HITACHI

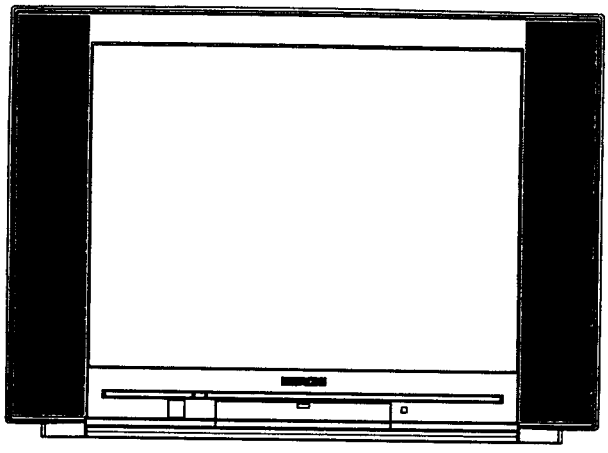
YS | No. 0099C-E

SERVICE MANUAL

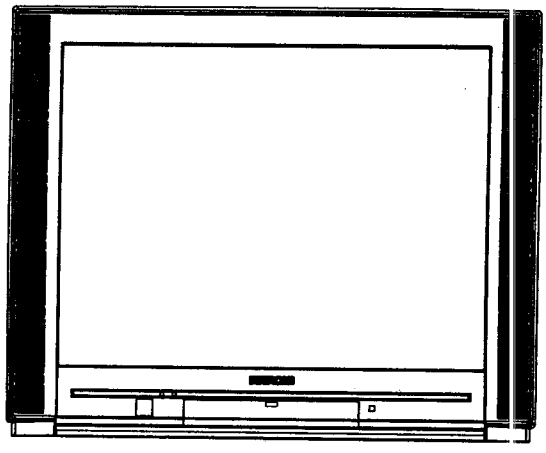
PAL/SECAM/NTSC

C29-F200B – 041, 051, 751, 081S, 081M, 121, 98*, 19*, 433, 941, 061
C29-F200S
C29-GF300K

VOF Chassis



C29-F200B/C29-GF300K



C29-F200S

注　意: 开始检修电视机机芯以前，检修人员必须阅读这本检修手册中“有关安全上的预防事项”及“制品安全上的注意”两节。

CAUTION: Before servicing this chassis, it is important that the service technician reads the "Safety Precaution" and "Product Safety Notices" in this Service Manual.

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SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

COLOR TELEVISION

June 2000　　Hitachi Consumer Products (S)

ECHNICAL CAUTIONS

AFETY PRECAUTIONS

ARNING: Since the chassis of this receiver is connected one side of the Mains Supply during operation, service ould not be attempted by anyone unfamiliar with the cautions necessary when working on this type of equipment. following precautions should be observed.

Do not install, remove, or handle the picture tube in any manner unless shatter-proof goggles are worn. People not so equipped should be kept away while picture tubes are handled. Keep picture tube away from the body while handing.

When replacing chassis in the cabinet, all the protective devices are put back in place, such as; barriers, non-metallic knobs, adjustment and compartment cover or shields, isolation resistors-capacitors, etc.

When service is required, observe the original lead dress. Extra care should be taken to assure correct lead dress in the high voltage circuitry area.

Always use the manufacturer's replacement component. Especially critical components as indicated on the circuit diagram should not be replaced by other makes.

Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.

Before returning a serviced receiver to the customer, the service technician must thoroughtly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the instrument by the manufacturer has became defective, or inadvertenly defeated during servicing.

Therefore, the following checks are recommended for the continued protection of the customers and service technicians.

ISULATION

sulation resistance between the mains poles and any essible metal parts should not be less than 7MΩ at 500V

Also, no flashover or breakdown should occur during the electric strength test, to apply 4KV AC for one minute ween the mains poles and any accessible metal parts.

-RADIATION

BES: The primary source of X radiation in this receiver the picture tube. The tube utilized in this chassis is cially constructed to limit X radiation.

continued X radiation protection, the replacement tube must the same type as the original, HITACHI approved type.

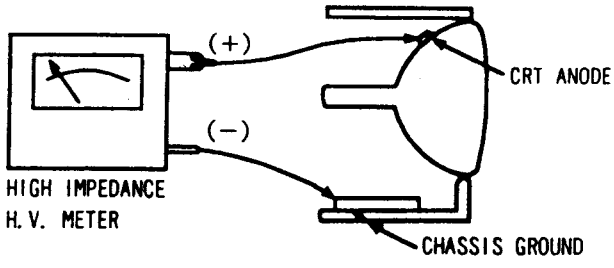
High Voltage

This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit is operated correctly.

Serviceman Warning

With minimum Black Level and Picture, the operating high voltage in this receiver is lower than 31.0K. In case any component having influence on the high voltage is replaced, confirm that high voltage with minimum Brightness and contrast is lower than 33.0kV. To measure H. V. use a high impedance H. V. meter. Connect (-) to chassis earth and (+) to the CRT anode button. (See the following connection diagram).

NOTE: Turn the power switch off without fail before the connection to the Anode button is made.



PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in HITACHI television receiver have special safety related characteristics. These characteristics are often not evident from visual inspection nor can be protection afforded by them 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 Service Manual.

Electrical components having such features are identified by marking with a ⚠ mark in the schematics and on the replacement parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one shown in the parts list in this Service Manual, may create electrical shock, fire, X radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies of, HITACHI Service Manual may be obtained at a nominal charge from your HITACHI sales offices.

TECHNICAL CAUTIONS

High voltage limiter circuit operation check

1. Connect the high voltage voltmeter between the CPT anode (anode cap) and GND (CPT grounding lead).
2. Receive the broadcast signal and set the brightness and contrast VRs to max. Set the beam current to 1.6mA±10%.

(After cut-off adjustment)

3. Set the AC input voltage to 220±3V.
4. Check that the constant high voltage is 29.5±1.0kV at this time.
5. Turn the switch of the set to off and connect the jig shown in Fig.3 at both ends of R964 as shown in Fig. 1.
6. With the brightness and contrast VRs left as set in item. 2 and with the AC input voltage stabilized at 220V. turn the picture disappears with a high voltage of 38.0kV or less.
7. Turn the switch of the set to off immediately after the check is completed.
8. Remove the adjust jigs and high voltage voltmeter.

NOTE: When connecting disconnecting the high voltage voltmeter to from the anode cap, be sure to turn the switch of the set off and do it after the residual high voltage is discharged to the chassis because the high voltage may remain at the anode cap.

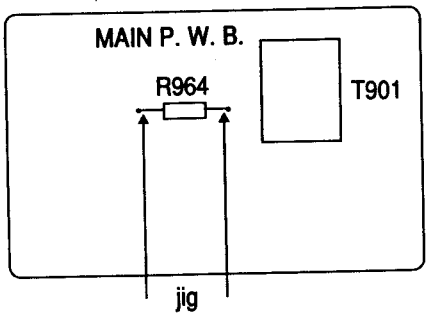


Fig. 1

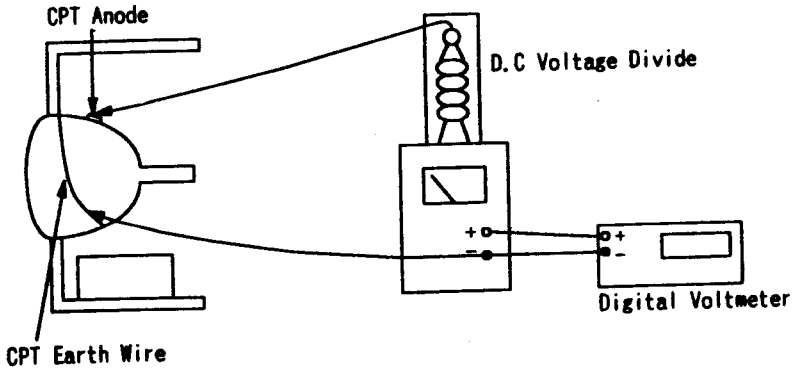


Fig. 2

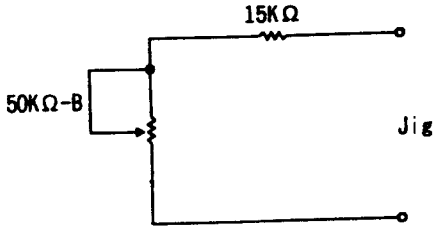


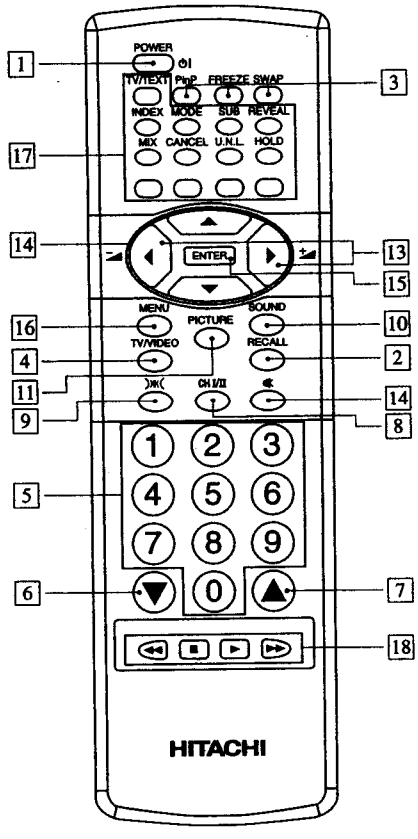
Fig. 3

SPECIFICATIONS (技术参数)

Reception system	625-LINES B.G/I/D.K/H PAL B.G/D.K/K1 SECAM NTSC50 525-LINES M/NTSC NTSC3.58-5.5/6.0/6.5 NTSC4.43-5.5/6.0/6.5 PAL 60, SECAM 60	Antenna input	75 Ω COAXIAL IEC TYPE
		Colour picture tube	A68QCU259X
		Speaker (cm)	6 x 12 (x2)
		Sound output	10W x 2 (F200B), 7W x 2 (F200S)
(Channel coverage Frequencey range 44MHz-863MHz)	CCIR : E2~12, E21~69, S01~3, S1~41 Australia : AU0~12, AU28~69 OIRT : R1~12, R21~69 JAPAN : J1~12, J13~62 U.S.A. : US2~13, J~W, US14~69 Hong Kong, U.K. : UK21~69 China : C1~12, C13~57, Z1~38	Power supply	041, 941, 121 : AC 200V-240V 50Hz/60Hz 98*, 192, 195 : AC 110V-240V 50Hz/60Hz 081*, 051, 433 : AC 200V-240V 50Hz/60Hz 751 : AC 240V 50Hz 191A : AC 127V 50Hz/60Hz
		Power consumption	041 : 119W(IEC Rated 155W) 19*, 98*, 433 : 155W 051, 751, 941 : 155W 081S, 121, 081M : 155W
		Weight (kg)	48.5kg
		Dimensions W x H x D (mm)	768 x 561 x 491 (C29-F200B) 680 x 561 x 491 (C29-F200S)

※ Specifications are subject to change wihout notice to improve performance.

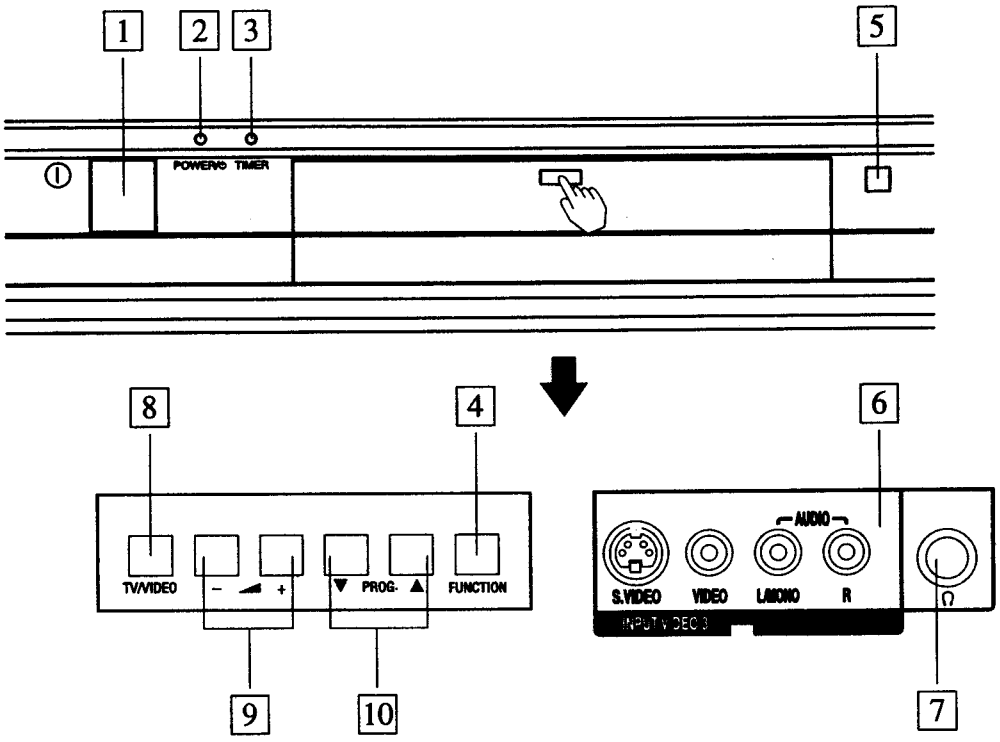
REMOTE CONTROL UNIT (遥控发射器上之控制机件)

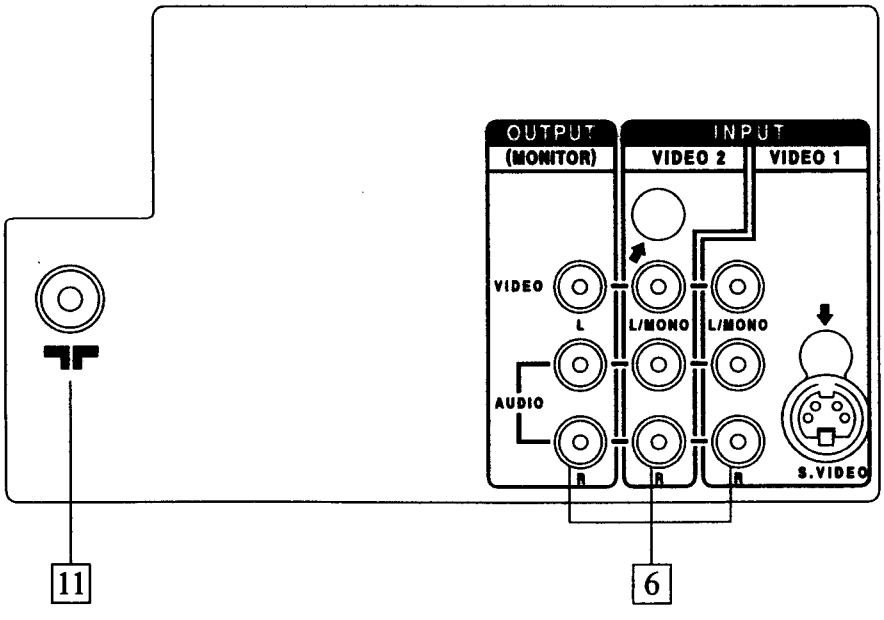


1	POWER ON/OFF SWITCH 电源开关
2	RECALL 召回
3	PinP (For other models) 画中画专用钮（适用于其他型号）
4	INPUT SELECTION 输入选择
5	PROGRAMME SELECTOR 节目选择
6	PROGRAMME DOWN 节目降
7	PROGRAMME UP 节目升
8	CH I/CH II (051/751/081S/982 only) CH I/CH II (051/751/081S/982 适用)
9	SPATIALIZER (For other models) 环绕声（适用于其他型号）
10	SOUND 声音
11	PICTURE 图像
12	MUTE 静噪
13	VOLUME UP/DOWN 音量升/降
14	CURSOR 光标
15	ENTER 决定
16	MENU 菜单
27	TELETEXT OPERATING KEYS (081S/982 only) 图文电视（081S/982 适用）
28	VTR OPERATING KEYS (For other models) 录象机专用钮（适用于其他型号）

CONTROLS
（各种调整控制机件）

Front Panel
电视机的前面板





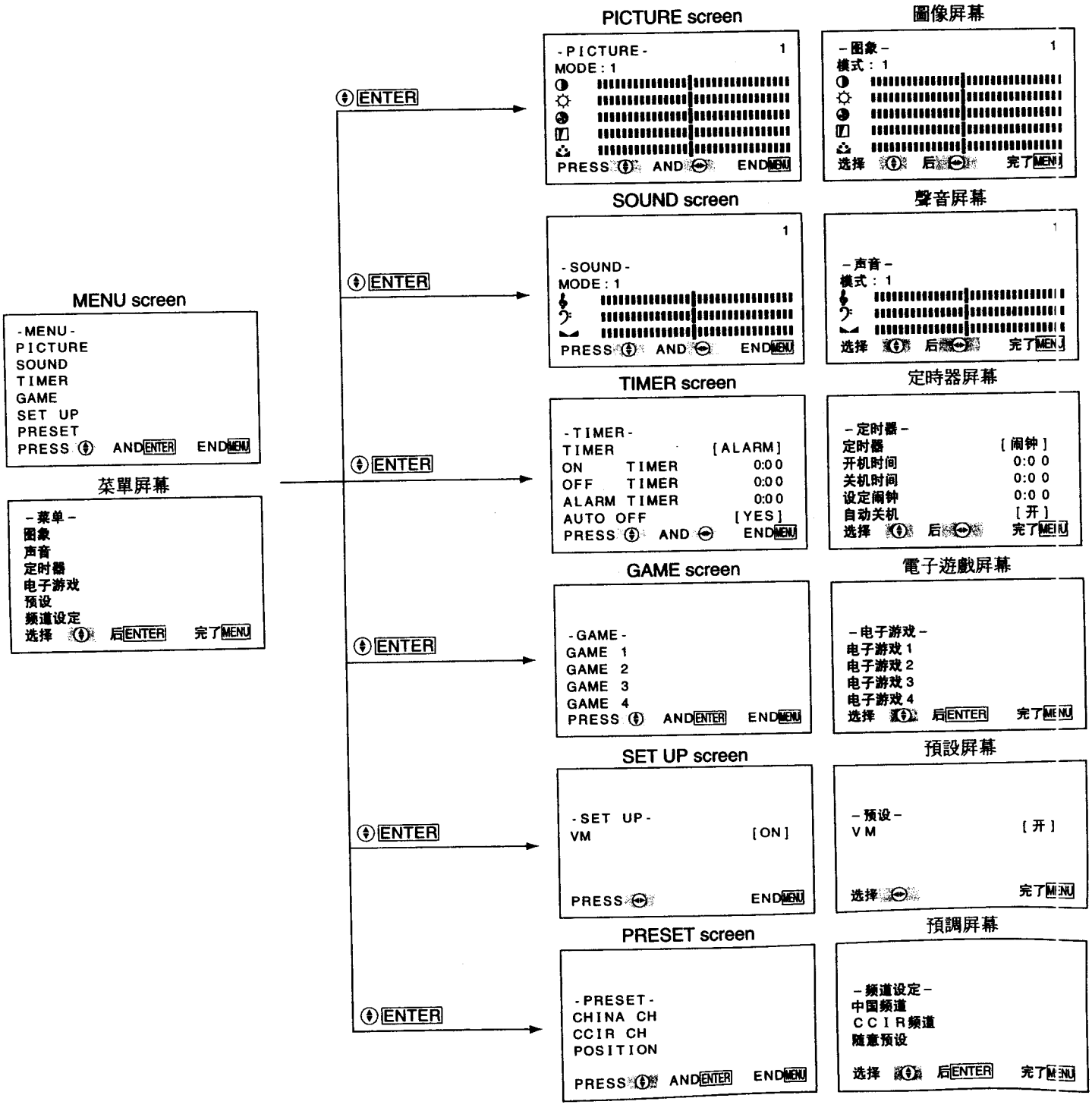
Rear Panel
电视机的后面板

1	POWER ON/OFF SWITCH 电源开关
2	POWER STANDBY INDICATOR 电源/等待指示灯
3	TIMER INDICATOR 定时指示灯
4	FUNCTION 功能键
5	REMOTE CONTROL RECEIVER 遥控接收部
6	AV IN/OUT TERMINALS AV 输入/输出端子
7	HEADPHONE JACK 耳机插座
8	INPUT SELECT 输入选择
9	VOLUME UP/DOWN 音量升/降
10	PROGRAMME UP/DOWN 节目升/降
11	ARIAL TERMINAL 天线端子

GENERAL OPERATIONS GUIDE (基本操作簡介)

With this TV set, all adjustments/settings are performed by selecting from menu screens.
Different menu screens and details of adjustments/settings are shown below. To access the menu screen, press the MENU button, then select the item by pressing the cursor buttons and set it by pressing the ENTER button.

在使用本電視機時，所有調整／設定都可從菜單屏幕上選擇。
各種菜單屏幕以及調整／設定的細節，如下所示。您可先按下 MENU 鍵以進入菜單屏幕，然後按下游標鍵以選擇所要項目，並按下 ENTER 鍵以確認設定。



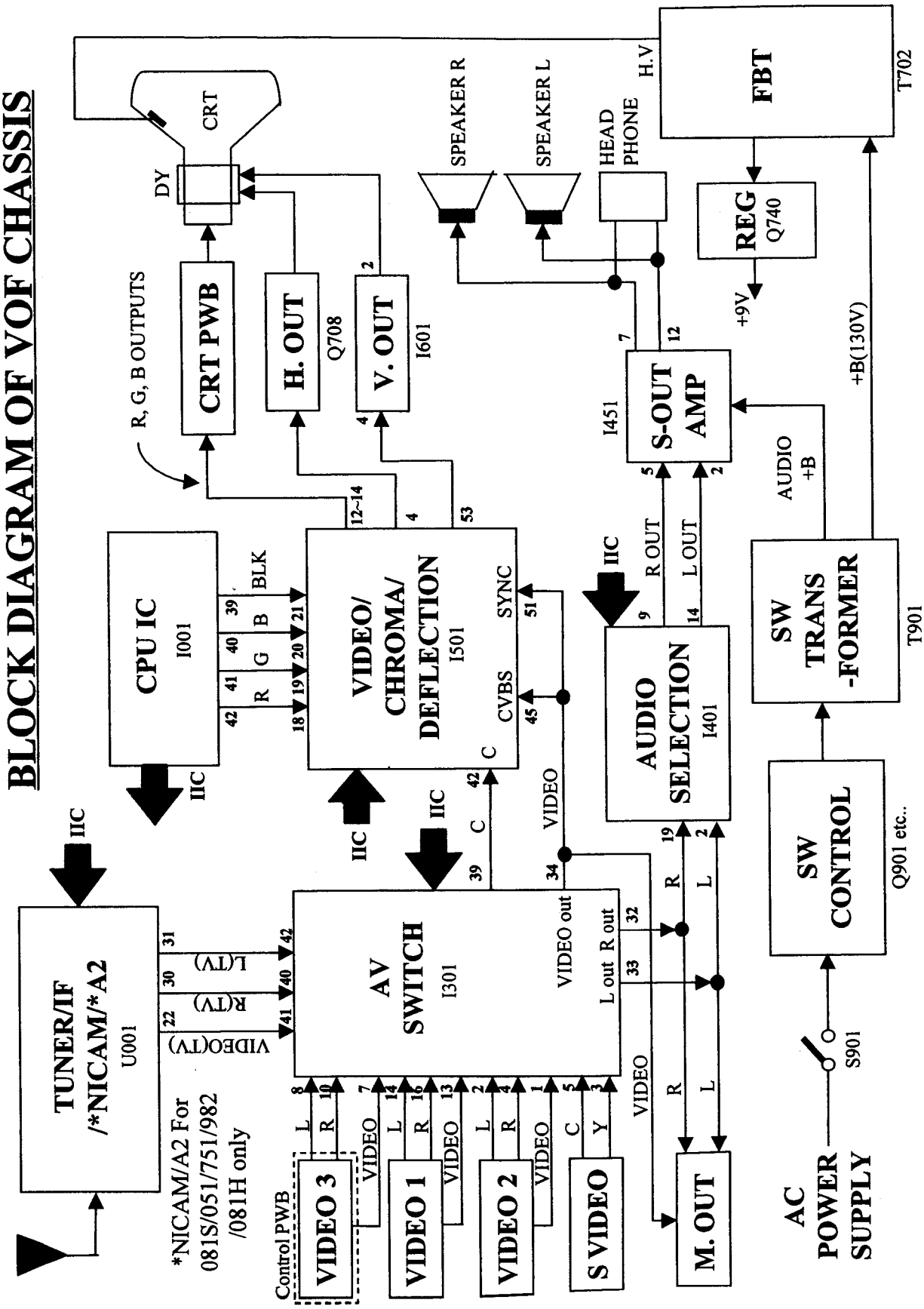
CIRCUIT DESCRIPTION
(电路说明)

SELECTION AND CPU CIRCUIT

IC type, M37272MA, perform functions like IIC controls, channel selection, on-screen displays, seach tuning, systems selection amongst others. The pin functions of M37272MA is presented in table form as below.

PIN	NAME	REMARKS
1	HBLK	Horizontal synchronous signal input for OSD.
2	VBLK	Vertical synchronous signal input for OSD.
3	VM	Velocity Modulation control on/off.
4	BEEP	Beep sound control on/off.
5	COMB	Comb function control on/off.
6	TIMER LED	Output of Timer LED.
7	OSD MENU	OSD Menu control output.
8	MUTE	Mute control on/off.
9	KEY IN	Analog to digital input for front panel matrix(local keys)
10	R/C	Remocon serial data input from receiver unit.
11	SYNC	Sync. Input to detect the presence of RF signal.
12	50/60	Force output to control the frequency of receiving picture.
13	POWER	Power on/off control(i.e. H: Power on, L: Standby).
14	AVCC	5V dc input.
15	HLF	0V dc input.
16	V HOLD	V. hold control.
17	CV IN	5V dc input.
18	CNVSS	Gound terminal.
19	OSC IN	Oscillator input - 8MHz.
20	OSC OUT	Oscillator output - 8MHz.
21	VSS	Gound terminal.
22	VCC	5V Power supply.
23	S-DET	Detection singal input of S Video from Video 1.
24	C T/TEXT	No connection.
25	RESET	Reset input.
26	CH MUTE	Mute control during channel change.
27	SPATIALIZER	No connection.
28	DIMER	No connection.
29	AFC	AFC voltage input.
30	S-DET	Detection singal input of S Video from Video 3.
31	EEP-SDA	IIC data input/output for EEPROM.
32	IIC-SDA1	IIC data input/output.
33	EEP-SCL	IIC clock select for EEPROM.
34	IIC-SCL1	IIC clock select.
35	ST IND	No connection.
36	SAP IND	No connection.
37	F MONO	No connection.
38	MODE	No connection.
39	OSD OUT	OSD blanking output signal.
40	OSD B	Blue OSD output.
41	OSD G	Green OSD output.
42	OSD R	Red OSD output.

BLOCK DIAGRAM OF VOF CHASSIS



TUNER AND IF CIRCUIT

The Tuner/IF/MPX(U001) used in this chassis is powered by the 5V & 9V supplies, it is IIC bus controlled and consists of Tuning, IF Demodulation and Sound Multiplex decoding circuitry.

The Features of U001 are as below.

a. Tuner which covers VHF, UHF and CATV Band(Mid, Supper and Hyper).
b. Built-in VIF circuit, SIF circuit for the signal demodulation and sound systems selection.
c. Built-in Multiplex sound decoder for use in sound processing of NICAM/A2 stereo(for NICAM/A2 Models only).

After the VIF demodulation and removing the SIF signal, the composite video signals is obtained at pin 22 of U001.
For Audio proceeding, the R & L sound outputs (Stereo sound) are obtained at pin 30 & pin 31 of U001 after demodulation & decoding. In case of Monaural model(without Stereo decoder function), the mono sound output is at pin 20 of U001.
All Composite video signal and R/L sound outputs from U001 are than connected to pin 40~42 of I301, waiting for the further processing.

VIDEO/CHROMA CIRCUIT

Composite video signals from RF, Video 1, Video 2 and Video 3 entered I301 via pin 41, 13, 1 and 7 respectively.
For S-VHS signals, S Video 1 sends Y/C signals separately to I301 via pin 3 & pin 5, S Video 3 sends Y/C signals separately to I301 via pin 9 & 11. The same pin 7 of I301 is used for Y signal from S Video 3 and V signal from Video 3.
At I301, which input signals(RF, S Video 1, S Video 3, Video 1, Video 2 or Video3) to be proceeded are selected and transferred to I501 via pin 37(Yout) & pin 39(Cout). These selection procedures are controlled by IIC Bus.
If one of the signal(RF, Video 1, Video 2 or Video 3) is selected at I301, I501(TB1226AN) will received composite video signal at pin 45, 42 and 51.
Y/C separation is performed internally. If the signal selected at I301 is S Video, I501 will receive C signal at pin 42 and Y signal at pin 45 and 51. Therefore, Y/C separation is not required.

i.e.

	I301									
I/O	Inputs								Output	
Pin No.	41	13	1	7	3	5	9	11	37	39
RF	V	-	-	-	-	-	-	-	V	V
Video 1	-	V	-	-	-	-	-	-	V	V
Video 2	-	-	V	-	-	-	-	-	V	V
Video 3	-	-	-	V	-	-	-	-	V	V
S Video 1	-	-	-	-	Y	C	-	-	Y	C
S Video 3	-	-	-	Y	-	-	Y	C	Y	C

	I501		
I/O	Inputs		
Pin No.	45	42	51
RF	V	V	V
Video 1	V	V	V
Video 2	V	V	V
Video 3	V	V	V
S Video 1	Y	C	Y
S Video 3	Y	C	Y

V = Composite Video Signal
Y = Luminance Signal
C = Chroma Signal

I501(TB1226AN) which incorporates VIDEO/ CHROMA/DEFLECTION is used to perform auto color identification of PAL/NTSC, sync separation, AFC, H/V oscillator and output stage RGB signals etc...
IIC Bus has controlled over this I501(i.e. Brightness, Contrast, Color, Sharpness and Tint can be changed).
For all systems(PAL and NTSC), Y and C are separated by using bandpass and trap method, which can change each center frequency internally in I501. And also in I501, color identification and decoding are performed with internal 1HDL and x'tal 16.2MHz at pin 40 instead of conventional 4.43MHz for PAL and 3.58MHz for NTSC x'tal. After that, the result R G, B signals are then combined with OSD R, G, B signals from pin 18~20 by switching operation at pin 21(D YS), pin 22(A YS).
The outputs are finally emerged from pin 12~14 as the R, G and B. Then, R, G and B output signals are sent to CRT PWB.
Internal sync separator and H/V oscillator of I501 produce H drive and V drive signals which are sent to Deflection circuit for processing of Horizontal and Vertical scanning.

HORIZONTAL DEFLECTION

This circuit used the horizontal deflection yoke(H. DY) to deflect the electron beam of the CRT horizontally. It also generates high-voltage and medium/low voltage power supplies through FBT.
At pin 51 of I501, the composite video signal from Q305 is applied to the internal sync. separator and phase detector/correction of I501, the resulted horizontal drive pulse is output from pin 4 of I501.
The horizontal drive pulse is supplied to the horizontal drive circuit consisted of Q708, Q709 and T701.
At the horizontal output tansistor Q708, it generate a FBT pulse of approximately 1100V at the collector and also cause sawtooth current to flow to the H. DY, thus deflecting the electon beam in the CRT horizontally.
This FBT pulse also causes a high voltage (H. V) and medium/low voltages(i.e 200V, 56V, 11V, 25V) to be generated at the secondary circuit of the FBT T702.
The pincushion distortion correction circuit in this chassis is to increase the H. DY current to correct the pincushion distortion at both sides of screen. The verticall sawtooth wave of the V. DY is input to Q665 and output as a parabolic wave. This parabolic wave modulates the horizontal pulse voltage at the cathode of diode modulator D703 through Q663, Q662 and Q661 with a vertical period to vary the H. DY voltage.
The high-voltage beam current is supplied from +B(130V) to the ACL(Automatic Contrast Limiter) terminal of FBT. This produces a voltage proportional to the variations in the brightness at the ACL terminal. This voltage is applied to Q664, Q663 to correct meandering of the picture due to changes in brightness and also apply to Q663 through R663 to correct the size due to brightness change.

VERTICAL DEFLECTION

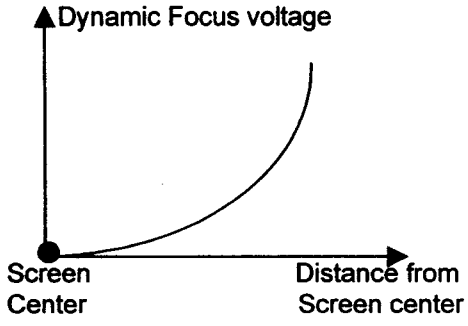
At I501, the composite video signal from pin 51 are applied to the internal integrated circuit, V separation circuit and V C/D circuit which counts down the horizontal frequency to obtain the vertical frequency. C6A2 at pin 52 of I501 is used for ramp generation, and produces the required sawtooth waveform output from pin 53.
The vertical drive output from pin 53 of I501 is applied to pin 4 of I601 via R6A2, and the vertical output to drive the DY is made available at pin 2. The voltage switching circuit in I601 increases the power voltage at pin 3 during the flyback period to make the flyback line faster.
The V deflection voltage that occurs is added to the DC voltage from pin 2 of I601, the result is applied to pin 54 of I501 and determine the linearity and vertical height.

POWER SUPPLY CIRCUIT

The power supply circuit of VOF chassis is as below.
(1) Starting Operation.
Power switch S901 turned ON → Rectified at D901 → Voltage at Q903 base rises → First switching pluse generated at winding P1-P2 of T901 → Drive voltage → Provide to Q905 of winding B1-B3 of T901 → Q905 supply stable drive voltage and L903 provide drive current to Q903 base → Come into normal operations.
(2) Switching Constant Voltage Operation.
AC input voltage rises or +B load decreased (picture get dark) → +B(130V) rises → Ic increased at Q951 → Id increased at IC901 → Ic increased at IC901 → Voltage decreased at pin 5 of IC901 → ON period of Q901 increased → ON period of Q903 decreased → Positive voltage of D951 anode decreased → +B voltage falls → +B voltage stabilized.
(3) Standby Operation.
Remote control power OFF → I001 PIN 13 ↓ → Q954 off → Q953 off → I501 Vcc PIN 3 ↓ → Horizontal deflection stopped.
Also → Q952 off → R965 connect into R964 → Voltage of Q951 base rises → on period of Q903 is slightly decreased by IC901 → +B voltage falls (about 65V) → Power consumption decreased.
+5V power provided from T901 (S2) winding through D952 and C954 → 5V at pin 22 of I001 stabilized by I004.

DYNAMIC FOCUS CIRCUIT

In a CRT, the focus electrode potential must be adjusted to produce a finely focused dot on the face of the tube. The distance between the electron guns and the tube face increases as the beam is deflected forwards the extremities of screen. This means that the optimum Dynamic Focus voltage varies according to the part of the screen being scanned.
i.e.



Due to above, the variation in focus between the center and the extremities of the screen is always a problem, especially in Flat CRT.
In VOF chassis, the Dynamic Focus circuit (consists of CF02, CF03, TF01 CF06 etc...) is used to improve the focus at the horizontal extremities of CRT by adding a parabolic voltage waveforms at the horizontal scan frequency on focus voltage.
To obtain a dynamic focus waveform, a waveform from the horizontal output circuit across C725 is supplied to Dynamic Focus Transformer TF01 through CF03. After TF01, the parabolic secondary voltage of TF01 is supplied to Dynamic Focus pin of CRT through Flyback Transformer T702, and optimize focus at the left and right extremities of screen.

AUDIO CIRCUIT

All the audio switching is performed within the I301, the audio signals at I301 are received from the following locations.

a. TV sound(either Mono or Stereo) at pin 40(R), and pin 42(L).
b. Audio-in 1 at pin 14(L), and pin 16(R).
c. Audio-in 2 at pin 2(L), and pin 4(R).
d. Audio-in 3 at pin 8(L), and pin 10(R).

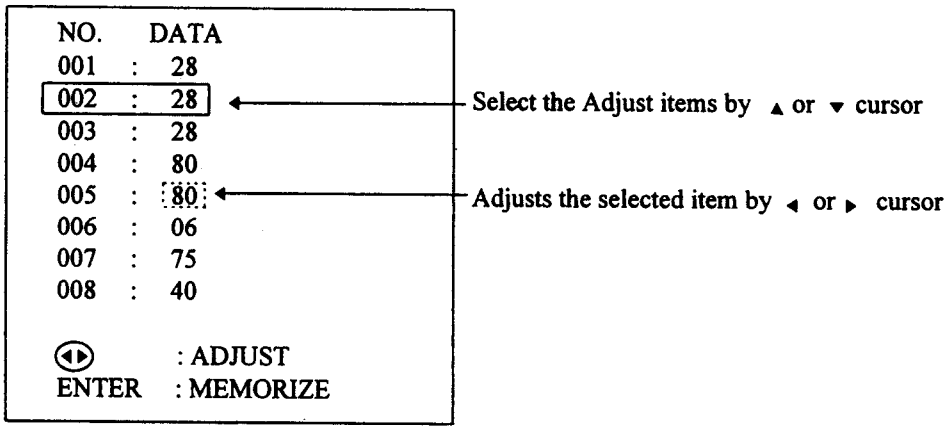
By the control of IIC, the desired audio signal is selected and output at pin 33(L) and pin 32(R) of I301.
The outputs from I301 is then fed to AV terminal E301 via C315/R315/R314 & C312/R307/R306, these are the monitor right and left outputs respectively which are available to be connected to appropriate external equipment.
The outputs from I301 is also fed to I401 pin 2(L) & pin 19(R) of I401.
In I401, selected audio sounds are added with Volume control, left/right output level, treble and bass operation etc...
The audio amplifier(I451) used on this chassis is the AN7147N which is a double amplifier with one power supply pin(pin 10).
The outputs from I401 are applied to pin 2 & pin 5 of I451 via resistors R417 & R418, the signals are then taken from pin 7 & pin 12 passed through the DC blocking capacitors C418 & C419.
JM01 is a Headphone socket contains a switch. When no headphones are inserted, the audio signa is applied to the internal speakers(SP401, SP402). When headphones are connected, the audio signa passed through resistors RM441 & RM442 prior to being applied to the headphones which required a restricted power output.
A software mute is employed on the mono model, this is carried out by applying a logic "high" at pin 28 of I301 from I001 via R009 & RK220. In case of NICAM/A2 stereo models, mute operation is activated in U001 controlled by the IIC from I001.

Hardware mute circuitry with Mute transistors Q408~Q410 are also employed on the L-out and R-out signal lines before I451. When mute is requested during AC Power Switch On/Off, Q408 is grounded and no signal is transferred to Audio Amplifier(I451). When mute is requested during Power On/Off by Remote Control, the collectors of Q409/Q410 are pulled to ground by the control signal from pin 8 of I001 via R415/R416, this made mute possible before being input to I451.

ADJUSTMENT INSTRUCTIONS
(调整说明)

IIC ADJUSTMENTS

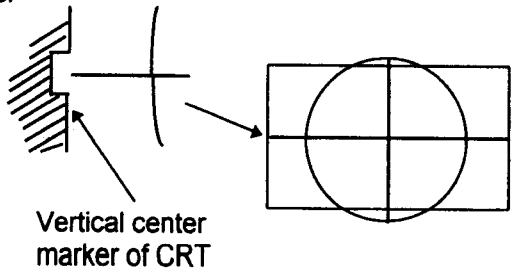
Most of the adjustment items in VOF chassis are control by IIC. Any changes on CRT, CPU IC, Video/Chorma IC or V. deflection IC(I601), please readjust the items shown in table 1(Pg. 18). To start the IIC adjustment, please ensure the AC power switch is at "off" position. Press the TV/VIDEO button on the front panel and then press the power switch while pressing TV/VIDEO button. Release all buttons after the following displays appeared on screen.



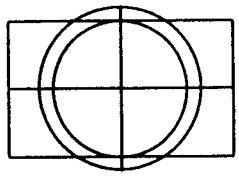
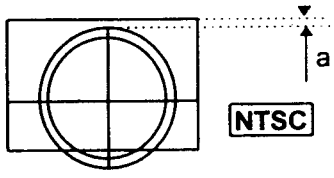
To select the adjustment items(e.g. H. phase, sub-brightness level etc...), press the ▲ or ▼ cursor button on Remote control handset. To adjust the data of selected item, press the ◀ or ▶ cursor button on Remote control handset.

After completed the adjustments, press the ENTER button on Remote control handset (memorized). Press MENU button or turns off the TV set to end the IIC adjustment.

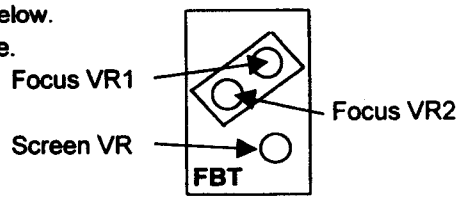
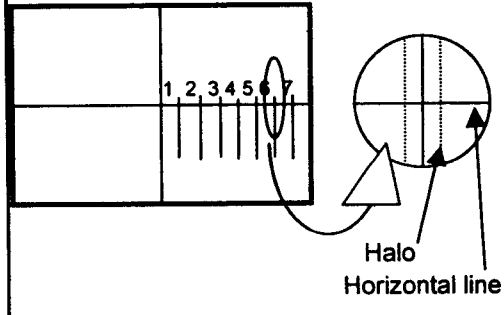
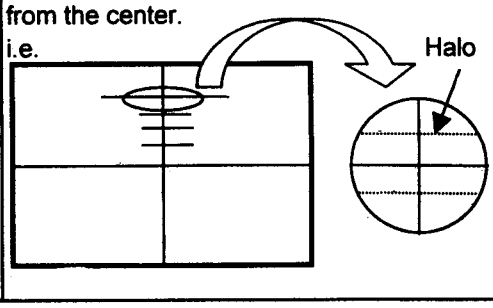
VERTICAL CENTER ADJUSTMENT

PREPARATION		PROCEDURES	
1.	Turn on the TV set & heat run about 5 min.	1.	Select the IIC control address No 54.
2.	Receive the circular pattern signal.	2.	Set the horizontal center line to vertical center marker of CRT by adjustment of IIC. i.e.
3.	AC 220+ - 1v.		

VERTICAL SIZE ADJUSTMENT

PREPARATION	PROCEDURES
1. Turn on the TV set & heat run about 5 min. 2. Receive circular pattern signal (PAL). 3. Set all picture settings to normal condition (i.e. Brightness : Center, Contrast : Max 4. AC 220 +-1V	1. Select the IIC control address No 55. 2. Adjust IIC data to obtain the following condition. i.e.  PICTURE TOP : Inner circle reach the edge of TV raster. PICTURE BOTTOM : Inner circle reach the edge of TV raster. 3. Receive the NTSC circular signal, and check the picture size after the above V size adjustment. 4. If a > 0mm, go back to IIC control No 54(V-center adjustment), increase the IIC data by 1 position. 

DOUBLE FOCUS ADJUSTMENT(Adjust after the Vertical Size adjustment)

PREPARATION	PROCEDURES
1. Turn on the TV set & heat run about 5 min. 2. Receive the Cross Latch pattern signal. 3. AC 220 +- 1V. 4. Turns the black level to the very point where background of Cross Latch pattern becomes dark. 5. The sketch of FBT with VR1 & VR2 is as below. i.e.  	1. Turns the Focus VR2 gradually clockwise until the halo of the number 6 vertical line disappear and horizontal line is at min. width.  2. Turns the Focus VR1 gradually clockwise so that no halo of Horizontal center line appears and width of the horizontal line(*) becomes min.. *the position cross to fourth horizontal line from the center. i.e. 

+B ADJUSTMENT

PREPARATION	PROCEDURES
1. AC input voltage 220+-5V(50HZ). 2. Turns on the set and set the brightness and contrast to Max. (Signal : PHILIPS Pattern) 3. After 30 sec heat-run, check & adjust the +B voltage. **Measuring Point** : +B voltage : C953 + side GND : C953 - side	1. Adjust VR951 to obtain +B voltage as below. +B voltage = 130 +-0.3V

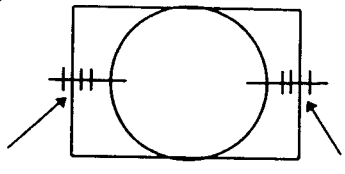
SIDE PIN-CUSHION DISTORTION ADJUSTMENT

PREPARATION	PROCEDURES
1. Perform this adjustment after the purity and convergence adjustment. 2. Receive the circular pattern signal. 3. Set the Contrast to max. and Back level to normal. 4. The horizontal size adjustment. 5. Set the horizontal size VR R657 to the mechanical center. 6. Perform this adjustment after the Vertical size adjustment.	1. Adjust R656 so that all vertical lines except the lines at both the left and right ends are straight. 2. Receive the Cross Hatch signal, check that the verticial lines are straight except the 1st outer vertical line(R/L).

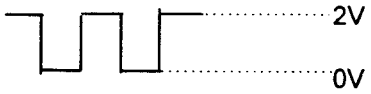
HORIZONTAL CENTER ADJUSTMENT

PREPARATION	PROCEDURES
1. Perform this adjustment after the Side pin adjustment. 2. Receive the circular pattern signal.	1. Select the IIC control address No 06. 2. Adjust the picture center to meet the CRT geometrical center.

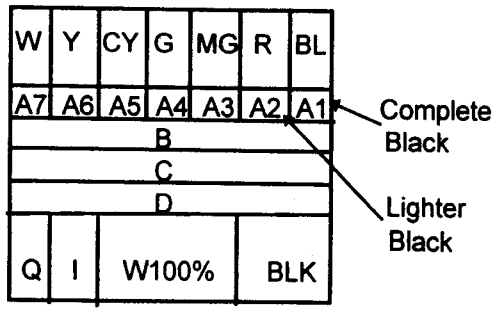
HORIZONTAL SIZE ADJUSTMENT

PREPARATION	PROCEDURES
1. Perform this adjustment after H. center adjustment. 2. Receive the HITACHI circular pattern signal(PAL). 3. Set the Contrast at Max, and others at 0(center).	1. Turn R657 to Max(clockwise). 2. Adjust R657 so that the average reading of right and left is 1.5 ~ 2.0. i.e 

WHITE BALANCE ADJUSTMENT

PREPARATION	PROCEDURES
1. Switch on the TV set for at least 20mins. 2. Adjust this adjustment after the Purity adjustment. 3. Ensure the vertical incident illuminatin on CRT surface to be 20 lux or less. 4. Receive the white balance raster. 5. Set the following settings by Remote control handset. Contrast : Max Brightness : Center Color : Min	1. Connect and measure the waveform at No.5 pin of connector PY1(or pin 14 of I501). 2. Select the IIC Control address No 01(Cut-off red) and adjust the data to obtain the following waveform at pin 5 of PY1.  3. Select the IIC control address No 02(Cut-off green) and No 03(Cut-off blue), adjust both datas to the same data number as in address No 01. 4. Select the IIC control address No 04(Blue drive) and No 05(Red drive), adjust both datas to 80. 5. Turn the screen VR of FBT fully counter-clockwise. 6. Press the TV/VIDEO button 3 times to obtain the lateral line mode. 7. Turn the screen VR clockwise and set it to the position where the bright colored line starts to appear. 8. Release the lateral line mode by pressing TV/VIDEO button once. 9. Set the W/B meter probe at the center of the screen. 10. Do the W/B adjustment to the desired W/B color temperature by using the following keys of IIC. IIC Adress No R BKG 01 G BKG 02 B BKG 03 R DRIVE 04 B DRIVE 05 Note : To obtain the low brightness and high brightness conditions, adjust the Brightness control of remote control handset.

SUB-BRIGHTNESS ADJUSTMENT

PREPARATION	PROCEDURES
1. Switch on the TV set for at least 20mins. 2. Adjust this adjustment after the Horizontal size and Side pin cushion adjustment. 3. Ensure the vertical incident illumination on CRT surface to be 20 lux or less. 4. Receive color bar pattern signal. 5. Set the following settings by remote control handset. Contrast : Min Color : Min Brightness : Center	1. Select the IIC control address No. 09. 2. Adjust the data until A1 portion becomes black and A2 portion becomes lighter black. i.e 

SUB-TINT ADJUSTMENT

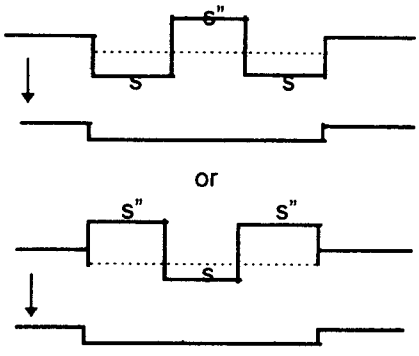
PREPARATION		PROCEDURES	
1.	Receive the color bar signal (NTSC).	1.	Connect and measure the waveform at pin 5 of EY1(R signal).
2.	Set the following settings by Remote Control handset. Contrast : Max Tint : Center Color : Center Black Level : Center Sharpness : Center	2. 3.	Select the IIC address No. 08. Adjust the data to obtain the following waveform (s and s" to same level). 

TABLE 1: IIC-BUS CONTROL ADDRESS

ADJ No.	NAME OF ADJUSTMENT	DATA (INITIAL)	ADJUST WHEN CHANGE		
			MEMORY	CPT	V/C IC
			I002	V1	I501
1	R CUT OFF	0 ~ 255 (0)	O	O	O
2	G CUT OFF	0 ~ 255 (0)	O	O	O
3	B CUT OFF	0 ~ 255 (0)	O	O	O
4	G DRIVE GAIN	0 ~ 255 (80)	O	O	O
5	B DRIVE GAIN	0 ~ 255 (80)	O	O	O
6	HORIZONTAL POSITION	0 ~ 31 (10)	O	O	X
38	R-Y SECAM W/B	0 ~ 15 (8)	O	X	X
39	B-Y SECAM W/B	0 ~ 15 (8)	O	X	X
54	V.POSITION	0 ~ 7	O	O	O
55	V.SIZE	0 ~ 127 (40)	O	O	O
57	V.S CORRECTION	0 ~ 127 (40)	O	O	O
59	V.LINEARITY	0 ~ 31 (0)	O	O	O
80	MUTE MODE	0 ~ 3	O	X	X

Note: 1) Do not adjust other ADJ. No. except the items shown in Table 1.
2) For memory IC (I002) change, please complete the data setting in Table 2 before adjusting the data in Table 1.

SHIPPING DATA OF IIC SERVICE MODE
(Apply only when the memory IC, I002, change.)

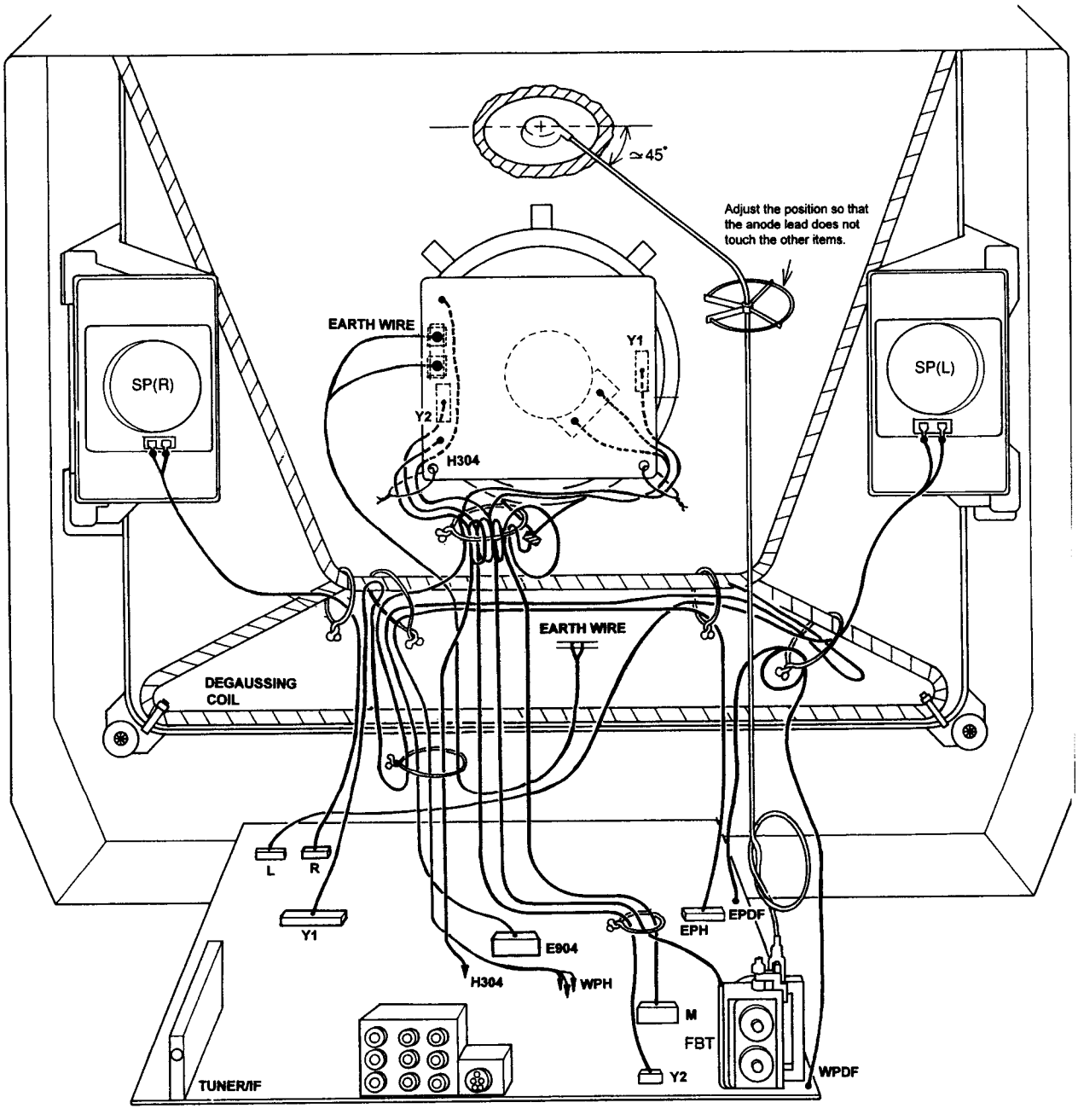
1) Set IIC No. 313 to "3", followed by initialisation.
2) After initialisation, set the shipping data as shown in Table 2.
3) Return to page 18 and adjust the IIC data in Table 1.

TABLE 2: SHIPPING DATA

ADJ. NO.	INITIALIZED DATA	C29-F200B								C29-GF300K
		081S	051	191A	192	751	982	081M	081H	081M
300	01	01	02	01	01	01	01	01	01	01
301	01	01	01	01	01	01	01	01	01	01
302	00	01	00	00	00	00	01	00	01	00
303	00	03	03	00	00	03	03	00	03	00
304	06	06	06	06	06	06	06	06	06	06
305	00	00	00	00	00	00	00	00	00	00
306	3F	3F	3F	3F	3F	3F	3F	3F	3F	3F
307	00	00	00	00	00	00	00	00	00	00
308	00	00	00	00	00	00	00	00	00	00
309	01	01	01	01	01	01	01	01	01	01
310	00	00	00	00	00	00	00	00	00	00
311	01	01	01	01	01	01	01	01	01	01
312	01	01	01	01	01	01	01	01	01	01
313	00	00	00	00	00	00	00	00	00	00
314	00	00	00	01	01	00	00	00	00	00
315	01	01	01	01	01	01	01	01	01	01
316	00	00	00	00	00	00	00	00	00	00
317	00	01	00	00	00	00	01	01	01	01
318	00	00	01	00	00	00	00	00	00	00
319	01	01	01	01	01	01	01	01	01	01

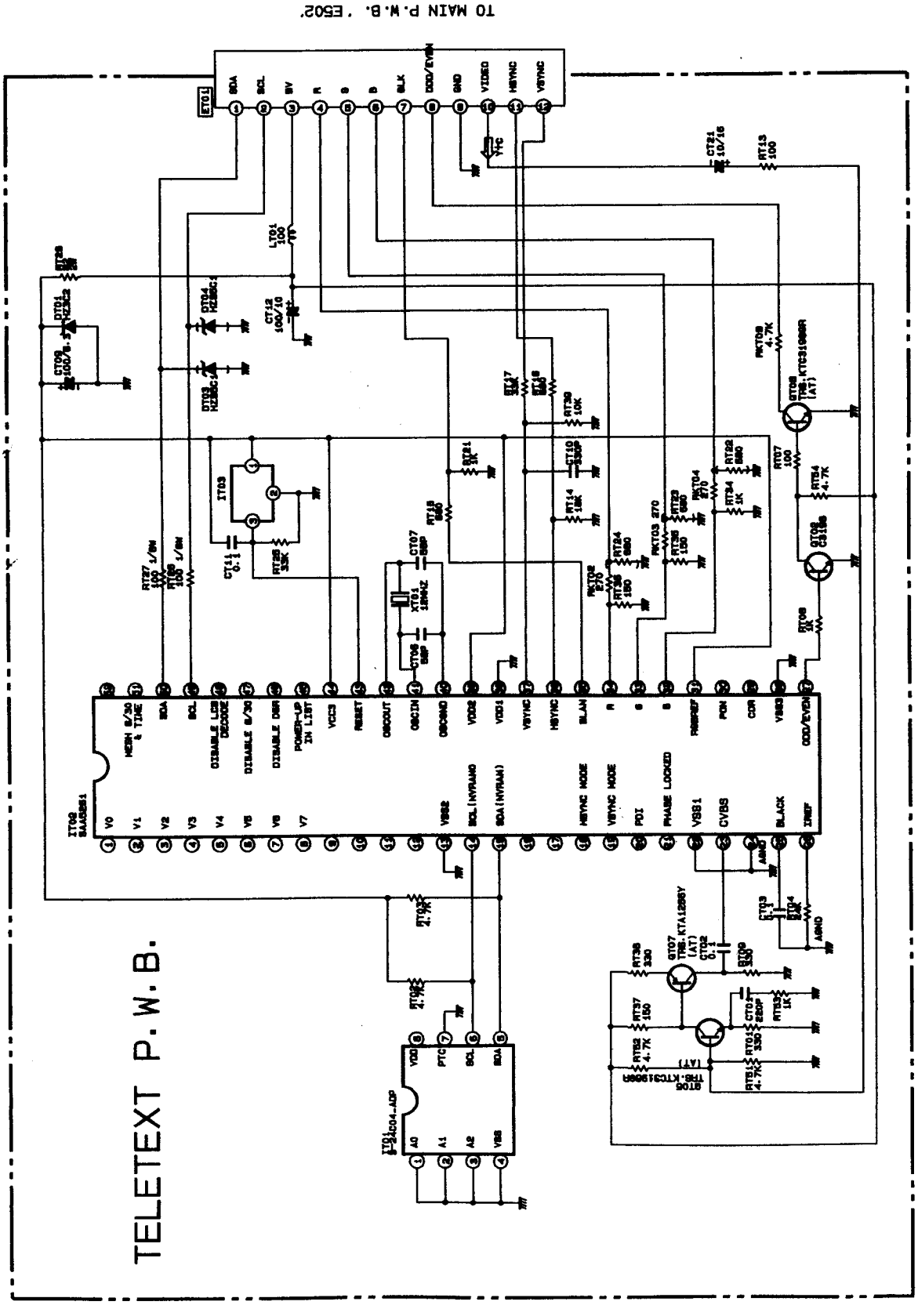
Note: Shipping data in the ☐ need to be adjusted.

WIRING DIAGRAM 布线图

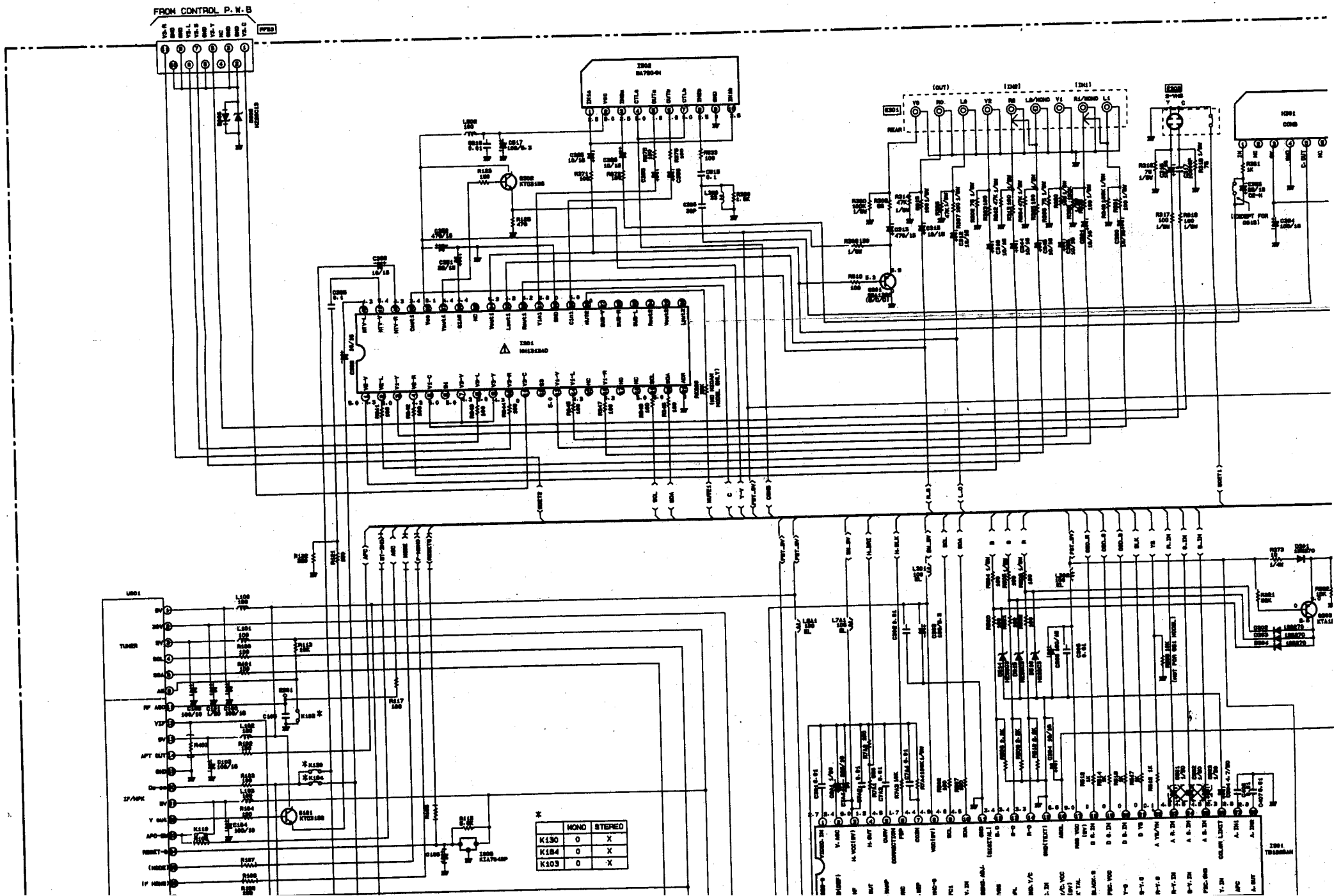


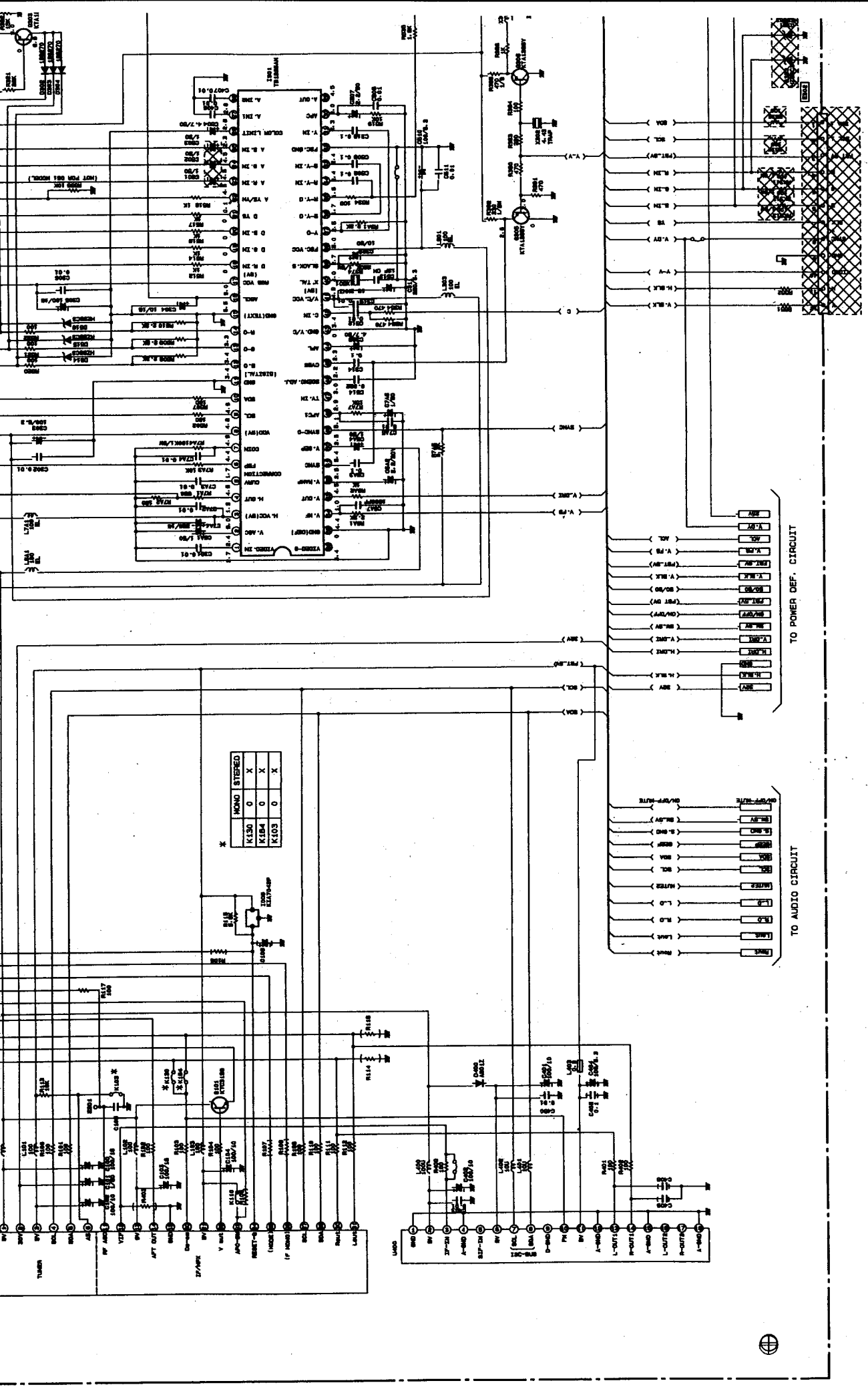
MEMO

CIRCUIT DIAGRAMS : T/TEXT PWB
(FOR T/TEXT MODELS ONLY)



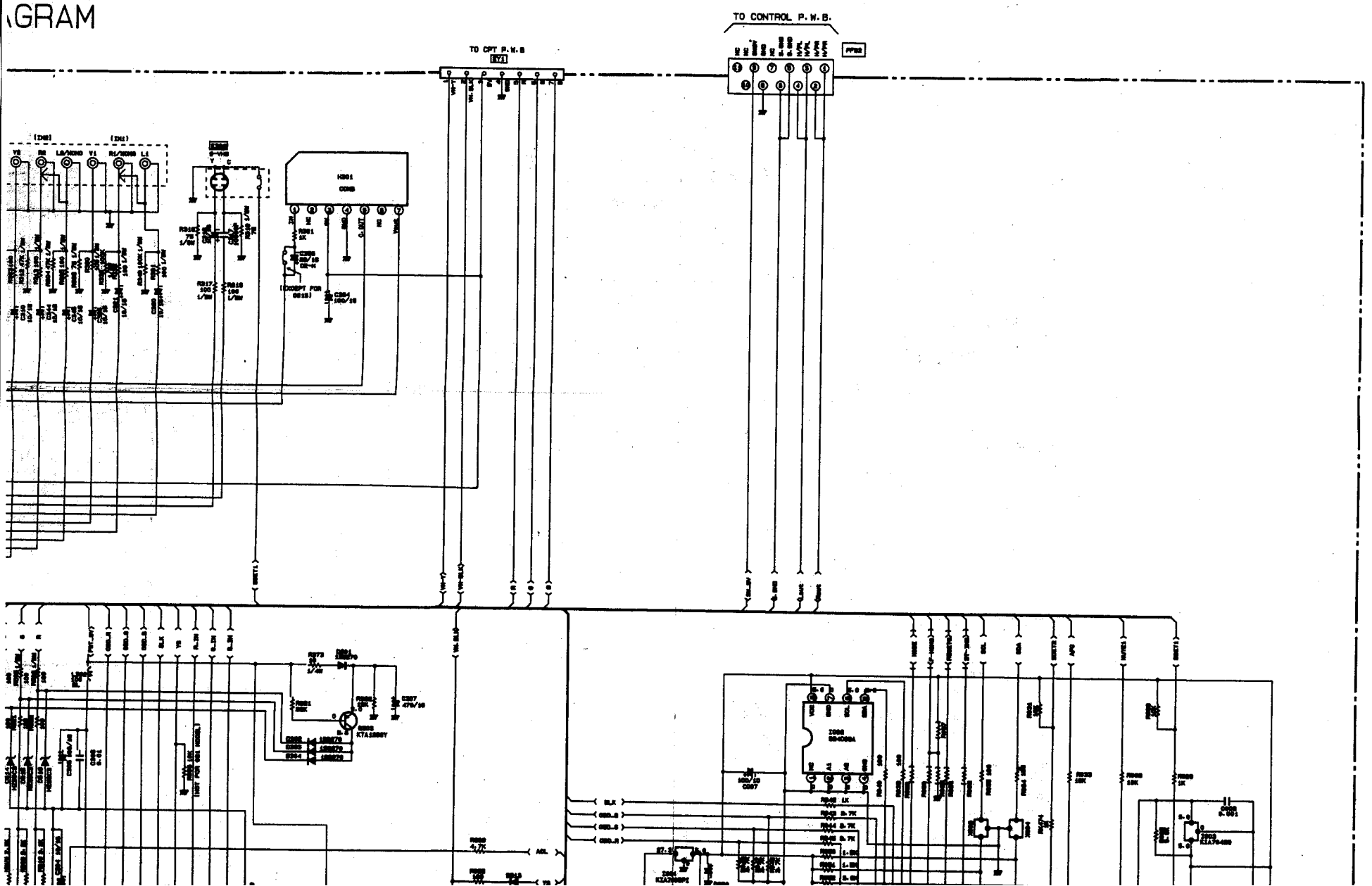
C29-F200B/S CIRCUIT DIAGRAM

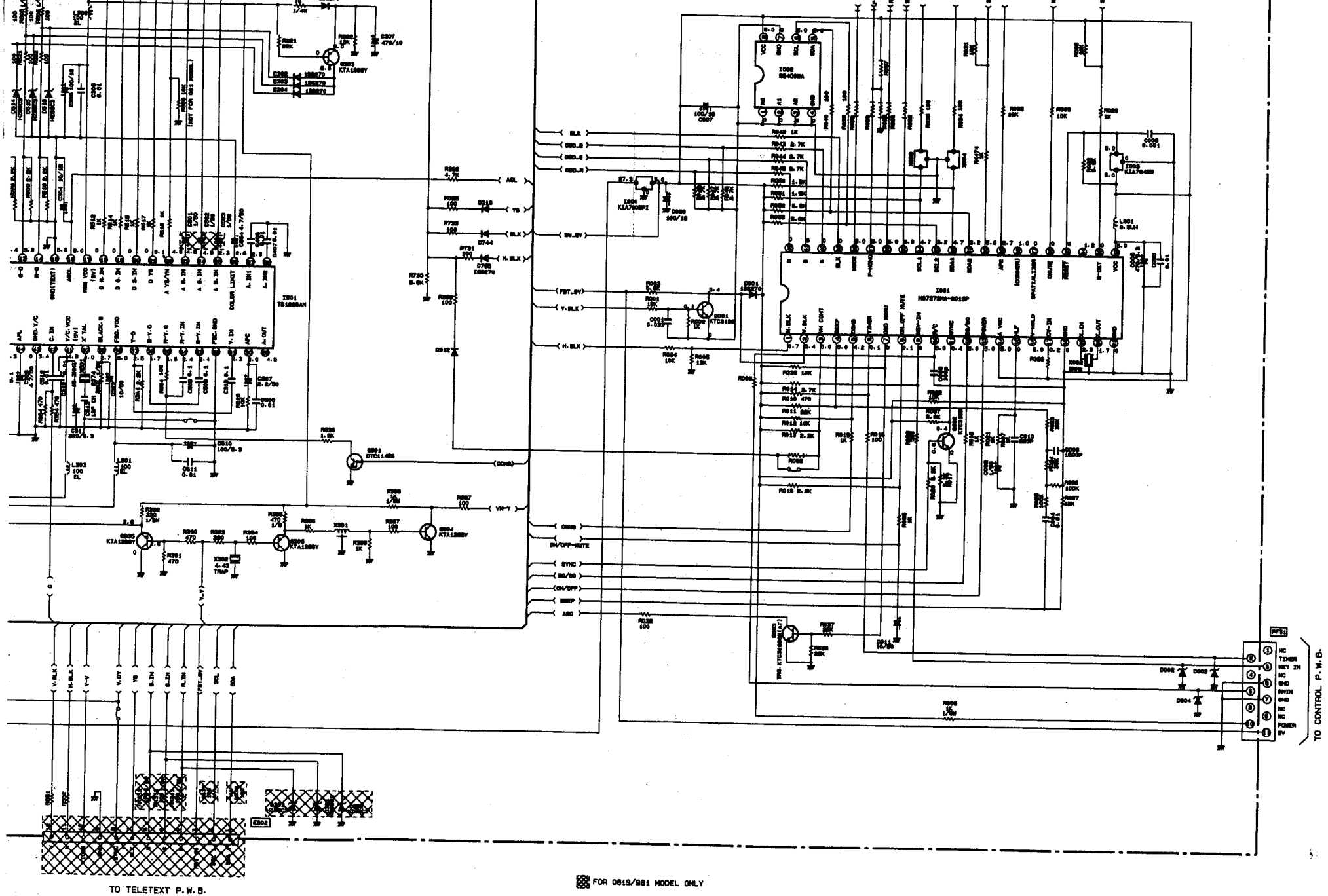



TO TELETEXT P.W.B.
TO POWER DEF. CIRCUIT
TO AUDIO CIRCUIT
MONO
STEREO
K130
K104
K103

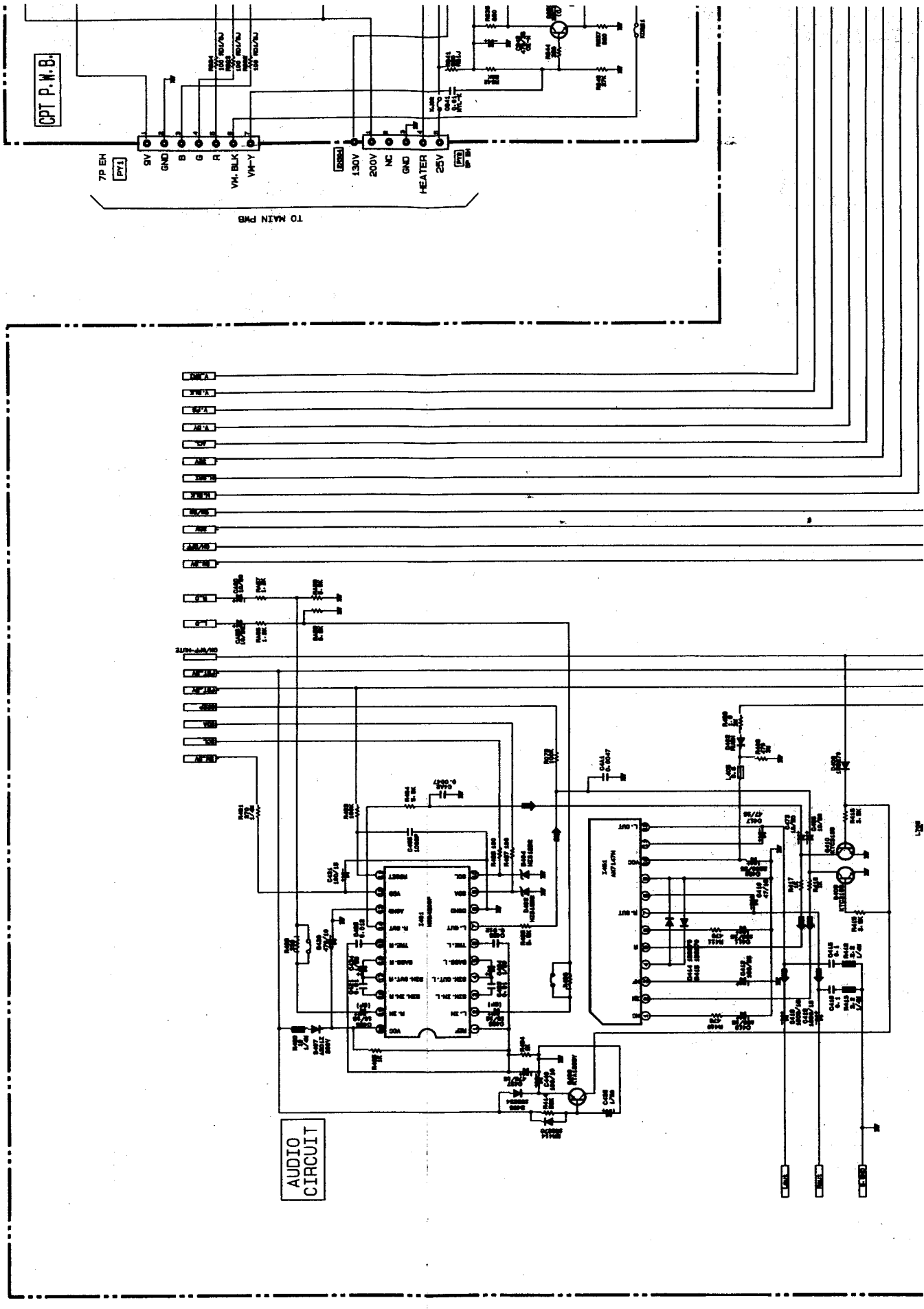
PRODUCT SAFETY NOTE : Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

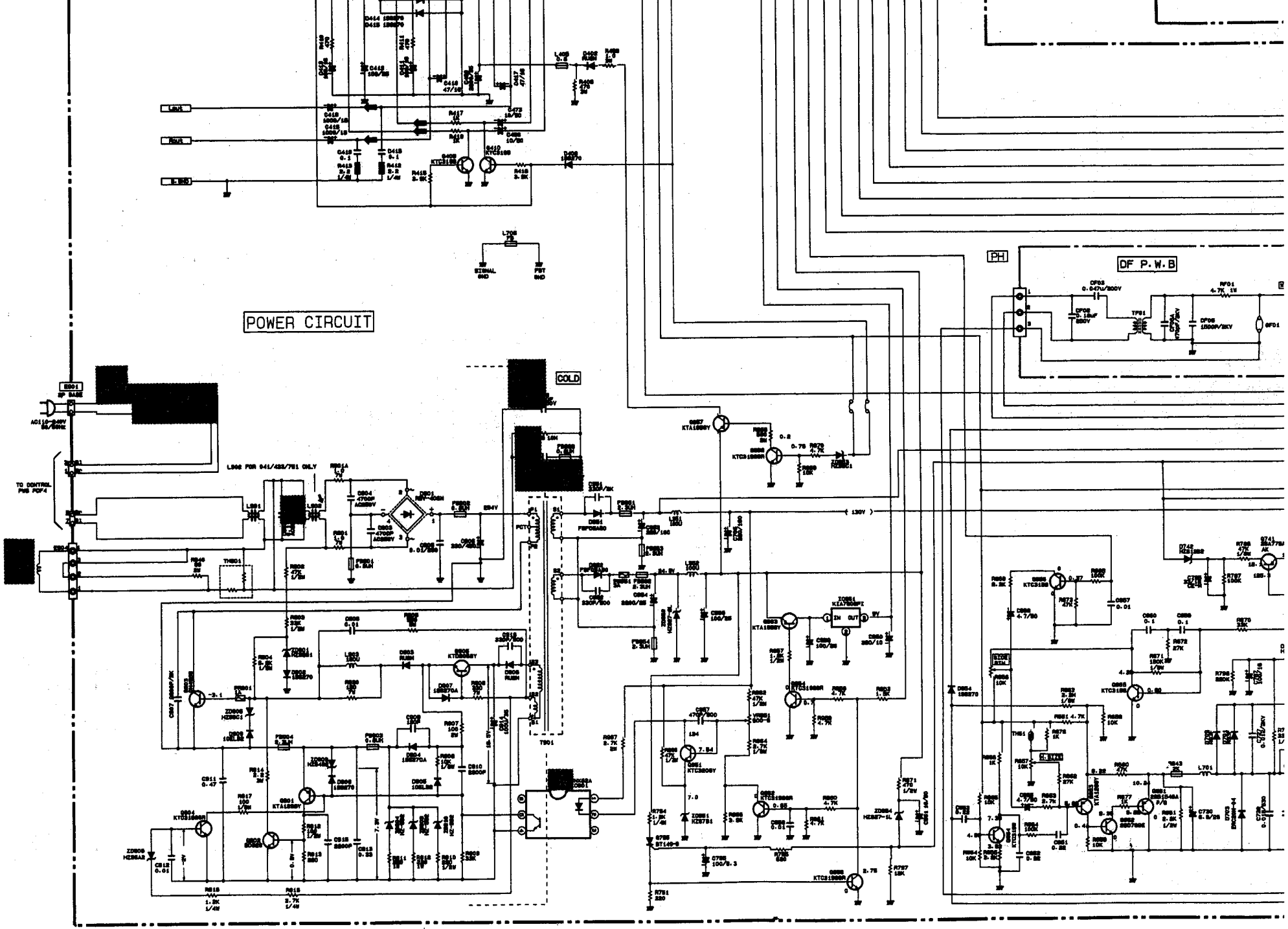
\GRAM



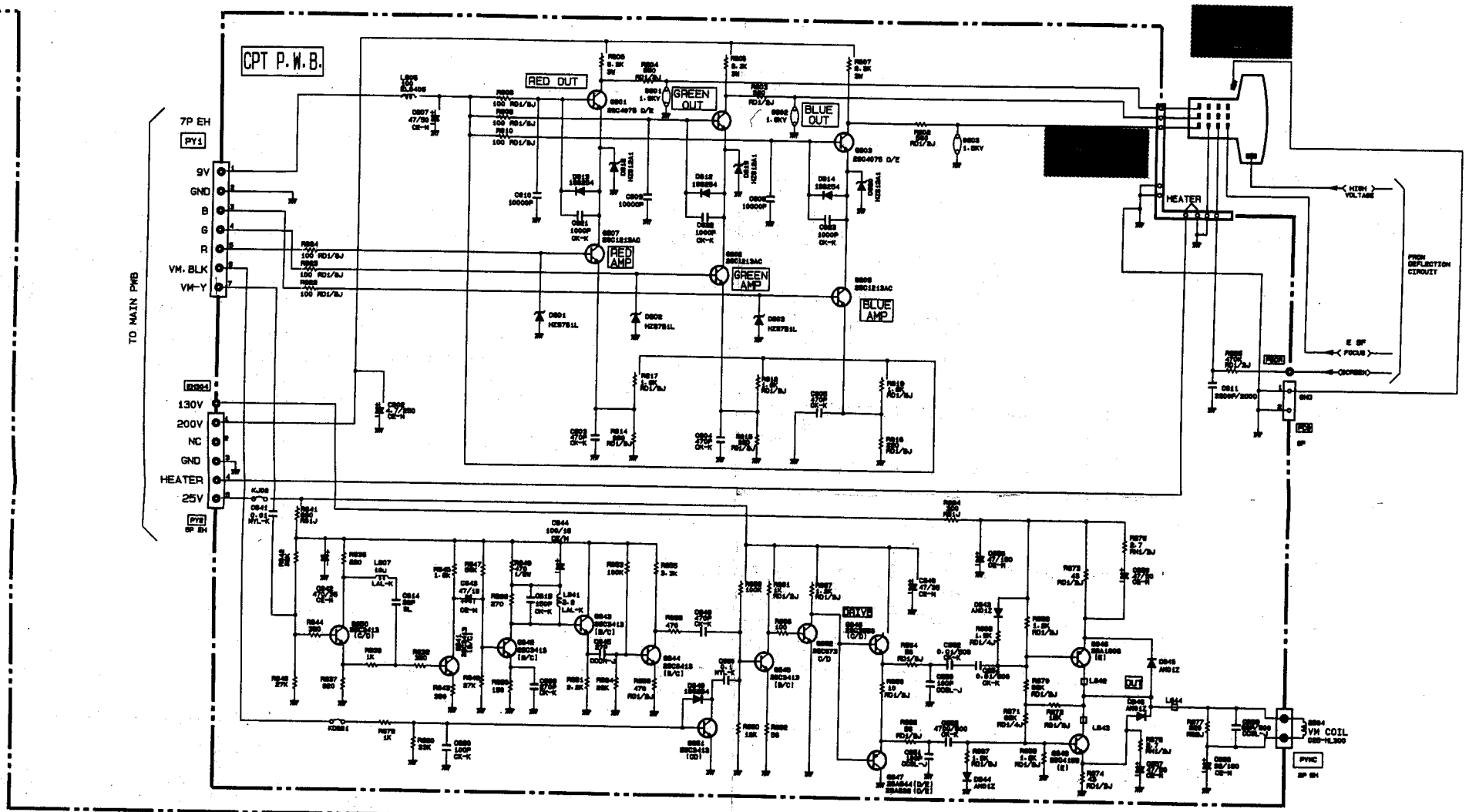


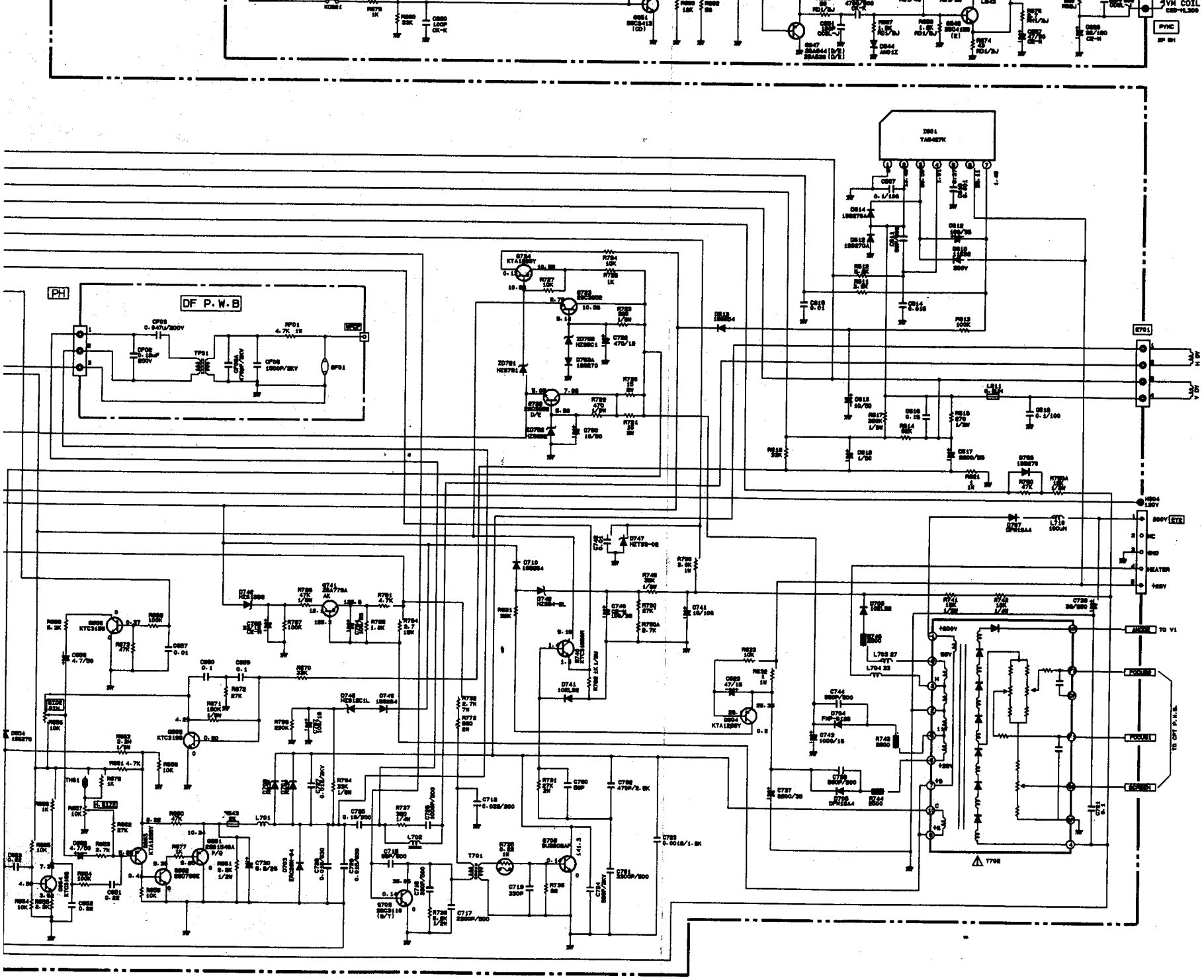
- Since this is basic circuit diagram, the value of the parts is subject to be altered for improvement
- All DC voltage to be measured with a teser (100kΩ/V).
  Voltage taken on a complex color bar signal including a standard color bar signal.


CPT P.W.B.
7P EH
PY1
5V
GND
B
G
R
VM. BLK
VM-Y
130V
200V
NC
GND
HEATER
25V
TO MAIN PWB
AUDIO CIRCUIT


POWER CIRCUIT
COLD
PH
DF P.W.B

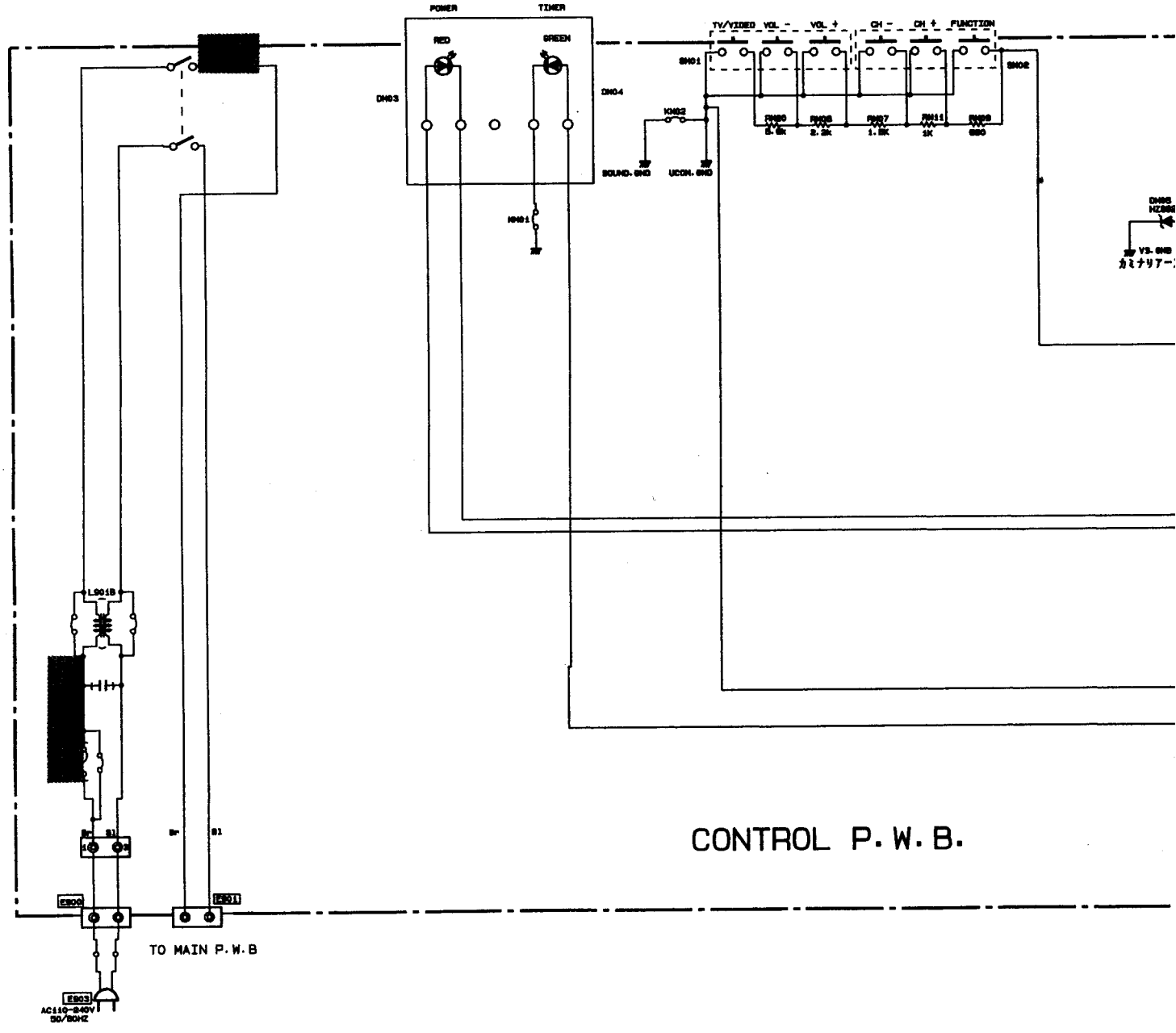
PRODUCT SAFETY NOTE : Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



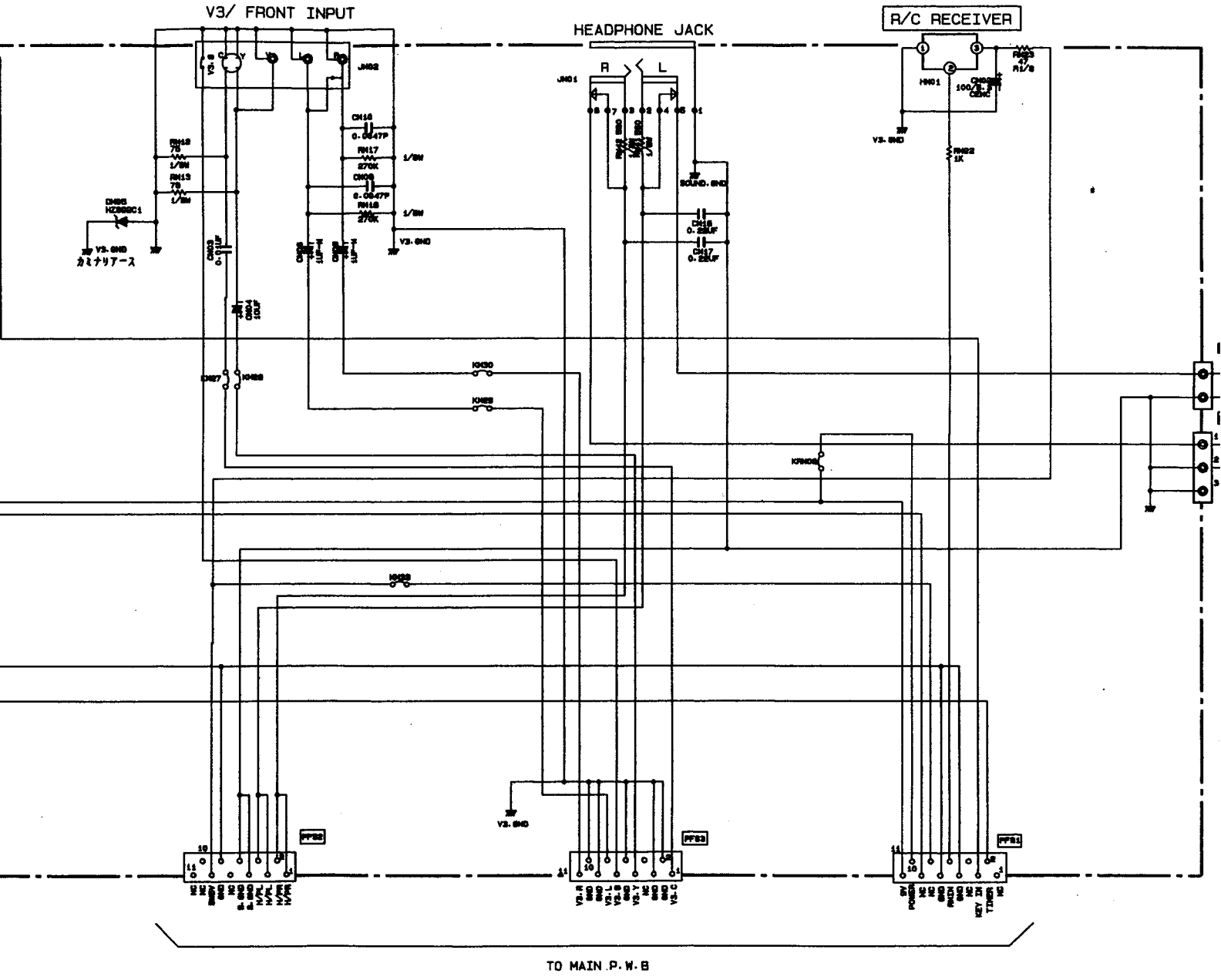


- Since this is basic circuit diagram, the value of the parts is subject to change without notice.

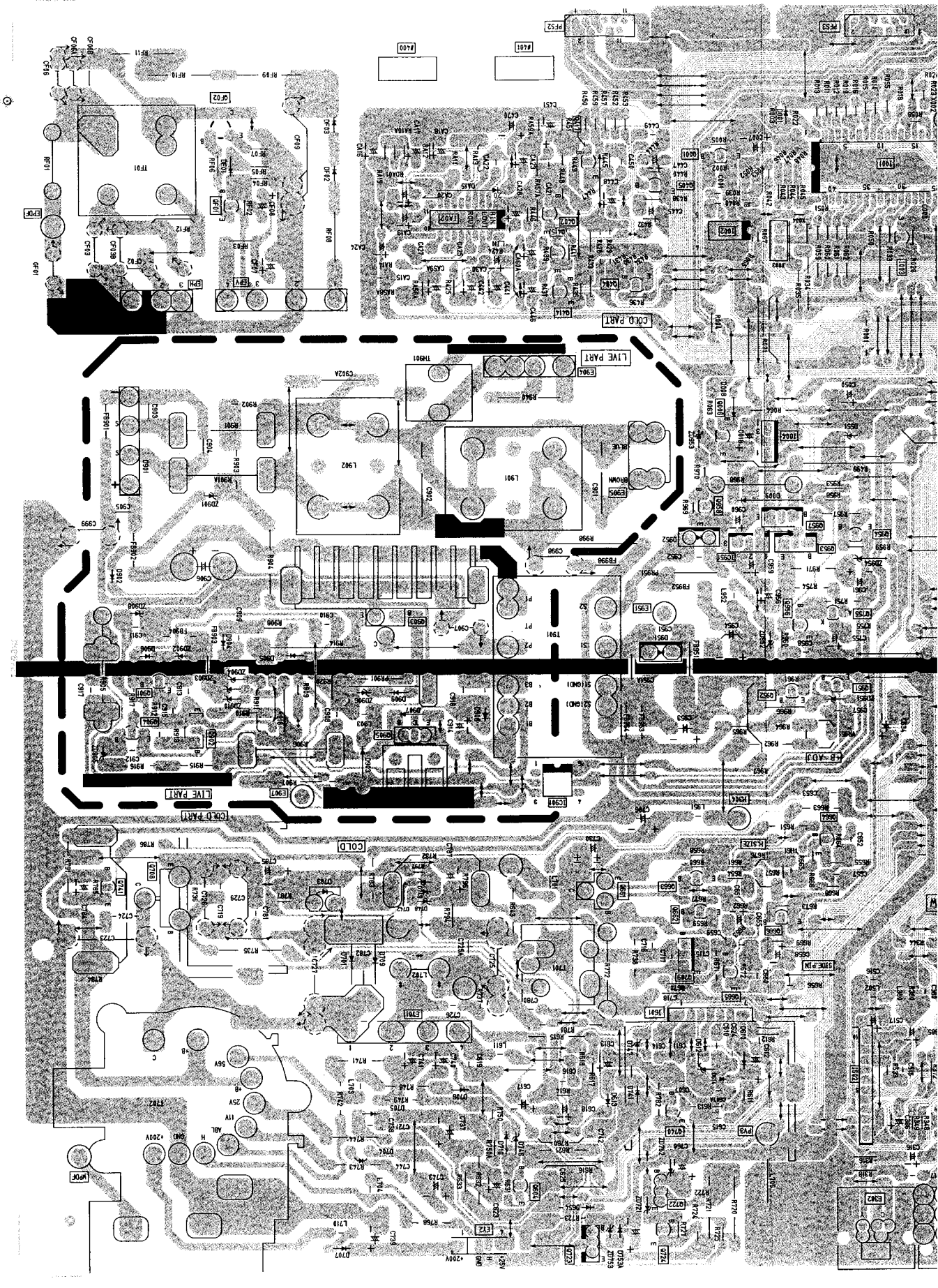
CIRCUIT DIA


POWER
TIMER
RED
GREEN
DN03
DN04
TV/VIDEO
VOL -
VOL +
CH -
CH +
FUNCTION
SW01
SW02
SOUND. GND
UCON. GND
L901B
E900
E901
E903
AC110-240V
50/60HZ
TO MAIN P.W.B
CONTROL P.W.B.

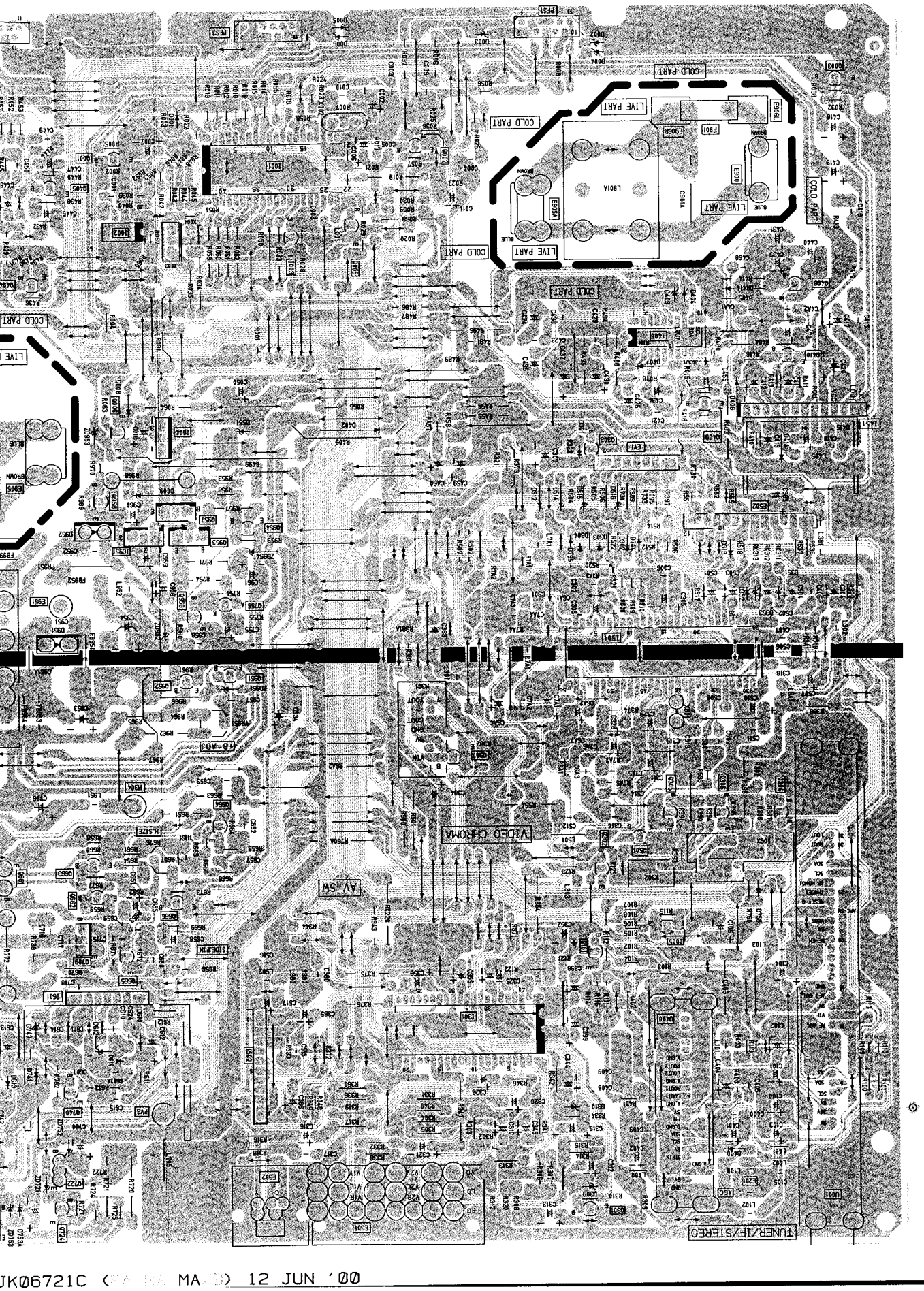
RCUIT DIAGRAMS : CONTROL PWB



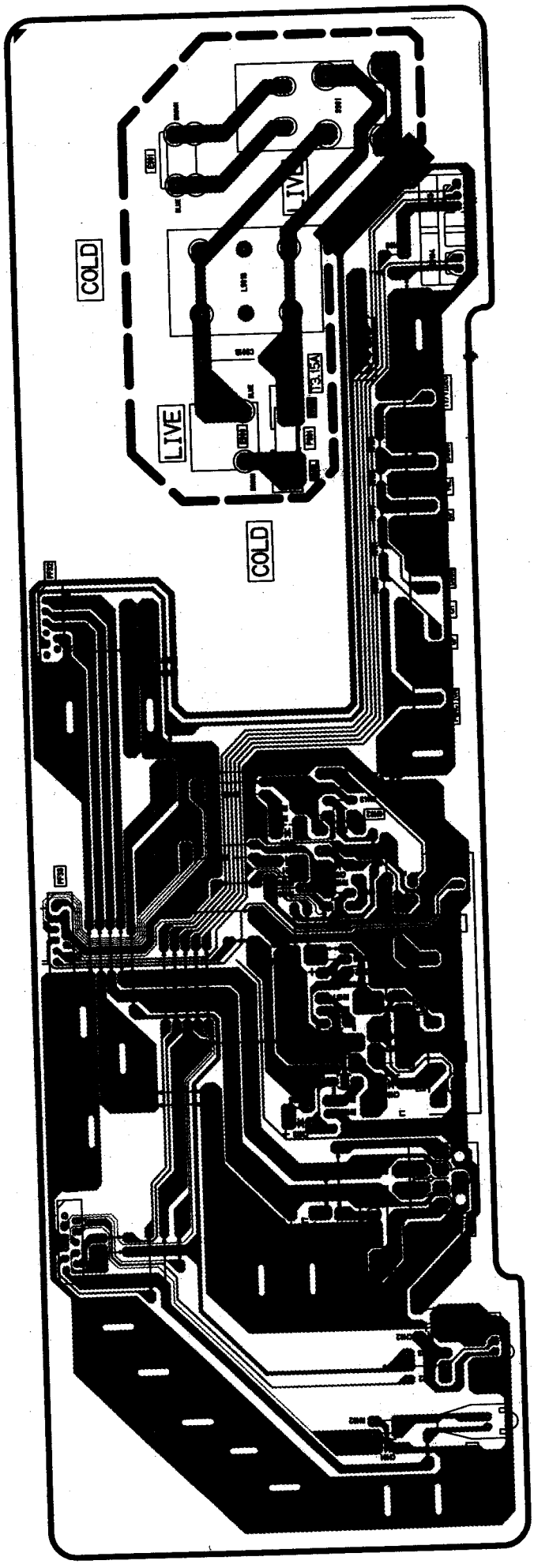
MAIN P.W.B（主印刷电路



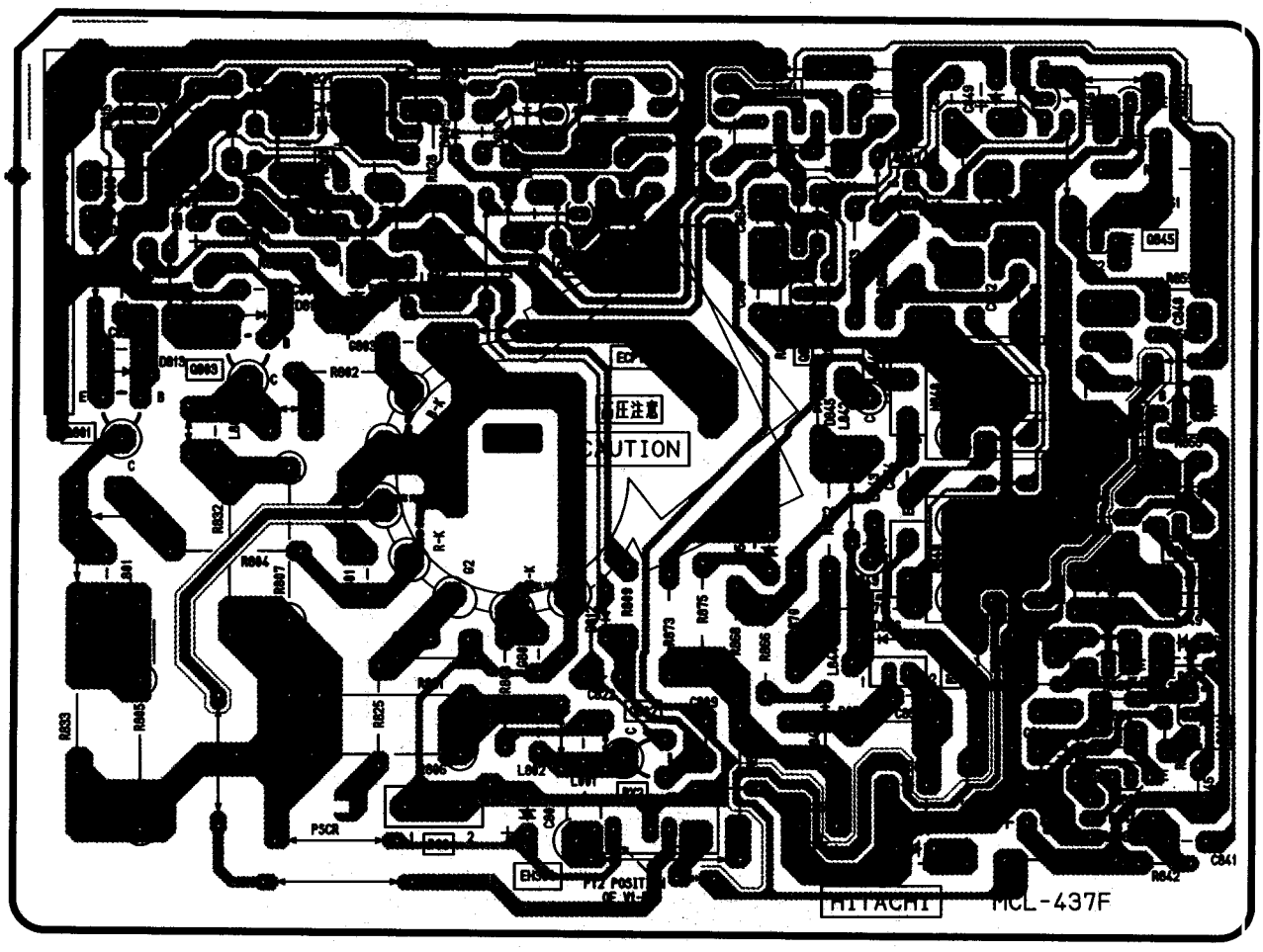
N P.W.B（主印刷电路板）



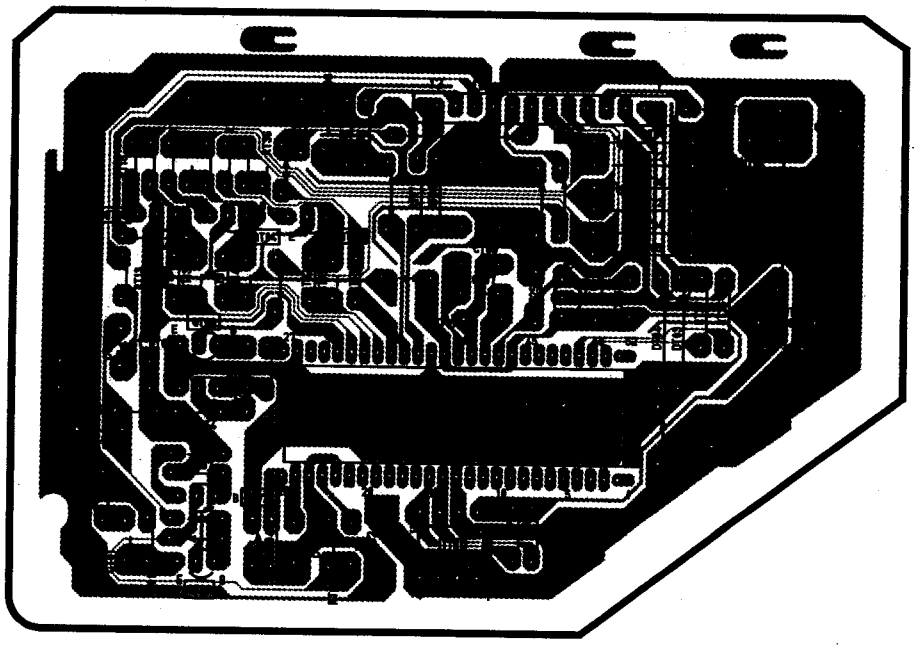
CONTROL PWB



CRT PWB

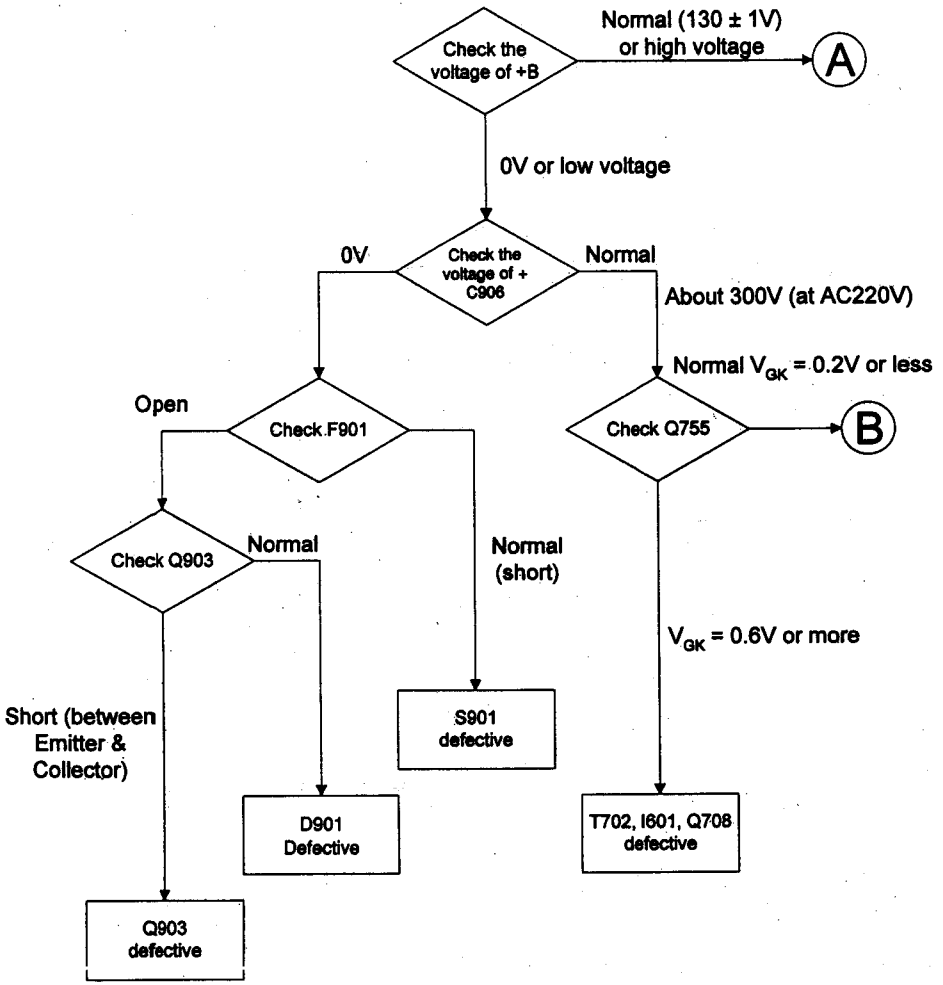


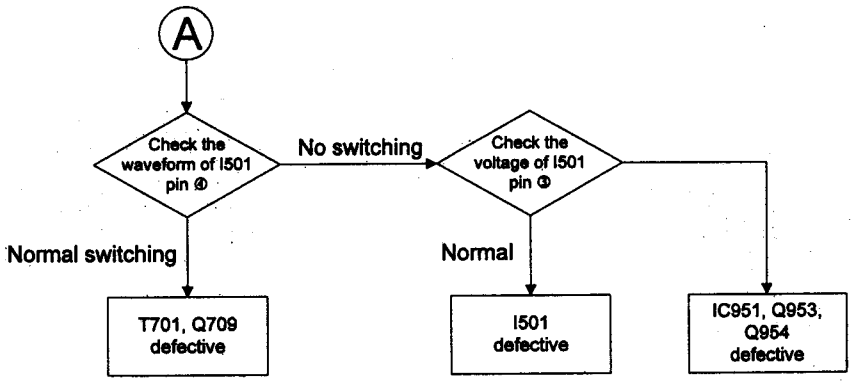
TELETEX PWB (T/TEXT MODELS ONLY)

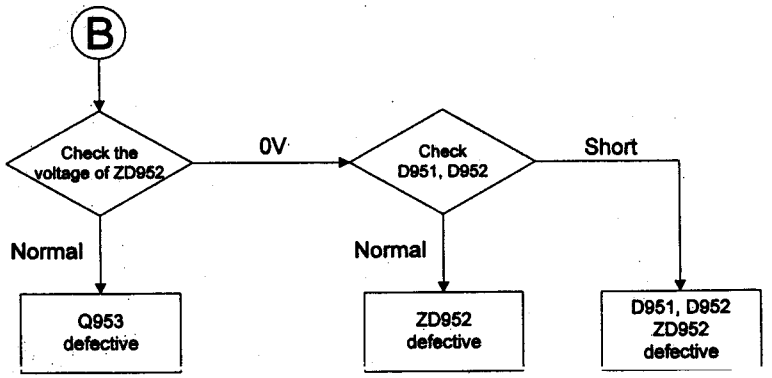


TROUBLESHOOTING (故障索引)

① NO RASTER AND SOUND

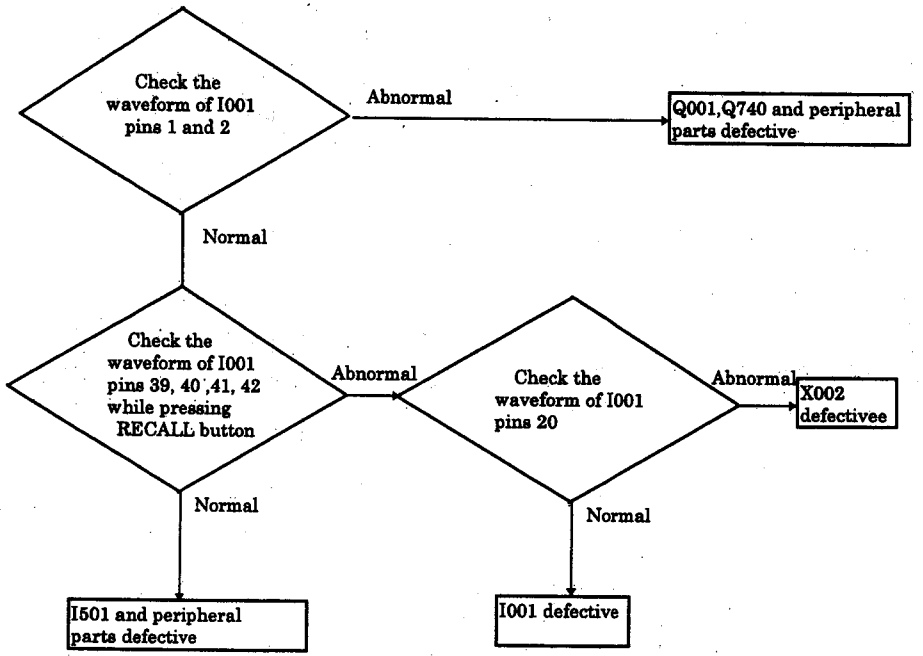




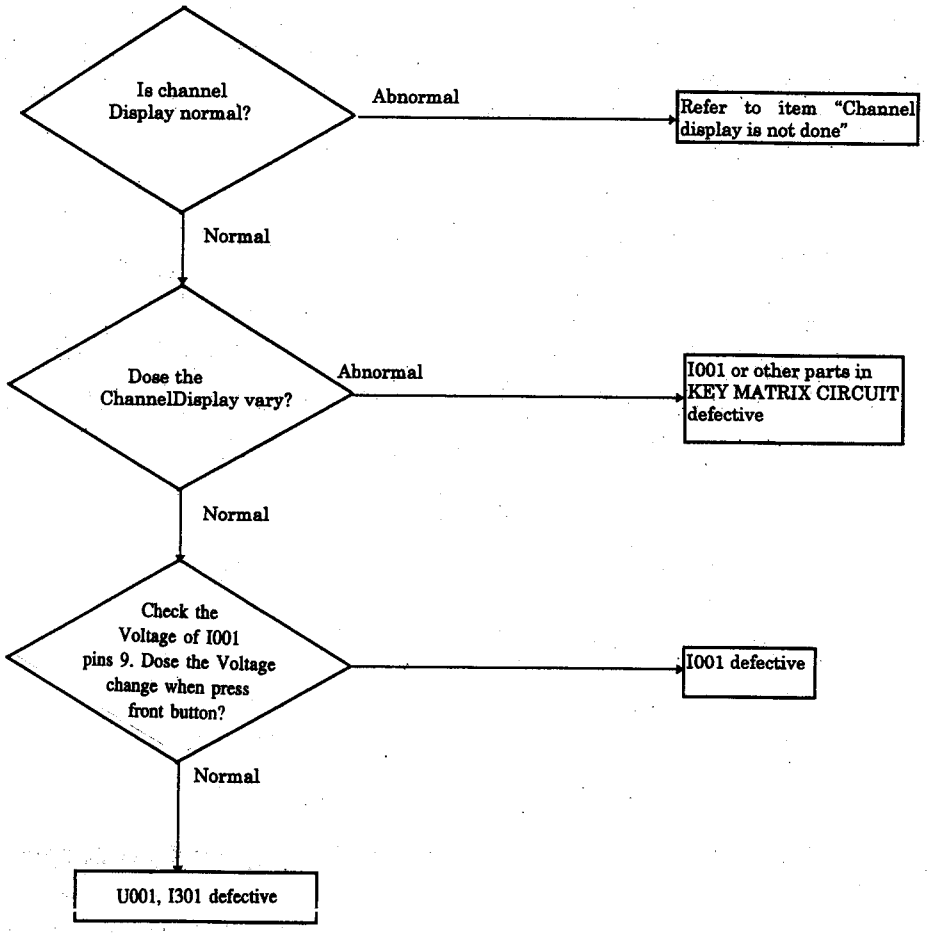


TROUBLESHOOTING (故障索引)

② CHANNEL DISPLAY IS NOT DONE

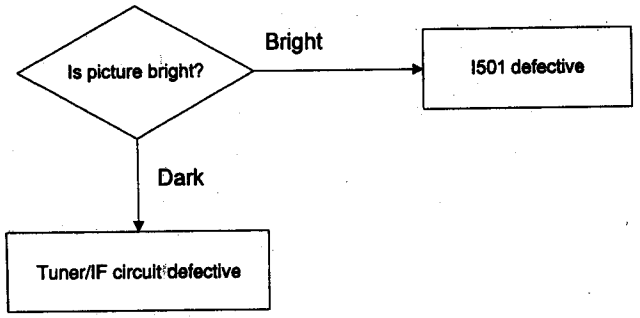


③ CHANNEL SELECTION IS NOT DONE

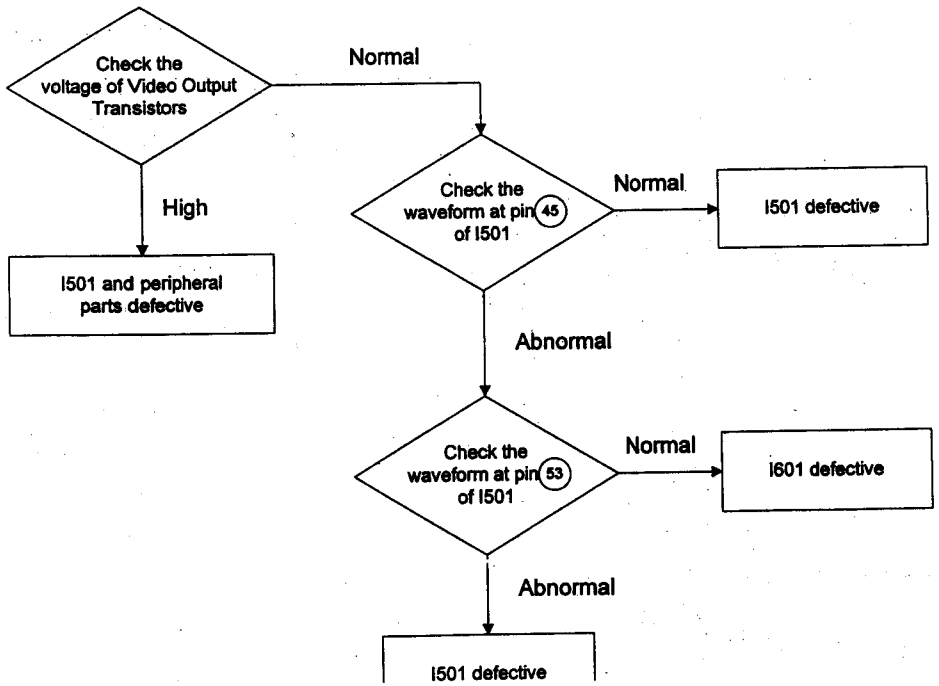


TROUBLESHOOTING (故障索引)

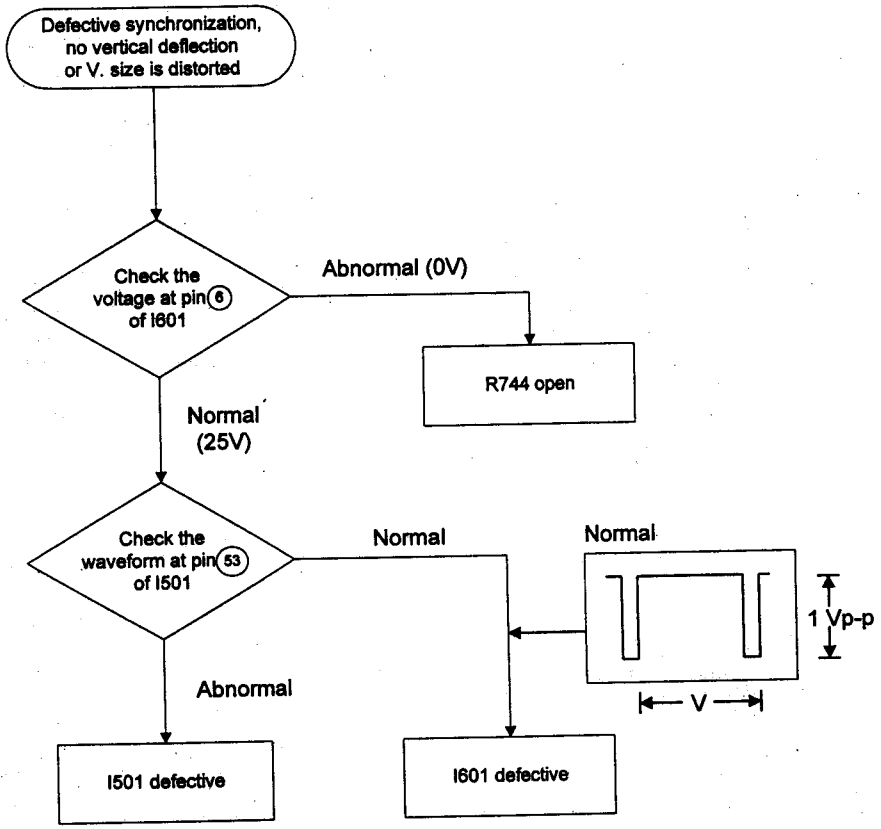
④ NO SYNC.



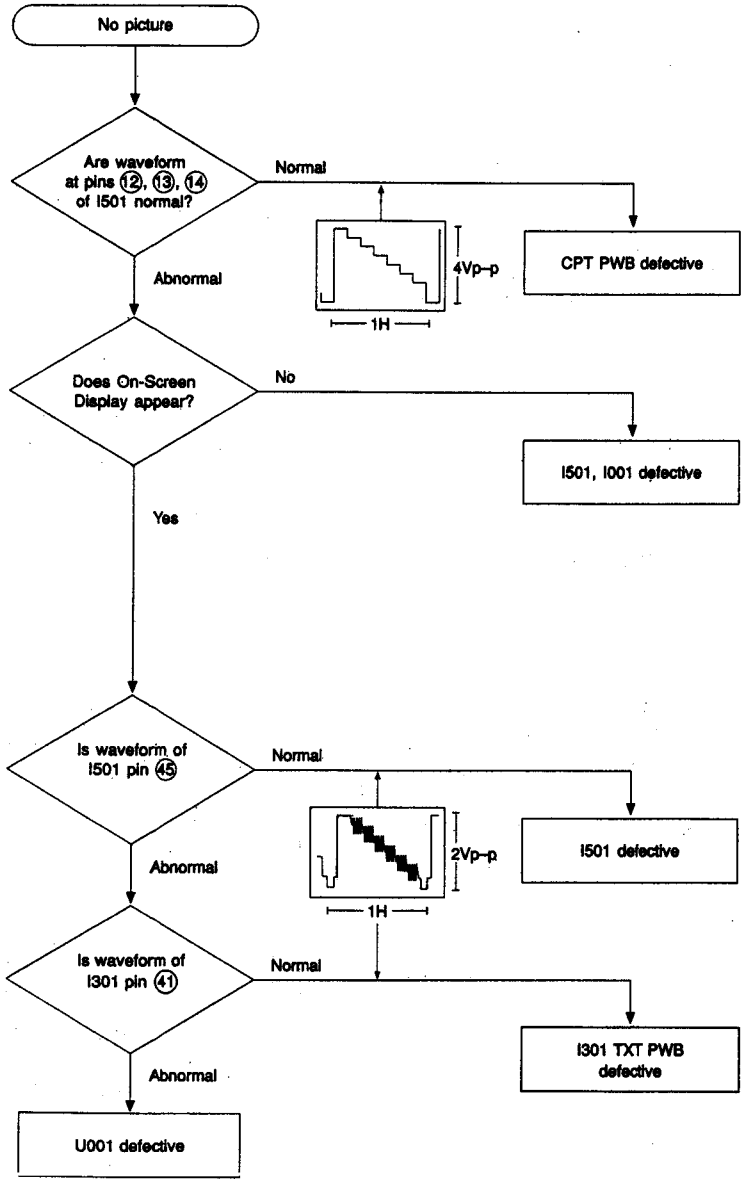
⑤ ONLY RASTER OR FLYBACK TRACE APPARENT ON PICTURE



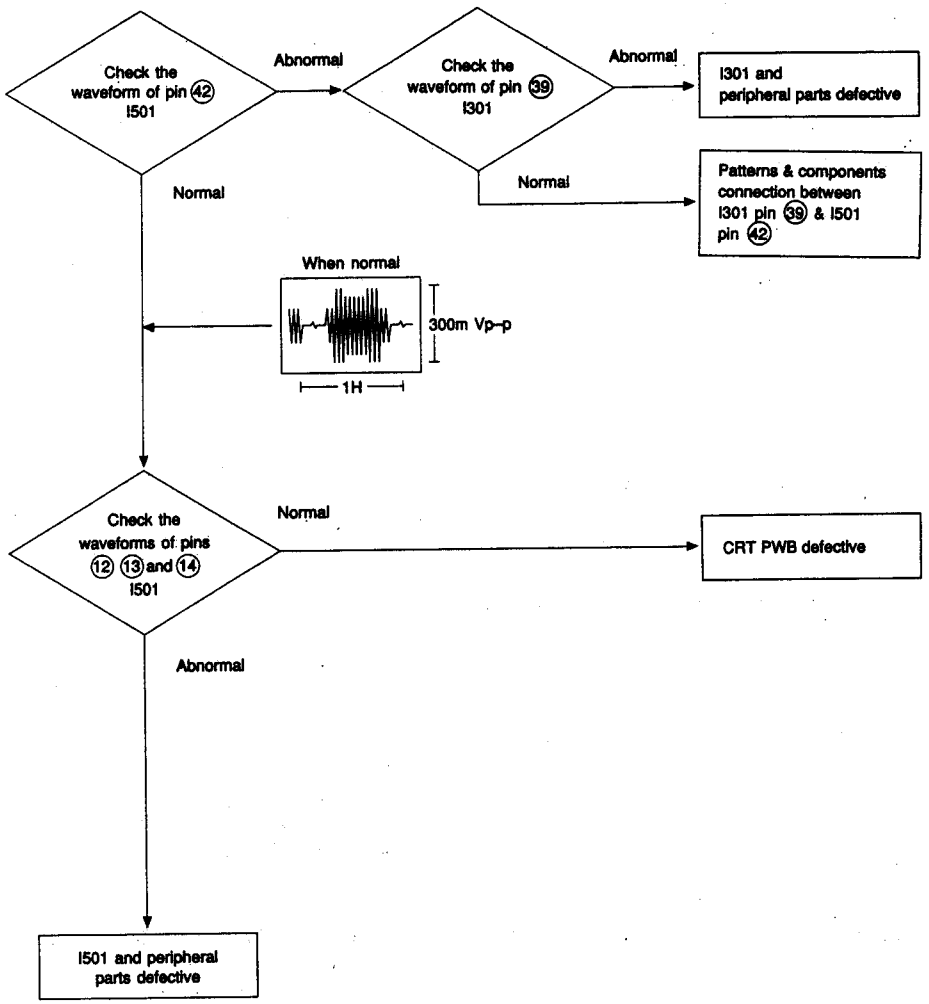
⑥ DEFECTIVE SYNCHRONIZATION, NO VERTICAL DEFLECTION OR V. SIZE IS DISTORTED



⑦ NO PICTURE

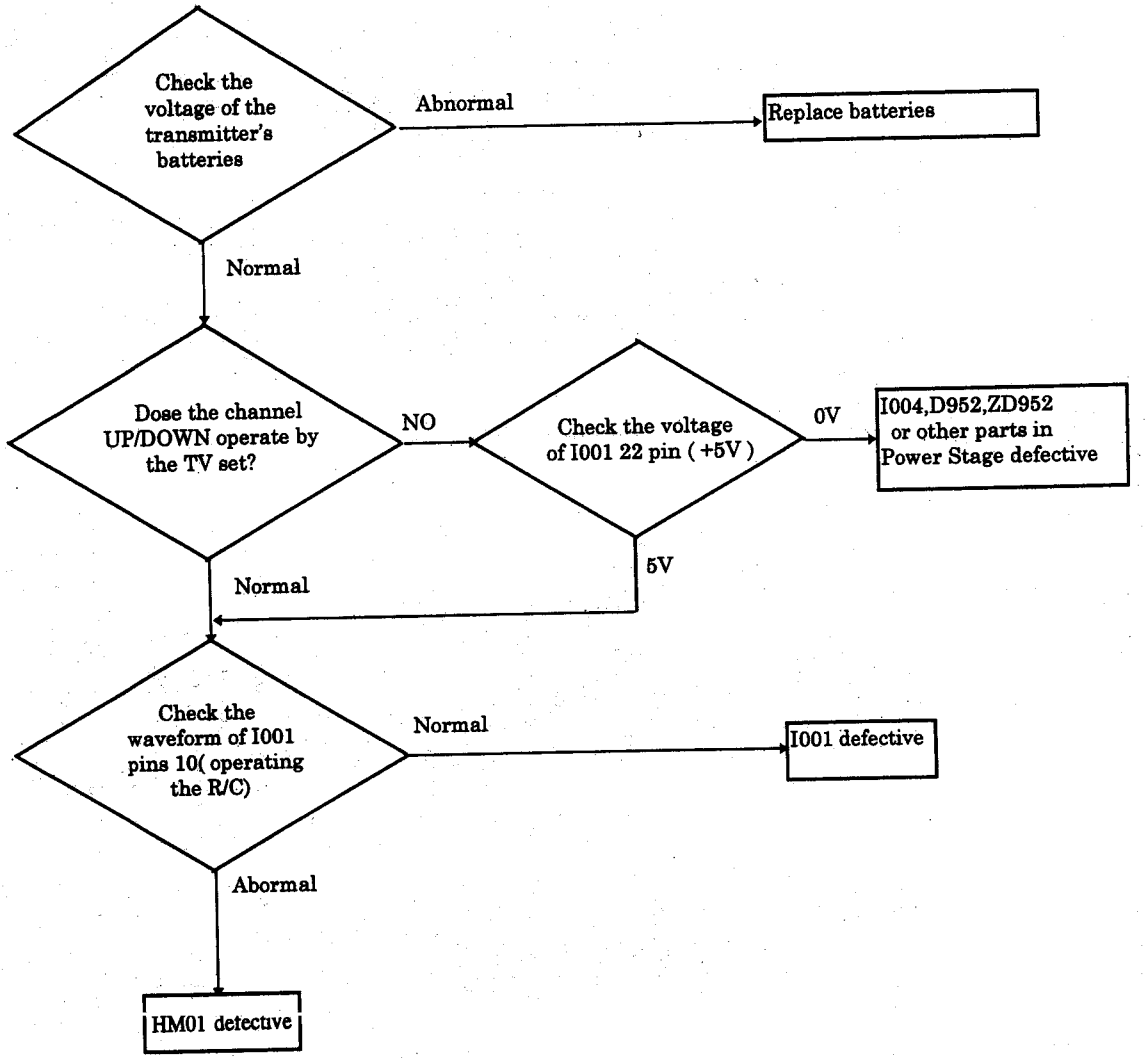


⑧ NO COLOR



TROUBLESHOOTING (故障索引)

⑨ DOES NOT OPERATED BY REMOTE CONTROL



REPLACEMENT PARTS LIST

PRODUCT SAFETY NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS Capacitors.....CD: Ceramic Disk, PF: Polyester Film, EL: Electrolytic, PP: Polypropylene, PR: Paper, TA: Tantalum, TM: Trimer.
Resistors.....CF: Carbon film, WW: Wire Wound, FR: Fuse Resistor, MG: Metal Glazed, VR: Variable Resistor, CC: Carbon Composition, MF: Metal Oxide Film.
Semiconductors....TR: Transistor, DI: Diode, ZD: Zener Diode, VA: Varistor, TH: Thermistor.

SYMBOL No.	PART No.	DESCRIPTIONS	SYMBOL No.	PART No.	DESCRIPTIONS
⚠ B	JK05311D	CPT/COMB PWB	C320	0800291R	EL 10MF 16V(SMG)
⚠ B	JK06731B	CONTROL PWB(WITH T/TEXT)	C321	0800291R	EL 10MF 16V(SMG)
⚠ B001	JK06721C	VOF MAIN PWB	C325	AN00637R	PF 0.1MF 50V
C001	AN00631R	PF 0.033MF 50V	C326	0800291R	EL 10MF 16V(SMG)
C002	0800003R	EL 1MF 50V(SME)	C328	0800288R	EL 4.7MF 50V(SMG)
C003	0890089R	CD 1500PF +-10% 50V(B)	C329	0800294R	EL 10MF 50V(SMG)
C004	AN00624R	PF 0.01MF 50V	C344	0800291R	EL 10MF 16V(SMG)
C005	AN00624R	PF 0.01MF 50V	C345	0800291R	EL 10MF 16V(SMG)
C006	0800351R	EL 470MF 6.3V(SMG)	C351	0800299R	EL 22MF 16V(SMG)
C007	0800048R	EL 100MF 10V(UVX)	C352	0800353R	EL 470MF 16V(SMG)
C008	0890087R	CD 1000PF +-10% 50V(B)	C355	0800294R	EL 10MF 50V(SMG)
C009	0890074R	CD 100PF +-5% 50V(SL)	C356	0800048R	EL 100MF 10V(UVX)
C010	0890078R	CD 220PF +-10% 50V(B)	C380	0890068R	CD 39PF +-5% 50V(SL)
C011	0800294R	EL 10MF 50V(SMG)	C383	0800299R	EL 22MF 16V(SMG)
C050	0800326R	EL 100MF 16V(SMG)	C384	0800326R	EL 100MF 16V(SMG)
C100	0800325R	EL 100MF 10V(SMG)	C385	0800291R	EL 10MF 16V(SMG)
C101	0800279R	EL 1MF 50V(SMG)	C386	0800291R	EL 10MF 16V(SMG)
C102	0800325R	EL 100MF 10V(SMG)	C398	0800291R	EL 10MF 16V(SMG)
C103	0800326R	EL 100MF 16V(SMG)	C399	0800291R	EL 10MF 16V(SMG)
C104	0800325R	EL 100MF 10V(SMG)	C406	0244171R	CD 10000PF +80%-20% 50V(F)
C105	AN00637R	PF 0.1MF 50V	C407	0244171R	CD 10000PF +80%-20% 50V(F)
C301	0244171R	CD 10000PF +80%-20% 50V(F)	C410	0800317R	EL 47MF 16V(SMG)
C302	0244171R	CD 10000PF +80%-20% 50V(F)	C411	0800326R	EL 100MF 16V(SMG)
C303	0800047R	EL 100MF 6.3V(UVX)	C412	0800327R	EL 100MF 25V(SMG)
C304	0800291R	EL 10MF 16V(SMG)	C413	0800326R	EL 100MF 16V(SMG)
C305	0800326R	EL 100MF 16V(SMG)	C415	AN00637R	PF 0.1MF 50V
C306	0244171R	CD 10000PF +80%-20% 50V(F)	C416	AN00637R	PF 0.1MF 50V
C307	0800352R	EL 470MF 10V(SMG)	C417	0800317R	EL 47MF 16V(SMG)
C310	0800291R	EL 10MF 16V(SMG)	C418	0800361F	EL 1000MF 16V(SMG)
C311	0800333R	EL 220MF 6.3V(SMG)	C419	0800361F	EL 1000MF 16V(SMG)
C312	0800291R	EL 10MF 16V(SMG)	C420	0255011F	EL 2200MF 35V(KME)
C313	0800353R	EL 470MF 16V(SMG)	C421	AN00624R	PF 0.01MF 50V
C314	AN00637R	PF 0.1MF 50V	C423	AN00624R	PF 0.01MF 50V
C315	0800291R	EL 10MF 16V(SMG)	C424	0284623R	EL 1MF 50V(SME) BP
C316	0800291R	EL 10MF 16V(SMG)	C426	0284638R	EL 10MF 16V(SME) BP
C317	0244171R	CD 10000PF +80%-20% 50V(F)	C429	0880045R	PF 0.012MF +-10% 50V
C318	AN00637R	PF 0.1MF 50V	C430	0800352R	EL 470MF 10V(SMG)
C319	0244171R	CD 10000PF +80%-20% 50V(F)	C431	0800326R	EL 100MF 16V(SMG)

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SYMBOL No.	PART No.	DESCRIPTIONS	SYMBOL No.	PART No.	DESCRIPTIONS
C434	0284623R	EL 1MF 50V(SME) BP	C658	0800288R	EL 4.7MF 50V(SMG)
C435	0284638R	EL 10MF 16V(SME) BP	C659	AN00637R	PF 0.1MF 50V
C437	0800353R	EL 470MF 16V(SMG)	C660	AN00637R	PF 0.1MF 50V
C438	0880045R	PF 0.012MF +-10% 50V	C6A1	0800279R	EL 1MF 50V(SMG)
C439	0800279R	EL 1MF 50V(SMG)	C6A2	0292718R	TA 2.2MF +-10% 20V
C440	0800048R	EL 100MF 10V(UVX)	C6A3	AN00637R	PF 0.1MF 50V
C455	0800294R	EL 10MF 50V(SMG)	C6A4	0800279R	EL 1MF 50V(SMG)
C468	0890087R	CD 1000PF +-10% 50V(B)	C6A7	0890087R	CD 1000PF +-10% 50V(B)
C473	0800294R	EL 10MF 50V(SMG)	C706	0253862F	EL 220MF 160V(YXB)
C4A1	AN00619R	PF 0.0047MF 50V	C715	0247850R	CD 68PF +-10% 500V(SL)
C4A2	AN00619R	PF 0.0047MF 50V	C716	0243507R	CD 330PF +-10% 500V(B)
C501	0800279R	EL 1MF 50V(SMG)(T/TEXT)	C717	0244505R	CD 2200PF +-10% 500V(B)
C502	0800279R	EL 1MF 50V(SMG)(T/TEXT)	C718	0299918F	PF 0.022MF +-10% 200V
C503	0800279R	EL 1MF 50V(SMG)(T/TEXT)	C719	0890081R	CD 330PF +-10% 50V(B)
C504	0800288R	EL 4.7MF 50V(SMG)	C721	AN00637R	PF 0.1MF 50V
C506	AN00624R	PF 0.01MF 50V	C722	0800353R	EL 470MF 16V(SMG)
C507	0800282R	EL 2.2MF 50V(SMG)	C723	0262407F	PF 1800PF +-5% 1.8KV
C508	AN00637R	PF 0.1MF 50V	C724	0244722	CD 560PF +-10% 2KV
C509	AN00637R	PF 0.1MF 50V	C725	0299929F	PF 0.18MF +-10% 200V
C510	0800047R	EL 100MF 6.3V(UVX)	C726	0244501R	CD 1000PF +-10% 500V(B)
C511	AN00637R	PF 0.1MF 50V	C727	AN01069F	PF 0.012MF 2KV
C512	AN00624R	PF 0.01MF 50V	C728	0299720F	PF 0.015MF +-5% 630V
C513	0246442R	CD 12PF +-5% 50V(CH)	C729	0299720F	PF 0.015MF +-5% 630V
C514	AN00628R	PF 0.022MF 50V	C730	0259474	EL 6.8MF 25V(HD)
C515	AN00637R	PF 0.1MF 50V	C737	0284442	EL 2200MF 35V(KMF)
C516	AN00624R	PF 0.01MF 50V	C738	0243510R	CD 560PF +-10% 500V(B)
C517	0800324R	EL 100MF 6.3V(SMG)	C739	0253974F	EL 33MF 250V(SME)
C607	0279693R	PF 0.1MF +-10% 100V	C740	0800328R	EL 100MF 35V(SMG)
C607A	0279693R	PF 0.1MF +-10% 100V	C741	0800021R	EL 10MF 100V(SME)
C610	0890087R	CD 1000PF +-10% 50V(B)	C742	AN00624R	PF 0.01MF 50V
C611	0247848R	CD 56PF +-0.25% 500V(SC)	C743	0800361F	EL 1000MF 16V(SMG)
C612	0800052R	EL 100MF 35V(SME)	C744	0243510R	CD 560PF +-10% 500V(B)
C613	0800294R	EL 10MF 50V(SMG)	C755	0800047R	EL 100MF 6.3V(UVX)
C614	AN00626R	PF 0.015MF 50V	C760	0800294R	EL 10MF 50V(SMG)
C615	AN00624R	PF 0.01MF 50V	C780	0890071R	CD 56PF +-5% 50V(SL)
C616	0880017R	PF 0.15MF +-10% 50V	C781	0244507R	CD 3300PF +-10% 500V(B)
C617	0800368F	EL 2200MF 25V(SMG)	C782	0244202F	CD 470PF +-10% 2KV(R)
C618	0800003R	EL 1MF 50V(SME)	C784	0800327R	EL 100MF 25V(SMG)
C619	0279693R	PF 0.1MF +-10% 100V	C785	0800308R	EL 33MF 16V(SMG)
C623	0800317R	EL 47MF 16V(SMG)	C787	0800326R	EL 100MF 16V(SMG)
C651	0880018R	PF 0.22MF +-10% 50V	C7A1	0800058R	EL 220MF 16V(SME)
C652	0880018R	PF 0.22MF +-10% 50V	C7A2	0244171R	CD 10000PF +80%-20% 50V(F)
C653	0880018R	PF 0.22MF +-10% 50V	C7A3	AN00624R	PF 0.01MF 50V
C655	0800288R	EL 4.7MF 50V(SMG)	C7A4	AN00624R	PF 0.01MF 50V
C657	AN00624R	PF 0.01MF 50V	C7A5	AN00624R	PF 0.01MF 50V

制品安全上的注意: 在下表附带⚠标记的机件具备特别的安全特性。要替换这些机件以前请详细阅读这检修手册中“制品安全上的注意: 一书，以避免因检修不当而降低电视机的安全性。

SYMBOL No.	PART No.	DESCRIPTIONS
C7A6	0800279R	EL 1MF 50V(SMG)
C802	AL00027R	EL 4.7MF 250V(YK)
C803	0890083R	CD 470PF +-10% 50V(B)
C804	0890083R	CD 470PF +-10% 50V(B)
C805	0890083R	CD 470PF +-10% 50V(B)
C807	0800321R	EL 47MF 50V(SMG)
C808	0244171R	CD 10000PF +80%-20% 50V(F)
C809	0244171R	CD 10000PF +80%-20% 50V(F)
C810	0244171R	CD 10000PF +80%-20% 50V(F)
C811	AJ00559	CD 2200PF +-10% 2KV
C814	0890065R	CD 22PF +-5% 50V(SL)
C819	0890076R	CD 150PF +-10% 50V(B)
C821	0890087R	CD 1000PF +-10% 50V(B)
C822	0890087R	CD 1000PF +-10% 50V(B)
C823	0890087R	CD 1000PF +-10% 50V(B)
C841	0880044R	PF 0.01MF +-10% 50V
C842	0800076F	EL 470MF 35V(SME)
C843	0800317R	EL 47MF 16V(SMG)
C844	0800326R	EL 100MF 16V(SMG)
C845	0890119R	CD 27PF +-5% 50V(CH)
C848	0890083R	CD 470PF +-10% 50V(B)
C849	0800319R	EL 47MF 35V(SMG)
C850	0890074R	CD 100PF +-5% 50V(SL)
C851	0890074R	CD 100PF +-5% 50V(SL)
C852	AJ00001R	CD 10000PF +80%-20% 500V
C853	0244509R	CD 4700PF +-10% 500V(B)
C854	AJ00001R	CD 10000PF +80%-20% 500V
C855	0253959F	EL 47MF 160V(SME)
C856	0800321R	EL 47MF 50V(SMG)
C857	0800321R	EL 47MF 50V(SMG)
C858	0253957F	EL 22MF 160V(SME)
C859	0247848R	CD 56PF +-0.25% 500V(SC)
C860	0880057R	PF 0.1MF +-10% 50V
C880	0890074R	CD 100PF +-5% 50V(SL)
C883	0890079R	CD 270PF +-10% 50V(B)
⚠ C901B	AN00144S	PF 0.1MF 250V
C902	AN00144S	PF 0.1MF 250V
C903	0248593F	CD 4700PF +80%-20% 250V(F)
C904	0248593F	CD 4700PF +80%-20% 250V(F)
C905	0248594F	CD 10000PF +80%-20% 250V(F)
C906	AL00095	EL 330MF 450V(KMH)
C907	0244215	CD 2200PF 2KV
C908	AN00624R	PF 0.01MF 50V
C909	0890075R	CD 120PF +-5% 50V(SL)
C910	0880005R	PF 0.0022MF +-10% 50V

SYMBOL No.	PART No.	DESCRIPTIONS
C911	0270743R	PF 0.47MF +-5% 50V
C912	AN00624R	PF 0.01MF 50V
C913	0270741R	PF 0.33MF +-5% 50V
C914	0284436R	EL 100MF 35V(KMF)
C915	0880005R	PF 0.0022MF +-10% 50V
C916	0243507R	CD 330PF +-10% 500V(B)
C951	0244718	CD 330PF +-10% 2KV(B)
C952	0243507R	CD 330PF +-10% 500V(B)
C953	AL00911	EL 220MF 160V(KMF)
C954	0800368F	EL 2200MF 25V(SMG)
C956	0800327R	EL 100MF 25V(SMG)
C957	0243509R	CD 470PF +-10% 500V(B)
C958	AN00624R	PF 0.01MF 50V
C959	0800327R	EL 100MF 25V(SMG)
C960	0800334R	EL 220MF 10V(YK)
C961	0800294R	EL 10MF 50V(SMG)
C998	AJ00601	PF 1000PF 250V
⚠ C999	AJ00603	PF 2200PF 250V
CA59	0800294R	EL 10MF 50V(SMG)
CA60	0800294R	EL 10MF 50V(SMG)
CF02	AN01167F	PF 0.18MF 250V
CF03	0299922F	PF 0.047MF +-10% 200V
CF06	0244212	CD 1200PF 2KV
CF06A	0244202F	CD 470PF +-10% 2KV(R)
CM02	0800324R	EL 100MF 6.3V(SMG)
CM03	0880009R	PF 0.01MF +-10% 50V
CM04	0800294R	EL 10MF 50V(SMG)
CM06	0800279R	EL 1MF 50V(SMG)
CM08	0800279R	EL 1MF 50V(SMG)
CM09	0880007R	PF 0.0047MF +-10% 50V
CM10	0880007R	PF 0.0047MF +-10% 50V
CM16	0880018R	PF 0.22MF +-10% 50V
CM17	0880018R	PF 0.22MF +-10% 50V
CT01	0890078R	CD 220PF +-10% 50V(B)(T/TEXT)
CT02	AN00637R	PF 0.1MF 50V(T/TEXT)
CT03	AN00637R	PF 0.1MF 50V(T/TEXT)
CT06	0890071R	CD 56PF +-5% 50V(SL)(T/TEXT)
CT07	0890071R	CD 56PF +-5% 50V(SL)(T/TEXT)
CT09	0800324R	EL 100MF 6.3V(SMG)(T/TEXT)
CT10	0890081R	CD 330PF +-10% 50V(B)(T/TEXT)
CT11	AN00637R	PF 0.1MF 50V(T/TEXT)
CT12	0800325R	EL 100MF 10V(SMG)(T/TEXT)
CT21	0800291R	EL 10MF 16V(SMG)(T/TEXT)
D001	2338321M	DI 1SS270
D002	2339843M	ZD HZS6A3

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SYMBOL No.	PART No.	DESCRIPTIONS	SYMBOL No.	PART No.	DESCRIPTIONS
D003	2339843M	ZD HZS6A3	D795	2338321M	DI 1SS270
D004	2339843M	ZD HZS6A3	D801	2339051M	DI HZS7B1L
D005	2339867M	ZD HZS9C1	D802	2339051M	DI HZS7B1L
D301	2338321M	DI 1SS270	D803	2339051M	DI HZS7B1L
D302	2338321M	DI 1SS270	D812	2344041M	DI ISS254
D303	2338321M	DI 1SS270	D813	2344041M	DI ISS254
D304	2338321M	DI 1SS270	D814	2344041M	DI ISS254
D312	2338321M	DI 1SS270	D818	2339881M	ZD HZS12A1
D313	2338321M	DI 1SS270(T/TEXT)	D819	2339881M	ZD HZS12A1
D351	2339869M	ZD HZS9C3 (T/TEXT)	D820	2339881M	ZD HZS12A1
D352	2339869M	ZD HZS9C3 (T/TEXT)	D843	2339491M	DI AM01Z
D353	2339869M	ZD HZS9C3 (T/TEXT)	D844	2339491M	DI AM01Z
D402	2333001M	DI RU2M	D845	2339491M	DI AM01Z
D403	2339885M	ZD HZS12B2	D846	2339491M	DI AM01Z
D404	2339885M	ZD HZS12B2	D848	2344041M	DI ISS254
D405	2344041M	DI ISS254	D901	2338314	DI RBV-406M(LF-A)
D407	2339481M	DI AS01Z	D902	2338321M	DI 1SS270
D408	2338321M	DI 1SS270	D903	2333001M	DI RU2M
D414	2338321M	DI 1SS270	D904	2337341M	DI 1SS270A
D415	2338321M	DI 1SS270	D905	CH00711M	DI 10ELS2
D514	2339869M	ZD HZS9C3	D906	2338321M	DI 1SS270
D515	2339869M	ZD HZS9C3	D907	2337341M	DI 1SS270A
D516	2339869M	ZD HZS9C3	D908	2333001M	DI RU2M
D610	CH00681M	DIODE 11ES2	D909	CH00711M	DI 10ELS2
D612	2337341M	DI 1SS270A	D951	CH01982	DI FSF05A60
D613	2344041M	DI ISS254	D952	CH01982	DI FSF05A60
D614	2337341M	DI 1SS270A	DM03	CH00231A	LED(RED)
D654	2339491M	DI AM01Z 200V	DM04	CH00232	LED(GREEN)
D701	2348511	DI RS3FS	DM05	2339867M	ZD HZS9C1
D703	2344071	DI ERC20M-04	DR414	2338321M	DI 1SS270
D704	2359401	DI FMP-G12S	DT01	2331778M	ZD HZ3C2TA-Q(T/TEXT)
D705	2338902M	DI DFM1SA4T	E201	2774731R	FERRITE BEAD CORE W/LEAD
D706	CH00711M	DI 10ELS2	E301	2693863	9P PIN JACK
D707	2338902M	DI DFM1SA4T	E302	2693853	S-VHS TERMINAL
D709	2348511	DI RS3FS	E402	2723101J	2P PLUG PIN W/BASE
D710	2344041M	DI ISS254	E403	2723102J	3P PLUG PIN W/BASE
D741	CH00711M	DI 10ELS2	E502	2902272	12P PIN POST W/BASE(T/TEXT)
D742	2339885M	ZD HZS12B2	E701	2665272	4P PLUG PIN W/BASE
D744	2338321M	DIODE 1SS270	E900	ED02802	2P PLUG PIN W/BASE(L SHAPE)
D746	2339212M	ZD HZS24-2L	E901	EF09472	2P PLUG PIN W/BASE
D747	2335991M	ZD HZT33-02	⚠ E903	EV01141	CEE POWER CORD
D748	2339151M	ZD HZS12C1L			(For 081S,433,081M)
D749	2344041M	DI ISS254	⚠ E903	EV01151	BS POWER CORD(051)
D753A	2338321M	DI 1SS270	⚠ E903	EV01161	SAA PROWER CORD(751)
D758	2338321M	DI 1SS270	⚠ E903	EV01171	EDISON POWER CORD

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SYMBOL No.	PART No.	DESCRIPTIONS
E904	2903544	4P PLUG PIN W/BASE
E905	ED02801	2P PLUG PIN W/BASE
E906L	2729252BR	FUSE HOLDER
E906R	2729252BR	FUSE HOLDER
E907	2903547	1P PLUG PIN W/BASE
E951	2903547	1P PLUG PIN W/BASE
ECPT	EY00413	CRT SOCKET
EH304	EF09012	1P CONNECTOR W/WIRE
EPDF	2903547	1P PLUG PIN W/BASE
EPH	2903543	3P PLUG PIN W/BASE
ET01	2902272	12P PIN POST WITH BASE (T/TEXT)
ETL1	1EK2010	12P CONNECTOR W/WIRES (T/TEXT)
EY1	EF06413	7P CONNECTOR W/WIRES
EY2	EF06412	5P CONNECTOR W/WIRES
⚠ F901	2721615	FUSE 3.15A
FB901	2123468M	FERRITE CORE 0.8MH
FB902	2123468M	FERRITE CORE 0.8MH
FB903	2123468M	FERRITE CORE 0.8MH
FB904	2123462M	FERRITE CORE WITH LEAD
FB951	2123462M	FERRITE CORE WITH LEAD
FB952	2123462M	FERRITE CORE WITH LEAD
FB953	2123462M	FERRITE CORE WITH LEAD
FB954	2123462M	FERRITE CORE WITH LEAD
FB998	2123468M	FERRITE CORE 0.8MH
G801	CJ00071R	SPARK GAP
G802	CJ00071R	SPARK GAP
G803	CJ00071R	SPARK GAP
GF01	CJ00072R	SPARK GAP
H301	HP00151	COMB FILTER UNIT
H304	2903547	1P PLUG PIN W/BASE
HM01	CZ00641	IC GP1U281Q
I001	CP07151U	M37272MA-301SP
I002	CP03981	IC S-24C08ADP

I002(Memory IC) needs to programe by factory before placement. As different programes are for different models, serviceman please indicate the model name and destination code when purchase this part to ensure correct programe provided.
e.g. CP03981 IC S-24C08ADP(C29-F200B-051)

I003	CP02871R	IC KIA7042P
I004	CP02411	IC KIA7805API
I005	CP02871R	IC KIA7042P
I301	CP03781	IC MM1313AD

SYMBOL No.	PART No.	DESCRIPTIONS
I401	CP01831	IC M62420SP
I451	2004022	IC AN7147N
I501	CP03791U	IC TB1226AN
I502	2003981	IC BA7604N
I601	CP03651	IC TA8427K
⚠ IC901	2917783	IC CNX82A
IC951	CP04771	IC KIA7809PI
IT01	CP03461A	IC S-24C04ADP(T/TEXT)
IT02	CP07271U	SAA 5264(T/TEXT)
IT03	CP06493R	TRS. IC PST573I(T/TEXT)
JM01	2672041	MINI PHONE JACK
JM02	EU00581	3P PIN JACK WITH S-VHS
L001	2123461M	FERRITE CORE
L100	2123781R	FILTER COIL 100KHZ
L101	2123781R	FILTER COIL 100KHZ
L102	2123781R	FILTER COIL 100KHZ
L103	2123781R	FILTER COIL 100KHZ
L301	2123781R	FILTER COIL 100KHZ
L302	2123781R	FILTER COIL 100KHZ
L303	2123781R	FILTER COIL 100KHZ
L380	2122949M	AXIAL COIL 33MH +-10%
L405	2123461M	FERRITE CORE
L501	BH01162M	FERRITE BEAD 2.3MH
L502	2123781R	FILTER COIL 100KHZ
L611	BH00205R	HIGH FREQ. INDUCTOR 22MH
L6A1	2123781R	FILTER COIL 100KHZ
L701	2124183	CHOKE COIL
L702	BZ01351	LINEARITY COIL
L703	2125763R	RADIAL COIL 27MH
L704	2125808N	FILTER COIL 68MH
L705	2123461M	FERRITE CORE
L710	BH00214R	FILTER COIL 100MH
L7A1	2123781R	FILTER COIL 100KHZ
L805	2123781R	FILTER COIL 100KHZ
L807	2122943M	AXIAL COIL 10MH +-10%
L841	2122937M	AXIAL COIL 3.9MH +-10%
L842	2123468M	FERRITE CORE 0.8MH
L843	2123468M	FERRITE CORE 0.8MH
L844	2123468M	FERRITE CORE 0.8MH
L901	BZ02121	LINE FILTER
L902	BZ02122	LINE FILTER(751, 433 only)
L903	BH00737R	CHOKE COIL 180MH
L951	BH00734R	CHOKE COIL 100MH
L952	BH00734R	CHOKE COIL 100MH
LK611	BH00214R	FILTER COIL 100MH
LKJ02	BH00214R	FILTER COIL 100MH

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SYMBOL No.	PART No.	DESCRIPTIONS	SYMBOL No.	PART No.	DESCRIPTIONS
LT01	2122253M	AXIAL COIL 100MH (T/TEXT)	Q807	2320663M	TRS 2SC1213APC RR
PCG	2903542	2P PLUG PIN W/BASE	Q808	2320663M	TRS 2SC1213APC RR
PFS1	ED01472	11P CONNECTOR	Q809	2320663M	TRS 2SC1213APC RR
PFS1	ED01492	11P CONNECTOR	Q841	2312941M	TRS 2SC1740STPQ
PFS2	ED01472	11P CONNECTOR	Q842	2312941M	TRS 2SC1740STPQ
PFS2	ED01492	11P CONNECTOR	Q843	2312941M	TRS 2SC1740STPQ
PFS3	ED01472	11P CONNECTOR	Q844	2312941M	TRS 2SC1740STPQ
PFS3	ED01492	11P CONNECTOR	Q845	2312941M	TRS 2SC1740STPQ
PR901	AZ00102M	1A PROTECTOR(FUSE)	Q846	2327783M	TRS 2SC3553C/D
PR951	AZ00106M	3A PROTECTOR(FUSE)	Q847	2321351M	TRS 2SA844PD/E08 RR
PVMC	2902261	2P PIN POST W/BASE	Q848	CF02231	TRS 2SA1606E
PY1	ED00386	7P PLUG PIN	Q849	CF02241	TRS 2SC4159E
PY2	ED00384	5P PLUG PIN	Q850	2312941M	TRS 2SC1740STPQ
Q001	CF01421R	TRS. KTC3198GR	Q851	2312941M	TRS 2SC1740STPQ
Q002	CF01421R	TRS. KTC3198GR	Q852	2320637M	TRS 2SA673PC26/PD26 RR
Q003	CF01421R	TRS. KTC3198GR	Q901	CF01431R	TRS. KTA1266Y
Q101	CF01421R	TRS. KTC3198GR	Q902	CF01221	TRS. BD329
Q301	CF01431R	TRS. KTA1266Y	Q903	2314792	TRS 0N4959
Q302	CF01421R	TRS. KTC3198GR	Q904	CF01421R	TRS. KTC3198GR
Q303	CF01431R	TRS. KTA1266Y	Q905	CF01831	TRS KTD2058Y
Q304	CF01431R	TRS. KTA1266Y	Q951	CF01821R	TRS KTC3206Y
Q305	CF01431R	TRS. KTA1266Y	Q952	CF01421R	TRS. KTC3198GR
Q306	CF01431R	TRS. KTA1266Y	Q953	CF01851	TRS KTA1658Y
Q408	CF01431R	TRS. KTA1266Y	Q954	CF01421R	TRS. KTC3198GR
Q409	CF01421R	TRS. KTC3198GR	Q956	CF01421R	TRS. KTC3198GR
Q410	CF01421R	TRS. KTC3198GR	Q957	CF01851	TRS KTA1658Y
Q501	2326873R	TRS DTC144ES	Q958	CF01421R	TRS. KTC3198GR
Q604	CF01431R	TRS. KTA1266Y	QT02	CF01421R	TRS. KTC3198GR(T/TEXT)
Q661	2315933	TRS 2SB1548A-P/Q	QT06	CF01421R	TRS. KTC3198GR(T/TEXT)
Q662	2323522M	TRS 2SD789ETZ-Q	QT07	CF01431R	TRS. KTA1266Y(T/TEXT)
Q663	CF01431R	TRS. KTA1266Y	QT08	CF01421R	TRS. KTC3198GR(T/TEXT)
Q664	CF01421R	TRS. KTC3198GR	R001	0700056M	CF 15K OHM +-5% 1/16W
Q665	CF01421R	TRS. KTC3198GR	R002	0700041M	CF 1.0K OHM +-5% 1/16W
Q666	CF01421R	TRS. KTC3198GR	R003	0700051M	CF 5.6K OHM +-5% 1/16W
Q708	2315451	TRS BU2508AF	R004	0700054M	CF 10K OHM +-5% 1/16W
Q709	2326216	TRS 2SC3116 S/T	R005	0700055M	CF 12K OHM +-5% 1/16W
Q722	2312171	TRS 2SC3852	R006	0700041M	CF 1.0K OHM +-5% 1/16W
Q723	2312171	TRS 2SC3852	R007	0700041M	CF 1.0K OHM +-5% 1/16W
Q724	CF01431R	TRS. KTA1266Y	R008	0100065M	CF 1K OHM +-5% 1/8W
Q740	CF01421R	TRS. KTC3198GR	R009	0700027M	CF 100 OHM +-5% 1/16W
Q741	2321112M	TRS 2SA778AK02	R010	0700036M	CF 470 OHM +-5% 1/16W
Q755	CJ00161R	TRS. BT149-B	R011	0700058M	CF 22K OHM +-5% 1/16W
Q801	CF01841F	TRS 2SC4075D/E-YAC	R012	0700054M	CF 10K OHM +-5% 1/16W
Q802	CF01841F	TRS 2SC4075D/E-YAC	R013	0700045M	CF 2.2K OHM +-5% 1/16W
Q803	CF01841F	TRS 2SC4075D/E-YAC	R014	0700046M	CF 2.7K OHM +-5% 1/16W

制品安全上的注意: 在下表附带⚠标记的机件具备特别的安全特性。要替换这些机件以前请详细阅读这检修手册中“制品安全上的注意: 一书，以避免因检修不当而降低电视机的安全性。

SYMBOL No.	PART No.	DESCRIPTIONS
R015	0700045M	CF 2.2K OHM +-5% 1/16W
R016	0700027M	CF 100 OHM +-5% 1/16W
R017	0700047M	CF 3.3K OHM +-5% 1/16W
R018	0700041M	CF 1.0K OHM +-5% 1/16W
R019	0700041M	CF 1.0K OHM +-5% 1/16W
R020	0700053M	CF 8.2K OHM +-5% 1/16W
R021	0700041M	CF 1.0K OHM +-5% 1/16W
R022	0700054M	CF 10K OHM +-5% 1/16W
R023	0700062M	CF 39K OHM +-5% 1/16W
R024	0700062M	CF 39K OHM +-5% 1/16W
R025	0700067M	CF 100K OHM +-5% 1/16W
R026	0700067M	CF 100K OHM +-5% 1/16W
R027	0700056M	CF 15K OHM +-5% 1/16W
R028	0700051M	CF 5.6K OHM +-5% 1/16W
R029	0700041M	CF 1.0K OHM +-5% 1/16W
R031	0700054M	CF 10K OHM +-5% 1/16W
R032	0700027M	CF 100 OHM +-5% 1/16W
R033	0700056M	CF 15K OHM +-5% 1/16W
R034	0700027M	CF 100 OHM +-5% 1/16W
R035	0700027M	CF 100 OHM +-5% 1/16W
R036	0700054M	CF 10K OHM +-5% 1/16W
R037	0700058M	CF 22K OHM +-5% 1/16W
R038	0700058M	CF 22K OHM +-5% 1/16W
R039	0700027M	CF 100 OHM +-5% 1/16W
R040	0700027M	CF 100 OHM +-5% 1/16W
R042	0700041M	CF 1.0K OHM +-5% 1/16W
R043	0700046M	CF 2.7K OHM +-5% 1/16W
R044	0700046M	CF 2.7K OHM +-5% 1/16W
R045	0700046M	CF 2.7K OHM +-5% 1/16W
R046	0700046M	CF 2.7K OHM +-5% 1/16W
R047	0700046M	CF 2.7K OHM +-5% 1/16W
R048	0700046M	CF 2.7K OHM +-5% 1/16W
R050	0700043M	CF 1.5K OHM +-5% 1/16W
R051	0700043M	CF 1.5K OHM +-5% 1/16W
R052	0700051M	CF 5.6K OHM +-5% 1/16W
R053	0700051M	CF 5.6K OHM +-5% 1/16W
R055	0700041M	CF 1.0K OHM +-5% 1/16W
R056	0700037M	CF 560 OHM +-5% 1/16W
R057	0700051M	CF 5.6K OHM +-5% 1/16W
R058	0700051M	CF 5.6K OHM +-5% 1/16W
R066	0700054M	CF 10K OHM +-5% 1/16W
R078	0700067M	CF 100K OHM +-5% 1/16W
R095	0700027M	CF 100 OHM +-5% 1/16W
R100	0700027M	CF 100 OHM +-5% 1/16W
R101	0700027M	CF 100 OHM +-5% 1/16W
R102	0700027M	CF 100 OHM +-5% 1/16W
R103	0700027M	CF 100 OHM +-5% 1/16W (NOT FOR NICAM/A2)
R104	0700027M	CF 100 OHM +-5% 1/16W
R109	0700027M	CF 100 OHM +-5% 1/16W (NICAM/A2)
R110	0700027M	CF 100 OHM +-5% 1/16W (NICAM/A2)
R111	0700027M	CF 100 OHM +-5% 1/16W (NICAM/A2)
R112	0700027M	CF 100 OHM +-5% 1/16W (NICAM/A2)
R113	0700054M	CF 10K OHM +-5% 1/16W
R115	0700051M	CF 5.6K OHM +-5% 1/16W
R117	0700027M	CF 100 OHM +-5% 1/16W
R121	0700029M	CF 150 OHM +-5% 1/16W
R122	0700032M	CF 220 OHM +-5% 1/16W
R123	0700029M	CF 150 OHM +-5% 1/16W
R125	0700036M	CF 470 OHM +-5% 1/16W
R302	0100038M	CF 75 OHM +-5% 1/8W
R303	0100041M	CF 100 OHM +-5% 1/8W
R304	0100105M	CF 47K OHM +-5% 1/8W
R305	0100041M	CF 100 OHM +-5% 1/8W
R306	0100105M	CF 47K OHM +-5% 1/8W
R307	0100041M	CF 100 OHM +-5% 1/8W
R308	0100037M	CF 68 OHM +-5% 1/8W
R309	0100045M	CF 150 OHM +-5% 1/8W
R310	0700027M	CF 100 OHM +-5% 1/16W
R312	0100105M	CF 47K OHM +-5% 1/8W
R313	0100041M	CF 100 OHM +-5% 1/8W
R314	0100105M	CF 47K OHM +-5% 1/8W
R315	0100041M	CF 100 OHM +-5% 1/8W
R316	0100038M	CF 75 OHM +-5% 1/8W
R317	0100041M	CF 100 OHM +-5% 1/8W
R318	0100038M	CF 75 OHM +-5% 1/8W
R319	0100041M	CF 100 OHM +-5% 1/8W
R320	0100113M	CF 100K OHM +-5% 1/8W
R321	0700058M	CF 22K OHM +-5% 1/16W
R322	0700056M	CF 15K OHM +-5% 1/16W
R329	0700049M	CF 4.7K OHM +-5% 1/16W
R331	0100041M	CF 100 OHM +-5% 1/8W
R332	0100041M	CF 100 OHM +-5% 1/8W
R336	0100038M	CF 75 OHM +-5% 1/8W
R338	0100113M	CF 100K OHM +-5% 1/8W
R340	0100113M	CF 100K OHM +-5% 1/8W

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SYMBOL No.	PART No.	DESCRIPTIONS	SYMBOL No.	PART No.	DESCRIPTIONS
R341	0700027M	CF 100 OHM +-5% 1/16W	R486	0700027M	CF 100 OHM +-5% 1/16W
R342	0700027M	CF 100 OHM +-5% 1/16W	R487	0700027M	CF 100 OHM +-5% 1/16W
R343	0100041M	CF 100 OHM +-5% 1/8W	R488	0700051M	CF 5.6K OHM +-5% 1/16W
R344	0100041M	CF 100 OHM +-5% 1/8W	R494	0700041M	CF 1.0K OHM +-5% 1/16W
R346	0700027M	CF 100 OHM +-5% 1/16W	R495	0700041M	CF 1.0K OHM +-5% 1/16W
R347	0700027M	CF 100 OHM +-5% 1/16W	R499	0147118	WW 1.0 OHM +-5% 3W
R348	0700027M	CF 100 OHM +-5% 1/16W	R502	0700027M	CF 100 OHM +-5% 1/16W
R349	0700027M	CF 100 OHM +-5% 1/16W	R504	0100041M	CF 100 OHM +-5% 1/8W
R354	0700036M	CF 470 OHM +-5% 1/16W	R505	0100041M	CF 100 OHM +-5% 1/8W
R360	0100041M	CF 100 OHM +-5% 1/8W	R506	0100041M	CF 100 OHM +-5% 1/8W
R371	0700027M	CF 100 OHM +-5% 1/16W	R507	0700027M	CF 100 OHM +-5% 1/16W
R372	0700027M	CF 100 OHM +-5% 1/16W	R508	0700045M	CF 2.2K OHM +-5% 1/16W
R373	0119514S	FR 10 OHM +-5% 1/4W	R509	0700045M	CF 2.2K OHM +-5% 1/16W
R374	0100121M	CF 220K OHM +-5% 1/8W	R510	0700045M	CF 2.2K OHM +-5% 1/16W
R375	0700027M	CF 100 OHM +-5% 1/16W	R512	0700041M	CF 1.0K OHM +-5% 1/16W
R376	0700027M	CF 100 OHM +-5% 1/16W	R514	0700041M	CF 1.0K OHM +-5% 1/16W
R380	0700044M	CF 1.8K OHM +-5% 1/16W	R516	0700041M	CF 1.0K OHM +-5% 1/16W
R381	0700027M	CF 100 OHM +-5% 1/16W	R517	0700041M	CF 1.0K OHM +-5% 1/16W
R386	0700041M	CF 1.0K OHM +-5% 1/16W	R518	0700041M	CF 1.0K OHM +-5% 1/16W
R387	0700027M	CF 100 OHM +-5% 1/16W	R519	0700054M	CF 10K OHM +-5% 1/16W
R388	0100065M	CF 1K OHM +-5% 1/8W	R520	0700027M	CF 100 OHM +-5% 1/16W
R389	0700027M	CF 100 OHM +-5% 1/16W	R521	0700027M	CF 100 OHM +-5% 1/16W
R390	0700036M	CF 470 OHM +-5% 1/16W	R522	0700027M	CF 100 OHM +-5% 1/16W
R391	0700036M	CF 470 OHM +-5% 1/16W	R533	0700027M	CF 100 OHM +-5% 1/16W
R392	0100053M	CF 330 OHM +-5% 1/8W	R534	0700027M	CF 100 OHM +-5% 1/16W
R393	0700032M	CF 220 OHM +-5% 1/16W	R535	0700044M	CF 1.8K OHM +-5% 1/16W
R394	0700027M	CF 100 OHM +-5% 1/16W	R536	0700027M	CF 100 OHM +-5% 1/16W(T/TEXT)
R395	0100057M	CF 470 OHM +-5% 1/8W	R537	0700027M	CF 100 OHM +-5% 1/16W(T/TEXT)
R396	0700041M	CF 1.0K OHM +-5% 1/16W	R551	0700027M	CF 100 OHM +-5% 1/16W(T/TEXT)
R397	0700027M	CF 100 OHM +-5% 1/16W	R552	0700027M	CF 100 OHM +-5% 1/16W(T/TEXT)
R3A1	0700045M	CF 2.2K OHM +-5% 1/16W	R554	0700036M	CF 470 OHM +-5% 1/16W
R409	0110337S	MF 470 OHM +-5% 3W	R555	0700054M	CF 10K OHM +-5% 1/16W
R410	0700036M	CF 470 OHM +-5% 1/16W			(NOT FOR T/TEXT)
R411	0700036M	CF 470 OHM +-5% 1/16W	R611	0700048M	CF 3.9K OHM +-5% 1/16W
R412	0119505G	FR 2.2 OHM 1/4W	R612	0700051M	CF 5.6K OHM +-5% 1/16W
R413	0119505G	FR 2.2 OHM 1/4W	R613	0700067M	CF 100K OHM +-5% 1/16W
R414	0700064M	CF 56K OHM +-5% 1/16W	R614	0700066M	CF 82K OHM +-5% 1/16W
R415	0700048M	CF 3.9K OHM +-5% 1/16W	R615	0188123M	CF 270 OHM +-5% 1/2W
R416	0700048M	CF 3.9K OHM +-5% 1/16W	R617	0100127M	CF 390K OHM +-5% 1/8W
R417	0700041M	CF 1.0K OHM +-5% 1/16W	R618	0700061M	CF 33K OHM +-5% 1/16W
R418	0700041M	CF 1.0K OHM +-5% 1/16W	R621	0119722M	FR 1 OHM +-5% 1W
R480	0119514S	FR 10 OHM +-5% 1/4W	R631	0700058M	CF 22K OHM +-5% 1/16W
R481	0114141M	CF 270 OHM +-5% 1/4W	R632	0119722M	FR 1 OHM +-5% 1W
R483	0700067M	CF 100K OHM +-5% 1/16W	R633	0700054M	CF 10K OHM +-5% 1/16W
R484	0700051M	CF 5.6K OHM +-5% 1/16W	R643	AZ00104M	2A PROTECTOR(FUSE)

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SYMBOL No.	PART No.	DESCRIPTIONS
R651	0188135M	CF 2.2K OHM +-5% 1/2W
R653	0700046M	CF 2.7K OHM +-5% 1/16W
R654	0700067M	CF 100K OHM +-5% 1/16W
R655	0700045M	CF 2.2K OHM +-5% 1/16W
R656	0150156	VR 10K OHM(B)
R657	0150156	VR 10K OHM(B)
R658	0700054M	CF 10K OHM +-5% 1/16W
R659	0700054M	CF 10K OHM +-5% 1/16W
R660	0700063M	CF 47K OHM +-5% 1/16W
R661	0700049M	CF 4.7K OHM +-5% 1/16W
R662	0700059M	CF 27K OHM +-5% 1/16W
R663	0179561M	MG 2.2M OHM +-5% 1/8W
R664	0700054M	CF 10K OHM +-5% 1/16W
R665	0700054M	CF 10K OHM +-5% 1/16W
R666	0700041M	CF 1.0K OHM +-5% 1/16W
R668	0700067M	CF 100K OHM +-5% 1/16W
R669	0700053M	CF 8.2K OHM +-5% 1/16W
R670	0700061M	CF 33K OHM +-5% 1/16W
R671	0100119M	CF 180K OHM +-5% 1/8W
R672	0700059M	CF 27K OHM +-5% 1/16W
R673	0700063M	CF 47K OHM +-5% 1/16W
R676	0700041M	CF 1.0K OHM +-5% 1/16W
R677	0700041M	CF 1.0K OHM +-5% 1/16W
R6A1	0700045M	CF 2.2K OHM +-5% 1/16W
R6A2	0700041M	CF 1.0K OHM +-5% 1/16W
R720	0110201S	MF 15 OHM +-5% 2W
R721	0110201S	MF 15 OHM +-5% 2W
R722	0100057M	CF 470 OHM +-5% 1/8W
R723	0100049M	CF 220 OHM +-5% 1/8W
R724	0700041M	CF 1.0K OHM +-5% 1/16W
R725	0700054M	CF 10K OHM +-5% 1/16W
R727	0700054M	CF 10K OHM +-5% 1/16W
R730	0700051M	CF 5.6K OHM +-5% 1/16W
R731	0700027M	CF 100 OHM +-5% 1/16W
R732	0145051S	WW 2.7K OHM +-5% 7W
R733	0700027M	CF 100 OHM +-5% 1/16W
R735	0119688M	FR 0.22 OHM +-5% 1W
R736	0700026M	CF 82 OHM +-5% 1/16W
R737	0114145M	CF 390 OHM +-5% 1/4W
R738	0188142M	CF 6.8K OHM +-5% 1/2W
R741	0100093M	CF 15K OHM +-5% 1/8W
R742	0114207M	CF 18K OHM +-5% 1/4W
R743	AZ00026M	2.5A PROTECTOR(FUSE)
R744	AZ00026M	2.5A PROTECTOR(FUSE)
R748	AZ00026M	2.5A PROTECTOR(FUSE)

SYMBOL No.	PART No.	DESCRIPTIONS
R749	0100103M	CF 39K OHM +-5% 1/8W
R750	0700059M	CF 27K OHM +-5% 1/16W
R750A	0700046M	CF 2.7K OHM +-5% 1/16W
R751	0700032M	CF 220 OHM +-5% 1/16W
R754	0114163M	CF 1.2K OHM +-5% 1/4W
R755	0700039M	CF 820 OHM +-5% 1/16W
R760	0700063M	CF 47K OHM +-5% 1/16W
R760A	0100093M	CF 15K OHM +-5% 1/8W
R772	0110243S	MF 820 OHM +-5% 2W
R780	0110159S	MF 3.9K OHM +-5% 1W
R781	0110279S	MF 27K OHM +-5% 2W
R782	0100065M	CF 1K OHM +-5% 1/8W
R784	0147817A	WW 2.7 OHM +-10% 15W
R785	0700044M	CF 1.8K OHM +-5% 1/16W
R786	0100105M	CF 47K OHM +-5% 1/8W
R787	0700067M	CF 100K OHM +-5% 1/16W
R791	0700049M	CF 4.7K OHM +-5% 1/16W
R794	0100101M	CF 33K OHM +-5% 1/8W
R796	0700072M	CF 220K OHM +-5% 1/16W
R797	0700055M	CF 12K OHM +-5% 1/16W
R7A1	0700038M	CF 680 OHM +-5% 1/16W
R7A2	0700031M	CF 180 OHM +-5% 1/16W
R7A3	0700054M	CF 10K OHM +-5% 1/16W
R7A4	0100113M	CF 100K OHM +-5% 1/8W
R7A5	0700053M	CF 8.2K OHM +-5% 1/16W
R7A7	0700053M	CF 8.2K OHM +-5% 1/16W (T/TEXT MODELS ONLY)
R7A7	0700056M	CF 15K OHM +-5% 1/16W (OTHER MODELS)
R802	0113744M	CF 560 OHM +-5% 1/2W
R803	0113744M	CF 560 OHM +-5% 1/2W
R804	0113744M	CF 560 OHM +-5% 1/2W
R805	AT00383S	MF 8.2K OHM +-5% 3W
R806	AT00383S	MF 8.2K OHM +-5% 3W
R807	AT00383S	MF 8.2K OHM +-5% 3W
R808	0100041M	CF 100 OHM +-5% 1/8W
R809	0100041M	CF 100 OHM +-5% 1/8W
R810	0100041M	CF 100 OHM +-5% 1/8W
R814	0100049M	CF 220 OHM +-5% 1/8W
R815	0100049M	CF 220 OHM +-5% 1/8W
R816	0100049M	CF 220 OHM +-5% 1/8W
R817	0100071M	CF 1.8K OHM +-5% 1/8W
R818	0100071M	CF 1.8K OHM +-5% 1/8W
R819	0100071M	CF 1.8K OHM +-5% 1/8W
R822	0100041M	CF 100 OHM +-5% 1/8W

PRODUCT SAFETY NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL No.	PART No.	DESCRIPTIONS
R823	0100041M	CF 100 OHM +-5% 1/8W
R824	0100041M	CF 100 OHM +-5% 1/8W
R825	0113815M	CF 470K OHM +-5% 1/2W
R836	0700039M	CF 820 OHM +-5% 1/16W
R837	0700039M	CF 820 OHM +-5% 1/16W
R838	0700041M	CF 1.0K OHM +-5% 1/16W
R839	0700035M	CF 390 OHM +-5% 1/16W
R841	0110141S	MF 680 OHM +-5% 1W
R842	0700066M	CF 82K OHM +-5% 1/16W
R843	0700035M	CF 390 OHM +-5% 1/16W
R844	0700035M	CF 390 OHM +-5% 1/16W
R845	0700044M	CF 1.8K OHM +-5% 1/16W
R846	0700059M	CF 27K OHM +-5% 1/16W
R847	0700065M	CF 68K OHM +-5% 1/16W
R848	0700059M	CF 27K OHM +-5% 1/16W
R849	0100057M	CF 470 OHM +-5% 1/8W
R853	0700067M	CF 100K OHM +-5% 1/16W
R854	0700058M	CF 22K OHM +-5% 1/16W
R855	0700047M	CF 3.3K OHM +-5% 1/16W
R856	0113742M	CF 470 OHM +-5% 1/2W
R858	0700036M	CF 470 OHM +-5% 1/16W
R859	0700067M	CF 100K OHM +-5% 1/16W
R860	0700055M	CF 12K OHM +-5% 1/16W
R861	0188131M	CF 1K OHM +-5% 1/2W
R862	0700024M	CF 56 OHM +-5% 1/16W
R863	0113701M	CF 10 OHM +-5% 1/2W
R864	0100035M	CF 56 OHM +-5% 1/8W
R865	0100035M	CF 56 OHM +-5% 1/8W
R866	0114165M	CF 1.5K OHM +-5% 1/4W
R867	0100069M	CF 1.5K OHM +-5% 1/8W
R868	0188132M	CF 1.2K OHM +-5% 1/2W
R869	0100067M	CF 1.2K OHM +-5% 1/8W
R870	0188155M	CF 68K OHM +-5% 1/2W
R871	0114221M	CF 68K OHM +-5% 1/4W
R872	0113776M	CF 12K OHM +-5% 1/2W
R873	0113716M	CF 43 OHM +-5% 1/2W
R874	0113716M	CF 43 OHM +-5% 1/2W
R875	0113686M	CF 2.7 OHM +-5% 1/2W
R876	0113686M	CF 2.7 OHM +-5% 1/2W
R877	0110229S	MF 220 OHM +-5% 2W
R879	0700041M	CF 1.0K OHM +-5% 1/16W
R880	0700061M	CF 33K OHM +-5% 1/16W
R884	0110132S	MF 300 OHM +-5% 1W
R886	0700027M	CF 100 OHM +-5% 1/16W
R887	0113752M	CF 1.2K OHM +-5% 1/2W

SYMBOL No.	PART No.	DESCRIPTIONS
R889	0700033M	CF 270 OHM +-5% 1/16W
R890	0700029M	CF 150 OHM +-5% 1/16W
R891	0700045M	CF 2.2K OHM +-5% 1/16W
R901	0147610A	WW 1.0 OHM +-5% 7W
R901A	0147610A	WW 1.0 OHM +-5% 7W
R902	0113791M	CF 47K OHM +-5% 1/2W
R903	0113787M	CF 33K OHM +-5% 1/2W
R904	0100085M	CF 6.8K OHM +-5% 1/8W
R905	0147582A	WW 560 OHM +-5% 5W
R906	0147670A	WW 330 OHM +-5% 7W
R907	0147072BF	WW 100 OHM +-5% 2W
R908	0100089M	CF 10K OHM +-5% 1/8W
R909	0700061M	CF 33K OHM +-5% 1/16W
R910	0113733M	CF 220 OHM +-5% 1/2W
R911	0110129S	MF 220 OHM +-5% 1W
R912	0113725M	CF 100 OHM +-5% 1/2W
R913	0700032M	CF 220 OHM +-5% 1/16W
R914	0147126BF	WW 2.2 OHM +-5% 3W
R915	0114171M	CF 2.7K OHM +-5% 1/4W
R916	0114163M	CF 1.2K OHM +-5% 1/4W
R917	0100041M	CF 100 OHM +-5% 1/8W
R918	0110129S	MF 220 OHM +-5% 1W
R920	0147662A	WW 150 OHM +-5% 7W
R940	0110217S	MF 68 OHM +-5% 2W
R953	0700043M	CF 1.5K OHM +-5% 1/16W
R957	0113756M	CF 1.8K OHM +-5% 1/2W
R958	0700049M	CF 4.7K OHM +-5% 1/16W
R959	0700049M	CF 4.7K OHM +-5% 1/16W
R960	0700049M	CF 4.7K OHM +-5% 1/16W
R961	0700049M	CF 4.7K OHM +-5% 1/16W
R962	0113791M	CF 47K OHM +-5% 1/2W
R964	0100075M	CF 2.7K OHM +-5% 1/8W
R965	0700048M	CF 3.9K OHM +-5% 1/16W
R966	0113791M	CF 47K OHM +-5% 1/2W
R967	0110255S	MF 2.7K OHM +-5% 2W
R968	0110239S	MF 560 OHM +-5% 2W
R969	0700054M	CF 10K OHM +-5% 1/16W
R970	0700049M	CF 4.7K OHM +-5% 1/16W
R971	0113742M	CF 470 OHM +-5% 1/2W
⚠ R998	0174704	MF 10M OHM +-5% 1W
RA56	0700042M	CF 1.2K OHM +-5% 1/16W
RA57	0700042M	CF 1.2K OHM +-5% 1/16W
RA58	0700052M	CF 6.8K OHM +-5% 1/16W
RA59	0700052M	CF 6.8K OHM +-5% 1/16W
RF01	0110161S	MF 4.7K OHM +-5% 1W

制品安全上的注意: 在下表附带⚠标记的机件具备特别的安全特性。要替换这些机件以前请详细阅读这检修手册中“制品安全上的注意: 一书，以避免因检修不当而降低电视机的安全性。

SYMBOL No.	PART No.	DESCRIPTIONS
RK220	0700062M	CF 39K OHM +-5% 1/16W (Not for NICAM/A2)
RK311	0100041M	CF 100 OHM +-5% 1/8W(T/TEXT)
RK312	0100041M	CF 100 OHM +-5% 1/8W(T/TEXT)
RK313	0100041M	CF 100 OHM +-5% 1/8W(T/TEXT)
RK474	0700041M	CF 1.0K OHM +-5% 1/16W
RKT02	0700033M	CF 270 OHM +-5% 1/16W(T/TEXT)
RKT03	0700033M	CF 270 OHM +-5% 1/16W(T/TEXT)
RKT04	0700033M	CF 270 OHM +-5% 1/16W(T/TEXT)
RKT09	0700049M	CF 4.7K OHM +-5% 1/16W(T/TEXT)
RM05	0700045M	CF 2.2K OHM +-5% 1/16W
RM07	0700043M	CF 1.5K OHM +-5% 1/16W
RM09	0700038M	CF 680 OHM +-5% 1/16W
RM11	0700041M	CF 1.0K OHM +-5% 1/16W
RM12	0100038M	CF 75 OHM +-5% 1/8W
RM13	0100038M	CF 75 OHM +-5% 1/8W
RM17	0100123M	CF 270K OHM +-5% 1/8W
RM18	0100123M	CF 270K OHM +-5% 1/8W
RM20	0700051M	CF 5.6K OHM +-5% 1/16W
RM22	0700041M	CF 1.0K OHM +-5% 1/16W
RM23	0100033M	CF 47 OHM +-5% 1/8W
RM41	0100059M	CF 560 OHM +-5% 1/8W
RM42	0100059M	CF 560 OHM +-5% 1/8W
RT01	0700034M	CF 330 OHM +-5% 1/16W(T/TEXT)
RT02	0700049M	CF 4.7K OHM +-5% 1/16W(T/TEXT)
RT03	0700049M	CF 4.7K OHM +-5% 1/16W(T/TEXT)
RT04	0187098M	CF 24K OHM +-5% 1/16W(T/TEXT)
RT07	0700027M	CF 100 OHM +-5% 1/16W(T/TEXT)
RT08	0700041M	CF 1.0K OHM +-5% 1/16W(T/TEXT)
RT09	0700034M	CF 330 OHM +-5% 1/16W(T/TEXT)
RT13	0700027M	CF 100 OHM +-5% 1/16W(T/TEXT)
RT14	0700041M	CF 1.0K OHM +-5% 1/16W(T/TEXT)
RT15	0700038M	CF 680 OHM +-5% 1/16W(T/TEXT)
RT16	0700038M	CF 680 OHM +-5% 1/16W(T/TEXT)
RT17	0700061M	CF 33K OHM +-5% 1/16W(T/TEXT)
RT21	0700041M	CF 1.0K OHM +-5% 1/16W(T/TEXT)
RT25	0700061M	CF 33K OHM +-5% 1/16W(T/TEXT)
RT26	0100041M	CF 100 OHM +-5% 1/8W(T/TEXT)
RT27	0100041M	CF 100 OHM +-5% 1/8W(T/TEXT)
RT29	0110219S	MF 82 OHM +-5% 2W(T/TEXT)
RT34	0700029M	CF 150 OHM +-5% 1/16W(T/TEXT)
RT35	0700029M	CF 150 OHM +-5% 1/16W(T/TEXT)
RT36	0700029M	CF 150 OHM +-5% 1/16W(T/TEXT)
RT37	0700029M	CF 150 OHM +-5% 1/16W(T/TEXT)
RT38	0700034M	CF 330 OHM +-5% 1/16W(T/TEXT)

SYMBOL No.	PART No.	DESCRIPTIONS
RT39	0700054M	CF 10K OHM +-5% 1/16W(T/TEXT)
RT51	0700049M	CF 4.7K OHM +-5% 1/16W(T/TEXT)
RT39	0700054M	CF 10K OHM +-5% 1/16W(T/TEXT)
RT51	0700049M	CF 4.7K OHM +-5% 1/16W(T/TEXT)
RT52	0700049M	CF 4.7K OHM +-5% 1/16W(T/TEXT)
RT53	0700041M	CF 1K OHM +-5% 1/16W(T/TEXT)
RT54	0700049M	CF 4.7K OHM +-5% 1/16W(T/TEXT)
⚠ S901	2634732	MAIN SWITCH SDDFC3
SM01	FE00282	3 KEY TACT SWITCH
SM02	FE00282	3 KEY TACT SWITCH
T701	BS00011	DRIVE TRANSFORMER
⚠ T702	BW01162	FBT HFL1735LD
⚠ T901	BT00952	SWITCHING TRANSFORMER
TF01	BT01371	TRANSFORMER
TH61	2340371	THERMISTOR
TH901	CJ00131	PTC THEMISTOR
U001	HC00471	BTF-WH461 (TUNER-IF-NICAM/A2)
U001	HC00472	BTF-LH485(TUNER-IF)
VR951	AW00101	VR 500 OHM(B)
WPDF	EF09011	1P CONNECTOR W/WIRE
WPH	EF09021	3P CONNECTOR W/WIRES
X002	BP00761	X'TAL 8MHZ
X003	2791754R	LC FILTER
X004	2791754R	LC FILTER
X301	BJ00511	200Nsec DELAY LINE
X302	BJ00471B	TRAP COIL 4.43MHZ
X501	BP00661	X'TAL 16.2MHZ
XT01	BP01061	X'TAL 12MHZ(T/TEXT)
ZD721	2339854M	ZD HZS7B1
ZD752	2339845M	ZD HZS6B2
ZD753	2339867M	ZD HZS9C1
ZD901	2339834M	ZD HZS5B1
ZD902	2339825M	ZD HZS4B2
ZD903	2331795M	ZD HZ5B2
ZD904	2331795M	ZD HZ5B2
ZD905	2339842M	ZD HZS6A2
ZD906	2339867M	ZD HZS9C1
ZD910	2331795M	ZD HZ5B2
ZD951	2339854M	ZD HZS7B1
ZD952	2339222M	ZD HZS27-2L
ZD953	2339847M	ZD HZS6C1
ZD954	2339221M	ZD HZS27-2L
	2776541	CF MAGNET(WITH VM)
	2979222	2P CON. W/WIRS(FOR VM)

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SYMBOL No.	PART No.	DESCRIPTIONS	SYMBOL No.	PART No.	DESCRIPTIONS
⚠	2276065A	DEGAUSSING COIL			
	BY01291	DY			
⚠	V1 DE01734	CRT A68QCU259X(W/DY)			
	GK00551	SPEAKER(C29-F200B)			
	GK00552	SPEAKER R(C29-F200S)			
	GK00553	SPEAKER L(C29-F200S)			
	HL01501	REMOTE CONTROL CLE-945			
⚠	QD09801	FRAME ASSY(C29-F200B)			
⚠	QD09802	FRAME ASSY(C29-GF300K)			
⚠	QD09811	FRAME ASSY(C29-F200S)			
⚠	QD09821	BACK COVER ASSY(C29-F200B EXCEPT 75* & 98*)			
⚠	QD09822	BACK COVER ASSY(C29-F200S EXCEPT 75* & 98*)			
⚠	QD09823	BACK COVER ASSY (C29-F200B-75* ONLY)			
⚠	QD09824	BACK COVER ASSY(191A, 98*) (C29-F200B-98* ONLY)			
⚠	QD09825	BACK COVER ASSY (C29-F200S-75* ONLY)			

HITACHI

C29-F200B, C29-F200S, C29-GF300K
[041, 051, 751, 081S, 98*, 121,
19*, 941, 433, 061, 081M]

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