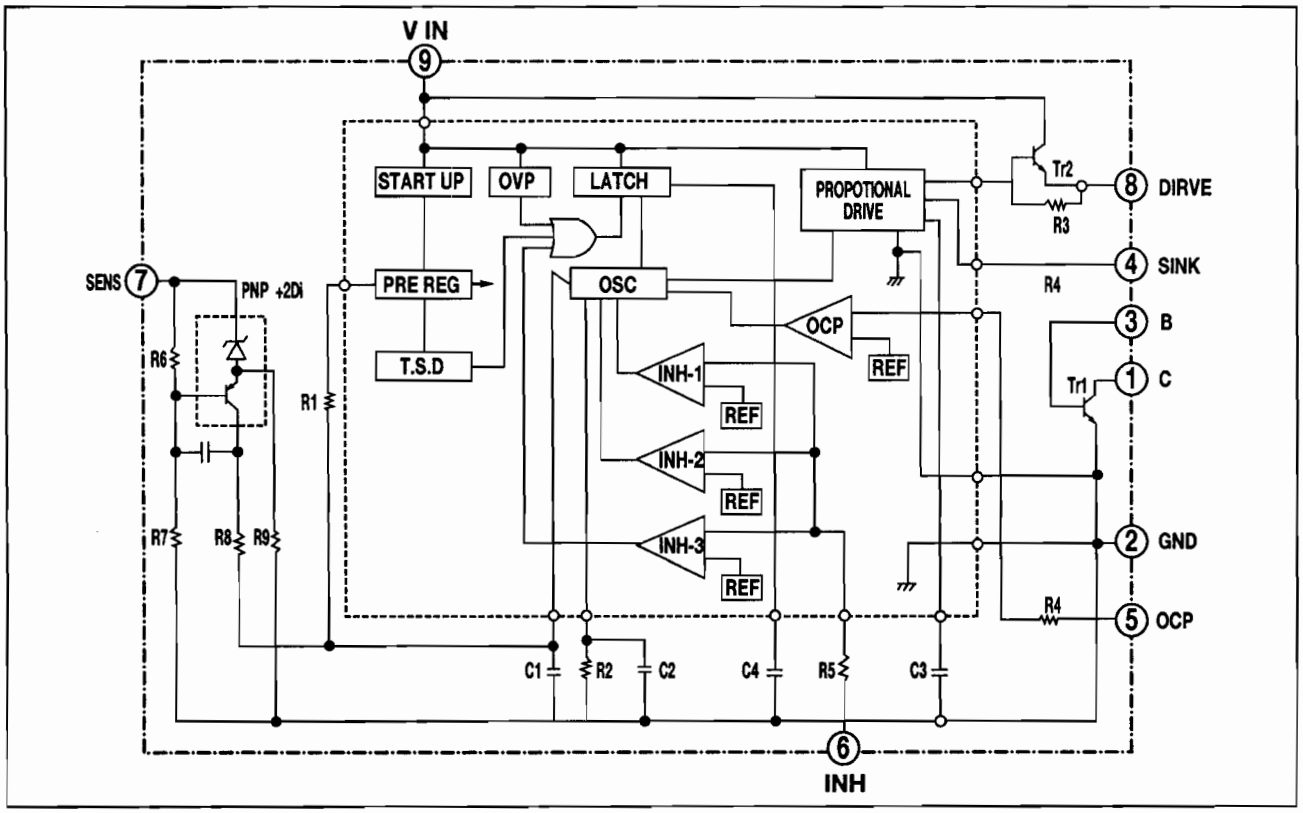
OUTPUT VOL TAGE

E. POWER BLOCK

This chassis designed for free voltage(AC 100V ~ AC 220V) power. power block contains power IC, SMPS transformer and several passive components.

The power IC STR-S5707 has power transistor. oscillator circuit, voltage comparator circuit, thermal protection circuit, OCP(over current protection) circuit inside.

1.STR-S5707 BLOCK DIAGRAM



2.PIN DESCRIPTION

PIN NO	SYMBOL	NAME	FUNCTION
1	C	COLLECTOR	POWER TRANSISTOR COLLECTOR
2	GND	GROUND	GROUND(POWER TRANSISTOR EMITTER)
3	B	BASE	POWER TRANSISTOR BASE
4	SINK	SINK	BASE CURRENT (Is) INPUT
5	OCP	OVER CURRENT PROTECTION	OVERCURRENT SENSING SIGNAL INPUT
6	INH	INHIBIT / LATCH	SYNC, OFF TIME/LATCH CIRCUIT CONTROL INPUT
7	F/B(SENS)	FEED BACK(SENSING) INPUT	CONSTANT VOLTAGE CONTROL SIGNAL INPUT
8	DRIVE	DRIVE	BASE DRIVE CURRENT (Id) OUTPUT
9	Vin	Vin	SUPPLY VOLTAGE FOR CONTROL CIRCUIT

3. OTHER FUNCTION

Symbol	Function
OVP	Built-in Overvoltage Protection Circuit
TSD	Built-in Thermal Shutdown Circuit

4. EXPLANATION OF CIRCUIT OPERATION

1) VIN terminal, start-up circuit

A start-up circuit is to start and stop a operation of a control IC by detecting a voltage appearing at a V_{IN} terminal (pin-9). At start up of a power supply, when a voltage at the V_{IN} terminal reaches to 8V by charging up C806 by the function of a start-up resistor, Rs, a control circuit starts operating by the function of the start-up circuit. As shown in Fig. 2, since a circuit current is suppressed 200μA maximum (at V_{IN} = 7.5V) until the control circuit starts its operation.

After the control circuit starts its operation, power source is obtained by smoothing voltage appearing at L1 winding. Once the control circuit starts operating, as its voltage doesn't reach the fixed voltage at once, V_{IN} terminal voltage starts dropping. However, as a shut-down voltage is set low (at 4.9V), while V_{IN} terminal voltage reaches a shutdown voltage, L1 winding voltage reaches the fixed voltage earlier so that the control circuit can continue on operating.

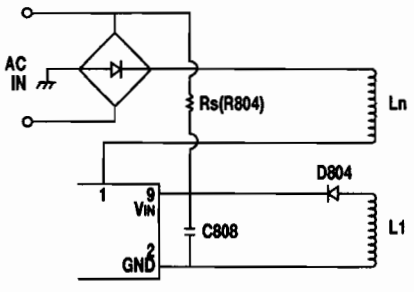


Fig .1 Start-up Circuit

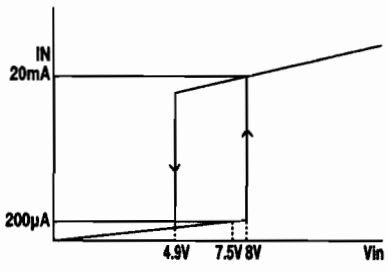


Fig .2 V_{IN} Terminal Voltage Circuit Current V_{IN}

2) Oscillator, F/B terminal voltage (Pin #7)

A oscillator generates pulse signals which turns a power transistor on and off by making use of charge and discharge of C1 and C2 incorporated in the Hybrid IC.

Constant voltage control of a switch-mode power supply is performed by changing both ON- time and OFF-time except when the load is light (ex. remote control stand-by mode of TVs).

Fig. 4 shows how the oscillator works when the Hybrid IC independently operates (with no F/B nor INH signals). When the power transistor is on, C2 Is charged to the set voltage (approx 2.3V at Ta =25°C). On the other hand, C1 starts charging up through R1 from almost 0V and the voltage across C1 increases in accordance with the inclination determined by the product of C1 and R1. When the voltage across C1 reaches approx. 0.75V (Tc=25°C). the output from the oscillator is reversed and the power transistor turns off. At the same time C1 is quickly discharged by the function of a internal circuit of the oscillator and the voltage across it decreases to almost 0V. When the power transistor turns off, C2 starts discharging through R2 and the voltage across C2 decreases in accordance with the inclination determined by the product of C2 decreases to about 1V. the output from the oscillator is reversed again and the transistor consequently turns on. The power transistor continues turning on and off by repeating the above-mentioned operations.

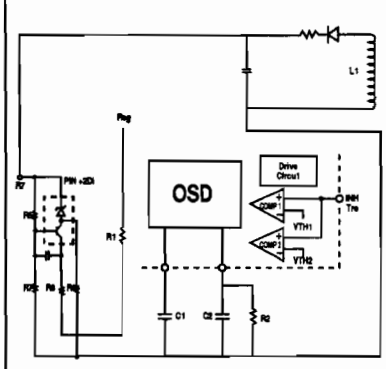


Fig 3 Oscillator Circuit Configulation

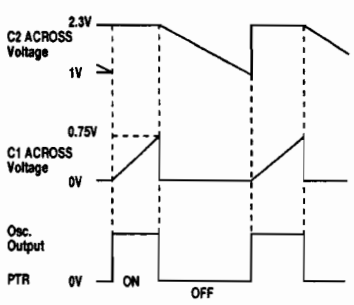


Fig 4 Operation Waveforms of Oscillator without F/B nor INH Signal

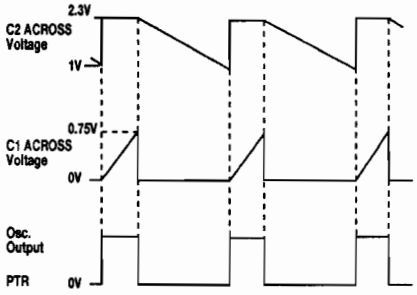


Fig 5 Operation Waveforms of Oscillator with F/B Signal

As the circuit in Fig. 3 shows, the ON-time is controlled by changing a current charged by C1, which is as the result of that the detection winding (L1),which detects a change of voltage in a secondary side, connected to the sensing terminal (Pin No. 7) has the current in accordance with an output signal from an output voltage detection circuit (an error amplifier) built in. As an AC input voltage to the power supply gets the higher and a load current the smaller, the current flowing to the SENS terminal gets the larger, and the ON-time gets the shorter.

3) Function of INH terminal (Pin #6), control of OFF-time

Signal to the INH terminal is used as inputs to COMP.1 and COMP.2 inside of the control IC. A threshold voltage of COMP.1 V_{TH1} is set at 0.75V (Ta=25°C) and an input signal to a drive circuit becomes almost 0V (the power transistor is in OFF mode) when a voltage at the INH terminal reaches the V_{TH1}. As long as the INH terminal voltage does not get lower than V_{TH1}. the power transistor sustains OFF mode. On the other hand, a threshold voltage of COMP.2 V_{TH2}, is set at 1.5V (Ta=25°C).When the INH terminal voltage reaches V_{TH2}, an output from COMP.2 reverses and, as a result, C2 starts firing and a voltage across C2 drops to almost 0V in a moment. As the result of this immediate discharge of C2, the OFF-time of the oscillator which has been determined by the product of C2 and R2 ($\approx$ 55 μsec) can be quicker up to approx. 2μsec. As long as the INH terminal voltage does not get lower than V_{TH2}, A Voltage across C2 stays at almost 0V and a output from the oscillator keeps the power transistor being on. The relation between the INH terminal voltage and the function of the oscillator described above is shown in Fig. 6 and Fig. 7

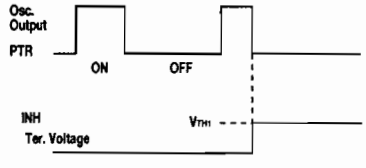


Fig .6 Operation Waveforms of INH Terminal(V_{TH1})

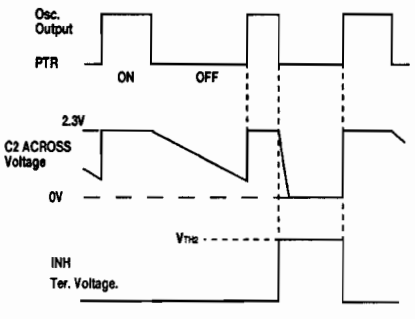


Fig .7 Operation Waveforms of INH Terminal(V_{TH2})

4) Quasi-resonant operation

By inputting a voltage signal which is synchronized with the energy discharge time of a secondary winding of a transformer to the. INH terminal, quasi-resonant operation can be achieved. As shown in Fig. 8 , the voltage of L1 winding which is synchronized. with the energy discharge time of a secondary winding. S1. shall be input to the INH terminal through D805 and R807. Since V_{TH2} is set at 1.5V typical, a voltage at the INH terminal. V_{INH}, shall be set at 2V.

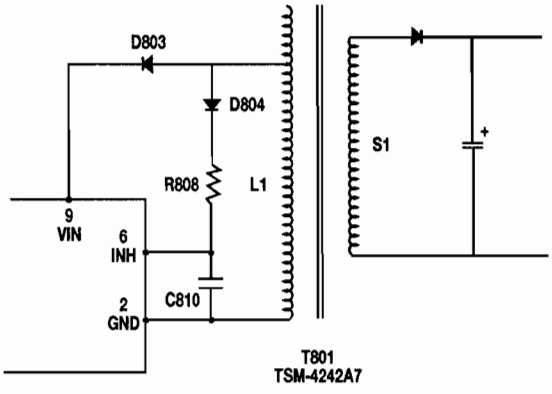


Fig 8 Operation Circuit

Fig. 9 shows waveforms of V_{CE}, Ic and V_{INH} of the transistor, voltage across C808 in the oscillator as well as an output from the oscillator when operating in quasi-resonant mode.

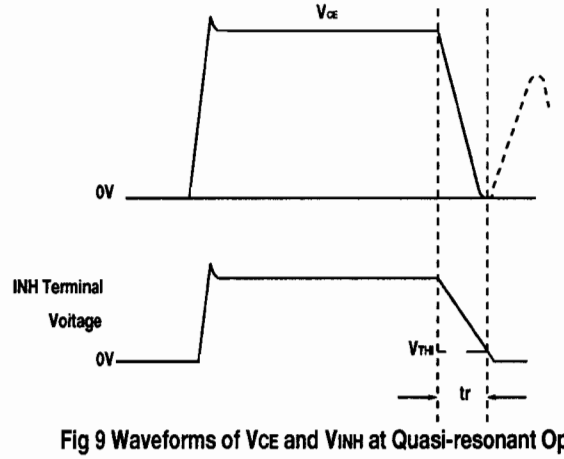


Fig 9 Waveforms of V_{CE} and V_{INH} at Quasi-resonant Operation

when the power transistor turns off and a voltage higher than V_{TH2} is applied to the INH terminal, C808 immediately discharges and then starts charging again. Even after the discharge of energy of a secondary winding is completed, V_{INH} does not immediately increases. When it gets lower than V_{TH2} after the time,tr, which is determined by the production of internal impedance of the IC and C_{INH}, has past, the transistor turns on.

5) Drive circuit

The STR-S5707 applies the proportional drive system in order to minimize turn-on and saturation loss, and storage time. In the conventional RCC system, turn-on loss and switching noise due to the surge current appearing when the power transistor turns on are high as because the transistor is driven by the drive current shown in Fig. 10-1. In addition, since is decreases linearly when the transistor turn off and a peak value of I_{B2} is not large, the storage time is long and the $V_{CE(sat)}$ voltage is high, which results in large turn-off loss. The circuit and the waveforms of the proportional drive system which is applied to the STR-S5707 in order to reduce these switching loss and shorten the storage time are shown in Fig . 10 and Fig. 10-2 respectively.

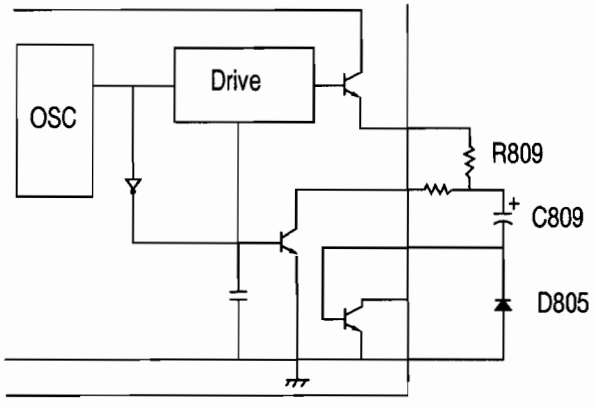


Fig .10 D806 and C805 function to reverse-blas between the base and the emitter of the transistor during its off state.

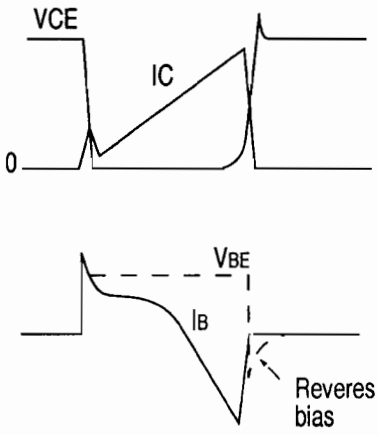


Fig .10-1 Waveforms of Conventional RCC Power Supply

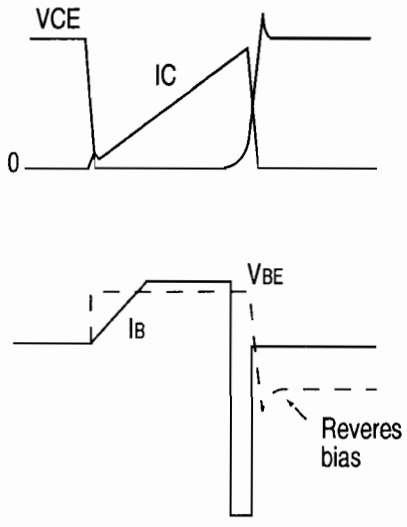


Fig .10-2 Waveforms of power Supply Using STR-S5707

6) OCP (overcurrent protection) function

Overcurrent protection is performed pulse by pulse by directly detecting collector current of the power transistor. Configuration of the OCP circuit is shown in . Detecting voltage is set to -1V below a reference point of GND (ground). In addition, since the detecting voltage is set by a comparator, very stable characteristics against temperature is achieved and drift of the detecting voltage against temperature change is almost 0V.

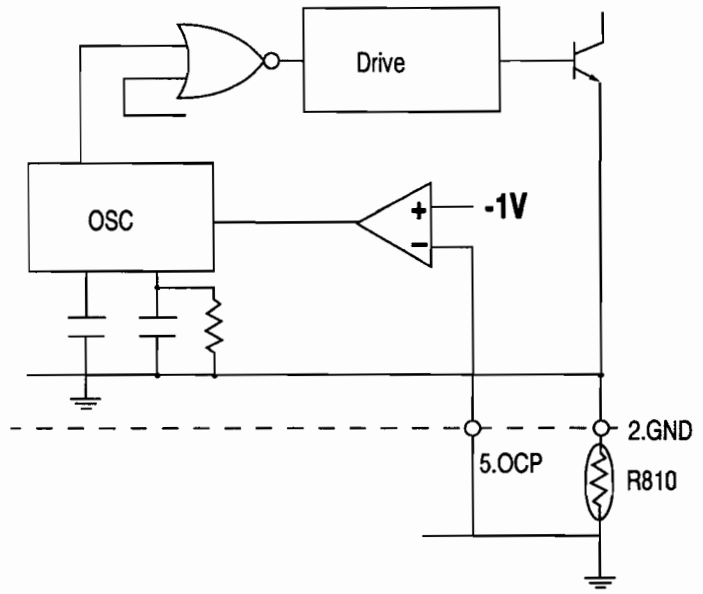


Fig 11 Overcurrent protection Circuit

7) Latch circuit

It is a circuit which sustains an output from the oscillator low and stops operation of the power supply when overvoltage protection (OVP) circuit and thermal shutdown (TSD) circuit are in operation. As the sustaining current of the latch circuit is 500μA maximum when V_{IN} terminal voltage is 4V. the power supply circuit sustains the off state as long as current of 500μA minimum flows to V_{IN} terminal from a start-up resistor. In order to prevent a malfunction to be caused by a noise and so on, delay time is provided by C1 incorporated in the IC and, therefore, the latch circuit operates when the OVP of TSD circuit is in operation, of an external signal input is provided. for about 10μsec or longer.In addition, even after the latch circuit start operating, the constant voltage regulator (Reg) circuit is in operation and the circuit current is at high level. As a result. V_{IN} terminal voltage rapidly decreases. When V_{IN} terminal voltage becomes lower than the shutdown voltage, V_{IN}(OFF), (4.9V typical), it starts in -creasing as the circuit current is below 500μA. When it reaches the ON-state voltage. V_{IN}(ON), (8V typical), V_{IN} terminal voltage starts decreasing because the circuit current increases again.

when the latch circuit is on. V_{IN} terminal voltage increases and decreases with- in the range from 4.9V typical to 8V typical and is prevented from abnormally rising. Fig. 12 shows an example of V_{IN} terminal voltage waveform.Cancellation of the latch-is done by decreasing V_{IN} terminal voltage below 3.3V. The power supply can be restarted after disconnecting an AC input to the power supply once.

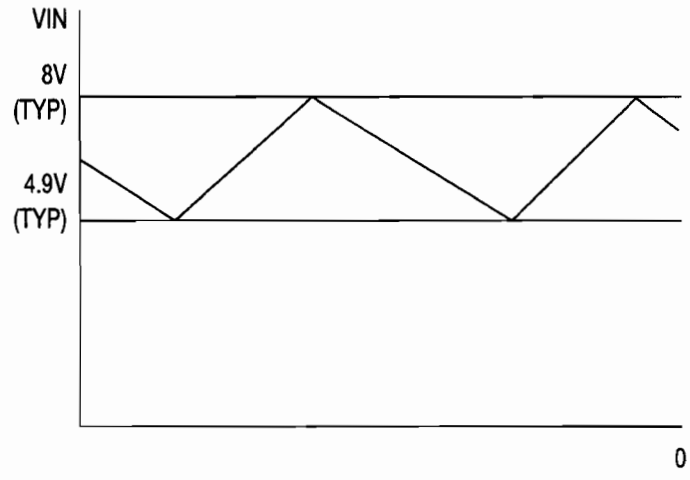


Fig 12 Typical V_{IN} Terminal Voltage Waveform When Latch Circuit Is Operating

8) Thermal shutdown, circuit

It is a circuit to trigger the latch circuit when the frame temperature of the IC exceeds 150°C (typical). Although the temperature is actually sensed at the control chip. It works against overheating of the power transistor as the power transistor and the control IC are mounted on the same lead frame.

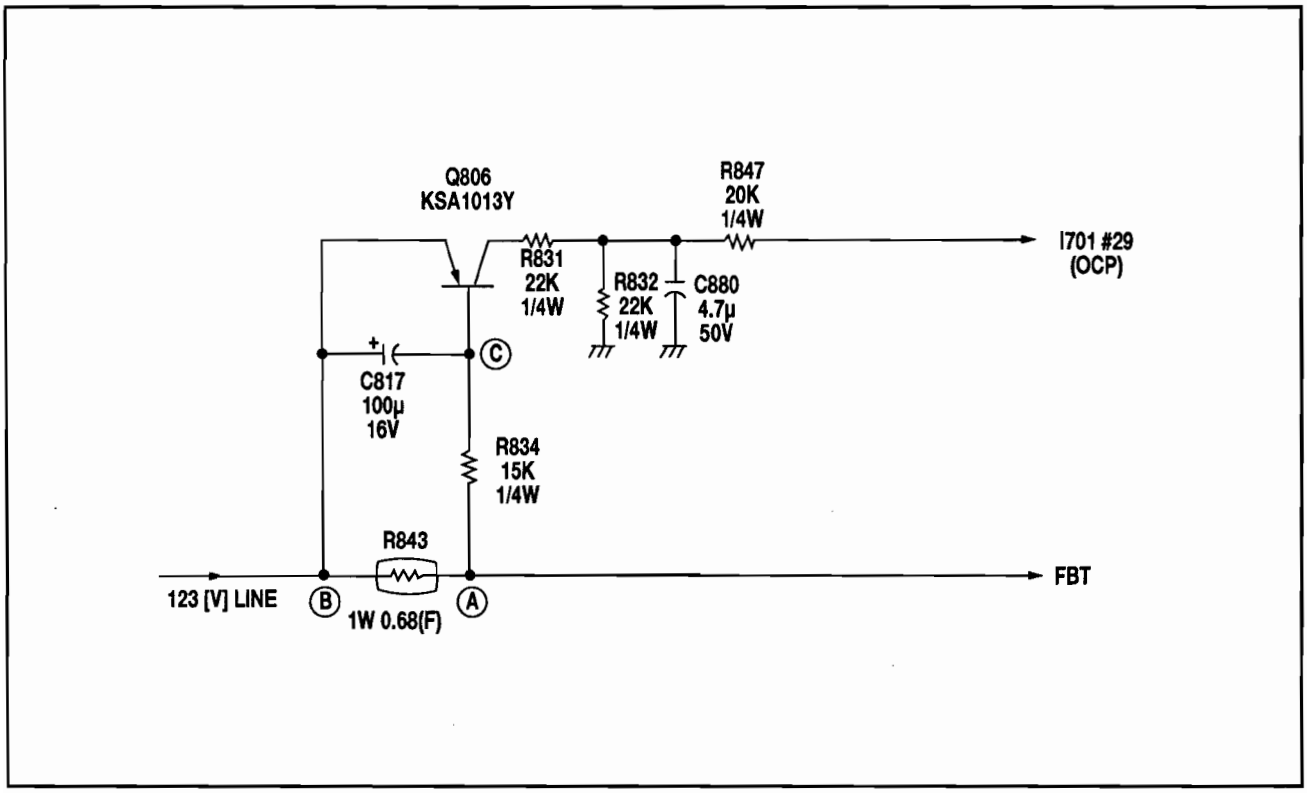
9) Overvoltage protection circuit

It is a circuit to trigger the latch circuit when V_{IN} terminal voltage exceeds 11V (typical). Although it basically functions as protection of V_{IN} terminal against overvoltage, since V_{IN} terminal is usually supplied from the drive winding of the transformer and the voltage is proportional to the output voltage, it also functions against the overvoltage of secondary output which causes when the control circuit opens or in some other events.

5.OCP (OVER CURRENT PROTECTION) CIRCUIT

This circuit is designed to protect the circuit from over current due to overload occurred at the rear of 132[V] line.

1) CONFIGURATION OF OCP CIRCUIT



2) EXPLANATION OF THE OPERATION

① There is very little voltage drop at Ⓐ R843(1W 0.68) of 123 [V] line.

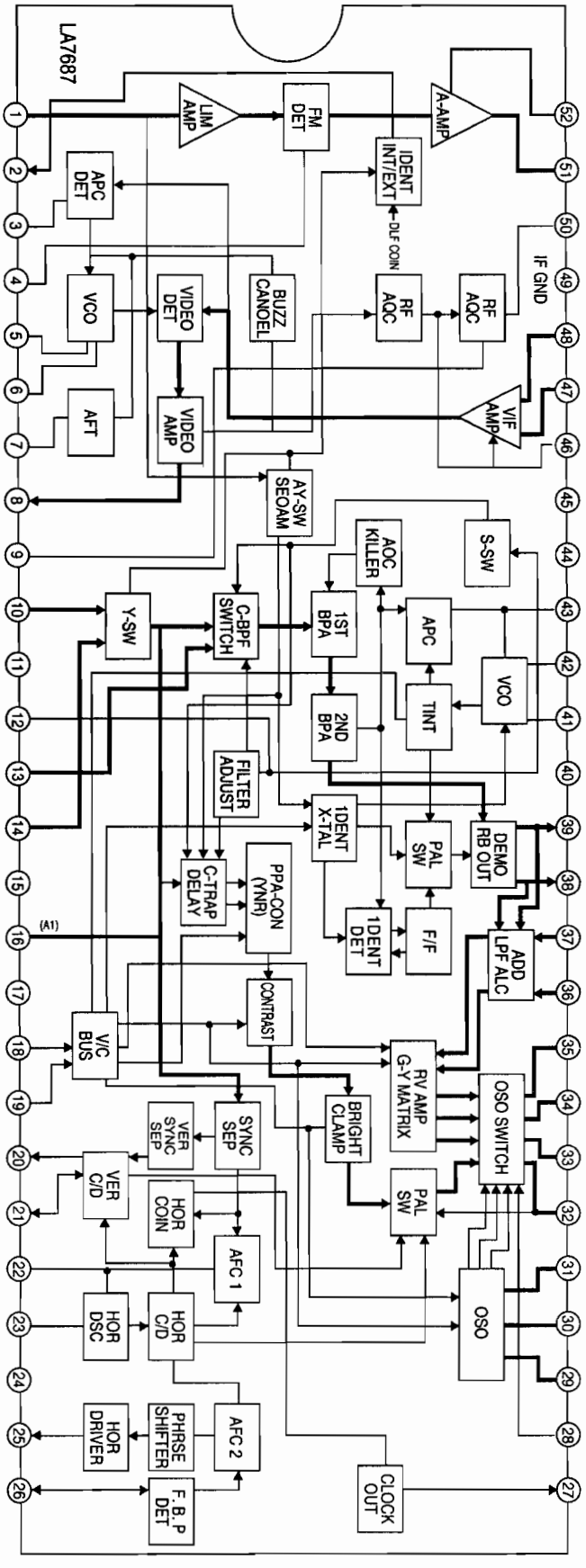
② In case that the overload occurs at the rear of 123[V] line, the increase of the voltage drop at R843 bring down the base voltage of the Q806 so as to drive the Q806

③ Because of the overload at the rear of the R821, the voltage of the Ⓒ point decreases. And this makes Q806 turn on so that a voltage is applied to the #29 of I701.

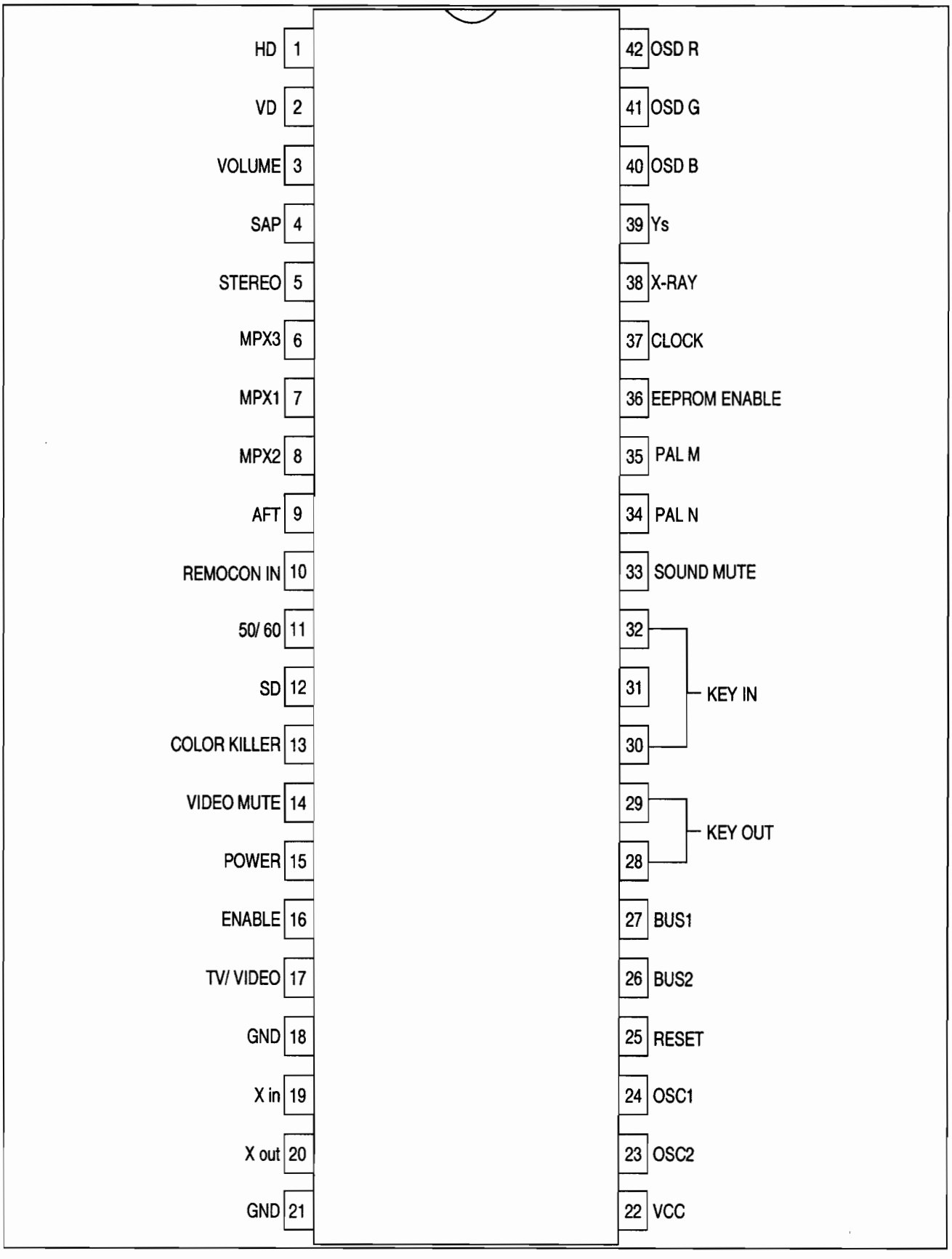
④ In case that OCP operates by the #29 of the I701, the set is protected by power off (#32 of I701→LOW).

G. IC BLOCK DIAGRAM

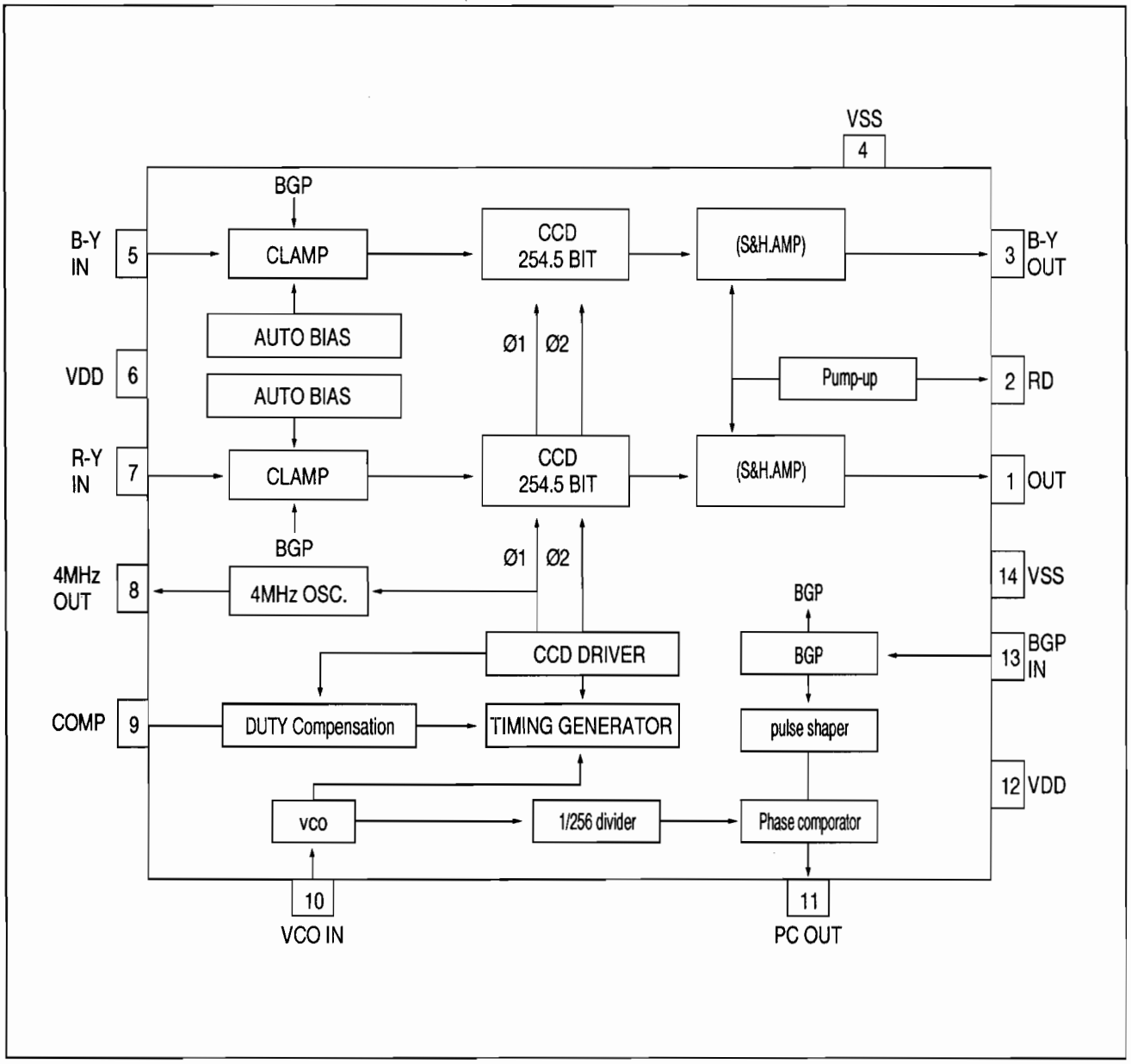
1. LA7687



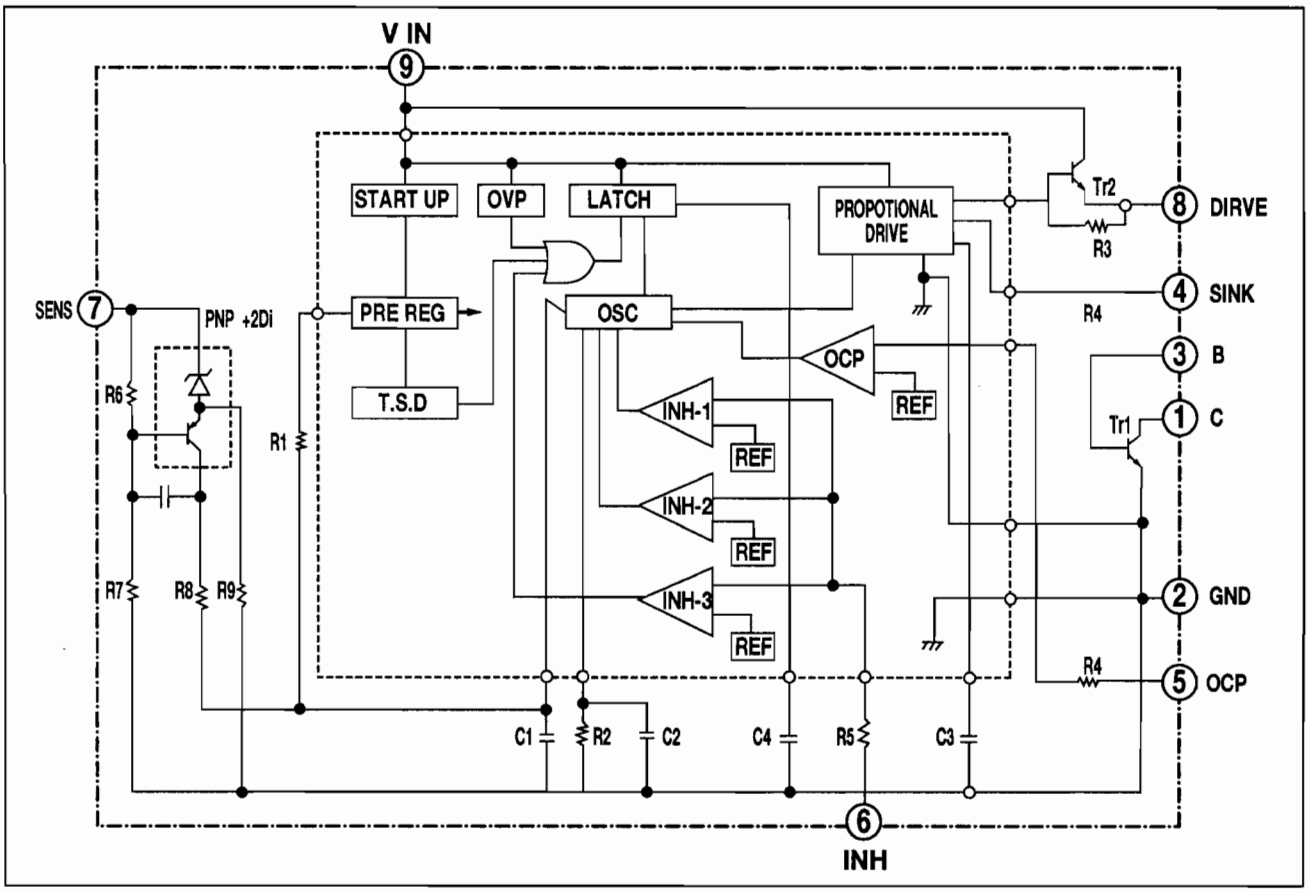
2. μ-COM : M37220M3



3. LC89950 : CCD DELAY LINE



4.STR-S5707 : POWER IC

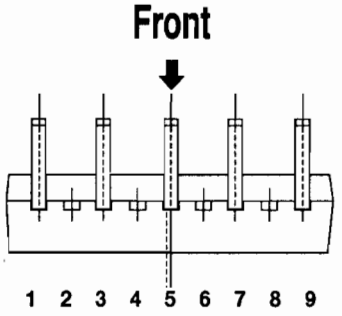


Internal Circuit Constants

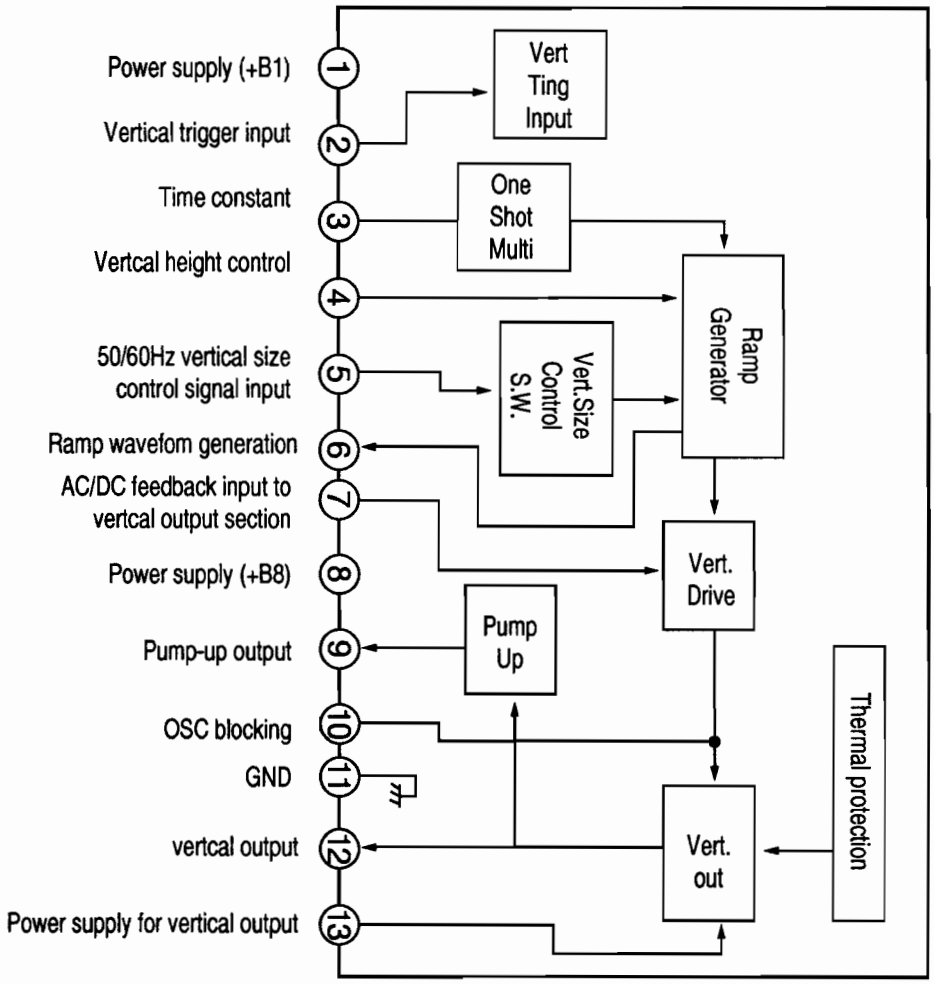
R1	TON Adjustment Trimming Resistor	R8	2.5KΩ	C3	820pF
R2	TOFF Adjustment Trimming Resistor	R9	35KΩ	C4	0.01μF
R3	1.0KΩ	C1	3300pF	C5	1500pF
R4	100Ω	C2	0.01μF		
R5	85Ω				
R6	Vs Adjustment Trimming Resistor				
R7	14KΩ				

Function of Terminal

Terminal	symbol	Description
1	C	Collector Terminal
2	GND	Ground Terminal
3	B	base Terminal
4	SINK	Sink Terminal
5	OCP	Overcurrent Protection Terminal
6	INH	Inhibit Terminal Latch Terminal
7	SENS	Sensing Terminal
8	DRIVE	Drive Terminal
9	V_{IN}	V_{IN} Terminal

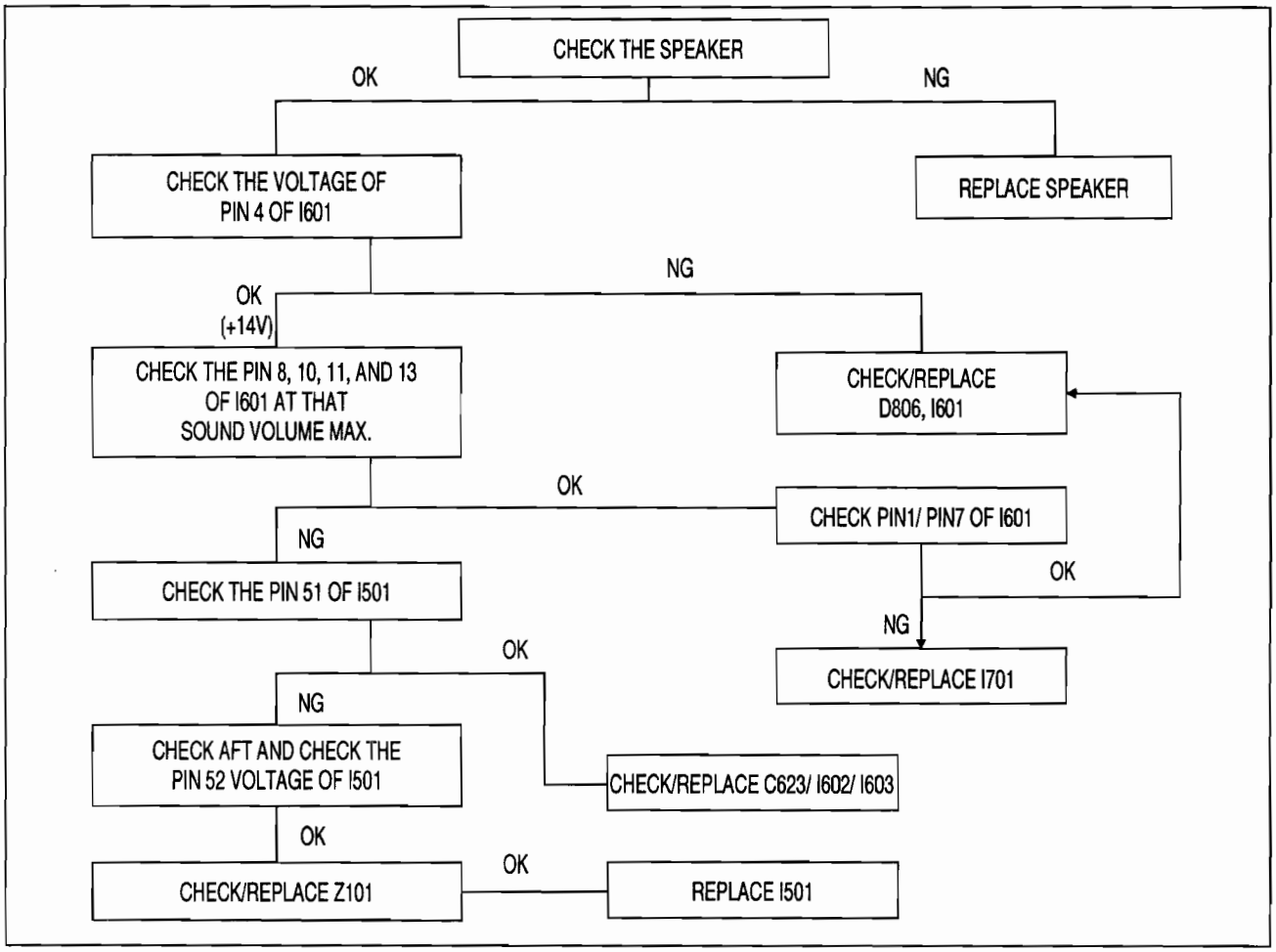


5.LA7837 : VERTICAL IC

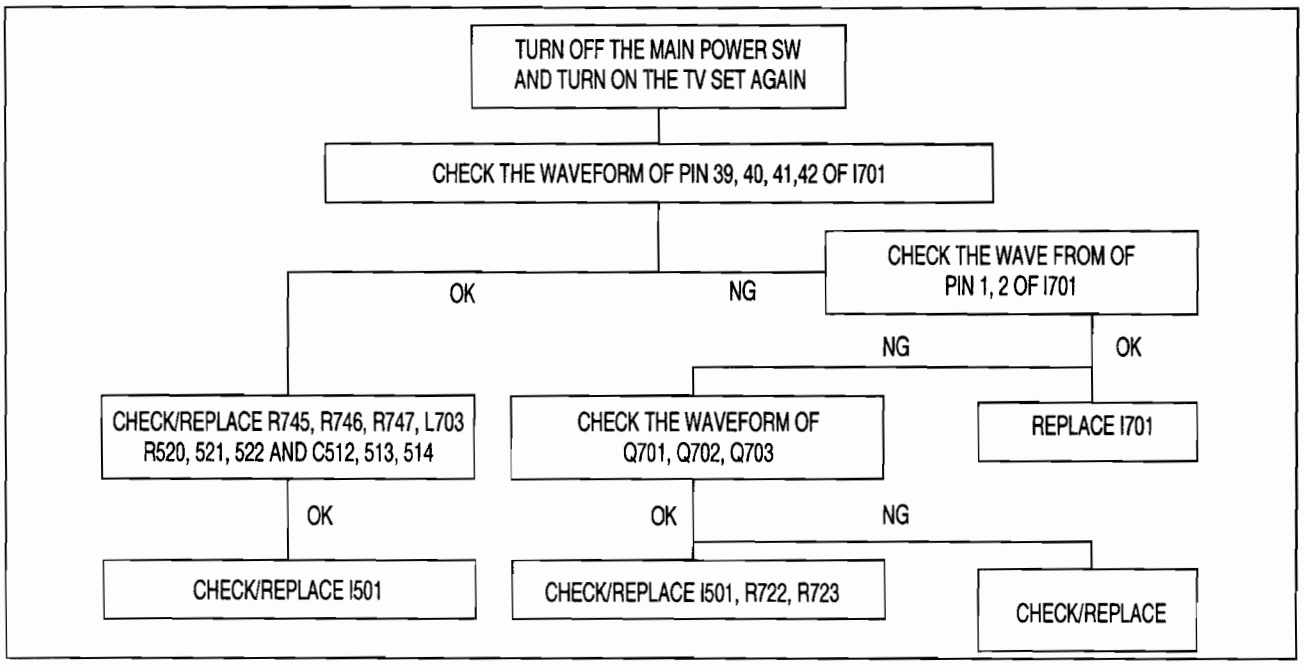


■ TROUBLE SHOOTING CHARTS

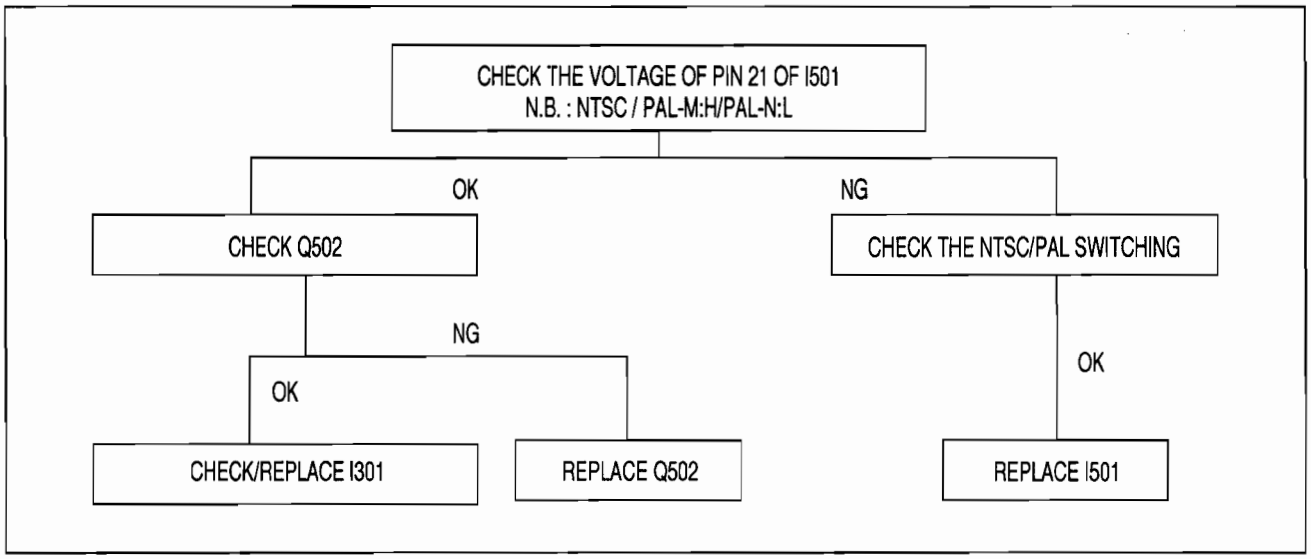
■ NO SOUND



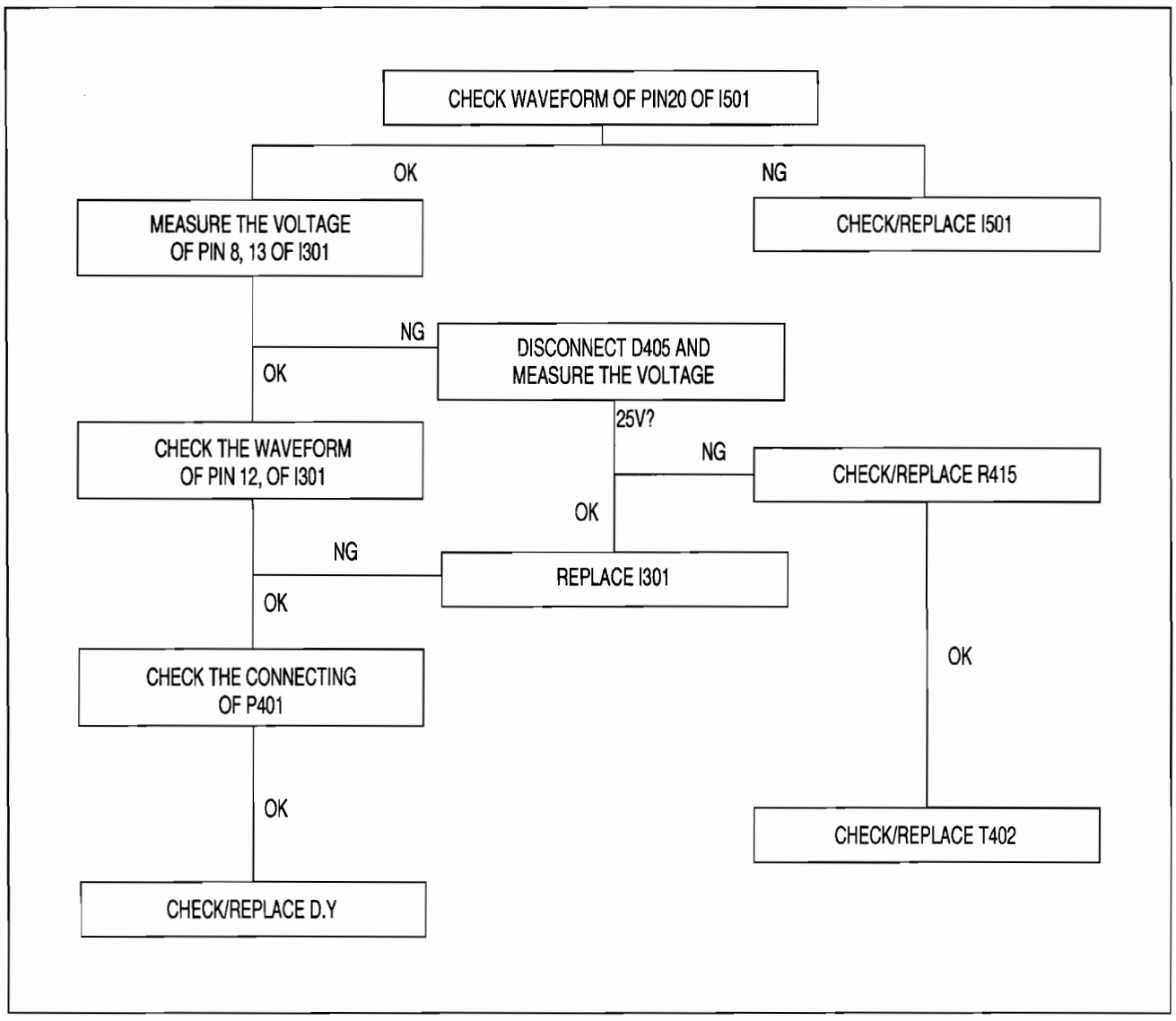
■ NO ON-SCREEN DISPLAY



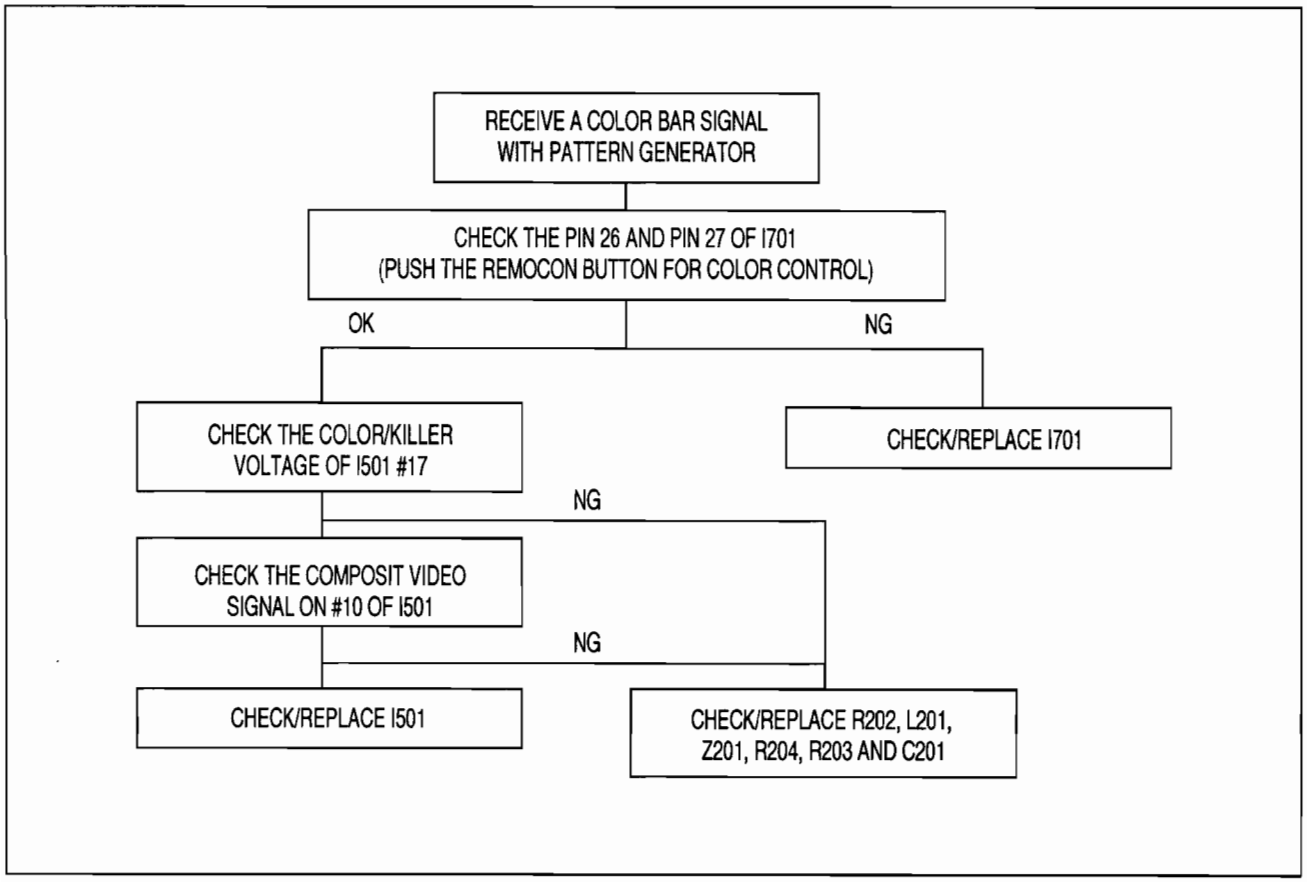
■ OUT OF VERTICAL SIZE



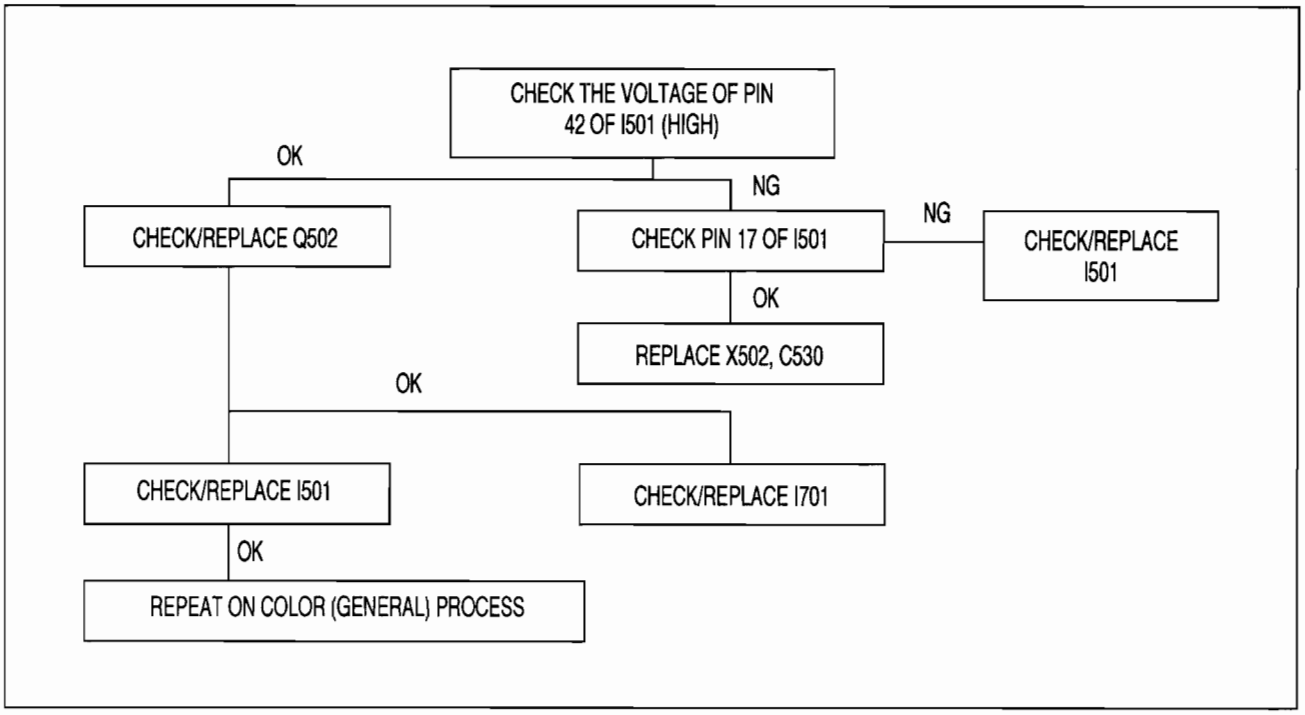
■ NO VERTICAL SCAN (ONE HORIZ. LINE RASTER)



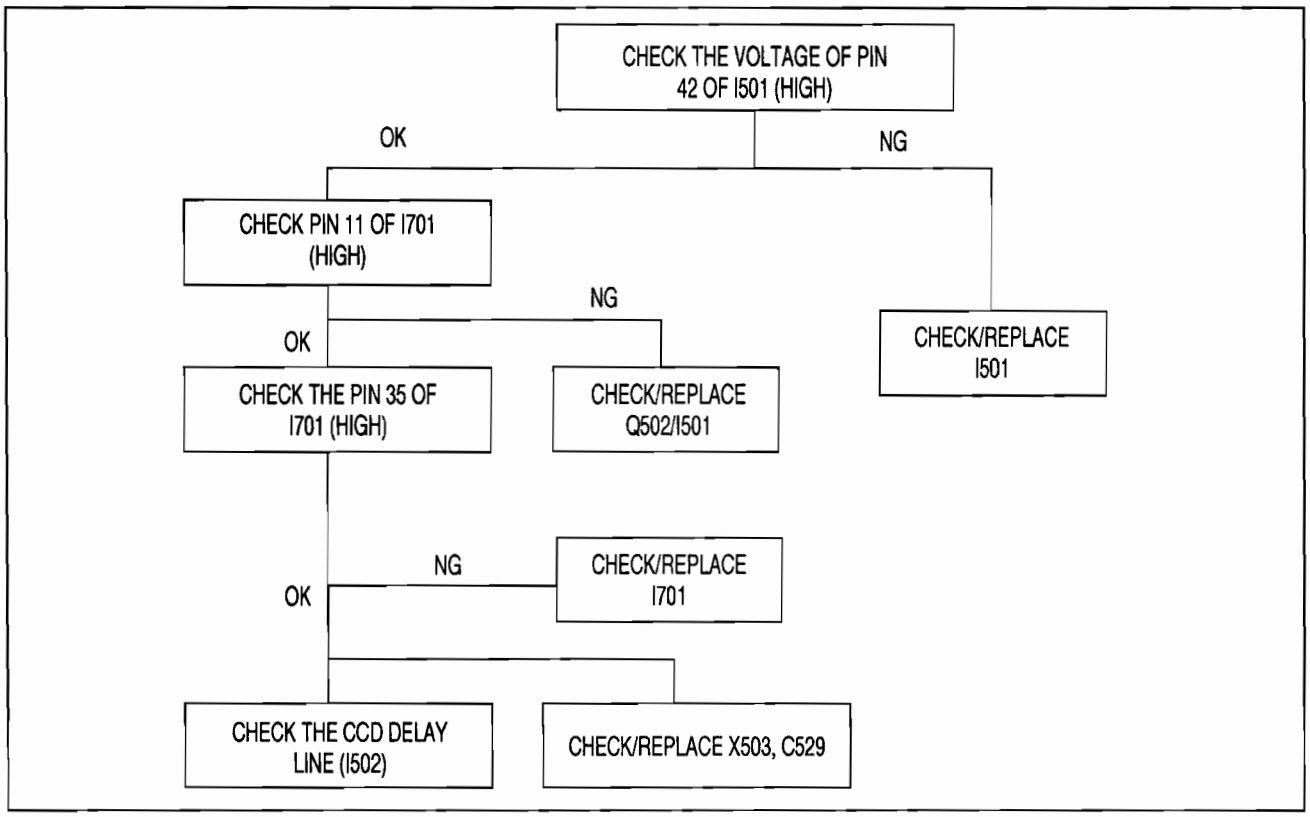
■ NO COLOR (GENERAL)



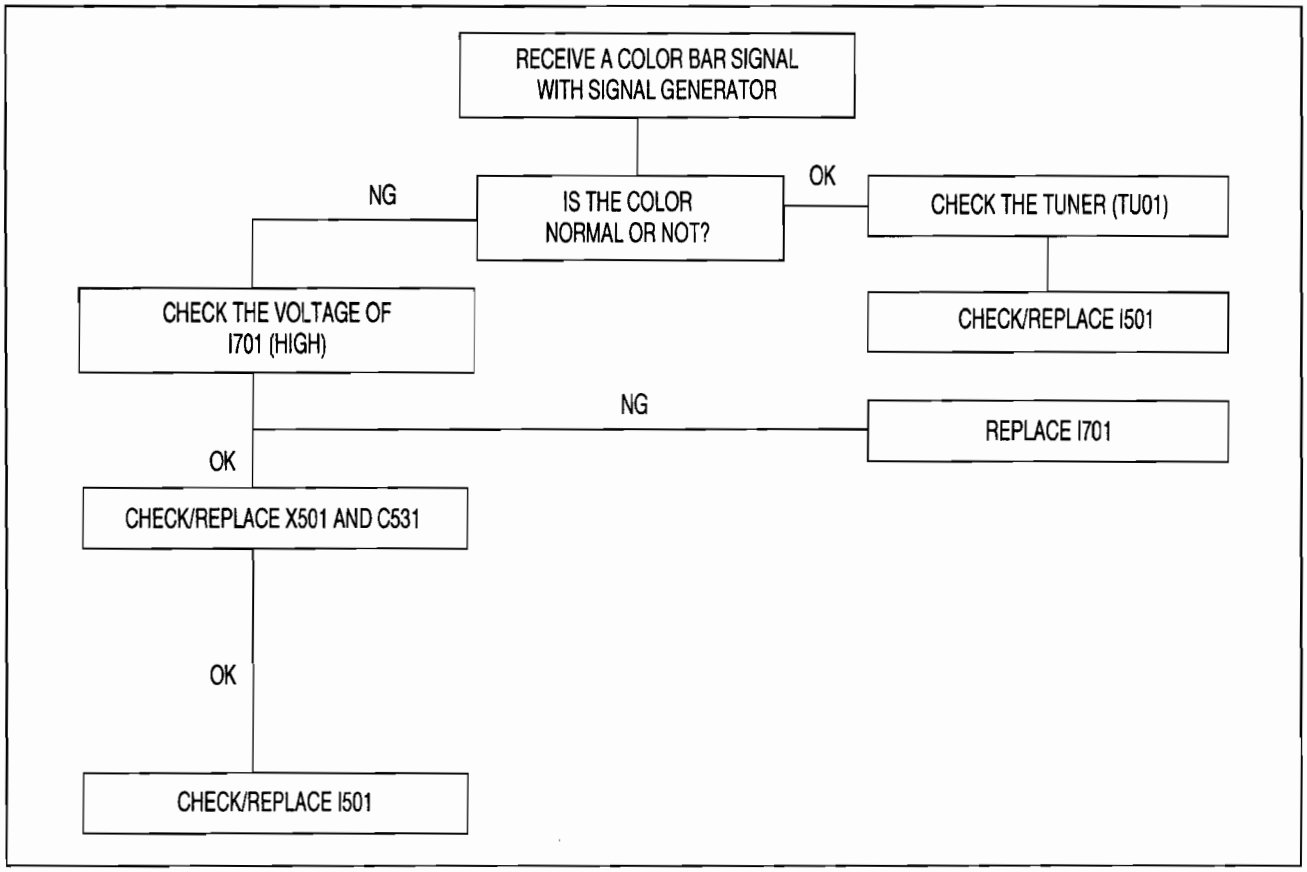
■ NO COLOR (AT PAL-N ONLY)



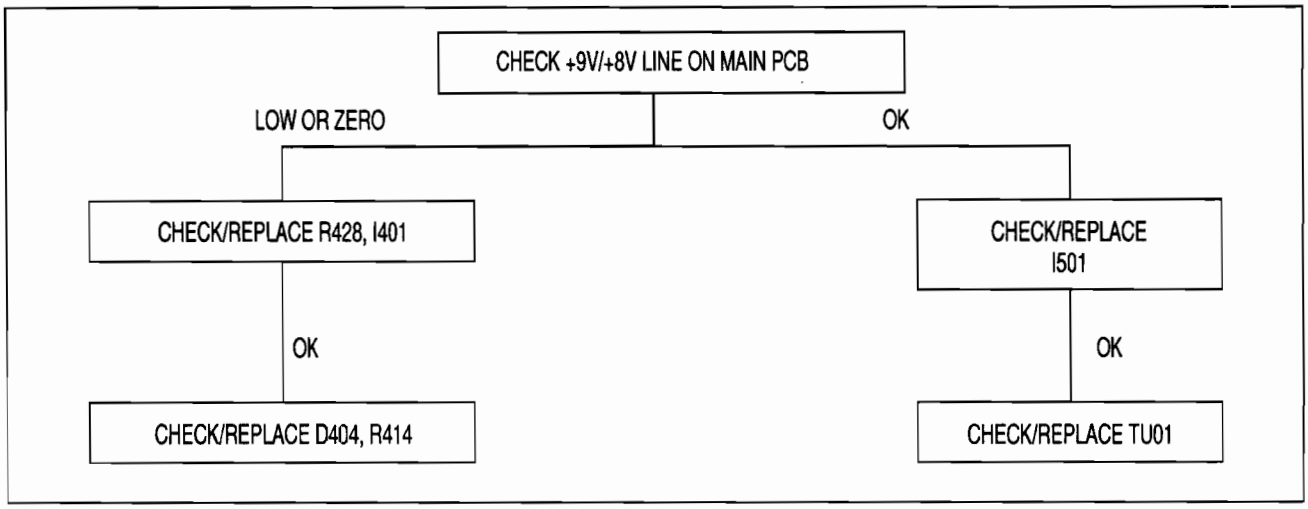
■ NO COLOR (AT PAL-M ONLY)



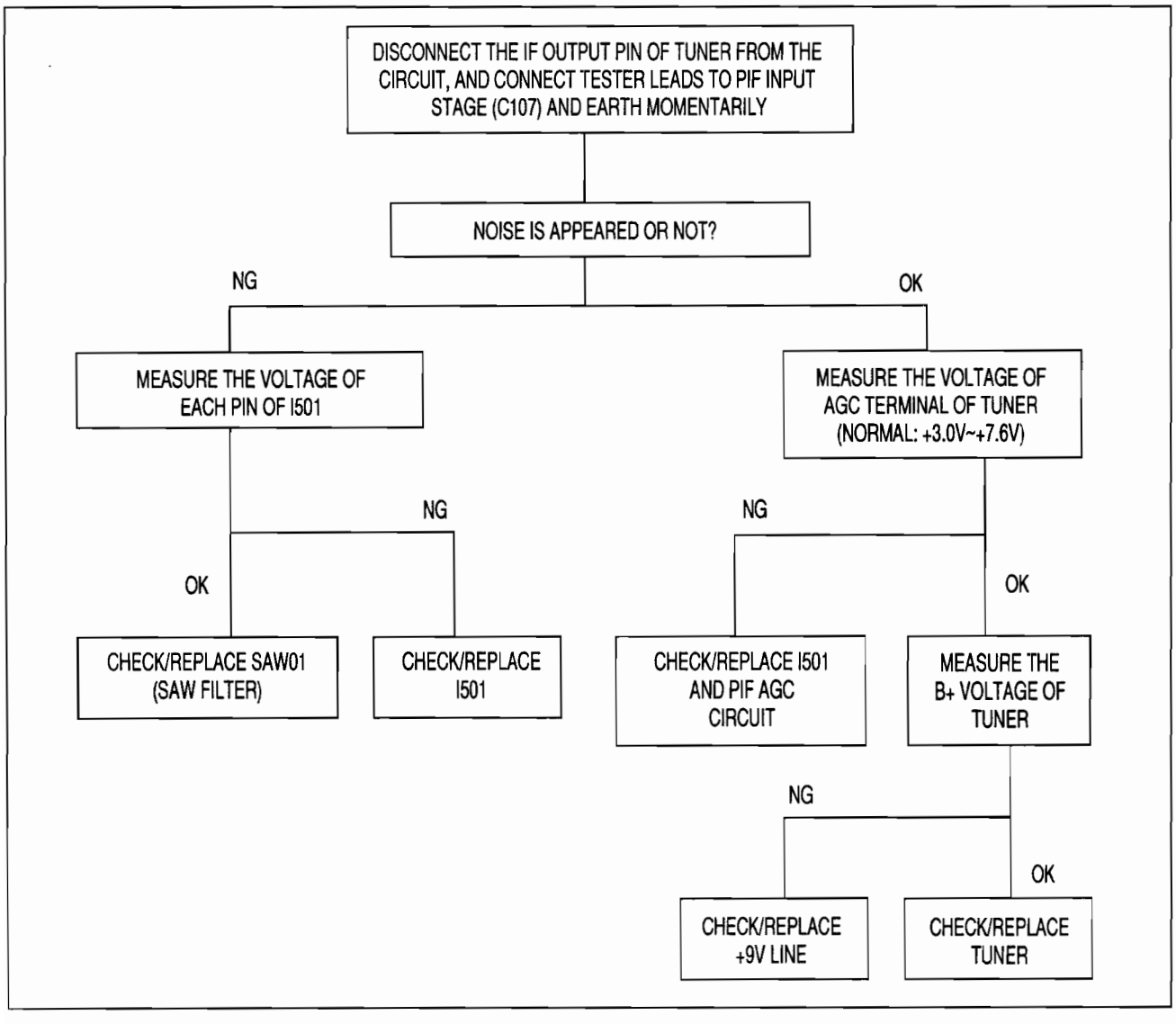
■ NO COLOR (AT NTSC ONLY)



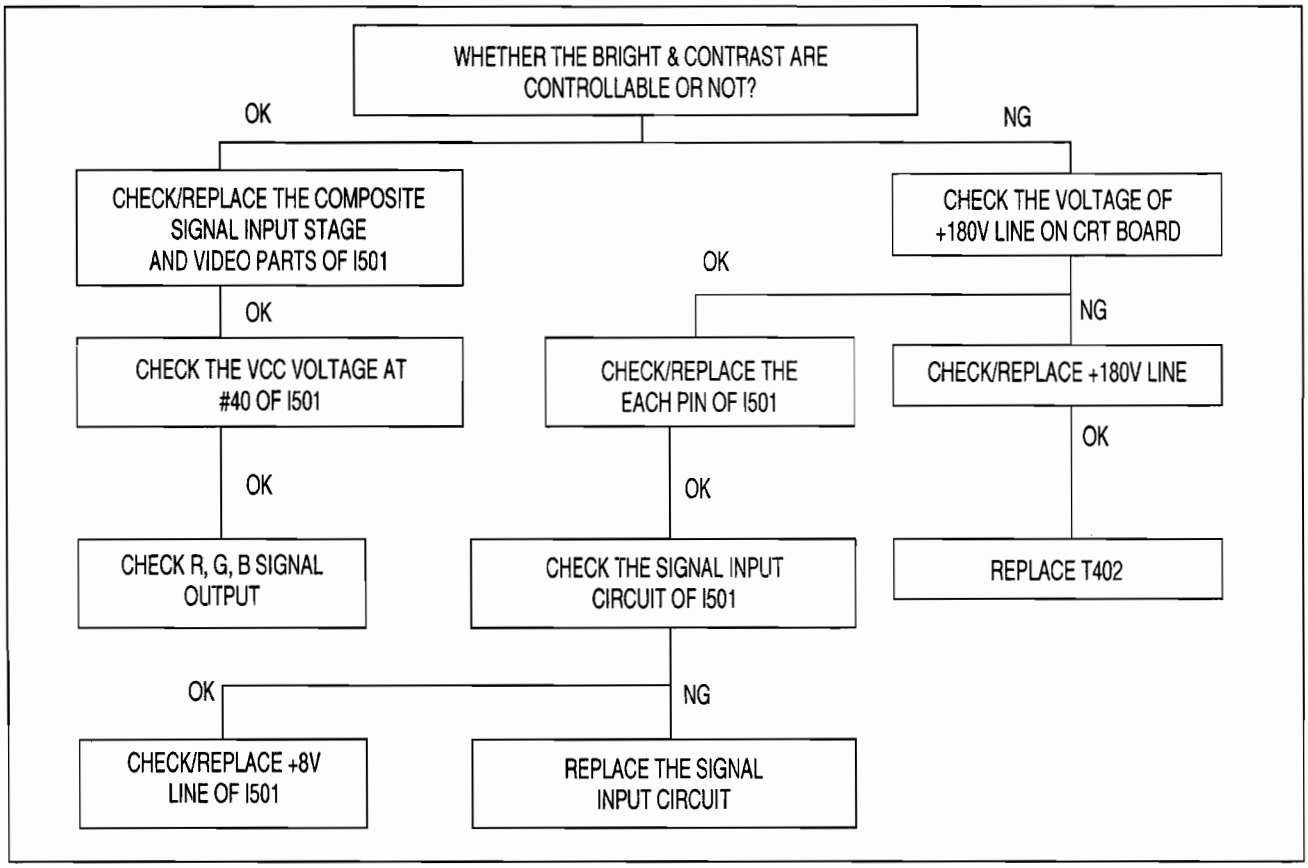
■ NO RASTER (NOISE OR WEAK SOUND)



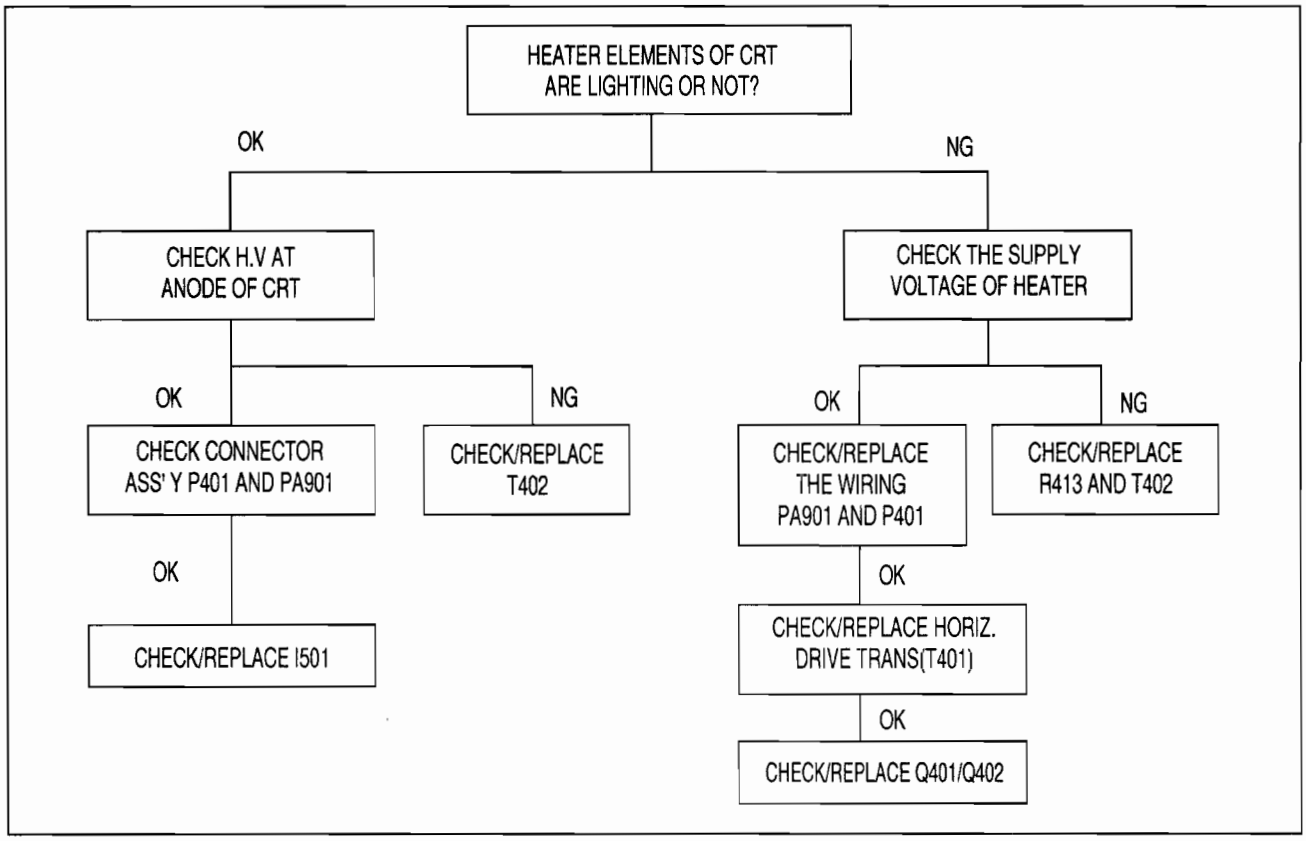
■ NO PICTURE (RASTER REMAINS AND NO SOUND)



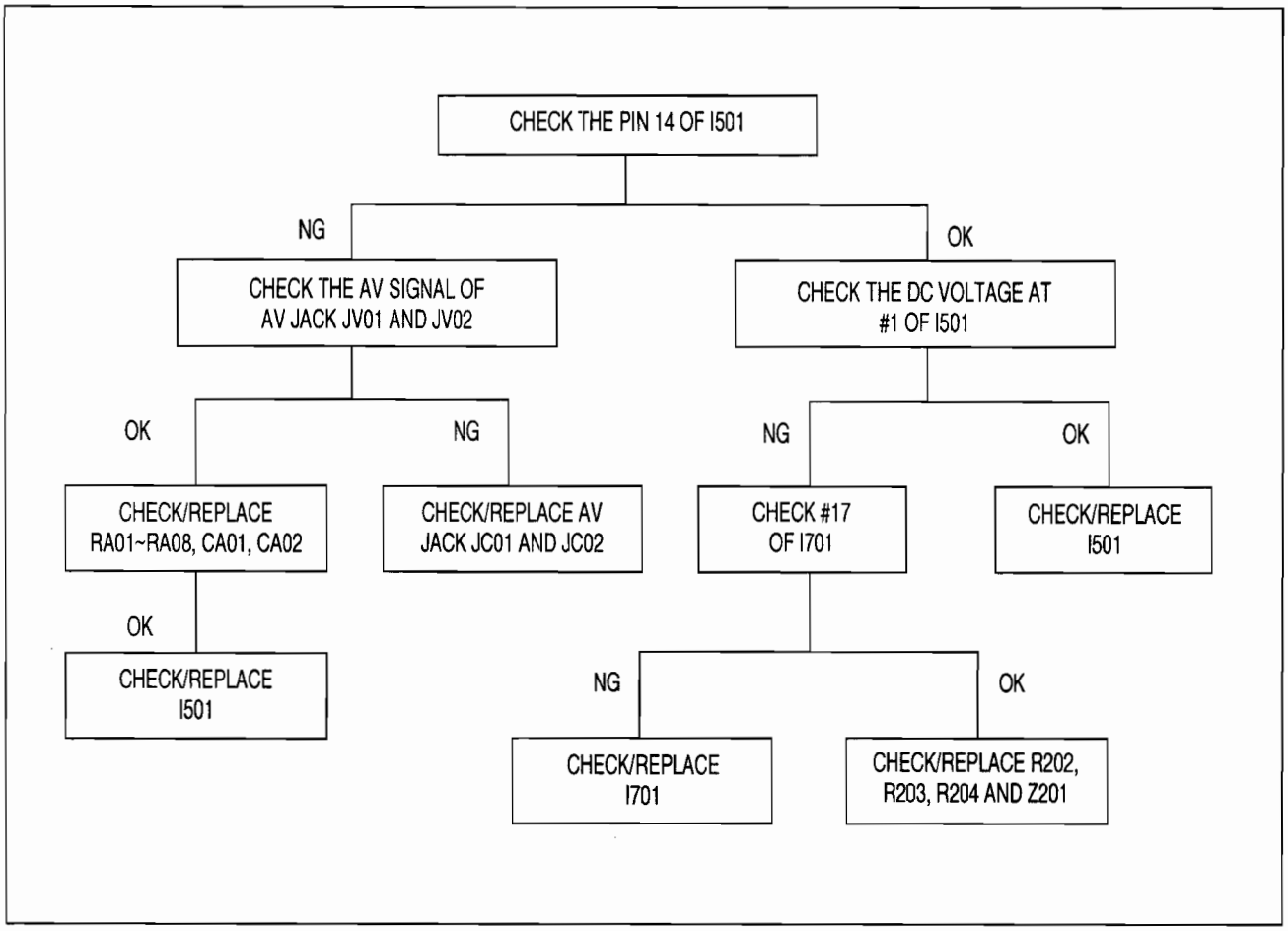
■ NO PICTURE (RASTER AND SOUND OK)



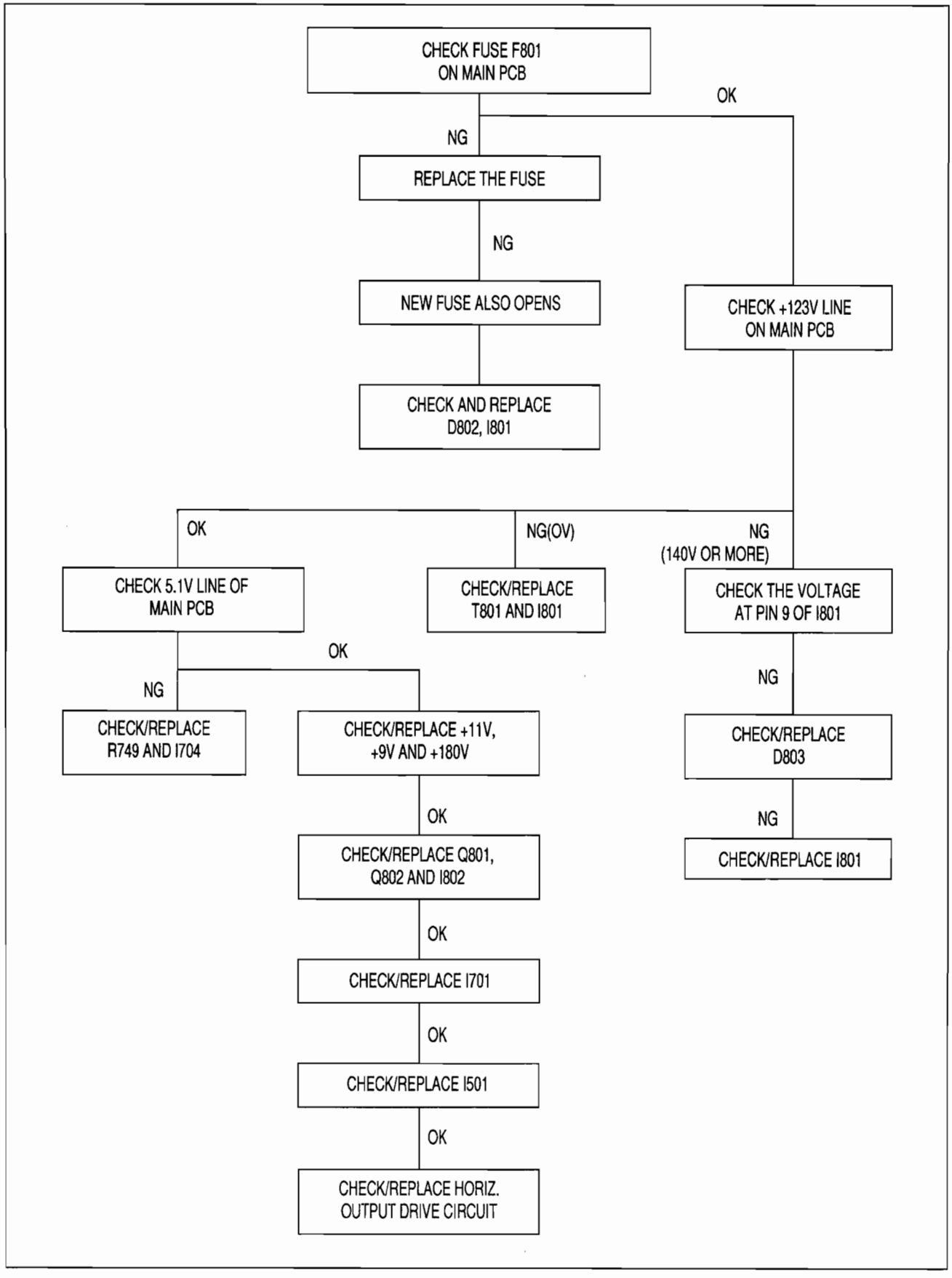
■ NO RASTER (SOUND OK)



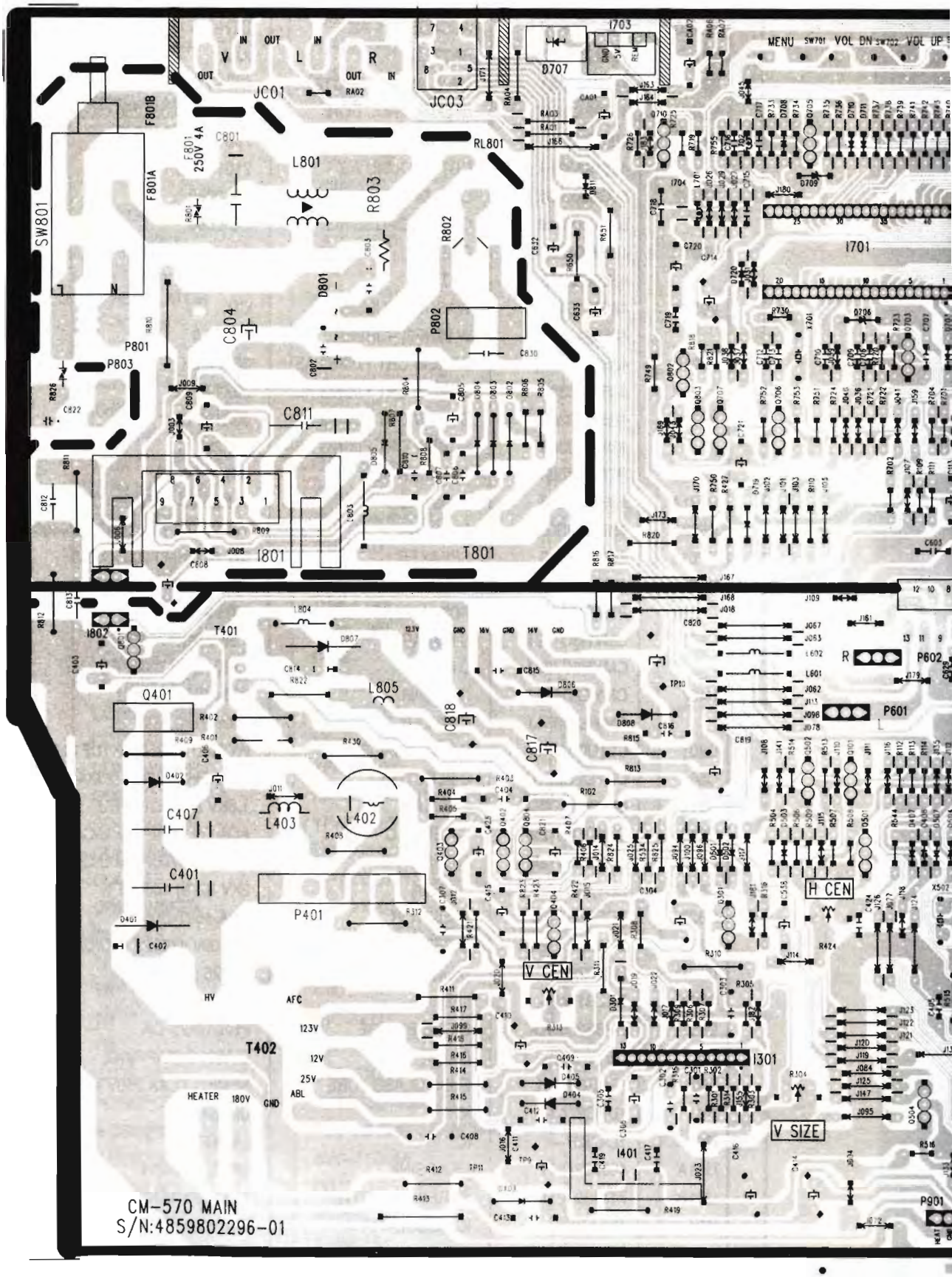
■ AV DOES NOT OPERATE (TV SIGNAL IS OK)



■ POWER FAILS TO TURN ON (NO RASTER, NO SOUND, DOES NOT TURN ON)

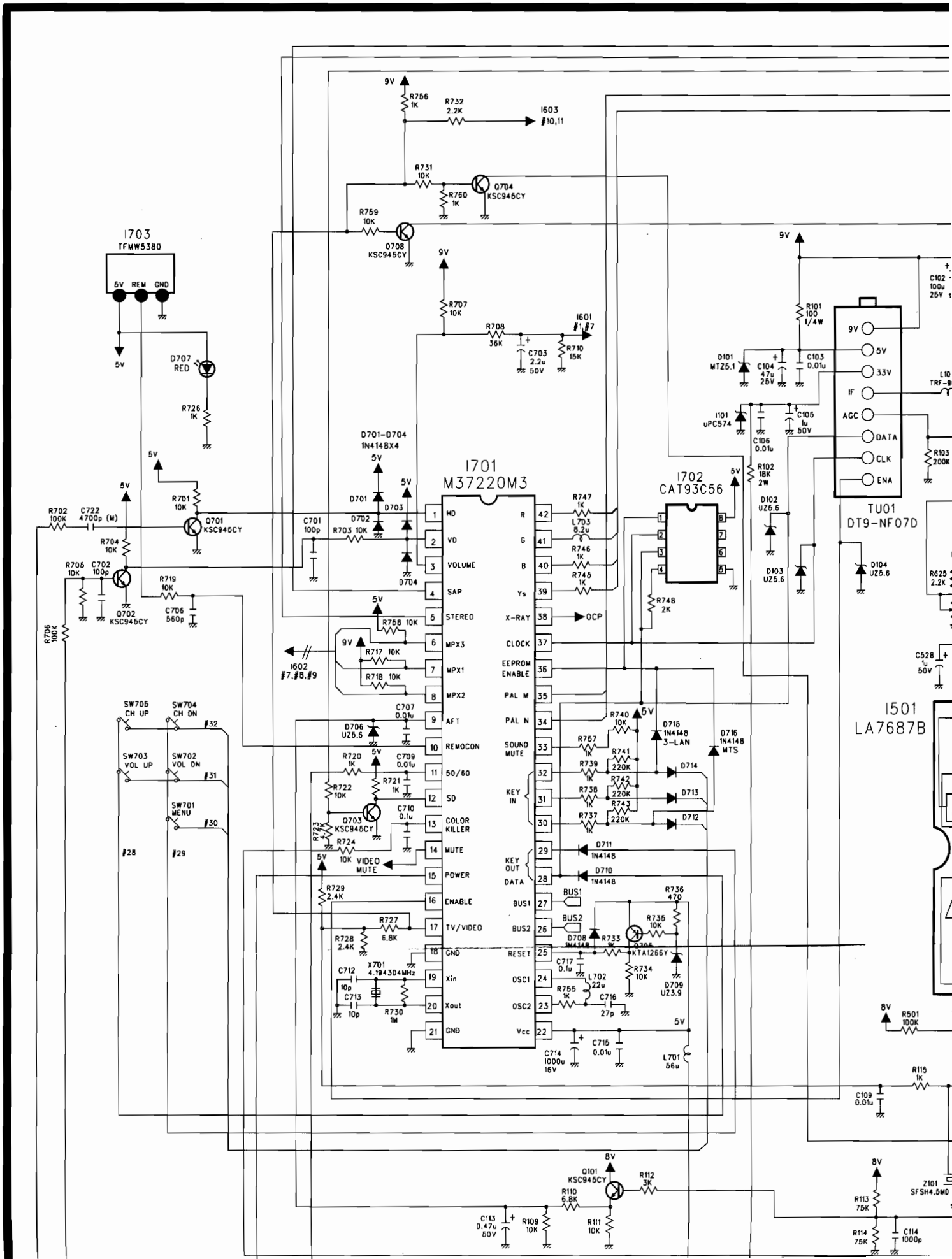


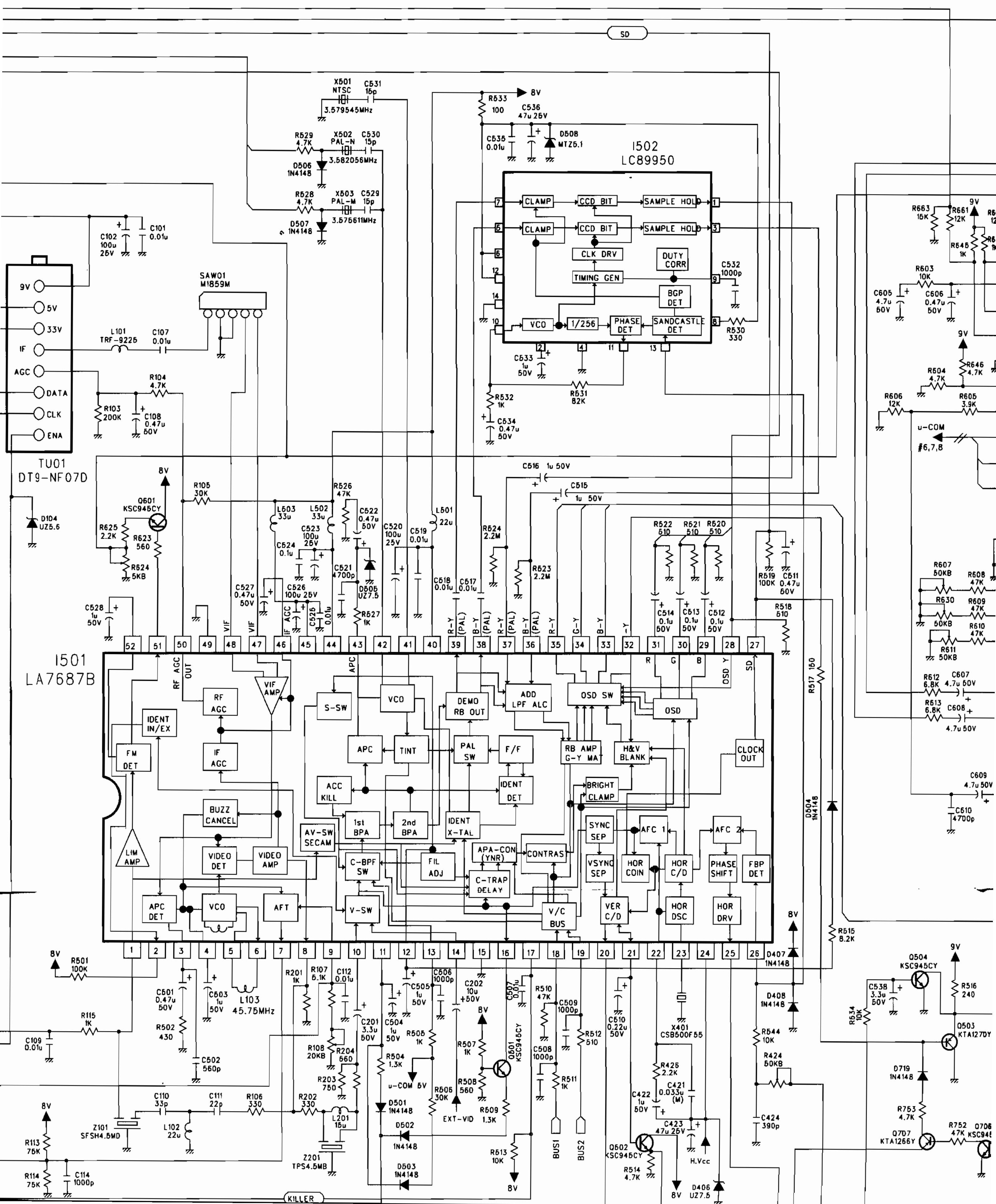
■ PRINTED CIRCUIT BOARD



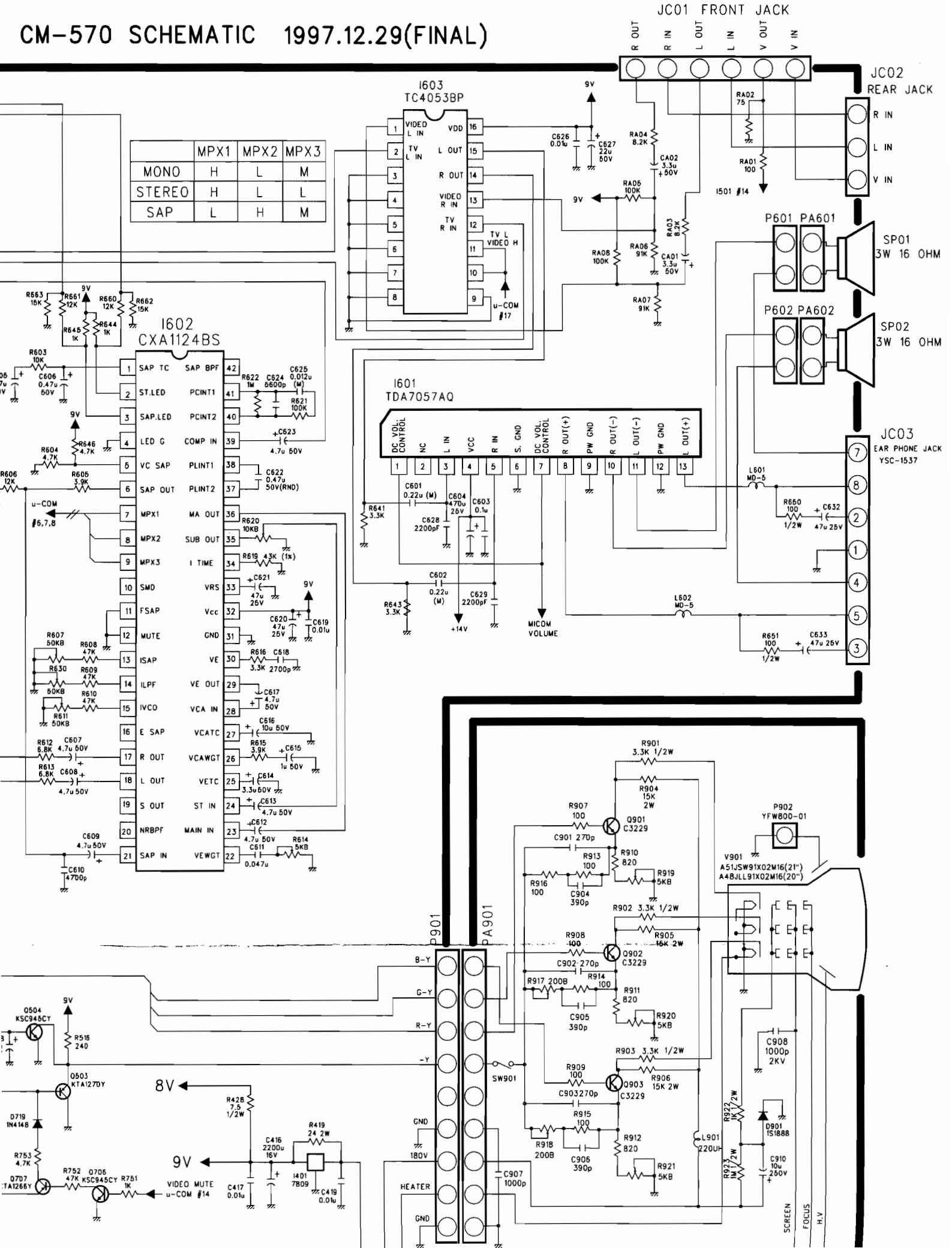
VOL DN SW702
VOL UP SW703
CH DN
CH UP SW705
P902
R-BIAS
G-BIAS
B-BIAS
G-DRIVE
B-DRIVE
SCREEN
SCT1
HEAT
PA901
SW901
I701
I702
SLT1
LSEP
RSEP
I602
DBX
SAP
VCO
I603
I601
P602
P601
I502
SAW01
I501
P101
TU01
AGC
P901
JC02
P803A
DATA
ENA
CLK
5V
33V
9V
R
L
V

CIRCUIT DIAGRAM

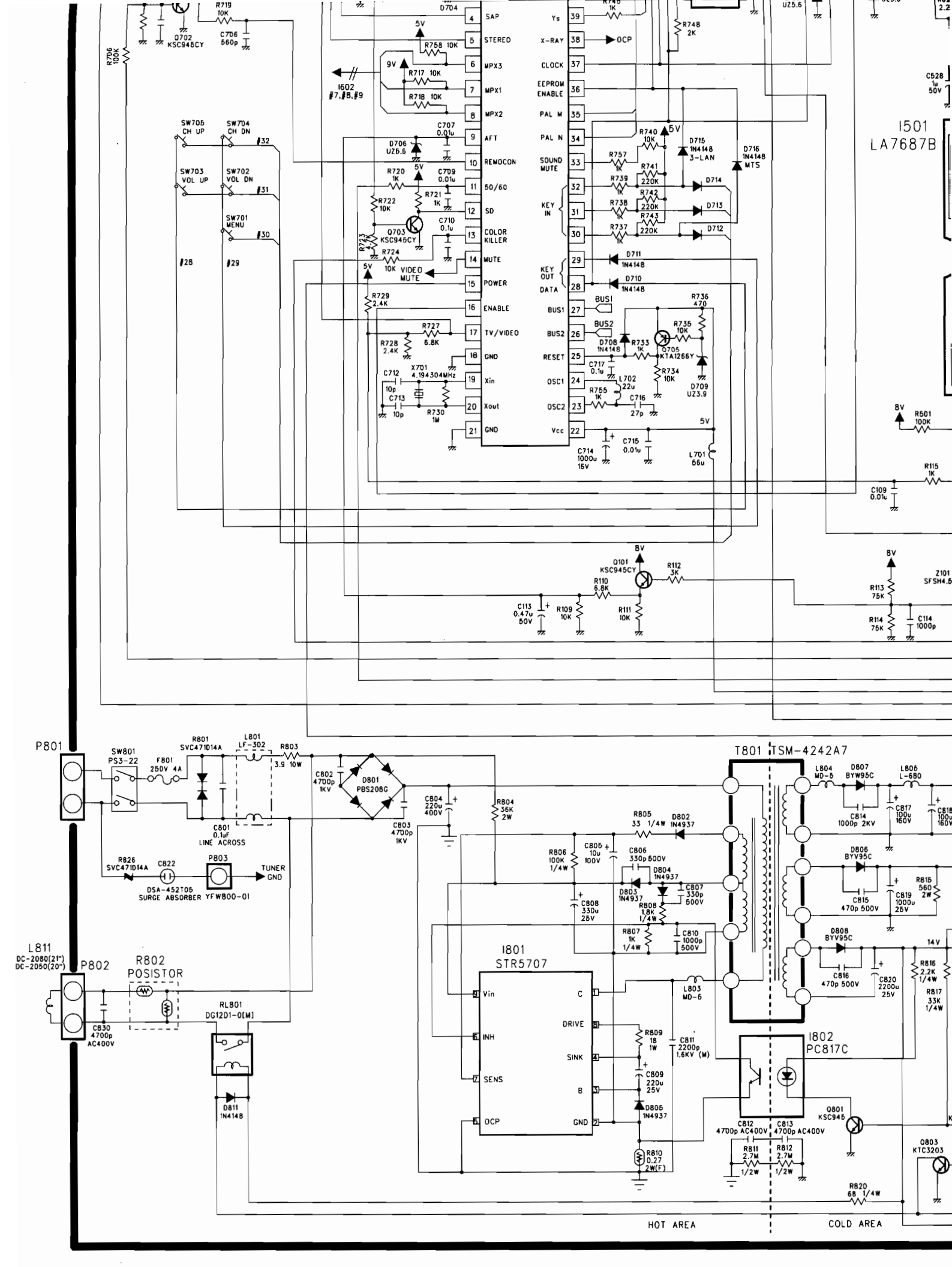


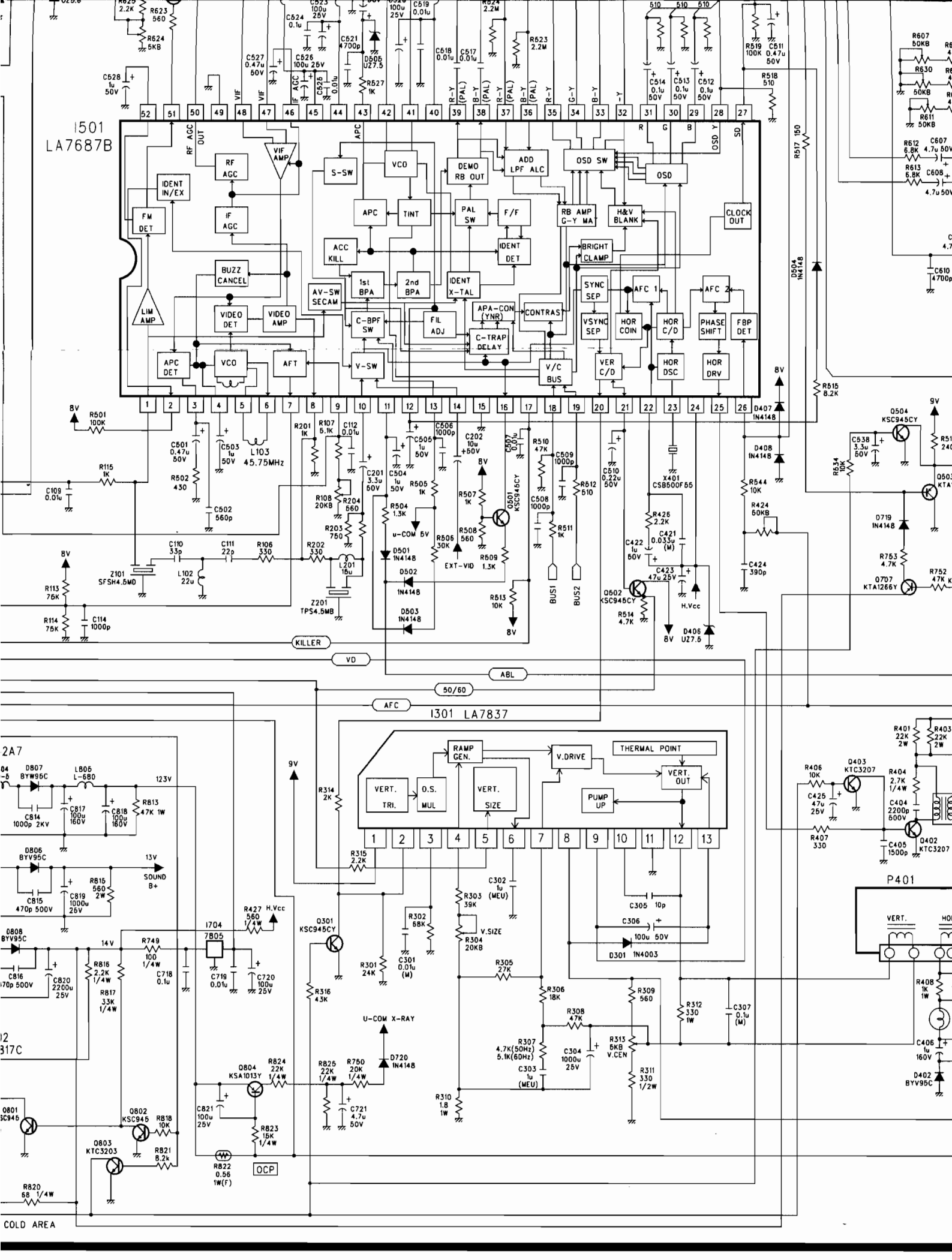

I502
LC89950
I501
LA7687B
TU01
DT9-NF07D
SAW01
M1859M

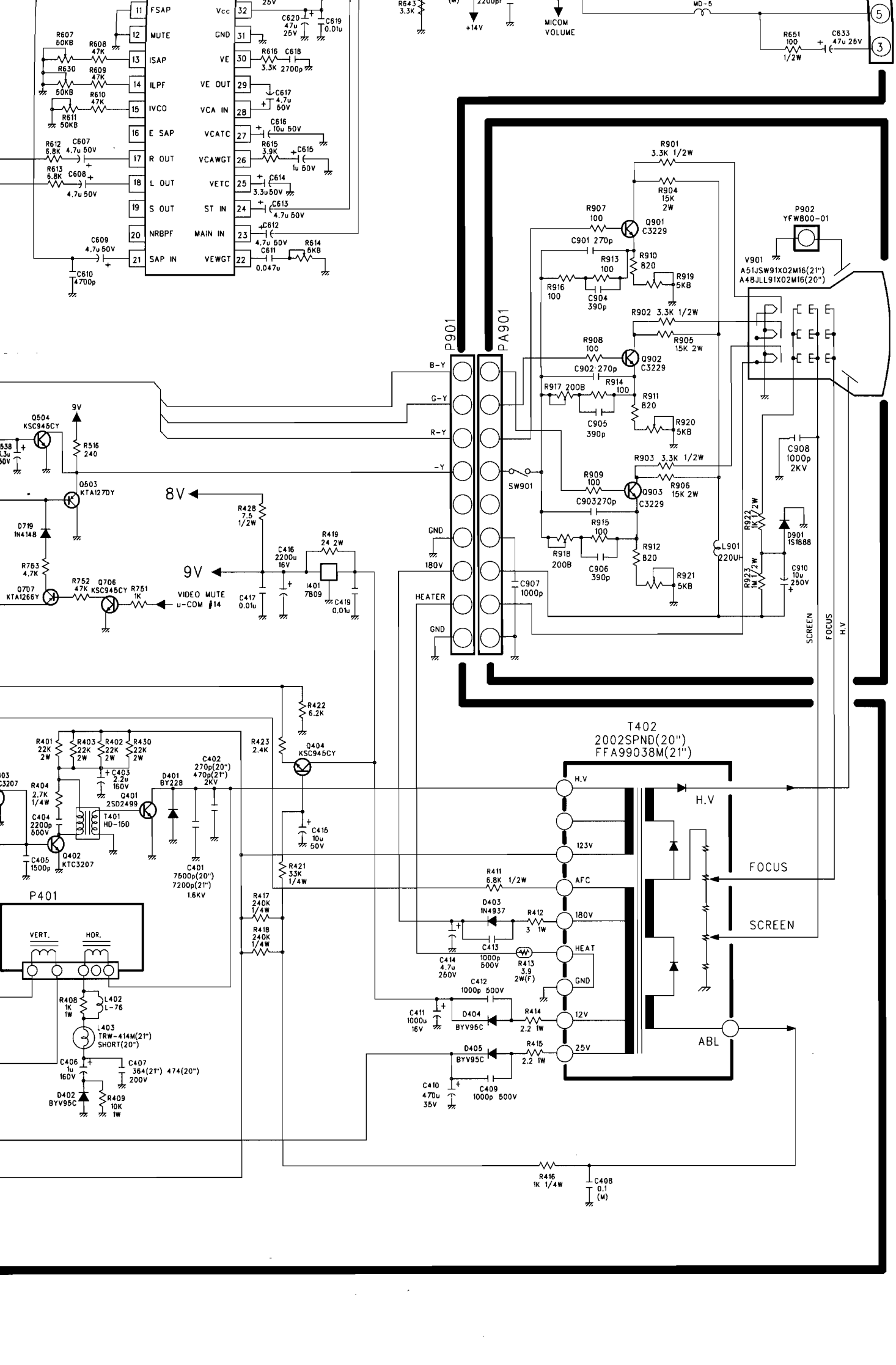
CM-570 SCHEMATIC 1997.12.29(FINAL)



	MPX1	MPX2	MPX3
MONO	H	L	M
STEREO	H	L	L
SAP	L	H	M


I501
LA7687B
SAP
STEREO
MPX3
MPX1
MPX2
AFT
REMOCON
50/60
SD
COLOR KILLER
MUTE
POWER
ENABLE
TV/VIDEO
GND
Xin
Xout
GND
Ys
X-RAY
CLOCK
EEPROM ENABLE
PAL M
PAL N
SOUND MUTE
KEY IN
KEY OUT DATA
BUS1
BUS2
RESET
OSC1
OSC2
Vcc
VIDEO MUTE
OCP
SW705 CH UP
SW704 CH DN
SW703 VOL UP
SW702 VOL DN
SW701 MENU
D715 1N4148 3-LAN
D716 1N4148 MTS
D714
D713
D712
D711 1N4148
D710 1N4148
D708 1N4148
D709 UZ3.9
Q703 KSC945CY
Q705 KTA1266Y
X701 4.194304MHz
Q702 KSC945CY
Q101 KSC945CY
P801
SW801 PS3-22
F801 250V 4A
R801 SVC471D14A
L801 LF-302
C801 0.1uF LINE ACROSS
D801 PBS208G
C802 4700p 1KV
C803 4700p 1KV
C804 220u 400V
R804 36K 2W
T801 TSM-4242A7
D802 1N4937
D803 1N4937
D804 1N4937
D805 1N4937
D806 BYV95C
D807 BYW95C
D808 BYV95C
L803 MD-6
L804 MD-5
L806 L-680
I801 STR5707
I802 PC817C
Q801 KSC945
Q803 KTC3203
R826 SVC471D14A
C822
P803
TUNER GND
DSA-452706 SURGE ABSORBER YFW800-01
L811 DC-2080(21") DC-2050(20")
P802
R802 POSISTOR
RL801 DG12D1-0[M]
C830 4700p AC400V
D811 1N4148
HOT AREA
COLD AREA


I501
LA7687B
RF AGC OUT
VIF AMP
RF AGC
IF AGC
IDENT IN/EX
FM DET
BUZZ CANCEL
LIM AMP
VIDEO DET
VIDEO AMP
APC DET
VCO
AFT
S-SW
VCO
APC
TINT
ACC KILL
AV-SW SECAM
1st BPA
2nd BPA
C-BPF SW
FIL ADJ
V-SW
DEMO RB OUT
IDENT X-TAL
PAL SW
F/F
IDENT DET
APA-CON (YNR)
C-TRAP DELAY
CONTRAS
ADD LPF ALC
OSD SW
OSD
RB AMP G-Y MA
H&V BLANK
CLOCK OUT
BRIGHT CLAMP
SYNC SEP
VSYNC SEP
AFC 1
AFC 2
HOR COIN
HOR C/D
PHASE SHIFT
FBP DET
VER C/D
HOR DSC
HOR DRV
V/C BUS
KILLER
VD
ABL
50/60
AFC
I301 LA7837
RAMP GEN.
V.DRIVE
THERMAL POINT
VERT. OUT
VERT. TRI.
O.S. MUL
VERT. SIZE
PUMP UP
U-COM X-RAY
OCP
COLD AREA
P401
VERT.


FSAP
MUTE
ISAP
ILPF
IVCO
E SAP
R OUT
L OUT
S OUT
NRBPF
SAP IN
Vcc
GND
VE
VE OUT
VCA IN
VCATC
VCAWGT
VETC
ST IN
MAIN IN
VEWGT
MICOM VOLUME
P901
PA901
B-Y
G-Y
R-Y
-Y
GND
180V
HEATER
GND
SW901
P902
YFW800-01
V901
A51JSW91X02M16(21")
A4BJLL91X02M16(20")
SCREEN
FOCUS
H.V
9V
8V
VIDEO MUTE
u-COM #14
T402
2002SPND(20")
FFA99038M(21")
H.V
123V
AFC
180V
HEAT
GND
12V
25V
ABL
FOCUS
SCREEN
P401
VERT.
HOR.

■ REPLACEMENT PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
ZZ100	48B3225C04	TRANSMITTER REMOCON	R-25C04	1	
ZZ110	PTACPWJ574	ACCESSORY AS	DTH-21T1FS	1	
10	486A716200	BATTERY	AAA	2	
20	48586570S1	MANUAL INSTRUCTION	DTH-21T1FS	1	
M822	4858213800	BAG INSTRUCTION	L.D.P.E T0.05X250X400	1	
ZZ131	48519A5010	CRT GROUND AS	2001H-1015-1P	1	20"
	48519A5210	CRT GROUND AS	2101H-1015-1P	1	21"
ZZ132	58G0000086	COIL DEGAUSSING	DC-2050	1	20"
	58G0000110	COIL DEGAUSSING	DC-2080	1	21"
V901	4859604263	CRT	A48JLL91X02 M16	1	20"
	4859622763	CRT	A51JSW91X02(G) M16	1	21"
V901A	4856215402	WASHER RUBBER	CR	4	20"
	4856214902	WASHER RUBBER	CR T2.0	4	21"
V901B	4856013300	SCREW CRT FIXING AS	30X80 BK	2	20"
	4856013301	SCREW CRT FIXING AS	30X140 YL	2	21"
V901C	4856013302	SCREW CRT FIXING AS	30X190 BK	2	20"
	4856013303	SCREW CRT FIXING AS	30X250 YL	2	21"
ZZ202	PTSPPWJ574	SPEAKER AS	DTH-21T1FS	1	
P601A	4850703S05	CONN AS	YH025-03+YST025+ULW=400	1	
P602A	4850703S05	CONN AS	YH025-03+YST025+ULW=400	1	
SP01	4858306810	SPEAKER	3W 16 OHM F2035C03-3	1	
SP02	4858306810	SPEAKER	3W 16 OHM F2035C03-3	1	
ZZ290	PTMPMSJ574	PCB MAIN MANUAL AS	DTH-21T1FS	1	
C401	CMYH3C752J	C MYLAR	1.6KV BUP 7500PF J	1	20"
	CMYH3C722J	C MYLAR	1.6KV BUP 7200PF J	1	21"
C407	CMYE2D474J	C MYLAR	200V PU 0.47MF J	1	20"
	CMYE2D364J	C MYLAR	200V PU 0.36MF J	1	21"
C801	CL1UC3104M	C LINE ACROSS	WORLD AC250V 0.1UF M R.47	1	
C804	CEYD2G221D	C ELECTRO	400V FHS 220MF (25X40)	1	
C811	CMYH3C222J	C MYLAR	1.6KV BUP 2200PF J	1	
C812	CH1BFE472M	C CERA AC	AC400V 4700PF M U/C/V	1	
C813	CH1BFE472M	C CERA AC	AC400V 4700PF M U/C/V	1	
C814	CBYB3D102K	C CERA	2KV BL(N) 1000PF K	1	
C822	DDSA452T05	VARISTOR	DSA-452T-U05A	1	
C830	CH1BFE472M	C CERA AC	AC400V 4700PF M U/C/V	1	
D401	DBY228---	DIODE	BY228 (TAPPING)	1	
D707	DKLR114L--	LED	KLR114L	1	
D801	DPBS208GU-	DIODE BRIDGE	PBS208GU-CA	1	
D807	DBYW95C---	DIODE	BYW95C (TAPPING)	1	
F801	5FSGB4022L	FUSE GLASS TUBE	SEMKO TL 4A 250V MF51	1	
I101	1UPC574J--	IC	UPC574J	1	
I301	1LA7837---	IC	LA7837	1	
I301A	4857027101	HEAT SINK	SPCC T1.0+SN	1	
I301B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	1	
I401	1K1A7809--	IC REGULATOR	KIA7809	1	
I401A	4857013300	HEAT SINK C	SPCC T1.0 SN-3	1	
I401B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	1	
I401D	4856215200	WASHER	SPCC	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
I501	1LA7687B--	IC CHROMA	LA7687B	1	
I502	1LC89950--	IC DELAY	LC89950	1	
I601	1TDA7057AQ	IC ADUIO AMP	TDA7057AQ	1	
I601A	4857026109	HEAT SINK	AL EX	1	
I601B	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	1	
I601C	7174301011	SCREW TAPPTITE	TT2 RND 3X10 MFZN	1	
I602	1CXA1124BS	IC MTS	CXA1124BS	1	
I603	1TC4053BP-	IC	TC4053BP	1	
I701	1M37223155	IC MICOM	M37220M3-155SP	1	
I702	1CAT93C56P	IC MEMORY	CAT93C56P	1	
I703	1TFMW5380-	IC PREAMP	TFMW5380	1	
I704	1KA7805---	IC REGULATOR	KA7805	1	
I801	1STRS5707-	IC POWER	STR-S5707	1	
I801A	4857026109	HEAT SINK	AL EX	1	
I801B	7174301211	SCREW TAPPTITE	TT2 RND 3X12 MFZN	1	
I802	1LTV817C--	IC PHOTO COUPLER	LTV-817C	1	
JC01	4859108450	JACK PIN BOARD	YSC03P-4120-14A	1	
JC02	4859109250	JACK PIN BOARD	PH-JB-9614A	1	
JC03	4859102130	JACK EARPHONE	YSC-1537	1	
L101	58C5580019	COIL CHOKE	TRF-9225 (0.55UH)	1	
L103	58N0000S36	COIL VCO	TRF-V003	1	
L402	58H0000020	COIL H-LINEARITY	L-76(76.5UH)	1	
L403	5W0000007	COIL WIDTH	TRW-414M	1	21"ONLY
L801	5PLF302---	FILTER LINE	LF-302-801	1	
L805	58C0000107	COIL CHOKE	L-680	1	
M351	4853530901	HOLDER LED	HIPS BK	1	
P401	4859240020	CONN WAFER	YFW500-05	1	20"
	4859240120	CONN WAFER	YFW500-06	1	21"
P801	4859242220	CONN WAFER	YFW800-02	1	
P801A	4859905010	CORD POWER AS	KKP560N+BL102NG+TUBE=2600	1	
P802	4859242220	CONN WAFER	YFW800-02	1	
P803	4859262120	CONN WAFER	YFW800-01	1	
P803A	4850701S09	CONN AS	YFH800-01+YPT018+ULW=400	1	
P902	4859262120	CONN WAFER	YFW800-01	1	
PA901	4850708N08	CONN AS	BIC-08T-25T+C-20T+ULW=400	1	
Q401	T2SD2499--	TR	2SD2499	1	
Q901	TKTC3229--	TR	KTC 3229	1	
Q902	TKTC3229--	TR	KTC 3229	1	
Q903	TKTC3229--	TR	KTC 3229	1	
R801	DSVC471D14	VARISTOR	SVC471D14A	1	
R802	DJ140M290L	POSISTOR	J503P53D140M290L	1	
R803	RX10B399JN	R CEMENT	10W 3.9 OHM J BENCH 4P	1	
R826	DSVC471D14	VARISTOR	SVC471D14A	1	
RL801	5SC0101003	SW RELAY	DG12D1-0(M)-II 1C-1P	1	
SAW1	5PM1859M--	FILTER SAW	M1859M	1	
SCT1	4859303030	SOCKET CRT	ISMM03S	1	
SW801	5S40202080	SW PUSH	PS3-22 (PCB)	1	
SW901	5S40403035	SW LEVER	JRS-1301	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
T401	50D0000022	TRANS DRIVE	HD-15D	1	
T402	50H0000175	FBT	2002SPND	1	20"
	50H0000183	FBT	FFA99038M	1	21"
T801	50M4242A7J	TRANS SMPS	TSM-4242A7	1	
TU01	4859716630	TUNER VARACTOR	DT9-NF07D	1	
X401	4850L02810	RESONATOR CERA	CSB500F55	1	
ZZ200	PTMPJ0J574	PCB MAIN (RHU) AS	DTH-21T1FS	1	
C304	CEXF1E102V	C ELECTRO	25V RSS 1000MF (13X20) TP	1	
C402	CBXB3D271K	C CERA	2KV BL(N) 270PF K	1	20"
	CBXB3D471K	C CERA	2KV BL(N) 470PF K	1	21"
C410	CEXF1V471V	C ELECTRO	35V RSS 470MF (10X20) TP	1	
C411	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	1	
C414	CEXF2E479V	C ELECTRO	250V RSS 4.7MF (10X16)TP	1	
C416	CEXF1C222V	C ELECTRO	16V RSS 2200MF (13X25) T	1	
C604	CEXF1E471V	C ELECTRO	25V RSS 470MF (10X16) TP	1	
C714	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	1	
C808	CEXF1E331V	C ELECTRO	25V RSS 330MF (10X12.5)TP	1	
C817	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	1	
C818	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	1	
C819	CEXF1E102V	C ELECTRO	25V RSS 1000MF (13X20) TP	1	
C820	CEXF1E222V	C ELECTRO	25V RSS 2200MF (16X25) TP	1	
C908	CCXB3D102K	C CERA	2KV B 1000PF K (TAPPING)	1	
C910	CEXF2E100V	C ELECTRO	250V RSS 10MF (10X20) TP	1	
ZZ200	PTMPJBJ574	PCB MAIN M-10 AS	DTH-21T1FS	1	
P101	485923162S	CONN WAFER	YW025-03 (STICK)	1	
P601	485923162S	CONN WAFER	YW025-03 (STICK)	1	
P602	485923162S	CONN WAFER	YW025-03 (STICK)	1	
R102	RS02Z183JS	R M-OXIDE FILM	2W 18K OHM J SMALL	1	
R310	RS01Z189J-	R M-OXIDE FILM	1W 1.8 OHM J (TAPPING)	1	
R312	RS01Z331J-	R M-OXIDE FILM	1W 330 OHM J (TAPPING)	1	
R401	RS02Z223JS	R M-OXIDE FILM	2W 22K OHM J SMALL	1	
R402	RS02Z223JS	R M-OXIDE FILM	2W 22K OHM J SMALL	1	
R403	RS02Z223JS	R M-OXIDE FILM	2W 22K OHM J SMALL	1	
R408	RS01Z102J-	R M-OXIDE FILM	1W 1K OHM J (TAPPING)	1	
R409	RS01Z103J-	R M-OXIDE FILM	1W 10K OHM J (TAPPING)	1	
R412	RS01Z309J-	R M-OXIDE FILM	1W 3 OHM J (TAPPING)	1	
R413	RF02Z399J-	R FUSIBLE	2W 3.9 OHM J (TAPPING)	1	
R414	RS01Z229J-	R M-OXIDE FILM	1W 2.2 OHM J (TAPPING)	1	
R415	RS01Z229J-	R M-OXIDE FILM	1W 2.2 OHM J (TAPPING)	1	
R419	RS02Z240JS	R M-OXIDE FILM	2W 24 0HM J SMALL	1	
R430	RS02Z223JS	R M-OXIDE FILM	2W 22K OHM J SMALL	1	
R804	RS02Z363JS	R M-OXIDE FILM	2W 36K OHM J SMALL	1	
R809	RS01Z180J-	R M-OXIDE FILM	1W 18 OHM J (TAPPING)	1	
R810	RF02Z278J-	R FUSIBLE	2W 0.27 OHM J (TAPPING)	1	
R813	RS01Z473J-	R M-OXIDE FILM	1W 47K OHM J (TAPPING)	1	
R815	RS02Z561JS	R M-OXIDE FILM	2W 560 OHM J SMALL	1	
R822	RF01Z568J-	R FUSIBLE	1W 0.56 OHM J (TAPPING)	1	
R904	RS02Z153JS	R M-OXIDE FILM	2W 15K OHM J SMALL	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
R905	RS02Z153JS	R M-OXIDE FILM	2W 15K OHM J SMALL	1	
R906	RS02Z153JS	R M-OXIDE FILM	2W 15K OHM J SMALL	1	
ZZ200	PTMPJRJ574	PCB MAIN RADIAL AS	DTH-21T1FS	1	
C102	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	1	
C104	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	1	
C105	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C108	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	1	
C113	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	1	
C201	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	1	
C202	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	
C301	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	1	
C302	CMXL1H105J	C MYLAR	50V MEU 1MF J	1	
C303	CMXL1H105J	C MYLAR	50V MEU 1MF J	1	
C306	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP	1	
C307	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	1	
C403	CEXF2C229V	C ELECTRO	160V RSS 2.2MF (8X11.5)TP	1	
C404	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)	1	
C406	CEXF2C109V	C ELECTRO	160V RSS 1MF (6.3X11) TP	1	
C408	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	1	
C409	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	1	
C412	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	1	
C413	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	1	
C415	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	
C421	CMXM2A333J	C MYLAR	100V 0.033MF J (TP)	1	
C422	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C423	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	1	
C425	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	1	
C501	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	1	
C503	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C504	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C505	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C510	CEXF1H228V	C ELECTRO	50V RSS 0.22MF (5X11) TP	1	
C511	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	1	
C512	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	1	
C513	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	1	
C514	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	1	
C515	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C516	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C520	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	1	
C522	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	1	
C523	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	1	
C526	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	1	
C527	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	1	
C528	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C533	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C534	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	1	
C536	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	1	
C538	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
C601	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	1	
C602	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	1	
C605	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	
C606	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	1	
C607	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	
C608	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	
C609	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	
C612	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	
C613	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	
C614	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	1	
C615	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	1	
C616	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	
C617	CEXD1H479F	C ELECTRO	50V RND 4.7MF (6.3X11) TP	1	
C620	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	1	
C621	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	1	
C622	CEXD1H478F	C ELECTRO	50V RND 0.47MF (5X11) TP	1	
C623	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	
C625	CMXM2A123J	C MYLAR	100V 0.012MF J (TP)	1	
C627	CEXF1H220V	C ELECTRO	50V RSS 22MF (5X11) TP	1	
C632	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	1	
C633	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP	1	
C703	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	1	
C720	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	1	
C721	CEXD1H479F	C ELECTRO	50V RND 4.7MF (6.3X11) TP	1	
C722	CMXM2A472J	C MYLAR	100V 4700PF J (TP)	1	
C802	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	1	
C803	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	1	
C805	CEXF2A100V	C ELECTRO	100V RSS 10MF (6.3X11) TP	1	
C806	CCXB2H331K	C CERA	500V B 330PF K (TAPPING)	1	
C807	CCXB2H331K	C CERA	500V B 330PF K (TAPPING)	1	
C809	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP	1	
C810	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	1	
C815	CCXB2H471K	C CERA	500V B 470PF K (TAPPING)	1	
C816	CCXB2H471K	C CERA	500V B 470PF K (TAPPING)	1	
C821	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP	1	
CA01	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	1	
CA02	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	1	
F801A	4857415001	CLIP FUSE	PFC5000-0702	1	
F801B	4857415001	CLIP FUSE	PFC5000-0702	1	
L901	5CPX221J--	COIL PEAKING	220UH J (RADIAL)	1	
Q101	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q301	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q402	TKTC3207--	TR	KTC3207 (TP)	1	
Q403	TKTC3207--	TR	KTC3207 (TP)	1	
Q404	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q501	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q502	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q503	TKTA1270Y-	TR	KTA1270Y (TP)	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
Q504	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q601	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q701	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q702	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q703	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q704	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q705	TKTA1266Y-	TR	KTA1266Y (TP)	1	
Q706	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q707	TKTA1266Y-	TR	KTA1266Y (TP)	1	
Q708	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q801	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q802	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	1	
Q803	TKTC3203Y-	TR	KTC3203-Y	1	
Q804	TKSA1013Y-	TR	KSA1013Y (TP)	1	
R108	RV4326203P	R SEMI FIXED	NVZ6TLTA 20K OHM B	1	
R304	RV4326203P	R SEMI FIXED	NVZ6TLTA 20K OHM B	1	
R313	RV4326502P	R SEMI FIXED	NVZ6TLTA 5K OHM B	1	
R424	RV4326503P	R SEMI FIXED	NVZ6TLTA 50K OHM B	1	
R607	RV4326503P	R SEMI FIXED	NVZ6TLTA 50K OHM B	1	
R611	RV4326503P	R SEMI FIXED	NVZ6TLTA 50K OHM B	1	
R614	RV4326502P	R SEMI FIXED	NVZ6TLTA 5K OHM B	1	
R620	RV4326103P	R SEMI FIXED	NVZ6TLTA 10K OHM B	1	
R624	RV4326502P	R SEMI FIXED	NVZ6TLTA 5K OHM B	1	
R630	RV4326503P	R SEMI FIXED	NVZ6TLTA 50K OHM B	1	
R917	RV4121201P	R SEMI FIXED	NVZ6THT 200 OHM	1	
R918	RV4121201P	R SEMI FIXED	NVZ6THT 200 OHM	1	
R919	RV4121502P	R SEMI FIXED	NVZ6THT 5K OHM	1	
R920	RV4121502P	R SEMI FIXED	NVZ6THT 5K OHM	1	
R921	RV4121502P	R SEMI FIXED	NVZ6THT 5K OHM	1	
SW701	5S50101090	SW TACT	SKHV17910A	1	
SW702	5S50101090	SW TACT	SKHV17910A	1	
SW703	5S50101090	SW TACT	SKHV17910A	1	
SW704	5S50101090	SW TACT	SKHV17910A	1	
SW705	5S50101090	SW TACT	SKHV17910A	1	
X501	5XEX3R579C	CRYSTAL QUARTZ	HC-49U 3.579545M (TP)	1	
X502	5XEX3R582C	CRYSTAL QUARTZ	HC-49U 3.582056M 20PPM TA	1	
X503	5XEX3R575C	CRYSTAL QUARTZ	HC-49U 3.575611M 20PPM TA	1	
X701	5XEX4R194C	CRYSTAL QUARTZ	HC-49U 4.194304MH (TP)	1	
Z101	5PXFSH4R5D	FILTER CERA	SFSH4.5MDB	1	
Z201	5PTPS45MB-	FILTER CERA	TPS-4.5MB(TRAP)	1	
ZZ200	PTMPJAJ574	PCB MAIN AXIAL AS	DTH-21T1FS	1	
A001	4859802296	PCB MAIN	330X246 D1B	1	
C101	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C103	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C106	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C107	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C109	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C110	CZSL1H330J	C CERA AXIAL	50V SL 33PF J	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
C111	CZCH1H220J	C CERA AXIAL	50V CH 22PF J	1	
C112	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C114	CCZB1H102K	C CERA AXIAL	50V B 1000PF K	1	
C305	CZSL1H100J	C CERA AXIAL	50V SL 10PF J	1	
C405	CBZR1C152M	C CERA AXIAL	16V Y5R 1500PF M	1	
C417	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C419	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C424	CCZB1H391K	C CERA AXIAL	50V B 390PF K	1	
C502	CCZB1H561K	C CERA AXIAL	50V B 560PF K	1	
C506	CCZB1H102K	C CERA AXIAL	50V B 1000PF K	1	
C507	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C508	CCZB1H102K	C CERA AXIAL	50V B 1000PF K	1	
C509	CCZB1H102K	C CERA AXIAL	50V B 1000PF K	1	
C517	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C518	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C519	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C521	CBZR1C472M	C CERA AXIAL	16V Y5R 4700PF M	1	
C524	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	1	
C525	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C529	CZCH1H150J	C CERA AXIAL	50V CH 15PF J	1	
C530	CZCH1H150J	C CERA AXIAL	50V CH 15PF J	1	
C531	CZCH1H150J	C CERA AXIAL	50V CH 15PF J	1	
C532	CCZB1H102K	C CERA AXIAL	50V B 1000PF K	1	
C535	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C603	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	1	
C610	CBZR1C472M	C CERA AXIAL	16V Y5R 4700PF M	1	
C611	CCZF1H473Z	C CERA AXIAL	50V F 0.047MF Z	1	
C618	CBZR1C272M	C CERA	16V Y5R 2700PF M AXIAL	1	
C619	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C624	CBZR1C562M	C CERA AXIAL	16V Y5R 5600PF M	1	
C626	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C628	CBZR1C222M	C CERA AXIAL	16V Y5R 2200PF M	1	
C629	CBZR1C222M	C CERA AXIAL	16V Y5R 2200PF M	1	
C701	CCZB1H101K	C CERA AXIAL	50V B 100PF K	1	
C702	CCZB1H101K	C CERA AXIAL	50V B 100PF K	1	
C706	CCZB1H561K	C CERA AXIAL	50V B 560PF K	1	
C707	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C709	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C710	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	1	
C712	CZSL1H100J	C CERA AXIAL	50V SL 10PF J	1	
C713	CZSL1H100J	C CERA AXIAL	50V SL 10PF J	1	
C715	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C716	CZSL1H270J	C CERA AXIAL	50V SL 27PF J	1	
C717	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	1	
C718	CBZF1H104Z	C CERA AXIAL	50V F 0.1MF Z	1	
C719	CCZF1E103Z	C CERA	25V F 0.01MF Z (AXIAL)	1	
C901	CCZB1H271K	C CERA AXIAL	50V B 270PF K	1	
C902	CCZB1H271K	C CERA AXIAL	50V B 270PF K	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
C903	CCZB1H271K	C CERA AXIAL	50V B 270PF K	1	
C904	CCZB1H391K	C CERA AXIAL	50V B 390PF K	1	
C905	CCZB1H391K	C CERA AXIAL	50V B 390PF K	1	
C906	CCZB1H391K	C CERA AXIAL	50V B 390PF K	1	
C907	CCZB1H102K	C CERA AXIAL	50V B 1000PF K	1	
D101	DMTZ5R1B–	DIODE ZENER	MTZ 5.1-B (TAPPING)	1	
D102	DMTZ5R6B–	DIODE ZENER	MTZ 5.6-B (TAPPING)	1	
D103	DMTZ5R6B–	DIODE ZENER	MTZ 5.6-B (TAPPING)	1	
D104	DMTZ5R6B–	DIODE ZENER	MTZ 5.6-B (TAPPING)	1	
D301	D1N4003—	DIODE	1N4003 (TAPPING)	1	
D402	DBYV95C—	DIODE	BYV95C (TAPPING)	1	
D403	D1N4937GP-	DIODE	1N4937GP (TAPPING)	1	
D404	DBYV95C—	DIODE	BYV95C (TAPPING)	1	
D405	DBYV95C—	DIODE	BYV95C (TAPPING)	1	
D406	DUZ7R5BM–	DIODE ZENER	UZ-7.5BM 7.5V	1	
D407	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D408	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D501	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D502	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D503	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D504	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D505	DUZ7R5BM–	DIODE ZENER	UZ-7.5BM 7.5V	1	
D506	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D507	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D508	DMTZ5R1B–	DIODE ZENER	MTZ 5.1-B (TAPPING)	1	
D701	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D702	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D703	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D704	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D706	DMTZ5R6B–	DIODE ZENER	MTZ 5.6-B (TAPPING)	1	
D708	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D709	DUZ3R9B—	DIODE ZENER	UZ-3.9B	1	
D710	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D711	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D712	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D713	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D714	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D715	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D716	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D719	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D720	D1N4148—	DIODE	1N4148 (TAPPING)	1	
D802	D1N4937GP-	DIODE	1N4937GP (TAPPING)	1	
D803	D1N4937GP-	DIODE	1N4937GP (TAPPING)	1	
D804	D1N4937GP-	DIODE	1N4937GP (TAPPING)	1	
D805	D1N4937GP-	DIODE	1N4937GP (TAPPING)	1	
D806	DBYV95C—	DIODE	BYV95C (TAPPING)	1	
D808	DBYV95C—	DIODE	BYV95C (TAPPING)	1	
D811	D1N4148—	DIODE	1N4148 (TAPPING)	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
D901	D1S1888—	DIODE	1S1888 (TAPPING)	1	
J003	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J004	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J006	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J008	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J009	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J011	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	20"ONLY
J012	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J013	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J014	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J015	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J016	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J017	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J018	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J019	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J020	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J021	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J022	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J023	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J025	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J026	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J027	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J029	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J031	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J032	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J033	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J034	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J036	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J037	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J038	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J039	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J040	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J041	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J042	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J043	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J044	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J045	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J046	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J047	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J048	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J049	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J050	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J051	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J053	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J054	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J056	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J057	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J058	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
J059	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J060	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J061	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J062	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J063	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J064	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J065	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J066	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J067	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J068	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J069	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J070	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J071	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J072	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J073	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J074	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J075	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J076	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J077	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J078	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J079	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J080	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J081	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J082	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J083	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J084	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J085	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J086	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J088	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J089	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J090	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J092	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J093	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J094	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J095	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J096	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J097	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J098	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J099	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J100	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J101	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J102	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J103	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J105	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J107	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J108	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J109	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J110	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
J111	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J112	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J113	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J114	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J115	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J116	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J117	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J118	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J119	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J120	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J121	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J122	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J123	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J124	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J125	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J126	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J127	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J128	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J129	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J130	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J131	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J132	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J133	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J134	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J135	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J136	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J137	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J138	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J139	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J140	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J141	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J142	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J143	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J144	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J145	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J146	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J147	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J148	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J149	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J150	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.5	
J151	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J152	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J153	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J154	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J155	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J159	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J161	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J162	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
J163	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J164	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J166	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J167	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J168	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J169	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J170	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J171	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J173	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J175	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J176	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J178	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J179	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J180	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J181	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J182	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
J183	85801065GY	WIRE COPPER	AWG22 1/0.65 TINCOATING	0.05	
L102	5CPZ220K02	COIL PEAKING	22UH K (AXIAL 35MM)	1	
L201	5CPZ150K02	COIL PEAKING	15UH K (AXIAL 3.5MM)	1	
L501	5CPZ220K02	COIL PEAKING	22UH K (AXIAL 3.5MM)	1	
L502	5CPZ330K02	COIL PEAKING	33UH K (AXIAL 3.5MM)	1	
L503	5CPZ330K02	COIL PEAKING	33UH K (AXIAL 3.5MM)	1	
L601	5MC0000100	COIL BEAD	BI-3857	1	
L602	5MC0000100	COIL BEAD	BI-3857	1	
L701	5CPZ560K02	COIL PEAKING	56UH K (AXIAL 3.5MM)	1	
L702	5CPZ220K02	COIL PEAKING	22UH K (AXIAL 3.5MM)	1	
L703	5CPZ829K02	COIL PEAKING	8.2UH K (AXIAL 3.5MM)	1	
L803	5MC0000100	COIL BEAD	BI-3857	1	
L804	5MC0000100	COIL BEAD	BI-3857	1	
R101	RD-4Z101J-	R CARBON FILM	1/4 100 OHM J	1	
R103	RD-AZ204J-	R CARBON FILM	1/6 200K OHM J	1	
R104	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R105	RD-AZ303J-	R CARBON FILM	1/6 30K OHM J	1	
R106	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	1	
R107	RD-AZ512J-	R CARBON FILM	1/6 5.1K OHM J	1	
R109	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R110	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	1	
R111	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R112	RD-AZ302J-	R CARBON FILM	1/6 3K OHM J	1	
R113	RD-AZ753J-	R CARBON FILM	1/6 75K OHM J	1	
R114	RD-AZ753J-	R CARBON FILM	1/6 75K OHM J	1	
R115	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R201	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R202	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	1	
R203	RD-AZ751J-	R CARBON FILM	1/6 750 OHM J	1	
R204	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	1	
R301	RD-AZ243J-	R CARBON FILM	1/6 24K OHM J	1	
R302	RD-AZ683J-	R CARBON FILM	1/6 68K OHM J	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
R303	RD-AZ393J-	R CARBON FILM	1/6 39K OHM J	1	
R305	RD-AZ273J-	R CARBON FILM	1/6 27K OHM J	1	
R306	RD-AZ183J-	R CARBON FILM	1/6 18K OHM J	1	
R307	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R308	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	1	
R309	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	1	
R311	RD-2Z331J-	R CARBON FILM	1/2 330 OHM J	1	
R314	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	1	
R315	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	1	
R316	RD-AZ433J-	R CARBON FILM	1/6 43K OHM J	1	
R404	RD-4Z272J-	R CARBON FILM	1/4 2.7K OHM J	1	
R406	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R407	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	1	
R411	RD-2Z682J-	R CARBON FILM	1/2 6.8K OHM J	1	
R416	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	1	
R417	RD-4Z244J-	R CARBON FILM	1/4 240K OHM J	1	
R418	RD-4Z244J-	R CARBON FILM	1/4 240K OHM J	1	
R421	RD-4Z333J-	R CARBON FILM	1/4 33K OHM J	1	
R422	RD-AZ622J-	R CARBON FILM	1/6 6.2K OHM J	1	
R423	RD-AZ242J-	R CARBON FILM	1/6 2.4K OHM J	1	
R426	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	1	
R427	RD-4Z561J-	R CARBON FILM	1/4 560 OHM J	1	
R428	RD-2Z759J-	R CARBON FILM	1/2 7.5 OHM J	1	
R501	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	1	
R502	RD-AZ431J-	R CARBON FILM	1/6 430 OHM J	1	
R504	RD-AZ132J-	R CARBON FILM	1/6 1.3K OHM J	1	
R505	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R506	RD-AZ303J-	R CARBON FILM	1/6 30K OHM J	1	
R507	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R508	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	1	
R509	RD-AZ132J-	R CARBON FILM	1/6 1.3K OHM J	1	
R510	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	1	
R511	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R512	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J	1	
R513	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R514	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R515	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	1	
R516	RD-AZ241J-	R CARBON FILM	1/6 240 OHM J	1	
R517	RD-AZ151J-	R CARBON FILM	1/6 150 OHM J	1	
R518	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J	1	
R519	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	1	
R520	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J	1	
R521	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J	1	
R522	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J	1	
R523	RD-AZ225J-	R CARBON FILM	1/6 2.2M OHM J	1	
R524	RD-AZ225J-	R CARBON FILM	1/6 2.2M OHM J	1	
R526	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	1	
R527	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
R528	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R529	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R530	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	1	
R531	RD-AZ823J-	R CARBON FILM	1/6 82K OHM J	1	
R532	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R533	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
R534	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R544	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R603	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R604	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R605	RD-AZ392J-	R CARBON FILM	1/6 3.9K OHM J	1	
R606	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J	1	
R608	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	1	
R609	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	1	
R610	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	1	
R612	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	1	
R613	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	1	
R615	RD-AZ392J-	R CARBON FILM	1/6 3.9K OHM J	1	
R616	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	1	
R619	RN-AZ4302F	R METAL FILM	1/6 43.0K OHM F	1	
R621	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	1	
R622	RD-AZ105J-	R CARBON FILM	1/6 1M OHM J	1	
R623	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	1	
R625	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	1	
R641	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	1	
R643	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	1	
R644	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R645	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R646	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R650	RD-2Z101J-	R CARBON FILM	1/2 100 OHM J	1	
R651	RD-2Z101J-	R CARBON FILM	1/2 100 OHM J	1	
R660	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J	1	
R661	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J	1	
R662	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J	1	
R663	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J	1	
R701	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R702	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	1	
R703	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R704	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R705	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R706	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	1	
R707	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R708	RD-AZ363J-	R CARBON FILM	1/6 36K OHM J	1	
R710	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J	1	
R717	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R718	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R719	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R720	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
R721	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R722	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R723	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R724	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R726	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R727	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	1	
R728	RD-AZ242J-	R CARBON FILM	1/6 2.4K OHM J	1	
R729	RD-AZ242J-	R CARBON FILM	1/6 2.4K OHM J	1	
R730	RD-AZ105J-	R CARBON FILM	1/6 1M OHM J	1	
R731	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R732	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J	1	
R733	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R734	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R735	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R736	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	1	
R737	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R738	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R739	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R740	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R741	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	1	
R742	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	1	
R743	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	1	
R745	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R746	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R747	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R748	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	1	
R749	RD-4Z101J-	R CARBON FILM	1/4 100 OHM J	1	
R750	RD-4Z203J-	R CARBON FILM	1/4 20K OHM J	1	
R751	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R752	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	1	
R753	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	1	
R755	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R756	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R757	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R758	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R759	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R760	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	1	
R805	RD-4Z330J-	R CARBON FILM	1/4 33 OHM J	1	
R806	RD-4Z104J-	R CARBON FILM	1/4 100K OHM J	1	
R807	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	1	
R808	RD-4Z182J-	R CARBON FILM	1/4 1.8K OHM J	1	
R811	RC-2Z275J-	R CARBON COMP	1/2 2.7M OHM J	1	
R812	RC-2Z275J-	R CARBON COMP	1/2 2.7M OHM J	1	
R816	RD-4Z222J-	R CARBON FILM	1/4 2.2K OHM J	1	
R817	RD-4Z333J-	R CARBON FILM	1/4 33K OHM J	1	
R818	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	1	
R820	RD-4Z680J-	R CARBON FILM	1/4 68 OHM J	1	
R821	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	1	

LOC	PART CODE	PART NAME	DESCRIPTION	NUMBERS	REMARK
R823	RD-4Z153J-	R CARBON FILM	1/4 15K OHM J	1	
R824	RD-4Z223J-	R CARBON FILM	1/4 22K OHM J	1	
R825	RD-4Z223J-	R CARBON FILM	1/4 22K OHM J	1	
R901	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	1	
R902	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	1	
R903	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	1	
R907	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
R908	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
R909	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
R910	RD-AZ821J-	R CARBON FILM	1/6 820 OHM J	1	
R911	RD-AZ821J-	R CARBON FILM	1/6 820 OHM J	1	
R912	RD-AZ821J-	R CARBON FILM	1/6 820 OHM J	1	
R913	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
R914	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
R915	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
R916	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
R922	RD-2Z102J-	R CARBON FILM	1/2 1K OHM J	1	
R923	RD-2Z105J-	R CARBON FILM	1/2 1M OHM J	1	
RA01	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	1	
RA02	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	1	
RA03	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	1	
RA04	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	1	
RA05	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	1	
RA06	RD-AZ913J-	R CARBON FILM	1/6 91K OHM J	1	
RA07	RD-AZ913J-	R CARBON FILM	1/6 91K OHM J	1	
RA08	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	1	

DAEWOO

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