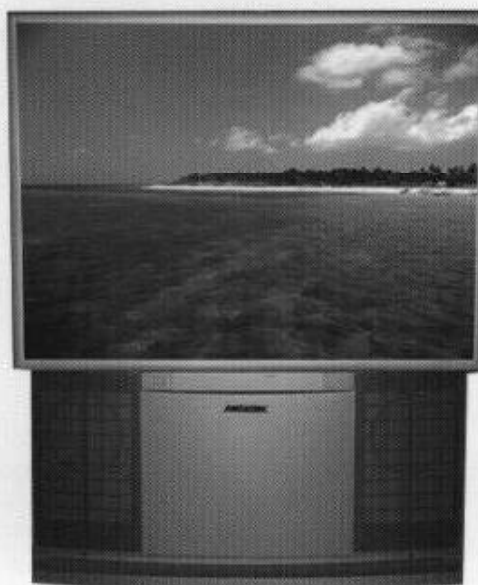


**APEX** Rear Projection TV

# **SERVICE MANUAL**

**PU-1 CHASSIS**

**GB4308 GB5108**



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## **Contents**

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## Safety Precautions

**WARNING:** BEFORE SERVICING THIS SET, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTION BELOW.

### X-ray radiation precaution

- 1.Excessive voltage may cause X-ray radiation. In order to avoid such hazard, high voltage shall not be more than the specified value. The nominal E.H.T. for this set is (A)kV at normal circumstance operating at C(v). The maximum E.H.T. voltage permissible in any operating circumstances must not exceed (B)kV.

	43"	51"
E.H.T at normal circumstance(A)	32.3KV	32.3KV
Max. Voltage(B)	32.5KV	32.5KV
A.C. voltage(C)	120V	120V

- 2.The only source of X-ray radiation in this set is the CRT. To prevent X-ray radiation, the replacement CRT must be identical to the original fitted as specified in the Replacement-Parts List.
- 3.Some components used in this set have safety-related characteristics preventing the CRT from emitting X-ray radiation. For continued safety, replacement component should only be made after referring the Product Safety Notice below.

### Safety precaution

**Warning:** Service should not be attempted by anyone unfamiliar with the necessary precaution on the set. The following are the necessary precaution to be observed before servicing.

- 1.Before servicing, please insert an isolating transformer at the circuit between power supply and the set.
- 2.Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatterproof goggles and keep picture tube away from the body while handling.
- 3.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, isolating resistor-capacitor circuit, etc.

### Product safety notice

Many electrical and mechanical components in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-ray radiation protection afforded by them cannot necessarily be obtained by using replacements rated at higher voltages or wattage, etc. Electrical components, which have these special safety characteristics, are identified by the international hazard symbols on the schematic diagram.

Before replacing any of these components, read the Parts List in this manual carefully. Substitute replacement components, which do not have the same safety characteristics, as specified in the Replacement Parts List may create shock, fire, X-ray radiation and other hazards.

## Screen and Mirror Correction

Constitution and installation of front screen

Please see " Mechanical Detachment" .

Lens and mirror cleaning

**Note:**In order to keep the finger prints off the optical parts, do not handle optical parts ( lens and mirror).

How to clean lens and mirror

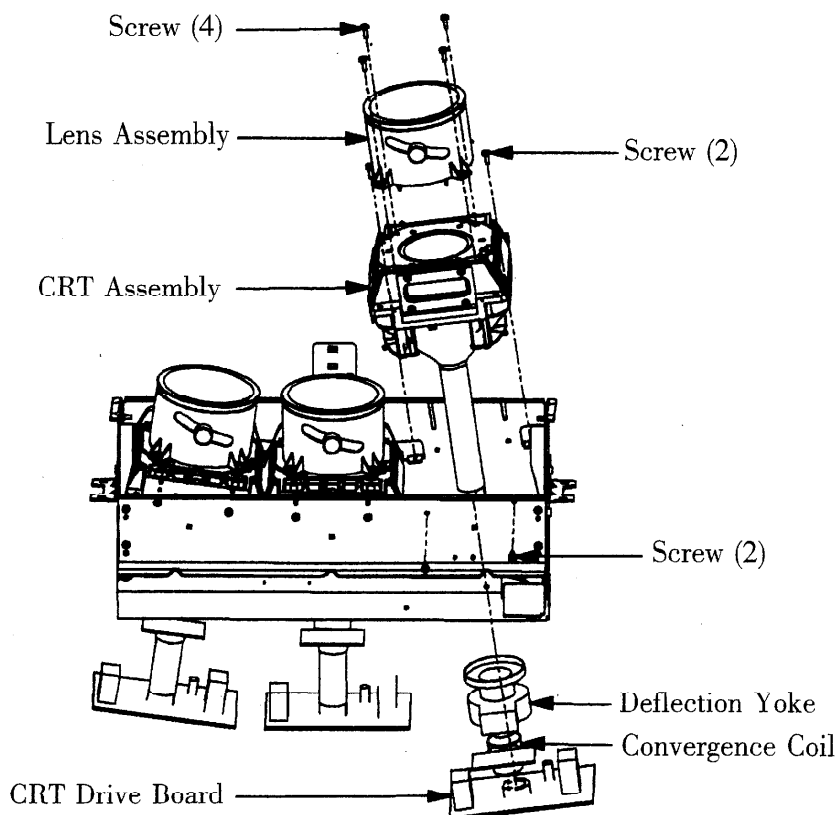
1. Do clean them with a air brush.
2. To remove dust, wipe it gently with a specified cloth after blowing any material off. Then wipe it with a specified cloth slightly dampened with a solution of mild cleaner.

How to clean screen

In order to avoid scratches the screen, please use a soft cloth to clean it.

1. Clean with a soft cloth slightly dampened with a solution of mild cleaner.
2. Clean with a soft cloth dampened with water.
3. Wipe it with a dry soft cloth.

## Installation and Replacement of CRT Assembly



### How to remove CRT (the same for R, G, and B)

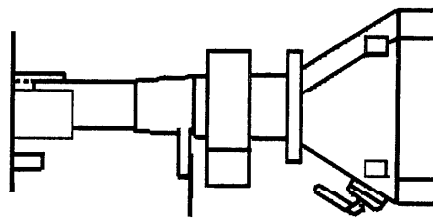
1. Remove Drive Board for CRT, S.V.M Coil and Deflection Yoke from CRT.
2. Remove Lens Assembly
3. Release CRT Anode from CRT.
4. Lift out CRT Assembly from CRT Rack.

To replace anode cable, refer to the "Service Instructions" shown as the follows.

Replace anode cable, and put enough silica gel around Anode Lid shown as the figure.

#### Service Instructions

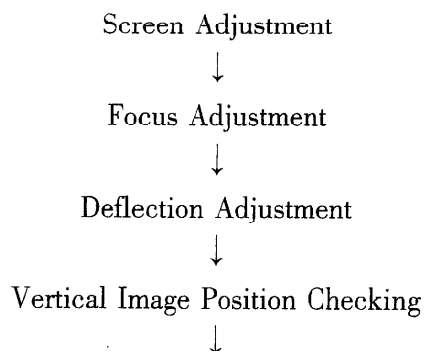
- ① In order to avoid making the Gun magnetized, do not use magnetized screwdriver to tighten/loosen screws on Deflection Yoke and Velocity-modulated Coil. Magnetized gun will degrade the set performance and cause user static convergence problem.



- ② When replacing Anode Lid Assembly (CRT) or Anode Leader Assembly (F.B.T), please remove Anode Leader Support from old Anode Leader and reinstall it on the new one.
- ③ Make sure that the end of Anode Leader is straight. Correct it if it bends.

### CRT parts adjustment

1. How to adjust CRT after replacement:



Horizontal Center /Horizontal Amplitude/ Pincushion Checking



Convergence Adjustment



YCbCr Vertical Position Adjustment



White Balance Adjustment



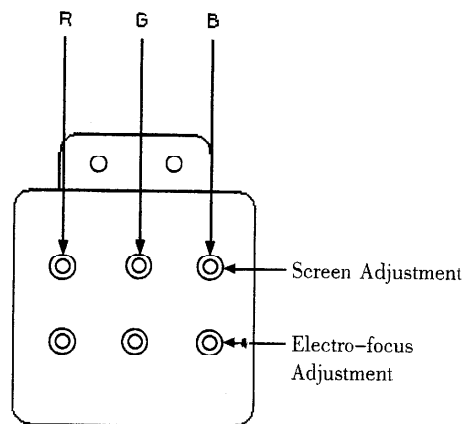
Sub-bright Adjustment

## 2. Screen Potentiometer Adjustment

- 1).After receiving white signal or no signal, set contrast and bright to minimum and blue back to OFF.
- 2).Adjust screen potentiometer for red, green and blue respectively to make the related projection tubes begin to emit light.

## 3. Optical Focus and Focus Potentiometer Adjustment

- 1).After receiving Philips pattern, set picture mode to Vivid.
- 2).Make Optical Focus Knob for red CRT lens adjustable. Enter convergence adjustment mode. When only red crosshatch picture appears on the screen, adjust the Knob to make red picture in optimum position. Then tighten the Knob.
- 3).Repeat the above procedures to adjust optical focus in green.
- 4).Repeat the above procedures to adjust optical focus in blue. Then exit the convergence mode.
- 5).After receiving Philips pattern, set picture mode to Vivid.
- 6).Adjust Focus Potentiometer for Red Gun on Focus Assembly to make red picture in optimum position. And make sure that horizontal dynamic focus is in optimum position, that is, focus at screen center and edge are the same.
- 7).Repeat the above procedures for adjusting green focus potentiometer.
- 8).Repeat the above procedures for adjusting blue focus potentiometer.



## 4. Deflection Adjustment

- 1).After receiving Philips pattern, and enter S and convergence adjustment modes. Press the MENU button to call up "Init Switch", and select "On". Call up "Init Data", and clear

coarse/fine-adjusted data for RAM of 6 channels in convergence IC by pressing the VOL+ button.

- 2). Loosen the screws on Deflection Yoke of green CRT with plusdriver. Rotate Deflection Yoke to make green picture straight. Then tighten the screws. Adjust the relative angle between two Magnetic Collars on Deflection Yoke to superimpose the horizontal and vertical lines in the center of green picture with the reference horizontal and vertical lines on the screen. Do not adjust the relative angle again.
- 3). Repeat the above procedures for adjusting deflection in red except superimposing the horizontal line in the center red picture with the reference horizontal line on the screen, but the vertical line is about 3cm on the left of the reference vertical line on the screen.
- 4). Repeat the above procedures for adjusting deflection in blue except superimposing the horizontal line in the center of blue picture with the reference horizontal on the screen, but the vertical line is about 3cm on the right of the reference vertical line on the screen.

#### 5. Vertical Image Position Checking

##### 1). Checking 60Hz interlaced scanning picture

After receiving Philips pattern, check vertical parameters of green picture. Adjust them according to the following procedures if they are abnormal.

- A. After entering S mode, press the MENU button to call up "V-WAIT". Press the -VOL+ buttons to set it to 20, and adjust V-SCROLL to make monochromatic border castellations on the top and bottom of the picture become uniform.
- B. Set "RBL" to "On", and call up "V-SLOPE". Press the -VOL+ buttons to make the center horizontal line on the picture just appears.
- C. Check the horizontal line in picture center on the basis of the reference vertical line. Call up "V-SHIFT" if necessary, and press the -VOL+ buttons to adjust it.
- D. Call up "V-AMP". Press the -VOL+ buttons to make the upper and lower border lines of the picture surpasses screen edges about 10mm.

##### 2). Adjusting 60Hz progressive DVD In picture

Input 60Hz progressive DVD signal and repeat the Step A to D.

#### 6. Horizontal center/Horizontal Amplitude/Pincushion Checking

##### 1). 60Hz Interlaced Scanning Video Checking

After receiving Philips pattern, set picture mode to Vivid. Check green picture for horizontal center, horizontal amplitude, keystone and pincushion distortion correction. Adjust them according to the following procedures if necessary.

- A. Call up H-SHIFT, and make the picture locate at the center of the screen (Try not to adjust parameter as much as possible.)
- B. Call up "EW-PARAW", and press the -VOL+ buttons to make the left and right vertical lines of the picture is somewhat pincushion- distorted.

- C. Call up "EW-WIDTH", and press -VOL + buttons to make the left and right border lines of the picture surpasses the screen edges about 1/3 of crosshatch.
- D. Call up "EW-TRAP", and press the -VOL+ buttons to trim keystone distortion of the picture.
- E. Call up "EW-UPCORN", and press the -VOL+ buttons to trim two up-corners of the picture.
- F. Call up "EW-DNCORN", and press the -VOL+ buttons to trim two down-corners of the picture.
- G. Call up "H-PARAM", and press the -VOL+ buttons to trim parallelogram distortion of the picture.
- H. Call up "H-BOW", and press -VOL+ buttons to trim bow distortion on the bending line on the top and straight line on the bottom of the picture.

2). Adjusting 60Hz Progressive DVD Input Picture

With input of 60Hz progressive DVD signal, repeat the Step A to H.

7. Convergence Adjustment ( Refer to Manual Convergence Adjustment)

8. YCbCr Vertical Position Adjustment

With receiving NTSC-60 Philips pattern from YUV signal source, call up "YCbCr-NVSP", and press the -VOL+ buttons to make vertical center of the picture locate the normal position of the screen.

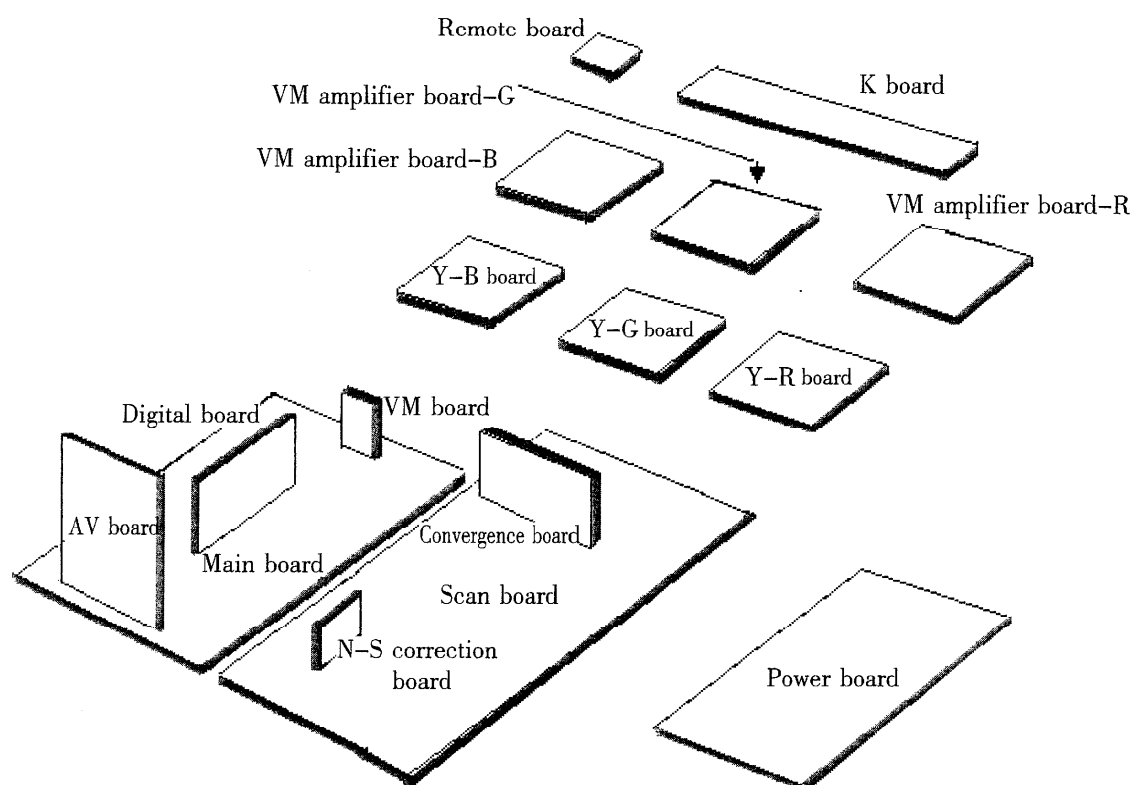
9. White Balance Adjustment

With receiving Toshiba pattern, set contrast to 100, color to 0, and bright to 100. Adjust "W-R, W-G, W-B, B-R and B-G" in S mode to make step signals on the center and bottom of Toshiba pattern have no obvious color cast.

10. Sub-brightness Adjustment

With receiving Toshiba pattern, set the picture mode to Vivid. Call up "SUB-BRIGHT" in S mode, and press the -VOL+ buttons to make the 7th crosshatch of gray scale of the picture center just appears.

## Chassis Circuit Board Distribution



Description	Functions
Main board	Main signal processing, and sound amplifying
Scan board	Scan, convergence amplifying and high voltage
Power board	Power supply to the set
AV board	AV interface and AUDIO processing
Convergence board	Convergence processing
Digital board	Digital inverter processing
Y-B,Y-R,Y-G board	CRT drive
K board,Remote board	Button, front AV and remote receiving
VM board	VM signal processing
N-S correction board	N-S pincushion processing
VM amplifier board(R,G,B)	VM signal amplification processing



## S Mode

### Enter S mode

1. Decrease volume to 0.
2. Press and hold the MUTE button until the color of "MUTE" changes. At the same time, press the MENU button on the front panel of RPTV to enter S mode.

### Display Adjustment Menu

Press the MENU button on the remote controller.

### Data Adjustment

1. Press the -CH+ buttons on the remote controller to call up the item to be adjusted.
2. Press the -VOL+ buttons to change data.

### Adjusted Parameters in S mode

Parameters	Value	Remarks
TDA9332 [00]		
RBL	OFF	
V-SLOPE	44	*
V-AMP	28	*
V-SHIFT	41	*
V-ZOOM	20	
S-COR	15	*
V-SCROLL	28	*
V-WAIT	20	
TDA9332 [01]		
H-SHIFT	42	*
H-PARAM	7	*
H-BOW	10	*
EW-WIDTH	21	*
EW-PARAW	21	*
EW-UPCORN	39	*
EW-DNCORN	54	*
EW-TRAP	47	*

Parameters	Value	Remarks
EW-EHT	20	
TDA9332 [02]		
W-R	19	*
W-G	50	*
W-B	20	*
B-R	10	*
B-C	15	*
CATHODE	10	
NV320 [03]		
NACQHLS	131	
NVSDLY	0	
NHSP	64	
NHBP	72	
NHAP	180	
NVSP	2	*
NVBP	26	
NVAP	124	
YCbCr NVSP	2	*
NV320 [05]		
Y-DLY-PAL	61	
Y-DLY-NTST	61	*
Y-DLY-SECAM	62	
DCTI	0	
DVCO CHECK	OK	*
OTHERS [06]		
OSD-H	40	*
OSD-V	60	*
SUB-CONTRAST	40	

Parameters	Value	Remarks
SUB-BRIGHT	40	*
SUB-COLOR	100	
SUB-VOLUME	70	
MSP [07]		
DBE-A-STR	127	
DBE-A-LIM	254	
DBE-A-HMC	127	
DBE-A-LP	5	
DBE-A-HP	30	
WARM-R	7	
COOL-B	7	
MIN-BRIGHT	5	
SERVE-MODE [08]		
INIT	Initiate main EEPROM data.	
INIT SWITCH	OFF	
POWER ON	OFF	
16:9	OFF	
LOGO ON	OFF	
Auto Black Balance	OFF	
AKB	OFF	
TDA9178 [09]		
ADA-BLK	05	
NON-LIN	05	
GAMMA	37	
PEAKING	16	
STEEPNESS	63	
CORING	15	
L-WIDTH	16	

Parameters	Value	Remarks
CONTROL1	125	
CONTROL2	17	
CONTROL3	17	
CONTROL4	17	

**Notes:**

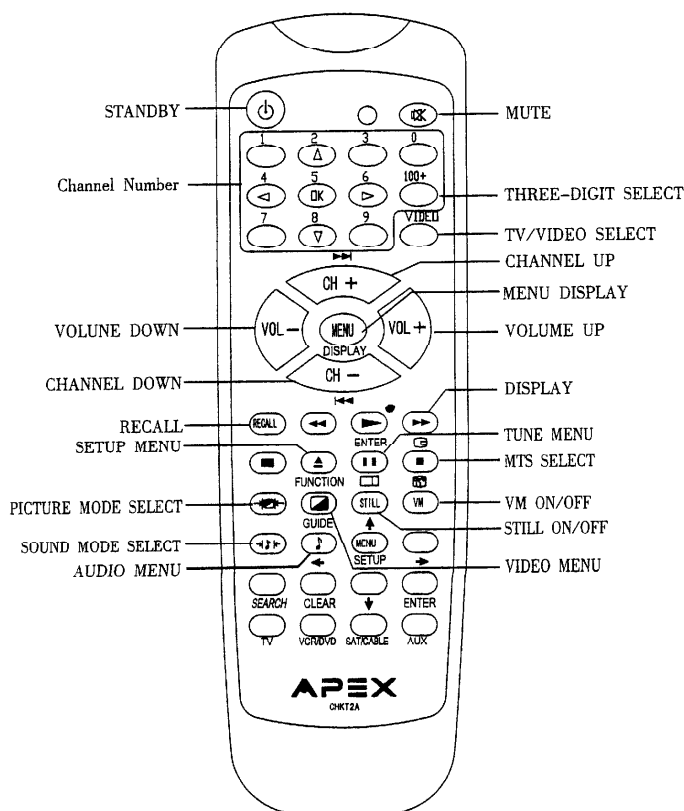
- ① You need only to adjust the items with the mark of \*.
- ② Some adjustment-free data above-mentioned will vary with type of projection tube or function. They are subject to the actual situation.
- ③ In the process of adjustment, do not perform "INIT" operation in S mode, otherwise written or adjusted data will be lost.

## Manual Convergence Adjustment

You have to make some adjustments like NTST (60Hz) and YPbPr with PU-1 chassis.

Note: Before performing convergence adjustment, make sure that geometry parameters of the picture are in optimum position at the times of clearing convergence data.

### Description of function keys on remote controller for convergence adjustment



1. VIDEO MENU: Change crosshatch color
2. AUDIO MENU: Change cursor color
3. SETUP MENU: Switch between dot and line
4. TUNE MENU: Superimpose crosshatch with picture
5. MUTE: Lock/move cursor
6. MENU: Adjust parameters
7. VOL+, VOL-, CH+, and CH-: Select/control parameters
8. RECALL: Return to S mode from convergence adjustment mode
9. TV/VIDEO SELECT: Return to User mode from convergence adjustment mode
10. 100+: Enter convergence adjustment mode from S mode.

### Convergence adjustment in NTSC-60 progressive scanning mode

I With receiving Philips pattern, volume to 0, press and hold MUTE button until the color of "MUTE" changes. At the same time, press MENU button on front panel of RPTV to enter "S" mode. Now press the 100+ button to enter the phase of convergence adjustment, the red convergence crosshatch displays in the screen, and then switch into green crosshatch signal.

1. Press the MENU button repeatedly to call up "Init Switch" and set it to "On". Call up "Init Data", and press the VOL+ button to clear adjusted data of the six channels in the RAM of convergence IC.
2. Adjustment of convergence center in green. Press the "TUNE MENU" button until the video image and crosshatch test signal overlaps on the screen. Press the MENU button to call up "DCGH" ( DCGV ), then press the -VOL+ buttons to make the center of green line (field) of testing pattern locate at the center of the screen, and conceal the video image.

### II Phase adjustment

1. Adjustment of H. fine adjustment and phase of horizontal test
  - 1). In state of crosshatch in green, the cursor switches to green. And press MUTE button until "P LOCK" appears. Now press the CH+ button to display the GV value of fine adjusted convergence at H#4/V#4 point as the maximum value on the screen.
  - 2). Press the MENU button to call up "FINE PHASE". Press the -VOL+ buttons to make the peak appear at the vertical line on the right of horizontal center.
  - 3). Press the MENU button to call up "TEST PHASE". Adjust the -VOL+ buttons to make the cursor locate at the peak.
  - 4). Reset GV value at H#4/V#4 to "0".
2. Setting of start lines of fine-adjusted convergence (setting of STARTLINES)

- 1). In the state of crosshatch in green, press the -VOL+ buttons to set the GH fine adjustment value at H#4/V#4 as maximum, and make the peak displays on the screen.
- 2). Press the MENU button to call up "STARTLINES", then press the -VOL+ buttons till the peak displays at the center of the field. (Note: "START LINES" value only can be odd number).
- 3). Return the GH Fine Adjustment Value at H#4/V#4 to "0".
3. Press the MENU button repeatedly to call up "KGV3", and press the -VOL button to set KGV3 as a larger data. If the cursor is off the horizontal center, call up "COARSE PHASE", then press the -VOL+ buttons to return the cursor to the original position.
4. Press the MENU button repeatedly to call up "KGH3", and press the -VOL+ buttons to set KGH3 as a larger data. If the cursor is off the vertical center, call up "VISTART", and then press the -VOL+ buttons to return the cursor to the original position.
5. Press the MENU button repeatedly till "VICOUNTUP" appears, and press -VOL+ buttons to make crosshatch signal basically be straight in the V/H direction.

### III. Coarse-adjustment of convergence

Press the MENU button repeatedly to select coarse adjustment order as follows:

1. Trim horizontal skew in green (KGH3).
2. Trim green horizontal pincushion distortion (KGH1)
3. Trim green horizontal amplitude (KGH2).
4. Trim green field pincushion distortion (KGV2).
5. Trim field keystone distortion (KGV1).
6. Trim green field skew (KGV3).

### IV. Fine-adjustment of convergence in green

Switch the cursor into green. Press the SETUP MENU button to select the dot or line adjustment. Press the MUTE button to move or fix the cursor (When OSD is "P MOVE" or "L MOVE", press -VOL+ or -CH+ buttons to move the cursor up, down, left and right. When OSD is "P LOCK" or "L LOCK", press the -VOL+ or -CH+ buttons to adjust the dot or line data.)

#### Notes:

- ① In the process of fine adjustment, the cursor will change into 3 colors automatically. Press the MUTE button after adjusting a data, the cursor will return to original color.
- ② It is recommended to perform trimming fine errors from the center of the screen toward outside area in circumference in accordance with such an order as whirlpool-shape, i.e. at first, trim fine error at the point of H#4/V#4 of the screen center, next trim each fine point in circumference around outside of the 8 dots, then trim other dot in the same way.
- ③ If adjusting one dot to increase fine error of nearby ones which are not adjusted, you

should adjust the data at your target dot to make the error of nearby ones in the permissible range. Otherwise the fine adjustment data of nearby point might not meet the requirement even if the data reaches maximum.

- ④ You can save the adjusted data. Press the MENU button repeatedly to call up "SAVE DATA", and press the VOL+ button to display "DATA OK", then the data is saved.
- ⑤ When adjusting the parameters of coarse and fine adjustment in green, it will activate the convergence of the other two guns at the same time.

#### V. Adjustment of convergence in red

1. In convergence mode, switch crosshatch state into red and green. Adjust "DCRH" and "DCRV" of coarse adjustment convergence, so that overlap the center of line-field in red with center of line-field in green.
2. Trim horizontal skew in red (KRH2)
3. Trim horizontal linearity distortion in red (KRH1)
4. Trim horizontal amplitude in red (KRH3)
5. Trim field keystone in red (KRV1)
6. Trim field skew in red (KRV2)
7. Adjusting procedures of fine adjustment data in red is the same as that in green, but crosshatch on the screen becomes yellow.

#### VI. Adjustment of convergence in blue

1. In convergence mode, switch crosshatch state into red and blue. Adjust "DCBH" and "DCBV" of coarse adjustment convergence. Press the -VOL+ buttons so that horizontal/vertical center in blue locates at the screen center.
2. Trim horizontal skew in blue (KBH2).
3. Trim horizontal linearity distortion in blue (KBH1).
4. Trim horizontal amplitude in blue (KBH3).
5. Trim field keystone in blue (KBV1).
6. Trim field skew in blue (KBV2).
7. Adjusting procedures of fine adjustment data in blue is the same as that in green, but superimpose the blue and the red.

#### VII. Saving

1. Press the MENU button to call up "Save Data" to save the adjusted data.
2. After confirming the adjustment results, call up "Save Backup" to save the adjusted data.

## Convergence Adjustment in YPbPr Mode

1. Input 480p progressive signal.
2. Repeat the above procedures for adjusting.

Parameters	Value	
	GB4308	GB5108
P-MODE[00]		
STEP	3	3
VISTART	1	1
VICOUNTUP	31	31
COARSE PHASE	18	18
STARTLINE	37	37
FINE PHASE	207	209
HDF PHASE	08	8
TEST PHASE	68	67
P-MODE[01]		
DCRH	00A9	00A0
KRH1	02D9	02D0
KRH2	0000	0000
KRH3	03D8	03E0
KRH4	0075	0060
DCRV	0000	0000
KRV1	0110	0120
KRV2	0000	0000
P-MODE[02]		
DCGH	0000	0000
KGH1	0000	0000
KGH2	0000	0000
KGH3	0000	0000
DCGV	0000	0000
KGV1	0000	0000
KGV2	0000	0000



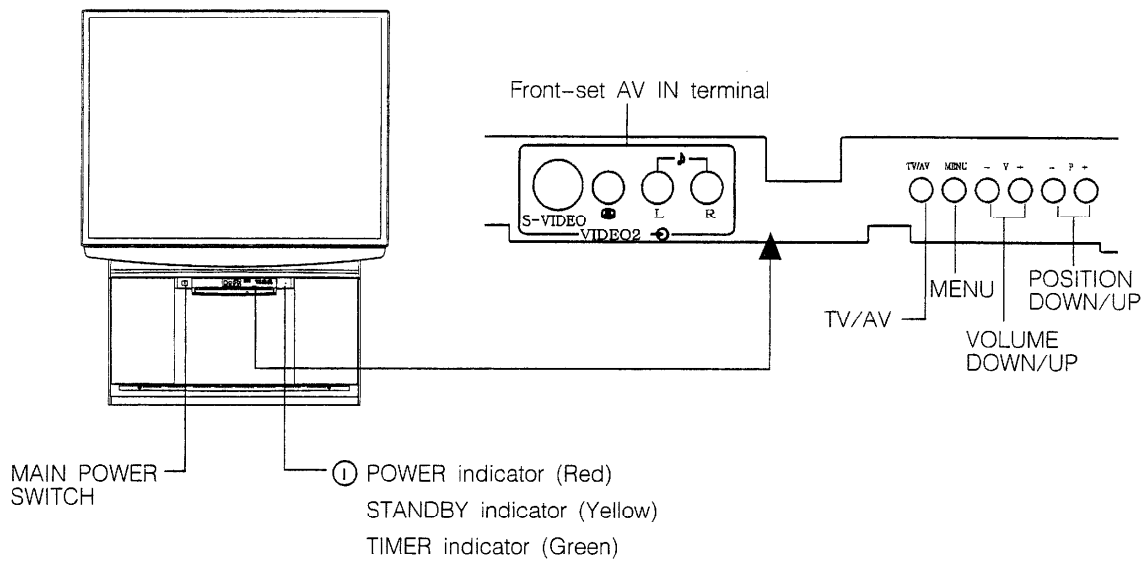
Parameters	Value	
	GB4308	GB5108
KGv3	0000	0000
P-MODE[03]		
DCBH	03A9	0390
KBH1	00EA	0100
KBH2	0000	0000
KBH3	03D8	03E0
KBH4	0393	0389
DCBV	0000	0000
KBV1	02E8	02C0
KBV2	0000	0000
KDF1	0000	0000
KDF2	0126	005A
P-MODE[04]		
SAVE DATA(Save Data)		
INIT DATA(Initiate Data)		
COPY DATA TO YPbPr(Copy data to YPbPr mode)		
LOAD DATA(Load the current convergence data)		
SAVE BACKUP(Copy backup data)		
LOAD BACKUP(Load the current backup data)		
INIT SWITCH(Initiate the current data switch)	OFF	OFF

**Notes:**

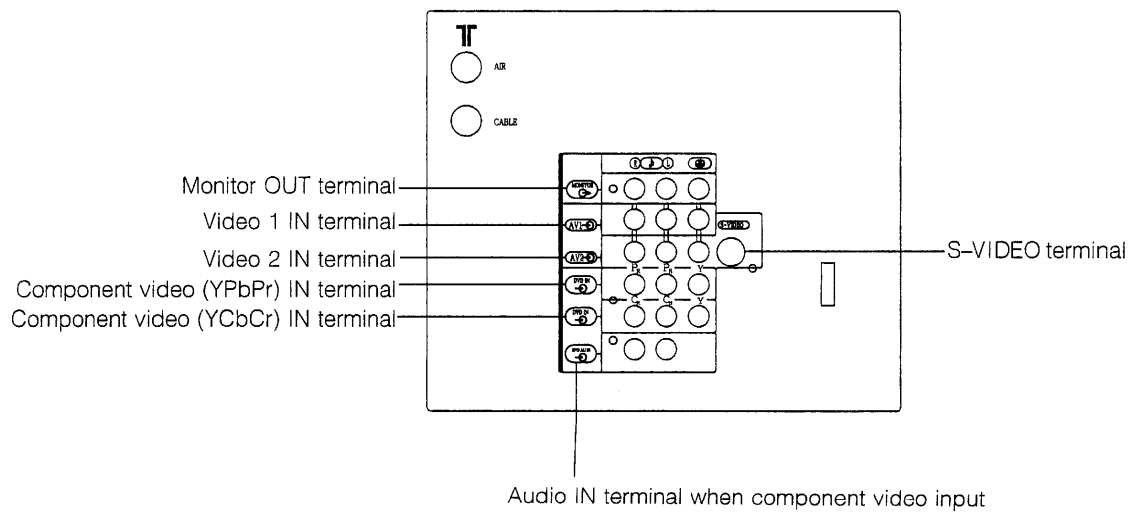
- ① Press the MENU button on the remote controller repeatedly in convergence adjustment mode until P-MODE[04] appears. Press the -CH+ buttons to highlight the item to be adjusted, and press the -VOL+ buttons to adjust.
- ② Some data above-mentioned will vary with type of projection tube or function. They are subject to the actual situation.
- ③ In the process of adjustment, do not perform "INIT" operation in S mode, otherwise written or adjusted data will be lost.

## Location of Controls (Typical model: GB5108)

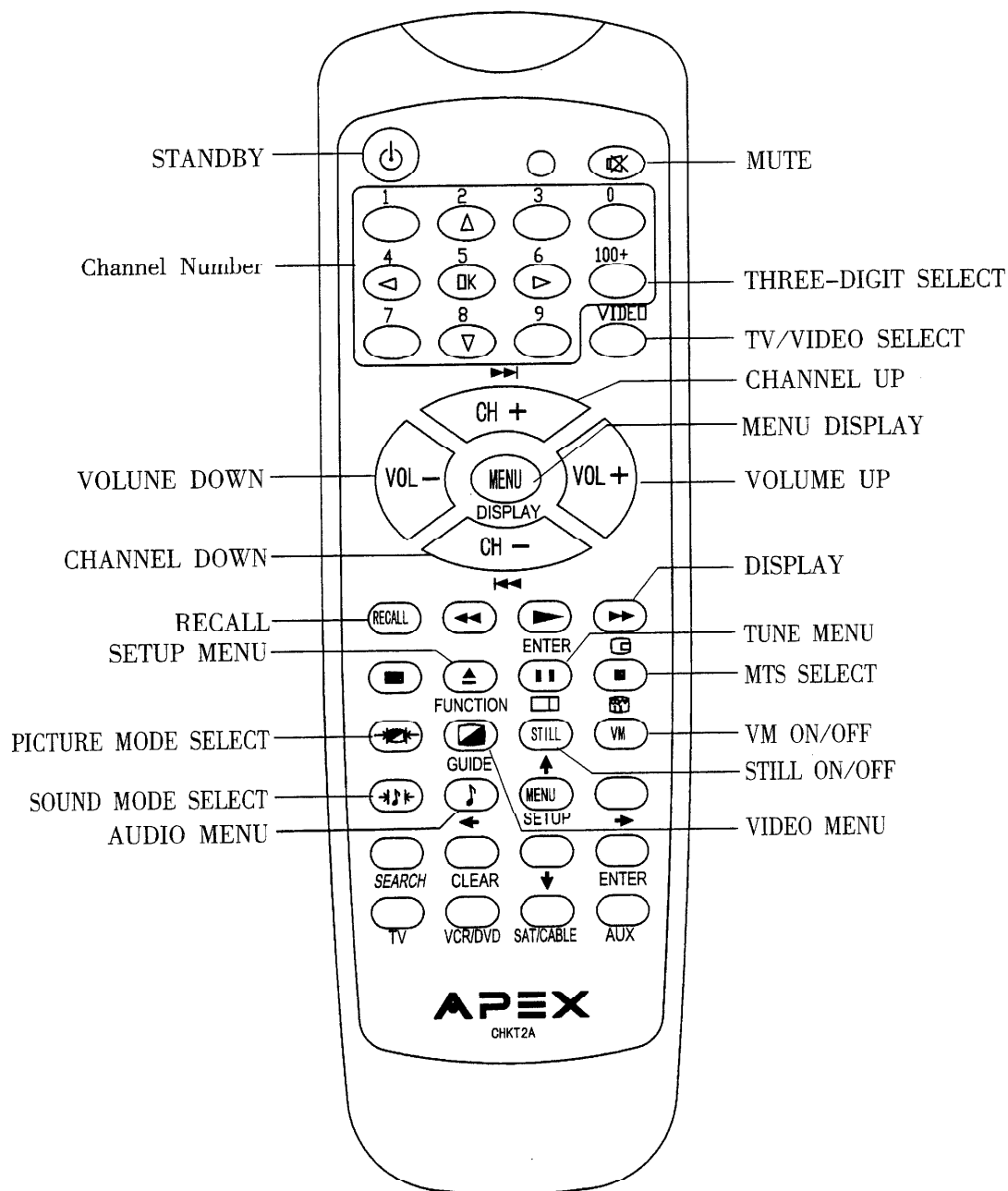
### Front panel



### Rear panel



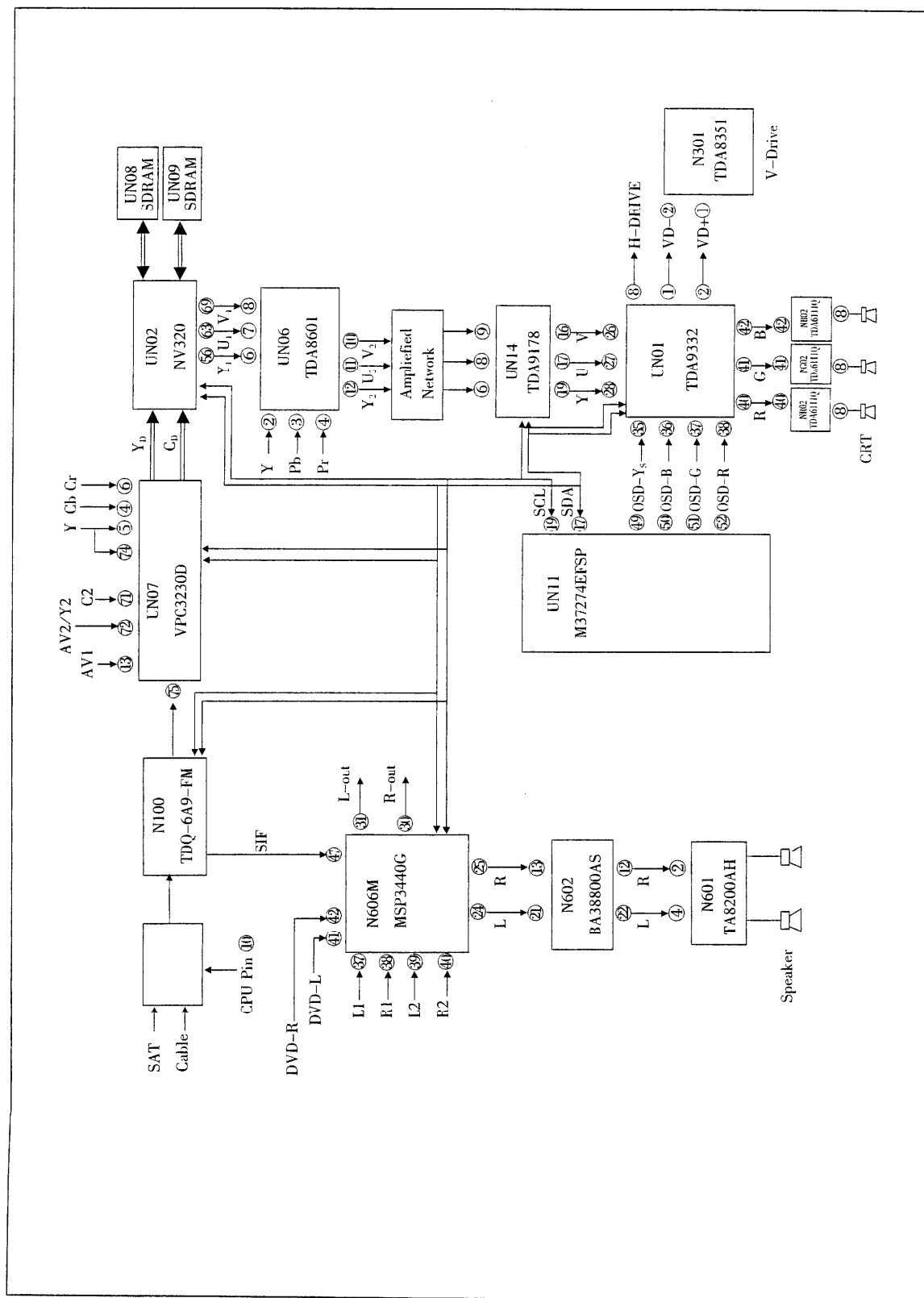
## Remote controller



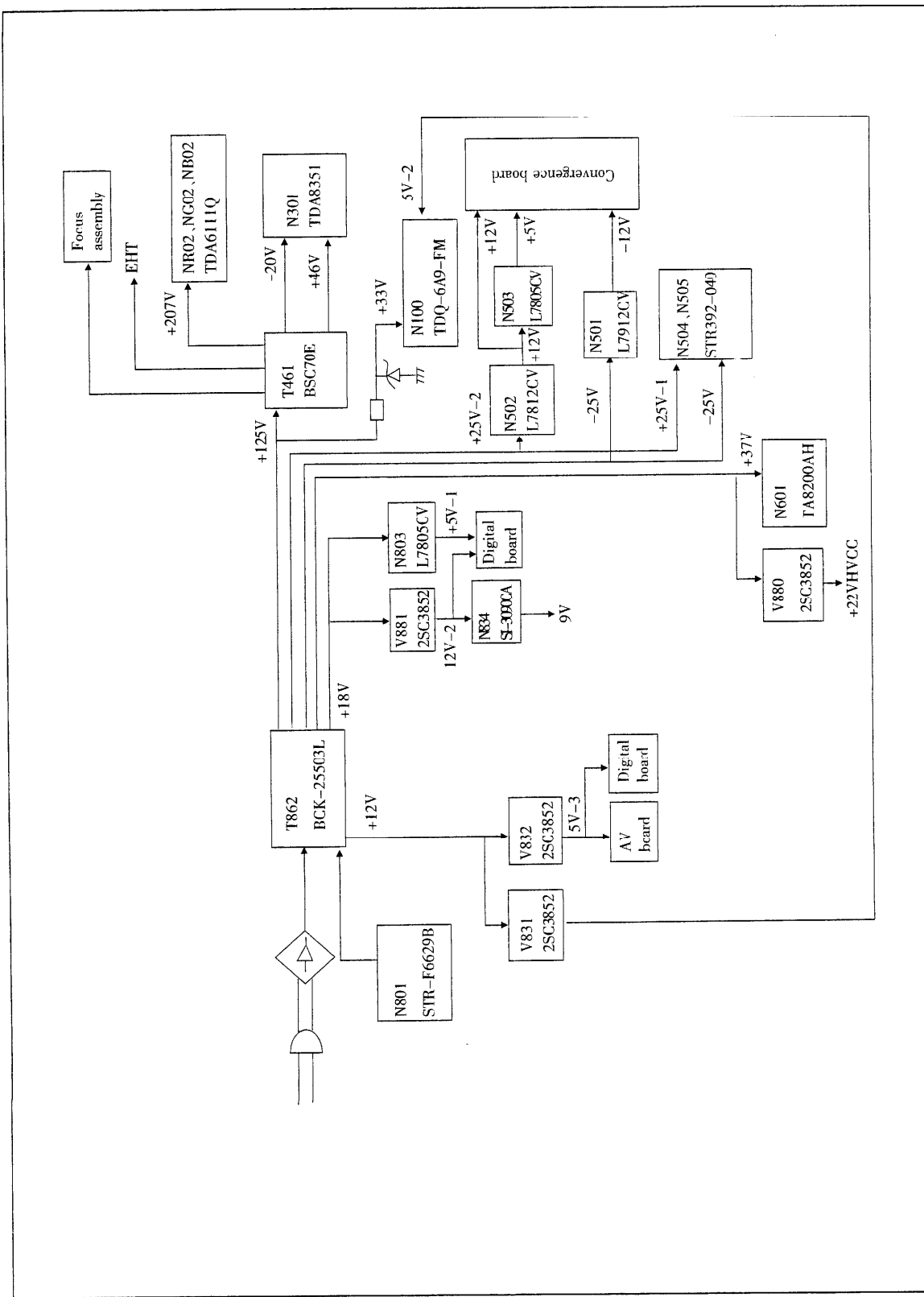
## Note:

The button design and specifications of the remote controller are subject to change without notice.

## Signal Flowchart

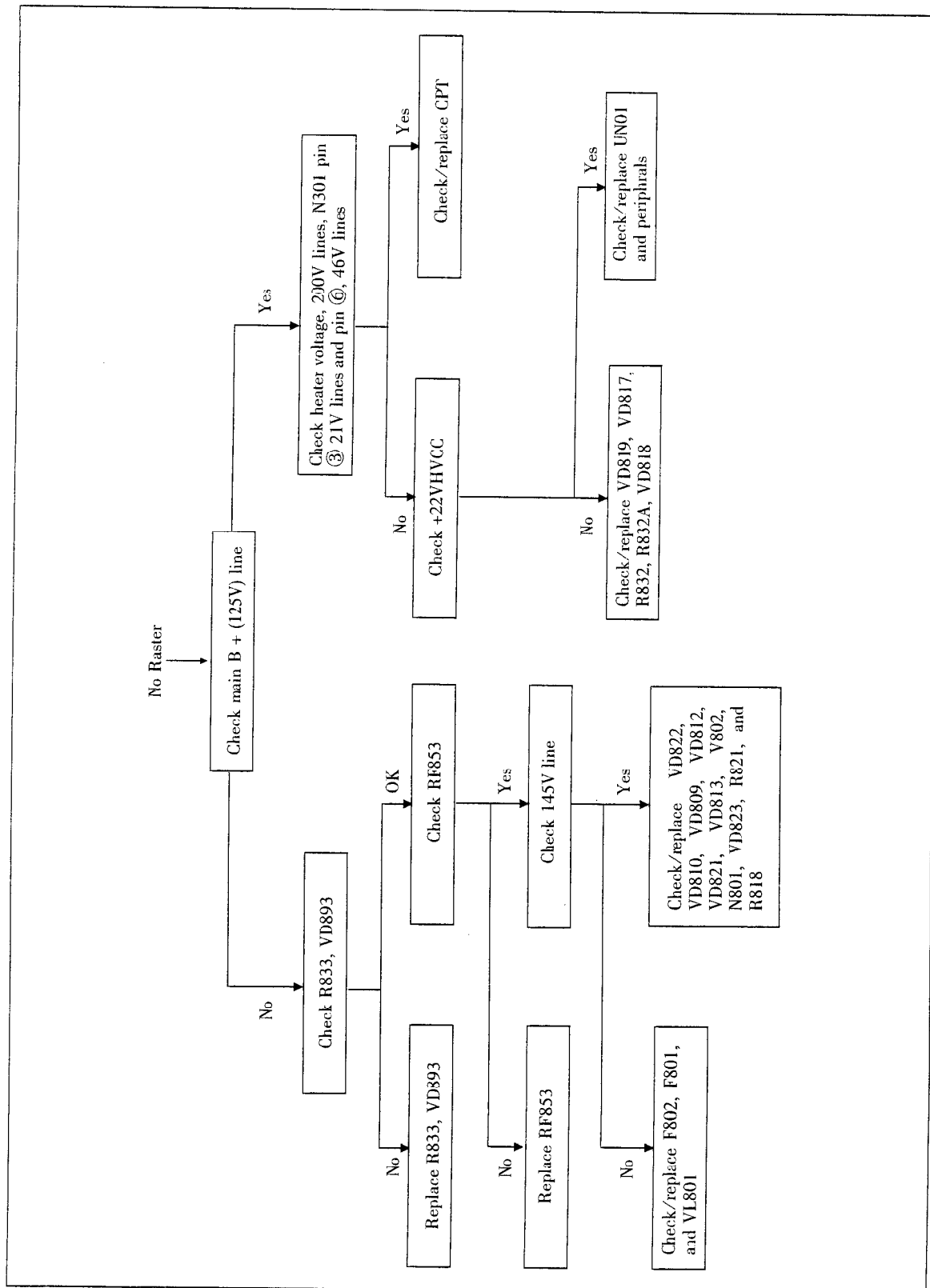


## Power Supply



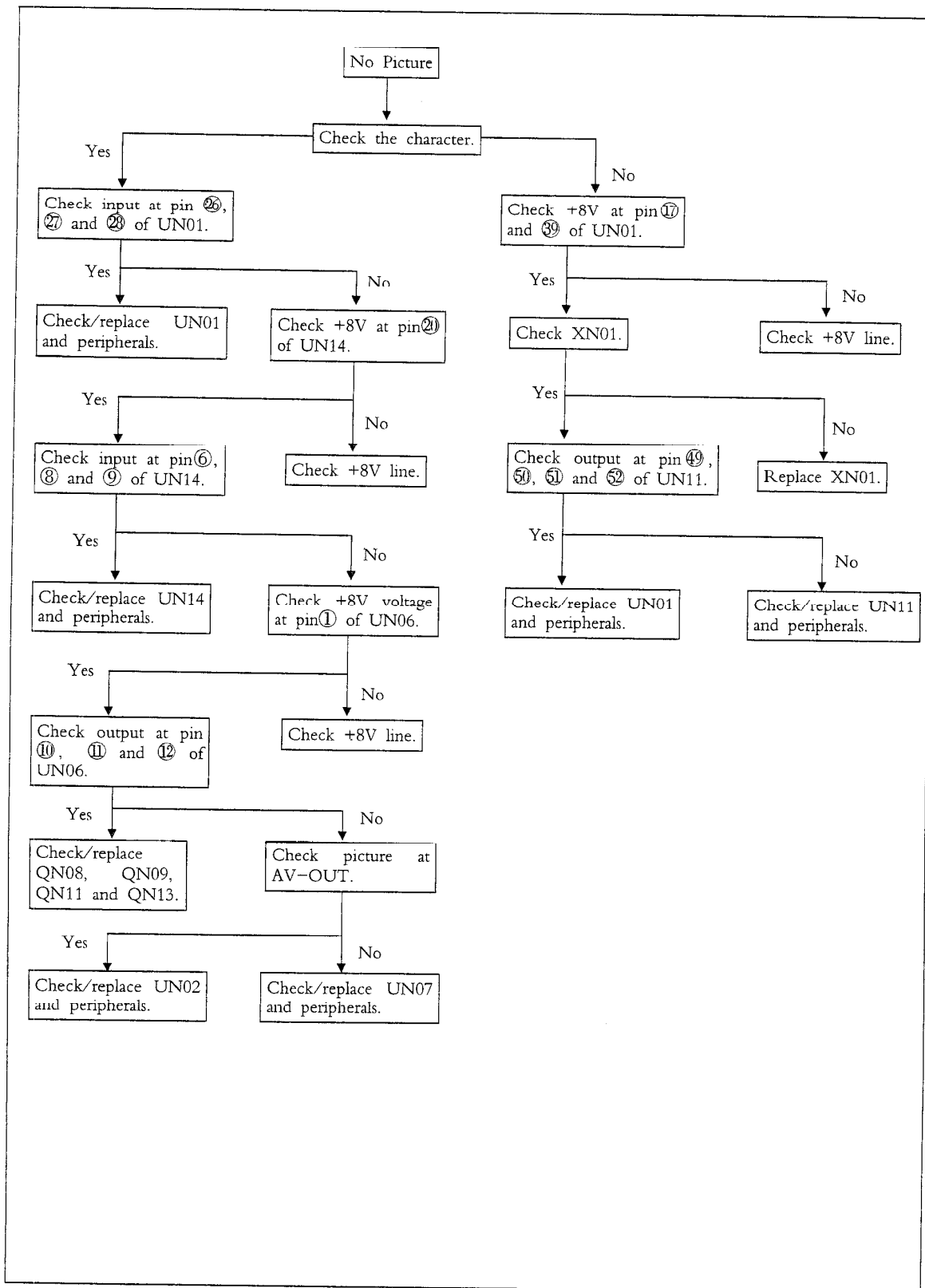
# Troubleshooting Charts

No Raster



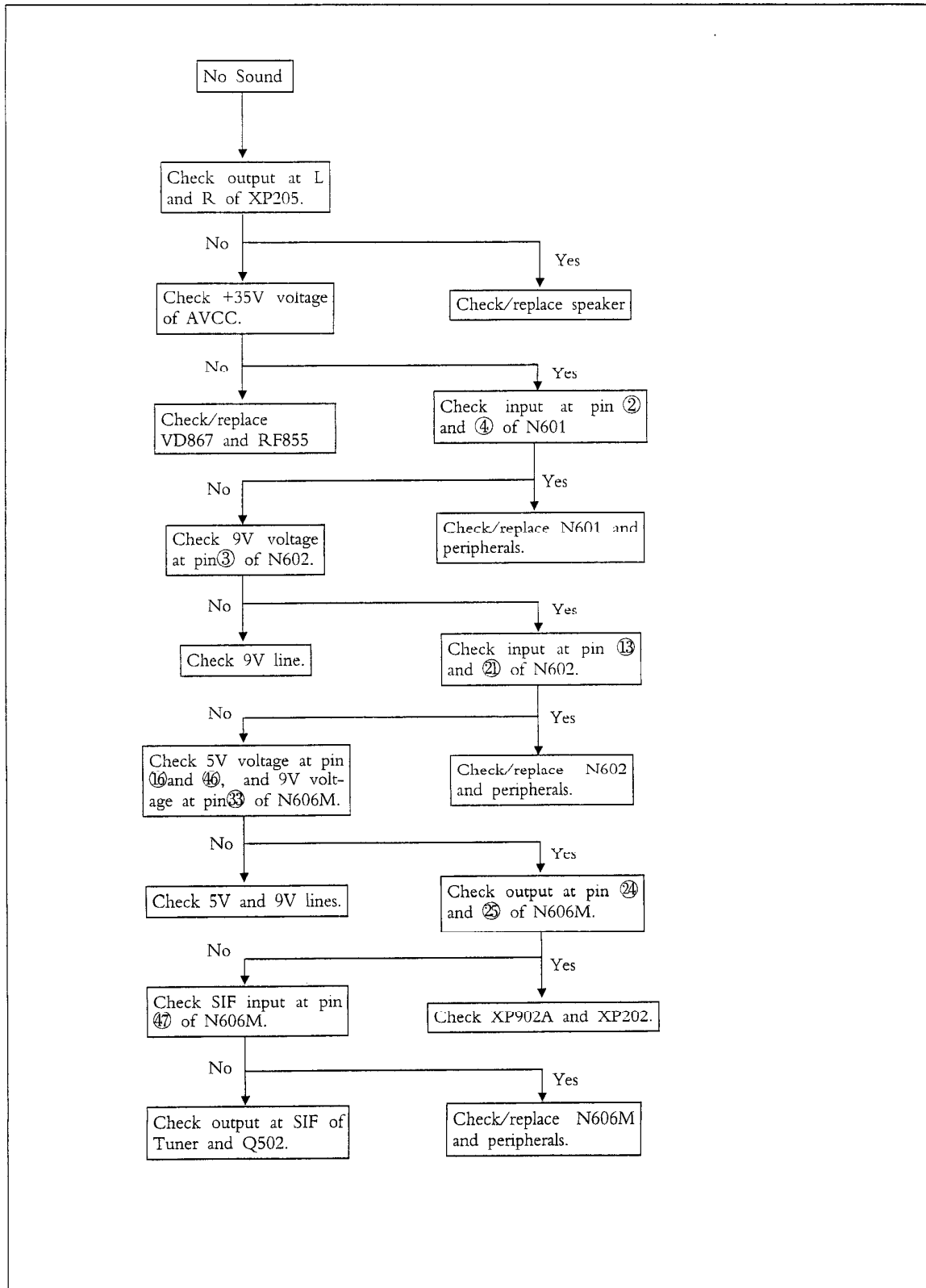
## Troubleshooting Charts

### No Picture



## Troubleshooting Charts

### No Sound



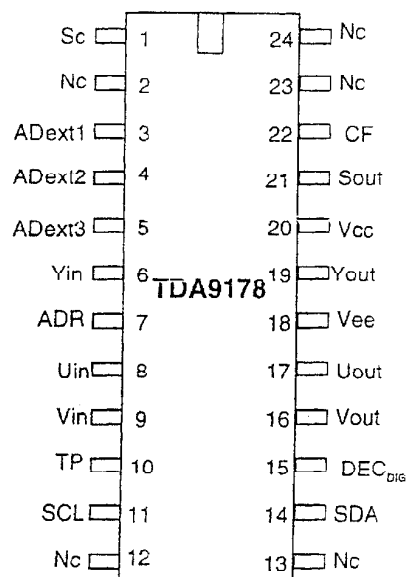


## Characteristics of Pins of Main ICs

### TDA9178

The TDA9178 is a transparent analog video processor with YUV input and output interfaces. It offers three main functions: luminance vector processing, color vector processing and spectral processing.

1	Sc	Sandcastle input pin
2	Nc	Not connected pin
3	ADext1	External AD-conversion #1 input pin
4	ADext2	External AD-conversion #2 input pin
5	Adext3	External AD-conversion #3 input pin
6	Yin	Luminance input pin
7	ADR	Address selection input pin
8	Uin	-(B-Y) signal input pin
9	Vin	-(R-Y) signal input pin
10	TP	Testpin connected to ground
11	SCL	I <sup>2</sup> C-bus: clock input pin
12	Nc	Not connected pin
13	Nc	Not connected pin
14	SDA	I <sup>2</sup> C-bus: data input pin
15	DECDIG	Decoupling digital supply
16	Vout	-(R-Y) signal output pin
17	Vout	-(B-Y) signal output pin
18	Vee	Ground pin
19	Yout	Luminance output pin
20	Vcc	Supply-voltage pin
21	Sout	Luminance output for SCAVEM
22	CF	Cue-flash output pin
23	Nc	Not connected pin
24	Nc	Not connected pin



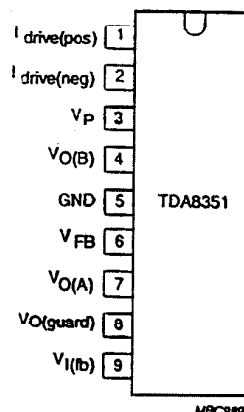
Pin Configuration

**TDA8351**

DC-coupled vertical deflection circuit

**Pinning**

Symbol	Pin	Description
$I_{drive(pos)}$	1	input power-stage(positive); includes $I_{I(sb)}$ signal bias
$I_{drive(neg)}$	2	input power-stage(negative); includes $I_{I(sb)}$ signal bias
$V_p$	3	operating supply voltage
$V_{O(B)}$	4	output voltage B
GND	5	ground
$V_{FB}$	6	input flyback supply voltage
$V_{O(A)}$	7	output voltage A
$V_{O(guard)}$	8	guard output voltage
$V_{I(fb)}$	9	input feedback voltage



Metal block connected to substrate pin 5.  
Metal on back.

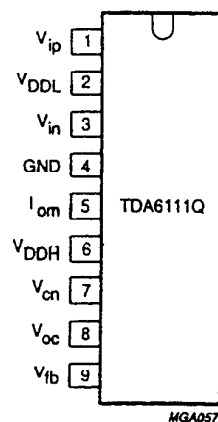
Pin configuration.

**TDA6111Q**

The TDA6111Q is a video output amplifier with 16 MHz bandwidth. The device is contained in a single in-line 9-pin medium power (DBS9MPF) package. using high-voltage DMOS technology, intended to drive the cathode of a color CRT.

**Pinning**

Symbol	Pin	Description
$V_{ip}$	1	non-inverting voltage input
$V_{DDL}$	2	supply voltage LOW
$V_{in}$	3	inverting voltage input
GND	4	ground, substrate
$I_{om}$	5	black current measurement output
$V_{DDH}$	6	supply voltage HIGH
$V_{cn}$	7	cathode transient voltage output
$V_{oc}$	8	cathode DC voltage output
$V_{fb}$	9	feedback voltage output



Pin configuration.

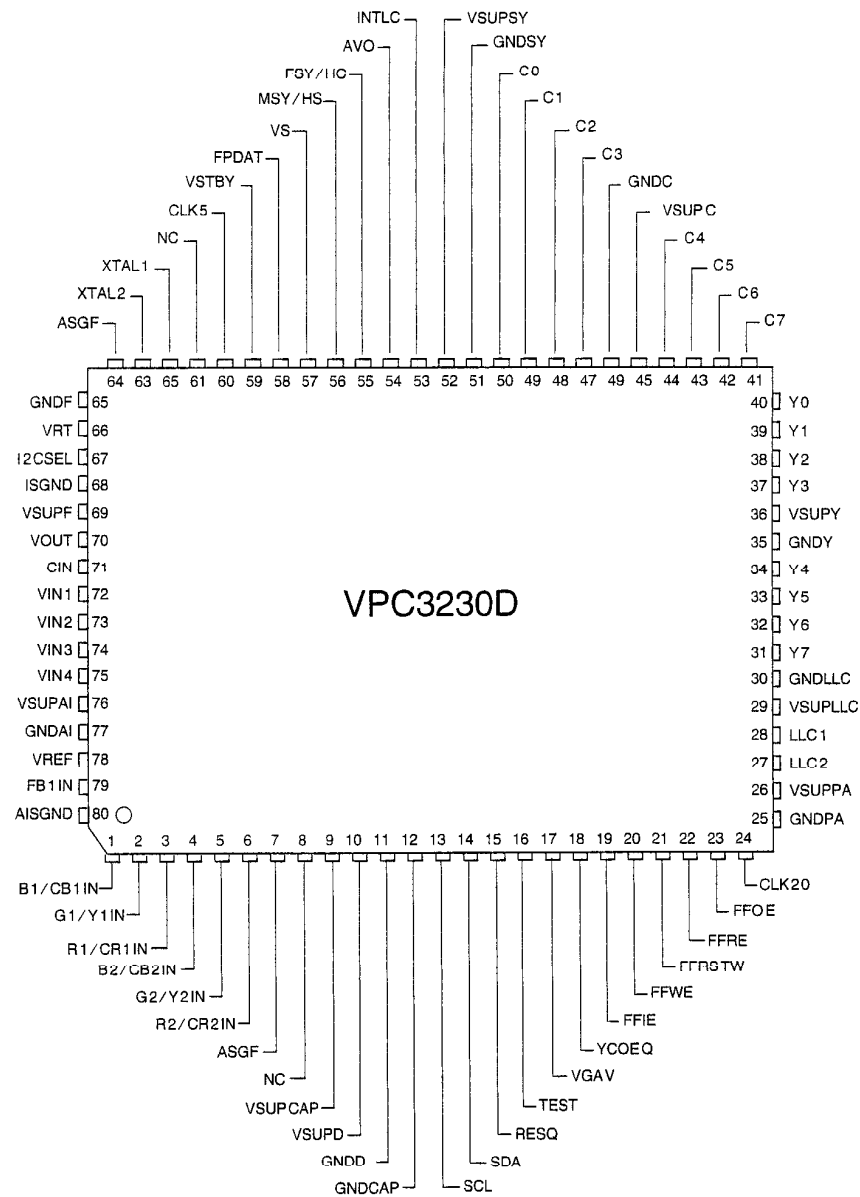
**VPC3230D**

Comb filter video processor

Pin No. PQFP 80-pin	Pin Name	Short Description
1	B1/CB1IN	Blue1/Cb1 analog component input
2	G1/Y1IN	Green1/Y1 analog component input
3	R1/CR1IN	Red1/Cr1 analog component input
4	B2/CB2IN	Blue2/Cb2 analog component input
5	G2/Y2IN	Green2/Y2 analog component input
6	R2/CR2IN	Red2/Cr2 analog component input
7	ASGF	Analog shield GND <sub>F</sub>
8	FFRSTWIN	NC
9	V <sub>SUPCAP</sub>	Digital decoupling circuitry supply voltage
10	V <sub>SUPD</sub>	Supply voltage, digital circuitry
11	GND <sub>D</sub>	Ground, digital circuitry
12	GND <sub>CAP</sub>	Digital decoupling circuitry GND
13	SCL	I <sup>2</sup> C bus clock
14	SDA	I <sup>2</sup> C bus data
15	RESQ	Reset input, active low
16	TEST	Test pin, connected to GNDD
17	VGAV	NC
18	YCOEQ	Y/C output enable input, active low
19	FFIE	NC
20	FFWE	NC
21	FFRSTW	NC
22	FFRE	NC
23	FFOE	NC
24	CLK20	NC
25	GND <sub>PA</sub>	Pad decoupling circuitry GND
26	V <sub>SUPPA</sub>	Pad decoupling circuitry supply voltage
27	LLC2	NC

Pin No. PQFP 80-pin	Pin Name	Short Description
28	LLC1	Clock output
29	V <sub>SUPLLC</sub>	Supply voltage, LLC circuitry
30	GND <sub>LLC</sub>	Ground, LLC circuitry
31	Y7	Picture bus luma (MSB)
32	Y6	Picture bus luma
33	Y5	Picture bus luma
34	Y4	Picture bus luma
35	GND <sub>Y</sub>	Ground, luma output circuitry
36	V <sub>SUPY</sub>	Supply voltage, luma output circuitry
37	Y3	Picture bus luma
38	Y2	Picture bus luma
39	Y1	Picture bus luma
40	Y0	Picture bus luma (LSB)
41	C7	Picture bus luma(MSB)
42	C6	Picture bus chroma
43	C5	Picture bus chroma
44	C4	Picture bus chroma
45	V <sub>SUPC</sub>	Supply voltage, chroma output circuitry
46	GND <sub>C</sub>	Ground, chroma output circuitry
47	C3	Picture bus chroma
48	C2	Picture bus chroma
49	C1	Picture bus chroma
50	C0	Picture bus chroma(LSB)
51	GND <sub>SY</sub>	Ground, sync pad circuitry
52	V <sub>SUPSY</sub>	Supply voltage, sync pad circuitry
53	INTLC	NC
54	AVO	Active video output
55	FSY/HC/HSYA	Front sync/horizontal clamp pulse/front -end horizontal sync output
56	MSY/HS	Main sync/horizontal sync pulse

Pin No. PQFP 80-pin	Pin Name	Short Description
57	VS	Vertical sync pulse
58	FPDAT/VSYA	NC
59	V <sub>STRV</sub>	Standby supply voltage
60	CLK5	NC
61	NC	NC
62	XTAL1	Analog crystal output
63	XTAL2	Analog shield GNDF
64	ASGF	Ground, analog front-end
65	GND <sub>F</sub>	Reference voltage top, analog
66	VRT	I <sup>2</sup> C bus address select
67	12CSEL	Signal ground for analog input, connect to GND <sub>F</sub>
68	ISGND	Supply voltage, analog front-end
69	V <sub>SUPF</sub>	Analog video output
70	VOUT	Chroma/analog video 5 input
71	CIN	Video 1 analog input
72	VIN1	Video 2 analog input
73	VIN2	Video 3 analog input
74	VIN3	Video 4 analog input
75	VIN4	Supply voltage, analog component inputs front-end
76	V <sub>SUPAI</sub>	Ground, analog component inputs front-end
77	GND <sub>AI</sub>	Reference voltage top, analog component inputs front-end
78	VREF	Fast blank input
79	FB1IN	Signal ground for analog component inputs, connect to GND <sub>AI</sub>
80	AISGND	NC



Pin configuration.

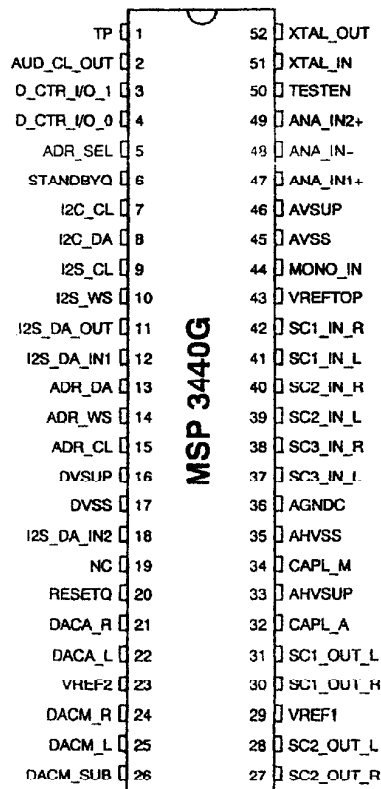
## MSP3440G

Multistandard sound processor

## Pinning

Pin NO.	Pin Name	Short Description
1	TP	Test pin
2	AUD_CL_OUT	Audio clock output
3	D_CTR_I/O_1	D_CTR_I/O_1
4	D_CTR_I/O_0	D_CTR_I/O_0
5	ADR_SEL	I <sup>2</sup> C bus address select
6	STANDBYQ	Stand-by(low-active)
7	I2C_CL	I <sup>2</sup> C clock
8	I2C_DA	I <sup>2</sup> C data
9	I2S_CL	I <sup>2</sup> S clock
10	I2S_WS	I <sup>2</sup> C word strobe
11	I2S_DA_OUT	I <sup>2</sup> S data output
12	I2S_DA_IN1	I <sup>2</sup> S1 data input
13	ADR_DA	ADR data output
14	ADR_WS	ADR word strobe
15	ADR_CL	ADR clock
16	DVSUP	Digital power supply 5V
17	DVSS	Digital ground
18	I2S_DA_IN2	I <sup>2</sup> S2 data input
19	NC	NC
20	RESETQ	Power-on-reset
21	DACA_R	Headphone output,right
22	DACA_L	Headphone output,left
23	VREF2	Reference ground 2
24	DACM_R	Loudspeaker out,right
25	DACM_L	Loudspeaker out,left
26	DACM_SUB	Subwoofer output
27	SC2_OUT_R	SCART output 2,right
28	SC2_OUT_L	SCART output 2,left
29	VREF1	Reference ground 1
30	SC1_OUT_R	SCART output 1,right
31	SC1_OUT_L	SCART output 1,left
32	CAPL_A	Volume capacitor AUX
33	AHVSUP	Analog power supply 8V
34	CAPL-M	Volume capacitor MAIN
35	AHVSS	Analog ground
36	ADNDC	Analog reference voltage

37	SC3_IN_L	SCART 3 input,left
38	SC3_IN_R	SCART 3 input,right
39	SC2_IN_L	SCART 2 input,left
40	SC2_IN_R	SCART 2 input,right
41	SC1_IN_L	SCART 1 input,left
42	SC1_IN_R	SCART 1 input,right
43	VREFTOP	Reference voltage IF A/D converter
44	MONO_IN	Mono input
45	AVSS	Analog ground
46	AVSUP	Analog power supply 5V
47	ANA_IN1+	IF input 1
48	ANA_IN-	IF common
49	ANA_IN2+	IF input 2
50	TESTEN	Test pin
51	XTAL_IN	Crystal oscillator
52	XTAL_OUT	Crystal oscillator



Pin configuration.

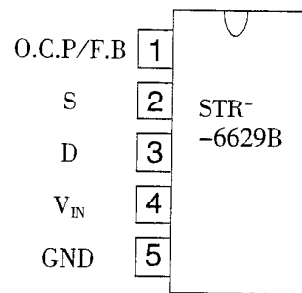


## STR-F6629B

## MOS FET

## Pinning

Terminal	Symbol	Description	Functions
1	O.C.P/E.B	Overcurrent/Feedback terminal	Input of overcurrent detection signal and constant voltage control signal
2	S	Source terminal	MOS FET source
3	D	Drain terminal	MOS FET drain
4	V <sub>IN</sub>	Power supply terminal	Input of power supply for control circuit
5	GND	Ground terminal	Ground



Pin configuration.

## NV320

Video enhancement processor

Pinning

Table 1. System Interface

Pin Name	Type	Pin No.	Description
/RESET	I	204	Reset input. Asserting this active low signal will asynchronously initialize the chip to a known state. This signal has to be asserted for a minimum of 100us after power up.
RFLOCK	I	114	Refresh lock. When asserted, the Refresh-Mode bits in the mode register cannot be programmed. This is a static configuration pin.
I2C3W	I	116	This pin selects the host interface protocol. A "0" will select the I2C protocol. Tie low for normal operation.
SCS	I	115	Chip select. This pin is used in the 3-wire mode for selecting the NV320 for programming. Tie low for normal operation.
/TEST	I	107	Test pin. Tie low for normal operation.
SCL	I/O	35	2-WIRE clock line. Open drain.
SDA	I/O	34	2-WIRE data line. Open drain.
CSA[1:0]	I	119,118	2-WIRE control-bus address configuration.
XTALI	I	133	External crystal input. This pin is connected to a 10MHz crystal.
XTALO	O	132	External crystal input. This pin is connected to a 10MHz crystal.

Table 2. System Power

Pin Name	Type	Pin No.	Description
PVDD(17)	P	3,11,19,31,40,48,61,83,93,104,112,121,130,144,153,162,170	+3.3V power supply pin for output buffers.
PVSS(17)	P	7,15,23,36,44,53,79,89,98,108,117,126,139,148,157,166,207	Ground pin for output buffers.
VDD(4)	P	28,85,131,182	Power supply pins for internal cores.
VSS(4)	P	25,78,134,177	Ground pins for internal cores.

Table 3. Memory Interface

Pin Name	Type	Pin No.	Description
CLK	O	22	Memory clock output
A[10:0]	O	127,26,125,29,30,32,33,120,122,123,124	Memory address.
DQ[31:0]	I/O	149,150,151,152,154,155,156,158,138,140,141,142,143,145,146,147,10,12,13,14,16,17,18,20,208,1,2,4,5,6,8,9	Memory data. These pins have built-in pull-up resistors to maintain a stable logic when the SGRAM is idle.
/CS	O	128	Memory chip select output.

/RAS	O	129	Memory row address strobe output.
/CAS	O	135	Memory column address strobe output
/WE	O	136	Memory write enable output.
DQM[1:0]	O	137,21	Memory DQ mask enable outputs.

Table 4. Video Inputs

Pin Name	Type	Pin	Description
LLC	I	202	Line-lock clock (27MHz) or acquisition PLL reference clock (13.5MHz or 6.75MHz).
CREF	I	201	Clock reference input. This signal is used in the line-lock mode to qualify data input.
HREF	I	200	Horizontal reference input signal. This signal is used in the line-locked modes. An active level indicates active region of a line.
VS	I	198	Vertical sync input. This active-high signal is used for acquisition mode.
HS/CLP	I	199	Horizontal sync or clamp input. This active-high signal is used for acquisition mode to determine the current field.
ODD	I	197	Odd field flag. A "1" indicates that the odd field (field 1) is being scanned in. This signal is used in line-locked modes only.
Y[7:0]	I	197,178,176, 175,174,173, 172,171	Input data Y [7:0]. Y data in line-locked and acquisition modes.
U[7:0]	I	188,187,186, 185,184,183, 181,180	Input data U [7:0]. U data in 4:4:4 acquisition mode.
V[7:0]	I	196,195,194, 193,192,191, 190,189	Input data V[7:0]. UV data in line-locked and 4:2:2/4:1:1 acquisition mode. See Table 1 and Table 2.
DVDCLL	I	159	DVD line-lock clock. 27MHz.
DVDHS	I/O	164	DVD Horizontal sync.
DVDVS	I/O	165	DVD Vertical sync.
DVDB	I/O	163	DVD Blank.
LLA	I	24	Acquisition reference clock (13.5MHz or 6.75MHz). The phase of this reference clock tracks the HS signal closely.
HRA	O	27	PLL feedback signal. It is used as a feedback signal for the external PLL.
CLKO	O	169	Clock output 13.5MHz for the external ADC.
CLPO	O	167	Clamp control signal output (acquisition part for ADC).
HREFO	O	168	Horizontal reference signal output ( acquisition part for ADC).
HRC	O	203	Horizontal reference output. This is a feedback signal for the external PLL used in acquisition modes.
PLLFS	I	113	Select external PLL output frequency. Selecting 0 will make pins LLC and LLA accept 6.75MHz. Selecting 1 will make pins LLC and LLA accept 13.5MHz.

Table 5. PLL Power

Pin Name	Type	Pin	Description
P1VDD	P	102	PLL1 analog power supply pins +3.3V.
P2VDD	P	206	PLL2 analog power supply pins +3.3V.
P3VDD	P	160	PLL3 analog power supply pins +3.3V.
P1GND	P	101	PLL1 analog ground pins.
P2GND	P	205	PLL2 analog ground pins.
P3GND	P	161	PLL3 analog ground pins.

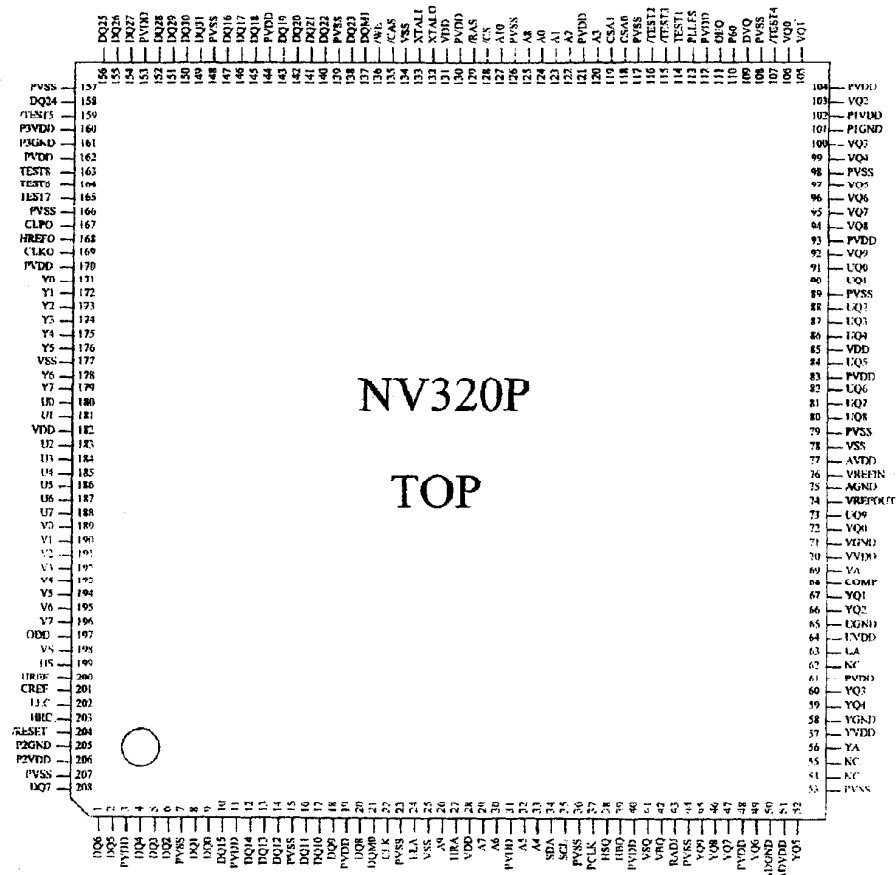
Table 6. Digital Video Display

Pin Name	Type	Pin	Description
P60	I	110	PAL mode select. When the input source format is PAL, a "1" on this pin will select 60Hz refresh rate.
PCLK	O	37	Pixel clock output.
YQ[9:0]	O	45,46,47,49,52,59,60,66,67,72	Output data YQ[9:0] or GQ[9:0]
UQ[9:0]	O	73,80,81,82,84,86,87,88,90,91	Output data UQ[9:0] or BQ[9:0]
VQ[9:0]	O	92,94,95,96,97,99,100,103,105,106	Output data VQ[9:0] or RQ[9:0]
OEQ	I	111	Output enable for YQ/GQ [9:0], UQ/BQ [9:0], and VQ/RQ[9:0]
VSQ	O	41	Vertical sync. Output.
VBQ	O	42	Vertical blanking output.
HSQ	O	38	Horizontal sync. output.
HRQ	O	39	Horizontal blanking output.
DVQ	O	109	Data valid output.

Table 7. DAC Interface

Pin Name	Type	Pin	Description
YA	O	56	Analog Y or G output signal
UA	O	63	Analog -(B-Y) or B output signal.
VA	O	69	Analog -(R-Y) or R output signal.
COMP	I/O	68	Compensation pin. This pin should be connected through a 0.01 uF ceramic capacitor and a 10uF tantalum capacitor to AVDD (+3.3v) externally.
VREFIN	I	76	Reference voltage input. A 0.01 uF ceramic capacitor should be connected between this pin and AGND.
VREFOUT	O	74	Band-gap reference voltage output. This output delivers a 1.3V reference voltage from cell. No output current can be derived from this pin. It is normally connected to the VREFIN pin.

RADJ	I/O	43	Full-scale adjust resistor. A resistor connected between this pin and AGND controls the magnitude of the full-scale video signal.
AVDD	P	77	Analog supply +3.3V
YVDD	P	57	Analog supply +3.3V for channel Y/G
UVDD	P	64	Analog supply +3.3V for channel -(B-Y)/B
VVDD	P	70	Analog supply +3.3V for channel -(R-Y)/R
AGND	P	75	Analog ground pin.
YGND	P	58	Analog ground pin for channel Y/G
UGND	P	65	Analog ground pin for channel -(B-Y)/B
VGND	P	71	Analog ground pin for channel -(R-Y)/R
ADVDD	P	51	Digital supply +3.3v for DAC.
ADGND	P	50	Digital ground for DAC.

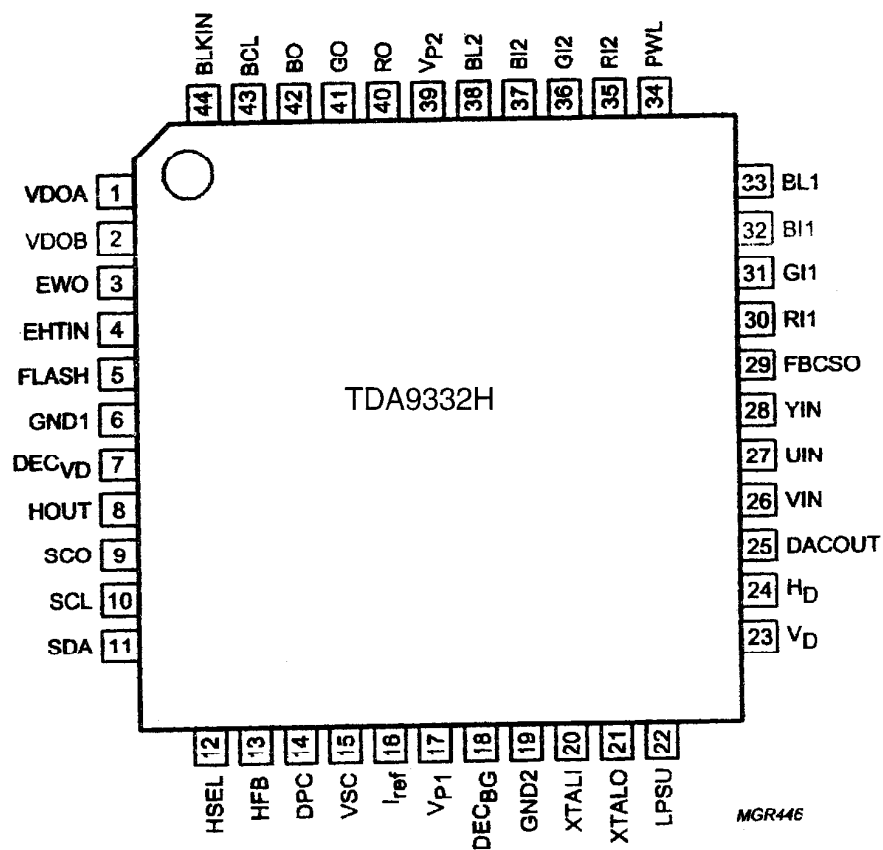


## TDA9332H

I2C-bus controlled TV display processors

Symbol	Pin	Description
VDOA	1	Vertical drive output A
VDOB	2	Vertical drive output B
EWO	3	E-W output
EHTIN	4	EHT compensation input
FLASH	5	Flash detection input
GND1	6	Ground 1
DEC <sub>VD</sub>	7	Digital supply decoupling
HOUT	8	Horizontal output
SCO	9	Sandcastle pulse output
SCL	10	Serial clock input
SDA	11	Serial data input/output
HSEL	12	Nc
HFB	13	Horizontal flyback pulse input
DPC	14	Dynamic phase compensation
VSC	15	Vertical sawtooth capacitor
I <sub>ref</sub>	16	Reference current input
V <sub>PI</sub>	17	Positive supply 1 (+8V)
DEC <sub>BG</sub>	18	Band gap decoupling
GND2	19	Ground 2
XTALI	20	Crystal input
XTALO	21	Crystal output
LPSU	22	Low power start-up supply
V <sub>D</sub>	23	Vertical sync. input
H <sub>D</sub>	24	Horizontal sync input
DACOUT	25	Nc
VIN	26	V-signal input
UIN	27	U-signal input
YIN	28	Luminance input
FBCSO	29	Fixed beam current switch-off input
RI1	30	Red 1 input for insertion
GI1	31	Green 1 input for insertion
BI1	32	Blue 1 input for insertion
BL1	33	Fast-blanking input for RGB-1
PWL	34	Peak white limiting decoupling
RI2	35	Red 2 input for insertion
GI2	36	Green 2 input for insertion
BI2	37	Blue 2 input for insertion
BL2	38	Fast blanking/blending input for RGB-2

Symbol	Pin	Description
VP2	39	Positive supply 2 (+8V)
RO	40	Red output
GO	41	Green output
BO	42	Blue output
BCL	43	Beam current limiting input
BLKIN	44	Black current input



Pin configuration.

## Replacement Parts List

Notes: ① Components having special safety-related characteristics are identified by marking "△" on the schematic diagram and replacement parts list. Always be certain that the specified replacement parts on the schematic diagram and the Parts List are used and keep the replaced parts at the original position. Before replacing any of these components, read "Product Safety Notice" in this manual carefully. The use of substitute replacement parts which do not have same safety characteristics as specified in the Replacement Parts List may create shock, fire or other hazards.

② Replacement Parts List is only for reference, and subject to change without notice.

Pos. No.	Description	Type
	<b>main board</b>	
R601	carbon film resistor	RT13-0.166W-2.2ΩJ
R603	carbon film resistor	RT13-0.166W-2.2ΩJ
R511	carbon film resistor	RT13-0.166W-33ΩJ
R001	carbon film resistor	RT13-0.166W-75ΩJ
R502	carbon film resistor	RT13-0.166W-100ΩJ
R503	carbon film resistor	RT13-0.166W-100ΩJ
R504	carbon film resistor	RT13-0.166W-100ΩJ
R515	carbon film resistor	RT13-0.166W-150ΩJ
R611A	carbon film resistor	RT13-0.166W-470ΩJ
R834	carbon film resistor	RT13-0.166W-470ΩJ
R832	carbon film resistor	RT13-0.166W-470ΩJ
R033	carbon film resistor	RT13-0.166W-680ΩJ
R507	carbon film resistor	RT13-0.166W-1KΩJ
R838	carbon film resistor	RT13-0.166W-1KΩJ
R513	carbon film resistor	RT13-0.166W-1KΩJ
R063	carbon film resistor	RT13-0.166W-1KΩJ
R516	carbon film resistor	RT13-0.166W-1.5KΩJ
R601A	carbon film resistor	RT13-0.166W-1.8KΩJ
R602A	carbon film resistor	RT13-0.166W-1.8KΩJ
R607	carbon film resistor	RT13-0.166W-2.2KΩJ
R604	carbon film resistor	RT13-0.166W-3.9KΩJ
R605	carbon film resistor	RT13-0.166W-3.9KΩJ
R839	carbon film resistor	RT13-0.166W-4.7KΩJ
R850	carbon film resistor	RT13-0.166W-4.7KΩJ
R836	carbon film resistor	RT13-0.166W-4.7KΩJ
R602	carbon film resistor	RT13-0.166W-10KΩJ
R611	carbon film resistor	RT13-0.166W-10KΩJ
R612	carbon film resistor	RT13-0.166W-10KΩJ
R636	carbon film resistor	RT13-0.166W-10KΩJ
R637	carbon film resistor	RT13-0.166W-10KΩJ
R207	carbon film resistor	RT13-0.166W-10KΩJ
R606	carbon film resistor	RT13-0.166W-15KΩJ
R595	carbon film resistor	RT13-0.166W-15KΩJ
R609	carbon film resistor	RT13-0.166W-22KΩJ
R610	carbon film resistor	RT13-0.166W-22KΩJ
R204	carbon film resistor	RT13-0.166W-39KΩJ
R514	carbon film resistor	RT13-0.166W-39KΩJ



R512	carbon film resistor	RT13-0.166W-120K $\Omega$ J
R831	fuse	PRF20005491 or PRF2000F008
R837	fuse	PRF20005491 or PRF2000F008
C519	ceramic chip capacitor	CC1-63V-06a-SL-27PFJ
C518	ceramic chip capacitor	CC1-63V-06a-SL-33PFJ
C523	ceramic chip capacitor	CC1-63V-C-56PFJ
C520	ceramic chip capacitor	CC1-63V-10a-SL-150PFJ
C032	ceramic chip capacitor	CC1-63V-10a-SL-390PFJ
C623	ceramic chip capacitor	CC1-63V-10a-SL-470PFJ
C632	ceramic chip capacitor	CC1-63V-10a-SL-470PFJ
C517	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C033	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C515	ceramic chip capacitor	CT1-63V-08a-2F4-10nFZ
C639	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C635	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C102	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C110	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C525	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C624	polyester film capacitor	CL21X-50V-0.018 $\mu$ FJ
C631	polyester film capacitor	CL21X-50V-0.018 $\mu$ FJ
C613	ceramic chip capacitor	CT1-63V-10a-2B4-5600PFK
C614	ceramic chip capacitor	CT1-63V-10a-2B4-5600PFK
C636	polyester film capacitor	CL21X-50V-0.033 $\mu$ FJ
C637	polyester film capacitor	CL21X-50V-0.033 $\mu$ FJ
C626	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C617	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C521	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C582	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C611	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C612	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C608	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C609	electrolytic capacitor	CD110-16V-33 $\mu$ FM
C835	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C830	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C833	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C832	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C619	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C101	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C620	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
C601	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
C615	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
C516	electrolytic capacitor	CD110X-16V-470 $\mu$ FM
C522	electrolytic capacitor	CD110X-25V-100 $\mu$ FM
C603	electrolytic capacitor	CD110X-35V-100 $\mu$ FM
C627	electrolytic capacitor	CD110X-50V-1 $\mu$ FM
C630	electrolytic capacitor	CD110X-50V-1 $\mu$ FM
C604	electrolytic capacitor	CD110X-50V-1 $\mu$ FM
C602	electrolytic capacitor	CD110X-50V-1 $\mu$ FM
C628	electrolytic capacitor	CD110X-50V-4.7 $\mu$ FM
C629	electrolytic capacitor	CD110X-50V-4.7 $\mu$ FM

C633	electrolytic capacitor	CD110X-50V-4.7 $\mu$ FM
C634	electrolytic capacitor	CD110X-50V-4.7 $\mu$ FM
C638	electrolytic capacitor	CD110X-50V-4.7 $\mu$ FM
C640	electrolytic capacitor	CD110X-50V-4.7 $\mu$ FM
C641	electrolytic capacitor	CD110X-50V-4.7 $\mu$ FM
C625	electrolytic capacitor	CD110X-50V-47 $\mu$ FM
C581	electrolytic capacitor	CD110X-50V-47 $\mu$ FM
C524	electrolytic capacitor	CD110X-50V-47 $\mu$ FM
C111	electrolytic capacitor	CD110-63V-10 $\mu$ FM
C606	electrolytic capacitor	CD110-50V-1000 $\mu$ FM
C607	electrolytic capacitor	CD110-50V-1000 $\mu$ FM
C610	electrolytic capacitor	CD110-50V-1000 $\mu$ FM
L502	fixed inductance	LGB0606-22 $\mu$ HJ
L503A	fixed inductance	LGB0606-22 $\mu$ HJ
L501	fixed inductance	LGB0606-56 $\mu$ HJ
L581	fixed inductance	LGB0606-56 $\mu$ HJ
L807	cored inductance	TEM2011
VD502	diode	2CK75D or 1N4148
VD501	diode	2CK75D or 1N4148
VD607	diode	1SS131 or 1N4148
VD608	diode	2CK75D or 1N4148
VD609	diode	2CK75D or 1N4148
VD601	diode	1SS131 or 1N4148
VD602	diode	1SS131 or 1N4148
VD604	diode	1SS131 or 1N4148
VD605	diode	1SS131 or 1N4148
VD606	diode	1SS131 or 1N4148
VD831	diode	W05Z5.6C
VD832	diode	W05Z5.6C
VD501A	diode	W05Z6.8B
VD509	diode	W05Z12A
Q502	transistor	2SC1815-Y or 3DG1815-Y
V201	transistor	2SC1815-Y or 3DG1815-Y
V604	transistor	2SC1815-Y or 3DG1815-Y
V601	transistor	RN1204
V602	transistor	RN1204
V612	transistor	2SA1015-Y or 3CG1015-Y
V671	transistor	2SC2878-A
V672	transistor	2SC2878-A
V831	transistor	2SC3852 or 2SD1944H
V832	transistor	2SC3852 or 2SD1944H
	antenna distributor	ZHQ222B
$\triangle$ N100	tuner	TDQ-6A9-FM
N834	IC	SI-3090CA
N601	IC	TA8200AH
N602	IC	BA3880AS
VD110	IC	$\mu$ PC574J or CW574CS
L103	jumper	5mm
R615	jumper	5mm
R616	jumper	5mm

**AV board**

R901	carbon film resistor	RT13-0.166W-75ΩJ
R902	carbon film resistor	RT13-0.166W-75ΩJ
R903	carbon film resistor	RT13-0.166W-75ΩJ
R904	carbon film resistor	RT13-0.166W-75ΩJ
R905	carbon film resistor	RT13-0.166W-75ΩJ
R906	carbon film resistor	RT13-0.166W-75ΩJ
R648M	carbon film resistor	RT13-0.166W-100ΩJ
R649M	carbon film resistor	RT13-0.166W-100ΩJ
R653M	carbon film resistor	RT13-0.166W-100ΩJ
R654M	carbon film resistor	RT13-0.166W-100ΩJ
R340	carbon film resistor	RT13-0.166W-100ΩJ
R909	carbon film resistor	RT13-0.166W-1KΩJ
R910	carbon film resistor	RT13-0.166W-1KΩJ
R911	carbon film resistor	RT13-0.166W-1KΩJ
R912	carbon film resistor	RT13-0.166W-1KΩJ
R923	carbon film resistor	RT13-0.166W-1KΩJ
R925	carbon film resistor	RT13-0.166W-1KΩJ
R951	carbon film resistor	RT13-0.166W-1KΩJ
R954	carbon film resistor	RT13-0.166W-1KΩJ
R921	carbon film resistor	RT13-0.166W-9.1KΩJ
R922	carbon film resistor	RT13-0.166W-10KΩJ
R650M	carbon film resistor	RT13-0.166W-10KΩJ
R651M	carbon film resistor	RT13-0.166W-10KΩJ
R652M	carbon film resistor	RT13-0.166W-10KΩJ
R941	carbon film resistor	RT13-0.166W-22KΩJ
R942	carbon film resistor	RT13-0.166W-22KΩJ
R924	carbon film resistor	RT13-0.166W-30KΩJ
R926	carbon film resistor	RT13-0.166W-39KΩJ
R955	carbon film resistor	RT13-0.166W-82KΩJ
R944	carbon film resistor	RT13-0.166W-100KΩJ
R948	carbon film resistor	RT13-0.166W-100KΩJ
R919	carbon film resistor	RT13-0.166W-100KΩJ
R918	carbon film resistor	RT13-0.166W-100KΩJ
R916	carbon film resistor	RT13-0.166W-100KΩJ
R917	carbon film resistor	RT13-0.166W-100KΩJ
R953	carbon film resistor	RT13-0.166W-100KΩJ
R940	carbon film resistor	RT13-0.166W-100KΩJ
R976	carbon film resistor	RT13-0.166W-150KΩJ
R977	carbon film resistor	RT13-0.166W-150KΩJ
R920	oxide metal film resistor	RY21-0.5W-100ΩJ
C680M	ceramic chip capacitor	CC1-63V-06a-SL-1.5PFG
C681M	ceramic chip capacitor	CC1-63V-06a-SL-1.5PFG
C677M	ceramic chip capacitor	CC1-63V-06a-C-56PFJ
C678M	ceramic chip capacitor	CC1-63V-06a-C-56PFJ
C679M	ceramic chip capacitor	CC1-63V-06a-C-56PFJ
C652M	ceramic chip capacitor	CC1-63V-C-220PFJ
C651M	ceramic chip capacitor	CT1-63V-06a-2B4-470PFK
C662M	ceramic chip capacitor	CT1-63V-06a-2B4-470PFK
C674M	ceramic chip capacitor	CT1-63V-06a-2B4-470PFK

C944	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C686M	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C655M	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C658M	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C964	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C650M	ceramic chip capacitor	CT1-63V-06a-2B4-1500PFK
C663M	ceramic chip capacitor	CT1-63V-06a-2B4-1500PFK
C675M	ceramic chip capacitor	CT1-63V-06a-2B4-1500PFK
C936	ceramic chip capacitor	CT1-63V-08a-2F4-10nFZ
C965	ceramic chip capacitor	CT1-63V-08a-2F4-10nFZ
C654M	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C938	polyester film capacitor	CL21X-50V-0.022 $\mu$ FJ
C667M	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C673M	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C684M	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C939	polyester film capacitor	CL21X-50V-0.22 $\mu$ FJ
C668M	polyester film capacitor	CL21X-50V-0.33 $\mu$ FJ
C669M	polyester film capacitor	CL21X-50V-0.33 $\mu$ FJ
C670M	polyester film capacitor	CL21X-50V-0.33 $\mu$ FJ
C671M	polyester film capacitor	CL21X-50V-0.33 $\mu$ FJ
C688M	polyester film capacitor	CL21X-50V-0.33 $\mu$ FJ
C689M	polyester film capacitor	CL21X-50V-0.33 $\mu$ FJ
C656M	electrolytic capacitor	CD110-50V-1 $\mu$ FM
C687M	electrolytic capacitor	CD110-50V-1 $\mu$ FM
C657M	electrolytic capacitor	CD110-50V-1 $\mu$ FM
C666M	electrolytic capacitor	CD110-50V-3.3 $\mu$ FM
C949	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C948	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C955	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C956	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C957	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C653M	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C649M	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C661M	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C664M	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C665M	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C672M	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C676M	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C660M	jumper	5mm
C659M	jumper	5mm
C943	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C683M	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
C937	electrolytic capacitor	CD110X-16V-220 $\mu$ FM
C935	electrolytic capacitor	CD110X-16V-470 $\mu$ FM
C336A	electrolytic capacitor	CD110X-50V-10 $\mu$ FM
C340A	electrolytic capacitor	CD110X-50V-10 $\mu$ FM
L650M	fixed inductance	LGB0606-10 $\mu$ HK
L651M	fixed inductance	LGB0606-10 $\mu$ HK
L652M	fixed inductance	LGB0606-10 $\mu$ HK
L653M	fixed inductance	LGB0606-15 $\mu$ HK

L901	cored inductance	TEM2028K
L902	cored inductance	TEM2028K
L907	cored inductance	TEM2028K
L906	cored inductance	TEM2028K
L903	cored inductance	TEM2028K
L904	cored inductance	TEM2028K
L909	cored inductance	TEM2028K
L905	cored inductance	TEM2028K
VD650M	diode	W05Z3.6A
V904	transistor	2SC2878-A
V905	transistor	2SC2878-A
V650M	transistor	2SC1815-Y
N902	IC	M5218AP
N606M	IC	MSP3440G
Z650M	crystal oscillator	JA18A1-18.432MHZ
PV01	AV jack	AVW-33-9R-2S-YUV-A
PV02	AV jack	AV-1-3PK100
PV05	AV jack	AV-1-3PK100
PV03	AV jack	AVW-12-2R

**digital board**

RN02	chip resistor	RC-05K000JT
RN38	chip resistor	RC-05K000JT
RN134	chip resistor	RC-05K000JT
RN135	chip resistor	RC-05K000JT
RN30	chip resistor	RC-05K100JT
RN158	chip resistor	RC-05K100JT
RN170	chip resistor	RC-05K750JT
RN171	chip resistor	RC-05K750JT
RN179	chip resistor	RC-05K750JT
RN182	chip resistor	RC-05K750JT
RN184	chip resistor	RC-05K750JT
RN190	chip resistor	RC-05K750JT
RN98	chip resistor	RC-05K750JT
RN102	chip resistor	RC-05K750JT
RN106	chip resistor	RC-05K750JT
RN108	chip resistor	RC-05K750JT
RN173	chip resistor	RC-05K750JT
RN174	chip resistor	RC-05K750JT
RN175	chip resistor	RC-05K750JT
RN176	chip resistor	RC-05K750JT
RN177	chip resistor	RC-05K750JT
RN178	chip resistor	RC-05K750JT
RN188	chip resistor	RC-05K750JT
RN189	chip resistor	RC-05K750JT
RN03	chip resistor	RC-05K101JT
RN09	chip resistor	RC-05K101JT
RN19	chip resistor	RC-05K101JT
RN20	chip resistor	RC-05K101JT
RN21	chip resistor	RC-05K101JT
RN27	chip resistor	RC-05K101JT

RN32	chip resistor	RC-05K101JT
RN33	chip resistor	RC-05K101JT
RN39	chip resistor	RC-05K101JT
RN50	chip resistor	RC-05K101JT
RN75	chip resistor	RC-05K101JT
RN85	chip resistor	RC-05K101JT
RN86	chip resistor	RC-05K101JT
RN103	chip resistor	RC-05K101JT
RN104	chip resistor	RC-05K101JT
RN112	chip resistor	RC-05K101JT
RN132	chip resistor	RC-05K101JT
RN133	chip resistor	RC-05K101JT
RN136	chip resistor	RC-05K101JT
RN137	chip resistor	RC-05K101JT
RN138	chip resistor	RC-05K101JT
RN139	chip resistor	RC-05K101JT
RN140	chip resistor	RC-05K101JT
RN141	chip resistor	RC-05K101JT
RN157	chip resistor	RC-05K101JT
RN164	chip resistor	RC-05K101JT
RN181	chip resistor	RC-05K101JT
RN183	chip resistor	RC-05K101JT
RN185	chip resistor	RC-05K101JT
RN187	chip resistor	RC-05K101JT
RN191	chip resistor	RC-05K101JT
RN192	chip resistor	RC-05K101JT
RN197	chip resistor	RC-05K101JT
RN127	chip resistor	RC-05K101JT
RN128	chip resistor	RC-05K101JT
RN154	chip resistor	RC-05K101JT
RN62	chip resistor	RC-05K101JT
RN77	chip resistor	RC-05K101JT
RN78	chip resistor	RC-05K101JT
RN79	chip resistor	RC-05K101JT
RN80	chip resistor	RC-05K101JT
RN81	chip resistor	RC-05K101JT
RN142	chip resistor	RC-05K101JT
RN155	chip resistor	RC-05K101JT
RN16	chip resistor	RC-05K101JT
RN17	chip resistor	RC-05K101JT
RN18	chip resistor	RC-05K101JT
RN54	chip resistor	RC-05K151JT
RN60	chip resistor	RC-05K151JT
RN63	chip resistor	RC-05K181JT
RN66	chip resistor	RC-05K181JT
RN69	chip resistor	RC-05K181JT
RN68	chip resistor	RC-05K201JT
RN49	chip resistor	RC-05K241JT
RN55	chip resistor	RC-05K241JT
RN52	chip resistor	RC-05K241JT

RN57	chip resistor	RC-05K331JT
RN65	chip resistor	RC-05K331JT
RN193	chip resistor	RC-05K331JT
RN47	chip resistor	RC-05K391JT
RN58	chip resistor	RC-05K391JT
RN53	chip resistor	RC-05K391JT
RN07	chip resistor	RC-05K471JT
RN34	chip resistor	RC-05K471JT
RN36	chip resistor	RC-05K471JT
RN37	chip resistor	RC-05K471JT
RN113	chip resistor	RC-05K471JT
RN114	chip resistor	RC-05K471JT
RN111	chip resistor	RC-05K471JT
RN194	chip resistor	RC-05K221JT
RN61	chip resistor	RC-05K561JT
RN26	chip resistor	RC-05K821JT
RN06	chip resistor	RC-05K102JT
RN40	chip resistor	RC-05K102JT
RN99	chip resistor	RC-05K102JT
RN150	chip resistor	RC-05K102JT
RN76	chip resistor	RC-05K102JT
RN84	chip resistor	RC-05K102JT
RN92	chip resistor	RC-05K102JT
RN72	chip resistor	RC-05K102JT
RN151	chip resistor	RC-05K102JT
RN152	chip resistor	RC-05K102JT
RN153	chip resistor	RC-05K102JT
RN31	chip resistor	RC-05K102JT
RN172	chip resistor	RC-05K152JT
RN51	chip resistor	RC-05K182JT
RN11	chip resistor	RC-05K222JT
RN120	chip resistor	RC-05K222JT
RN122	chip resistor	RC-05K222JT
RN123	chip resistor	RC-05K222JT
RN125	chip resistor	RC-05K222JT
RN126	chip resistor	RC-05K222JT
RN28	chip resistor	RC-05K332JT
RN44	chip resistor	RC-05K332JT
RN45	chip resistor	RC-05K332JT
RN130	chip resistor	RC-05K332JT
RN131	chip resistor	RC-05K332JT
RN149	chip resistor	RC-05K332JT
RN156	chip resistor	RC-05K332JT
RN166	chip resistor	RC-05K332JT
RN186	chip resistor	RC-05K332JT
RN145	chip resistor	RC-05K362JT
RN143	chip resistor	RC-05K362JT
RN144	chip resistor	RC-05K472JT
RN160	chip resistor	RC-05K472JT
RN161	chip resistor	RC-05K472JT

RN163	chip resistor	RC-05K472JT
RN180	chip resistor	RC-05K472JT
RN198	chip resistor	RC-05K472JT
RN82	chip resistor	RC-05K472JT
RN83	chip resistor	RC-05K472JT
RN129	chip resistor	RC-05K472JT
RN48	chip resistor	RC-05K512JT
RN146	chip resistor	RC-05K562JT
RN147	chip resistor	RC-05K562JT
RN148	chip resistor	RC-05K562JT
RN10	chip resistor	RC-05K682JT
RN12	chip resistor	RC-05K682JT
RN169	chip resistor	RC-05K822JT
RN46	chip resistor	RC-05K103JT
RN109	chip resistor	RC-05K103JT
RN25	chip resistor	RC-05K103JT
RN97	chip resistor	RC-05K123JT
RN42	chip resistor	RC-05K153JT
RN59	chip resistor	RC-05K153JT
RN67	chip resistor	RC-05K153JT
RN88	chip resistor	RC-05K153JT
RN121	chip resistor	RC-05K183JT
RN73	chip resistor	RC-05K203JT
RN08	chip resistor	RC-05K223JT
RN56	chip resistor	RC-05K223JT
RN64	chip resistor	RC-05K223JT
RN89	chip resistor	RC-05K223JT
RN90	chip resistor	RC-05K223JT
RN100	chip resistor	RC-05K223JT
RN118	chip resistor	RC-05K223JT
RN05	chip resistor	RC-05K223JT
RN124	chip resistor	RC-05K303JT
RN04	chip resistor	RC-05K333JT
RN43	chip resistor	RC-05K393JT
RN70	chip resistor	RC-05K393JT
RN71	chip resistor	RC-05K393JT
RN301	chip resistor	RC-05K393JT
RN01	chip resistor	RC-05K393JT
RN116	chip resistor	RC-05K473JT
RN117	chip resistor	RC-05K473JT
RN119	chip resistor	RC-05K513JT
RN115	chip resistor	RC-05K104JT
RN23	chip resistor	RC-05K104JT
RN168	chip resistor	RC-05K104JT
RN110	chip resistor	RC-05K204JT
RN22	chip resistor	RC-05K105JT
RN24	chip resistor	RC-05K105JT
RN74	chip resistor	RC-05K225JT
CN107	chip capacitor	0805CG100J500NT
CN110	chip capacitor	0805CG100J500NT



CN26	chip capacitor	0805CG150J500NT
CN27	chip capacitor	0805CG150J500NT
CN151	chip capacitor	0805CG150J500NT
CN152	chip capacitor	0805CG150J500NT
CN80	chip capacitor	0805CG220J500NT
CN89	chip capacitor	0805CG220J500NT
CN174	chip capacitor	0805CG220J500NT
CN175	chip capacitor	0805CG220J500NT
CN45	chip capacitor	0805CG390J500NT
CN46	chip capacitor	0805CG390J500NT
CN49	chip capacitor	0805CG390J500NT
CN50	chip capacitor	0805CG390J500NT
CN53	chip capacitor	0805CG390J500NT
CN54	chip capacitor	0805CG390J500NT
CN68	chip capacitor	0805CG390J500NT
CN154	chip capacitor	0805CG560J500NT
CN155	chip capacitor	0805CG560J500NT
CN156	chip capacitor	0805CG560J500NT
CN16	chip capacitor	0805CG101J500NT
CN36	chip capacitor	0805CG101J500NT
CN42	chip capacitor	0805CG101J500NT
CN65	chip capacitor	0805CG101J500NT
CN109	chip capacitor	0805CG101J500NT
CN170	chip capacitor	0805CG101J500NT
CN171	chip capacitor	0805CG101J500NT
CN101	chip capacitor	0805CG101J500NT
CN169	chip capacitor	0805CG151J500NT
CN79	chip capacitor	0805CG221J500NT
CN96	chip capacitor	0805CG221J500NT
CN132	chip capacitor	0805CG331J500NT
CN137	chip capacitor	0805CG331J500NT
CN139	chip capacitor	0805CG331J500NT
CN189	chip capacitor	0805CG331J500NT
CN190	chip capacitor	0805CG331J500NT
CN191	chip capacitor	0805CG331J500NT
CN121	chip capacitor	0805CG391J500NT
CN124	chip capacitor	0805CG391J500NT
CN136	chip capacitor	0805CG391J500NT
CN03	chip capacitor	0805CG331J500NT
CN06	chip capacitor	0805CG102J500NT
CN07	chip capacitor	0805CG102J500NT
CN94	chip capacitor	0805CG102J500NT
CN120	chip capacitor	0805B152K500NT
CN123	chip capacitor	0805B152K500NT
CN135	chip capacitor	0805B152K500NT
CN144	chip capacitor	0805B152K500NT
CN149	chip capacitor	0805B152K500NT
CN160	chip capacitor	0805B472K500NT
CN63	chip capacitor	0805B472K500NT
CN04	chip capacitor	0805B103K500NT

CN05	chip capacitor	0805B103K500NT
CN11	chip capacitor	0805B103K500NT
CN67	chip capacitor	0805B103K500NT
CN91	chip capacitor	0805B103K500NT
CN158	chip capacitor	0805B103K500NT
CN159	chip capacitor	0805B103K500NT
CN162	chip capacitor	0805B103K500NT
CN163	chip capacitor	0805B103K500NT
CN179	chip capacitor	0805B103K500NT
CN127	chip capacitor	0805B473K500NT
CN130	chip capacitor	0805B473K500NT
CN145	chip capacitor	0805B473K500NT
CN150	chip capacitor	0805B473K500NT
CN146	chip capacitor	0805F683Z500NT
CN147	chip capacitor	0805F683Z500NT
CN148	chip capacitor	0805F683Z500NT
CN18	chip capacitor	0805B104K250NT
CN19	chip capacitor	0805B104K250NT
CN20	chip capacitor	0805B104K250NT
CN33	chip capacitor	0805B104K250NT
CN17	chip capacitor	0805F104Z250NT
CN23	chip capacitor	0805F104Z250NT
CN25	chip capacitor	0805F104Z250NT
CN37	chip capacitor	0805F104Z250NT
CN41	chip capacitor	0805F104Z250NT
CN47	chip capacitor	0805F104Z250NT
CN51	chip capacitor	0805F104Z250NT
CN57	chip capacitor	0805F104Z250NT
CN58	chip capacitor	0805F104Z250NT
CN59	chip capacitor	0805F104Z250NT
CN60	chip capacitor	0805F104Z250NT
CN61	chip capacitor	0805F104Z250NT
CN62	chip capacitor	0805F104Z250NT
CN70	chip capacitor	0805F104Z250NT
CN71	chip capacitor	0805F104Z250NT
CN72	chip capacitor	0805F104Z250NT
CN73	chip capacitor	0805F104Z250NT
CN76	chip capacitor	0805F104Z250NT
CN77	chip capacitor	0805F104Z250NT
CN78	chip capacitor	0805F104Z250NT
CN81	chip capacitor	0805F104Z250NT
CN82	chip capacitor	0805F104Z250NT
CN83	chip capacitor	0805F104Z250NT
CN84	chip capacitor	0805F104Z250NT
CN85	chip capacitor	0805F104Z250NT
CN86	chip capacitor	0805F104Z250NT
CN87	chip capacitor	0805F104Z250NT
CN88	chip capacitor	0805F104Z250NT
CN90	chip capacitor	0805F104Z250NT
CN92	chip capacitor	0805F104Z250NT

CN93	chip capacitor	0805F104Z250NT
CN108	chip capacitor	0805F104Z250NT
CN125	chip capacitor	0805F104Z250NT
CN129	chip capacitor	0805F104Z250NT
CN143	chip capacitor	0805F104Z250NT
CN153	chip capacitor	0805F104Z250NT
CN157	chip capacitor	0805F104Z250NT
CN172	chip capacitor	0805F104Z250NT
CN177	chip capacitor	0805F104Z250NT
CN183	chip capacitor	0805F104Z250NT
CN185	chip capacitor	0805F104Z250NT
CN301	chip capacitor	0805F104Z250NT
CN2	chip capacitor	0805F104Z250NT
CN102	chip capacitor	0805F104Z250NT
CN103	chip capacitor	0805F104Z250NT
CN104	chip capacitor	0805F104Z250NT
CN105	chip capacitor	0805F104Z250NT
CN08	chip capacitor	1206B224K250NT
CN09	chip capacitor	1206B224K250NT
CN10	chip capacitor	1206B224K250NT
CN133	chip capacitor	1206B224K250NT
CN138	chip capacitor	1206B224K250NT
CN140	chip capacitor	1206B224K250NT
CN119	chip capacitor	1206B224K250NT
CN122	chip capacitor	1206B224K250NT
CN134	chip capacitor	1206B224K250NT
CN111	chip capacitor	1206B224K250NT
CN112	chip capacitor	1206B224K250NT
CN113	chip capacitor	1206B224K250NT
CN180	chip capacitor	1206B224K250NT
CN44	chip capacitor	0805CG4R7J500NT
CN48	chip capacitor	0805CG4R7J500NT
CN52	chip capacitor	0805CG4R7J500NT
CN114	chip capacitor	GRM40X7R684K16PT
CN115	chip capacitor	GRM40X7R684K16PT
CN116	chip capacitor	GRM40X7R684K16PT
CN117	chip capacitor	GRM40X7R684K16PT
CN118	chip capacitor	GRM40X7R684K16PT
CN98	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN99	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN164	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN165	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN178	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN38	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN39	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN40	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN166	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN167	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN168	electrolytic capacitor	CD11C-16V-4.7 $\mu$ FM
CN34	electrolytic capacitor	CD11C-16V-10 $\mu$ FM

CN35	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN43	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN55	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN66	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN69	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN100	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN128	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN131	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN300	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN56	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN32	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN106	electrolytic capacitor	CD11C-16V-10 $\mu$ FM
CN01	electrolytic capacitor	CD11C-16V-22 $\mu$ FM
CN64	electrolytic capacitor	CD11C-16V-22 $\mu$ FM
CN97	electrolytic capacitor	CD11C-16V-22 $\mu$ FM
CN28	electrolytic capacitor	CD11C-16V-47 $\mu$ FM
CN29	electrolytic capacitor	CD11C-16V-47 $\mu$ FM
CN31	electrolytic capacitor	CD11C-16V-47 $\mu$ FM
CN74	electrolytic capacitor	CD11C-16V-47 $\mu$ FM
CN75	electrolytic capacitor	CD11C-16V-47 $\mu$ FM
CN141	electrolytic capacitor	CD11C-16V-47 $\mu$ FM
CN173	electrolytic capacitor	CD11C-16V-47 $\mu$ FM
CN176	electrolytic capacitor	CD11C-16V-47 $\mu$ FM
CN30	electrolytic capacitor	CD11C-16V-100 $\mu$ FM
CN126	electrolytic capacitor	CD11C-16V-100 $\mu$ FM
CN142	electrolytic capacitor	CD11C-16V-100 $\mu$ FM
CN182	electrolytic capacitor	CD11C-16V-100 $\mu$ FM
CN184	electrolytic capacitor	CD11C-16V-100 $\mu$ FM
CN186	electrolytic capacitor	CD11C-50V-1 $\mu$ FM
CN187	electrolytic capacitor	CD11C-50V-1 $\mu$ FM
CN161	electrolytic capacitor	CD11C-50V-1 $\mu$ FM
CN95	electrolytic capacitor	CD11C-50V-1 $\mu$ FM
CN24	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
LN23	cored inductance	TEM2011
LN08	fixed inductance	LGA0307-3 $\mu$ HK
LN13	fixed inductance	LGA0307-3.3 $\mu$ HK
LN14	fixed inductance	LGA0307-3.3 $\mu$ HK
LN15	fixed inductance	LGA0307-3.3 $\mu$ HK
LN22	fixed inductance	LGA0307-3.3 $\mu$ HK
LN24	fixed inductance	LGA0307-3.3 $\mu$ HK
LN25	fixed inductance	LGA0307-3.3 $\mu$ HK
LN04	fixed inductance	LGA0307-4.7 $\mu$ HJ
LN05	fixed inductance	LGA0307-4.7 $\mu$ HJ
LN06	fixed inductance	LGA0307-4.7 $\mu$ HJ
LN07	fixed inductance	LGA0307-4.7 $\mu$ HJ
LN01	fixed inductance	LGA0307-10 $\mu$ HK
LN02	fixed inductance	LGA0307-10 $\mu$ HK
LN12	fixed inductance	LGA0307-10 $\mu$ HK
LN17	fixed inductance	LGA0307-10 $\mu$ HK
LN18	fixed inductance	LGA0307-10 $\mu$ HK

LN19	fixed inductance	LGA0307-10 $\mu$ HK
LN09	fixed inductance	LGA0410-10 $\mu$ HK
LN10	fixed inductance	LGA0410-10 $\mu$ HK
LN11	fixed inductance	LGA0410-10 $\mu$ HK
LN16	fixed inductance	LGA0410-10 $\mu$ HK
LN03	fixed inductance	LGA0410-10 $\mu$ HK
LN20	fixed inductance	LGA0307-100 $\mu$ HK
DN01	diode	LL4148 or RLS4148
DN02	diode	LL4148 or RLS4148
DN04	diode	LL4148 or RLS4148
DN05	diode	LL4148 or RLS4148
DN15	diode	LL4148 or RLS4148
DN16	diode	LL4148 or RLS4148
DN17	diode	LL4148 or RLS4148
DN18	diode	LL4148 or RLS4148
DN19	diode	LL4148 or RLS4148
DN100	diode	LL4148 or RLS4148
DN06	diode	RLZ12B
DN07	diode	RLZ3.6A
DN08	diode	RLZ3.9B
QN01	transistor	BC848B or BC848 or BC847
QN08	transistor	BC848B or BC848 or BC847
QN11	transistor	BC848B or BC848 or BC847
QN13	transistor	BC848B or BC848 or BC847
QN15	transistor	BC848B or BC848 or BC847
QN16	transistor	BC848B or BC848 or BC847
QN17	transistor	BC848B or BC848 or BC847
QN09	transistor	BC858B or BC858 or BC857
QN10	transistor	BC858B or BC858 or BC857
QN12	transistor	BC858B or BC858 or BC857
UN05A	IC	LD1117S33C
UN04	IC	MC74HC4046ADR2
UN03	IC	74HCT153D
UN12	IC	AT24C16-10PC
UN08	IC	HY57V161610DTC-8
UN09	IC	HY57V161610DTC-8
UN13	IC	L7808CV
UN20	IC	L78L05ACZ or TA78L005AP
UN11	IC	M37274EFSP
UN10	IC	M52036SP
UN02	IC	NV320
UN06	IC	TDA8601
UN01	IC	TDA9332H
UN14	IC	TDA9178
UN07	IC	VPC3230D
XN04	crystal oscillator	JA18A-8000.000KHz
XN02	crystal oscillator	JA18A-10MHz
XN01	crystal oscillator	JA18A-12.000MHz
XN03	crystal oscillator	JA18A-20.25MHz

scan board

R411	carbon film resistor	RT13-0.166W-56ΩJ
R373	carbon film resistor	RT13-0.166W-100ΩJ
R374	carbon film resistor	RT13-0.166W-100ΩJ
R484	carbon film resistor	RT13-0.166W-100ΩJ
R501	carbon film resistor	RT13-0.166W-100ΩJ
R502	carbon film resistor	RT13-0.166W-100ΩJ
R503	carbon film resistor	RT13-0.166W-100ΩJ
R504	carbon film resistor	RT13-0.166W-100ΩJ
R505	carbon film resistor	RT13-0.166W-100ΩJ
R506	carbon film resistor	RT13-0.166W-100ΩJ
R482	carbon film resistor	RT13-0.166W-560ΩJ
R579	carbon film resistor	RT13-0.166W-680ΩJ
R564	carbon film resistor	RT13-0.166W-1KΩJ
R565	carbon film resistor	RT13-0.166W-1.5KΩJ
R466	carbon film resistor	RT13-0.166W-1.8KΩJ
R372	metal film resistor	RJ14-0.25W-3KΩF
R561	carbon film resistor	RT13-0.166W-5.6KΩJ
R562	carbon film resistor	RT13-0.166W-5.6KΩJ
R563	carbon film resistor	RT13-0.166W-5.6KΩJ
R578	carbon film resistor	RT13-0.166W-5.6KΩJ
R317	carbon film resistor	RT13-0.166W-10KΩJ
R320	carbon film resistor	RT13-0.166W-10KΩJ
R576	carbon film resistor	RT13-0.166W-18KΩJ
R577	carbon film resistor	RT13-0.166W-18KΩJ
R464	carbon film resistor	RT13-0.166W-27KΩJ
R473	carbon film resistor	RT13-0.166W-33KΩJ
R472	carbon film resistor	RT13-0.166W-100KΩJ
R481	carbon film resistor	RT13-0.166W-270KΩJ
R314	carbon film resistor	RT13-0.166W-560KΩJ
R315	carbon film resistor	RT13-0.166W-390KΩJ
R508	carbon film resistor	RT14-0.25W-560ΩJ
R511	carbon film resistor	RT14-0.25W-560ΩJ
R515	carbon film resistor	RT14-0.25W-560ΩJ
R529	carbon film resistor	RT14-0.25W-560ΩJ
R532	carbon film resistor	RT14-0.25W-560ΩJ
R536	carbon film resistor	RT14-0.25W-560ΩJ
R573	carbon film resistor	RT14-0.25W-2.2KΩJ
R507	carbon film resistor	RT14-0.25W-3.3KΩJ
R509	carbon film resistor	RT14-0.25W-3.3KΩJ
R510	carbon film resistor	RT14-0.25W-3.3KΩJ
R512	carbon film resistor	RT14-0.25W-3.3KΩJ
R513	carbon film resistor	RT14-0.25W-3.3KΩJ
R514	carbon film resistor	RT14-0.25W-3.3KΩJ
R528	carbon film resistor	RT14-0.25W-3.3KΩJ
R530	carbon film resistor	RT14-0.25W-3.3KΩJ
R531	carbon film resistor	RT14-0.25W-3.3KΩJ
R533	carbon film resistor	RT14-0.25W-3.3KΩJ
R534	carbon film resistor	RT14-0.25W-3.3KΩJ
R535	carbon film resistor	RT14-0.25W-3.3KΩJ
R450	oxide metal film resistor	RY21-0.5W-1.2ΩJ

R375	oxide metal film resistor	RY21-0.5W-20ΩJ
R429	oxide metal film resistor	RY21-0.5W-56ΩJ
R549	oxide metal film resistor	RY21-0.5W-100ΩJ
R550	oxide metal film resistor	RY21-0.5W-100ΩJ
R559	oxide metal film resistor	RY21-0.5W-100ΩJ
R560	oxide metal film resistor	RY21-0.5W-100ΩJ
R461	oxide metal film resistor	RY21-0.5W-1.8KΩJ
R480	oxide metal film resistor	RY21-0.5W-2.7KΩJ
R460	oxide metal film resistor	RY21-0.5W-3.3KΩJ
R382	oxide metal film resistor	RY21-0.5W-10KΩJ
R370	oxide metal film resistor	RY21-1W-1ΩJ
R380	oxide metal film resistor	RY21-1W-1ΩJ
R376	oxide metal film resistor	RY21-1W-1ΩJ
R377	oxide metal film resistor	RY21-1W-1.2ΩJ
L410	oxide metal film resistor	RY21-1W-10ΩJ
R469	oxide metal film resistor	RY21-1W-15ΩJ
R371	oxide metal film resistor	RY21-1W-33ΩJ
R415	oxide metal film resistor	RY21-1W-560ΩJ
R491	oxide metal film resistor	RY21-1W-560ΩJ
R492	oxide metal film resistor	RY21-1W-560ΩJ
R493	oxide metal film resistor	RY21-1W-560ΩJ
R451	oxide metal film resistor	RJ20 1W-51KΩJ
R553	fuse	PRF5000F008
R556	fuse	PRF5000F008
R470	fuse-resistor	RF11-2W-1ΩJ
R381	oxide metal film resistor	RY21-2W-2.2ΩJ
R463	oxide metal film resistor	RY21-2W-2.2ΩJ
R519	oxide metal film resistor	RY21-2W-2.2ΩJ
R522	oxide metal film resistor	RY21-2W-2.2ΩJ
R525	oxide metal film resistor	RY21-2W-2.2ΩJ
R537	oxide metal film resistor	RY21-2W-2.2ΩJ
R540	oxide metal film resistor	RY21-2W-2.2ΩJ
R543	oxide metal film resistor	RY21-2W-2.2ΩJ
R571	oxide metal film resistor	RY21-2W-47ΩJ
R571A	oxide metal film resistor	RY21-2W-47ΩJ
R378	oxide metal film resistor	RY21-2W-110ΩJ
R516	oxide metal film resistor	RY21-2W-110ΩJ
R517	oxide metal film resistor	RY21-2W-110ΩJ
R518	oxide metal film resistor	RY21-2W-110ΩJ
R546	oxide metal film resistor	RY21-2W-110ΩJ
R547	oxide metal film resistor	RY21-2W-110ΩJ
R548	oxide metal film resistor	RY21-2W-110ΩJ
R441	oxide metal film resistor	RY21-2W-560ΩJ
R442	oxide metal film resistor	RJ20-2W-10KΩJ
W412	oxide metal film resistor	RJ20-2W-10KΩJ
R471	glass enamel film resistor	RT40-0.5W-10MΩJ
R417	wire-wound resistor	RXG6-H2-5W-100ΩJ
C503	ceramic chip capacitor	CC1-63V-06a-SI-22PFJ
C509	ceramic chip capacitor	CC1-63V-06a-SL-22PFJ
C515	ceramic chip capacitor	CC1-63V-06a-SL-22PFJ

C521	ceramic chip capacitor	CC1-63V-06a-SL-22PFJ
C528	ceramic chip capacitor	CC1-63V-06a-SL-22PFJ
C545	ceramic chip capacitor	CC1-63V-06a-SL-22PFJ
C501	ceramic chip capacitor	CC1-63V-06a-SL-100PFJ
C504	ceramic chip capacitor	CC1-63V-06a-SL-100PFJ
C510	ceramic chip capacitor	CC1-63V-06a-SL-100PFJ
C519	ceramic chip capacitor	CC1-63V-06a-SL-100PFJ
C522	ceramic chip capacitor	CC1-63V-06a-SL-100PFJ
C547	ceramic chip capacitor	CC1-63V-06a-SL-100PFJ
C502	ceramic chip capacitor	CC1-63V-12a-SL-680PFJ
C508	ceramic chip capacitor	CC1-63V-12a-SL-680PFJ
C516	ceramic chip capacitor	CC1-63V-12a-SL-680PFJ
C520	ceramic chip capacitor	CC1-63V-12a-SL-680PFJ
C529	ceramic chip capacitor	CC1-63V-12a-SL-680PFJ
C546	ceramic chip capacitor	CC1-63V-12a-SL-680PFJ
C375	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C376	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C377	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C378	ceramic chip capacitor	CT1-63V-08a-2F4-10nFZ
C417	ceramic chip capacitor	CT1-500V-06c-2B4-390PFK
C383	ceramic chip capacitor	CT1-500V-06c-2B4-470PFK
C384	ceramic chip capacitor	CT1-500V-06c-2B4-470PFK
C497	ceramic chip capacitor	CT1-500V-06c-2B4-470PFK
C413	ceramic chip capacitor	CT1-500V-12c-2B4-3300PFK
C463	ceramic chip capacitor	CT1-500V-14c-2B4-3900PFK
C499	ceramic chip capacitor	CT81-2KV-08c-2B4-1000PFK
C410	ceramic chip capacitor	CT81-2KV-12c-2C1-680PFK
C495	ceramic chip capacitor	CT81-2KV-12c-2C1-680PFK
C496	ceramic chip capacitor	CT81-2KV-12c-2C1-680PFK
C478	ceramic chip capacitor	CT81-2KV-12c-2R4-1500PFK
C532	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C533	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C537	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C539	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C541	polyester film capacitor	CL21X-50V-0.01 $\mu$ FJ
C401	polyester film capacitor	CT1-500V-14C-2B4-4700PFK
C316	polyester film capacitor	CL21X-50V-0.039 $\mu$ FJ
C372	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C374	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C512	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C514	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C517	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C518	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C527	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C530	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C531	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C542	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C548	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
C320	polyester film capacitor	CL21X-50V-0.27 $\mu$ FJ
C380	polyester film capacitor	CL21X-63V-0.22 $\mu$ FJ



C381	polyester film capacitor	CL12-100V-0.047 $\mu$ FJ
C445	polypropylene capacitor	CBB13-200V-0.047 $\mu$ FJ
C451	polypropylene capacitor	CBB13-400V-0.033 $\mu$ FJ
C423	polypropylene capacitor	CBB13-400V-0.033 $\mu$ FJ
C442	polypropylene capacitor	CBB13-400V-0.12 $\mu$ FJ
C443	polypropylene capacitor	CBB13-400V-0.12 $\mu$ FJ
C450	polypropylene capacitor	CBB13-400V-0.3 $\mu$ FJ
C466	polypropylene capacitor	CBB13-630V-8200PFJ
△ C400	polypropylene capacitor	CF99M4Z102KB or CDF1K-1
△ C440	polypropylene capacitor	CBB81-1.6KV-1500PFJ
△ C461	polypropylene capacitor	CBB81-1.6KV-1500PFJ
△ C439	polypropylene capacitor	CBB81-1.6KV-2400PFJ
△ C444	polypropylene capacitor	CBB81-1.6KV-3000PFJ
C477	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C540	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C371	electrolytic capacitor	CD110X-35V-100 $\mu$ FM
C386	electrolytic capacitor	CD110X-35V-100 $\mu$ FM
C416	electrolytic capacitor	CD110X-35V-100 $\mu$ FM
C559	electrolytic capacitor	CD110X-35V-100 $\mu$ FM
C385	electrolytic capacitor	CD288H-35V-2200 $\mu$ FM
C544	electrolytic capacitor	CD110-16V-10 $\mu$ FM
C535	electrolytic capacitor	CD110-50V-47 $\mu$ FM
C538	electrolytic capacitor	CD110-50V-47 $\mu$ FM
C560	electrolytic capacitor	CD110-50V-0.47 $\mu$ FM
C534	electrolytic capacitor	CD110X-50V-100 $\mu$ FM
C536	electrolytic capacitor	CD110X-50V-100 $\mu$ FM
C460	electrolytic capacitor	CD110X-50V-330 $\mu$ FM
C555	electrolytic capacitor	CD110-63V-10 $\mu$ FM
C556	electrolytic capacitor	CD110-63V-10 $\mu$ FM
C557	electrolytic capacitor	CD110-63V-10 $\mu$ FM
C558	electrolytic capacitor	CD110-63V-10 $\mu$ FM
C373	electrolytic capacitor	CD81-100V-47 $\mu$ FM
C464	electrolytic capacitor	CDS-100V-10 $\mu$ FM
C382	electrolytic capacitor	CD110-100V-330 $\mu$ FM
C448	electrolytic capacitor	CD288H-160V-33 $\mu$ FM
C446	electrolytic capacitor	CD81-250V-33 $\mu$ FM
L381	fixed inductance	LGB0606-33 $\mu$ HJ
L401	cored inductance	TEM2011
L402	cored inductance	TEM2011
L403	cored inductance	TEM2011
L404	cored inductance	TEM2011
L449	cored inductance	TEM2011
L470	cored inductance	TEM2011
L501	cored inductance	TEM2011
L502	cored inductance	TEM2011
L503	cored inductance	TEM2011
L504	cored inductance	TEM2011
L505	cored inductance	TEM2011
L506	cored inductance	TEM2011
W305	cored inductance	TEM2011

W318	cored inductance	TEM2011
△ L442	fixed inductance	TLN3329
△ L461	fixed inductance	TLN3339
△ L441	horizontal linear coil	HXT10 (especially for GB5108)
△ L441	horizontal linear coil	HXT15 (especially for GB4308)
△ L443	horizontal amplitude inductance	LGT-30μH
VD306	diode	2CK75D or 1N4148
VD463	diode	2CK75D or 1N4148
VD502	diode	2CK75D or 1N4148
VD503	diode	2CK75D or 1N4148
VD504	diode	2CK75D or 1N4148
VD506	diode	2CK75D or 1N4148
VD510	diode	2CK75D or 1N4148
VD333	diode	BAV21
VD358	diode	BAV21
VD450	diode	1S1887 or 2CZ1887
VD467	diode	1S1887 or 2CZ1887
VD487	diode	1S1887 or 2CZ1887
VD488	diode	1S1887 or 2CZ1887
VD370	diode	EU2A
VD371	diode	EU2A
VD406	diode	2CZRU2
VD460	diode	TVR-1B
VD465	diode	W05Z3.6B
VD466	diode	W05Z3.6B
VD468	diode	W05Z3.6B
VD507	diode	W05Z6.2B
VD508	diode	W05Z6.2B
VD464	diode	W05Z11B
VD509	diode	W05Z11B
VD505	diode	W05Z24C
VD489	diode	W05Z30B
△ VD461	diode	ERC20-06
△ VD404	diode	5VUZ52
V402	transistor	2SC2235-O
V501	transistor	2SA1015-Y
V502A	transistor	2SA1015-Y
V461	transistor	2SC1815-Y
V462	transistor	2SC1815-Y
V504	transistor	2SC1815-Y
V505	transistor	2SC1815-Y
△ V460	transistor	2SB688 or 3CA688
V502	transistor	2SC3852
V525	transistor	2SC4686A
△ V404	transistor	2SC5144
N503	IC	L7805CV or MC7805CT
N502	IC	L7812CV or MC7812CT
N501	IC	L7912CV
N301	IC	TDA8351
N504	IC	STK392-040

N505	IC	STK392-040
△ T461	flyback transformer	BSC70E
△ T401	line-driving transformer	BCT-7
△ T400	dynamic focus transformer	TLN2168
△ N511	high tension box	TPA6032AH or RCB-01CH
R574	jumper	5mm
R575	jumper	5mm
R570	jumper	20mm
	<b>power board</b>	
R846	carbon film resistor	RT13-0.166W-220ΩJ
R830	carbon film resistor	RT13-0.166W-470ΩJ
R817	carbon film resistor	RT13-0.166W-680ΩJ
R827	carbon film resistor	RT13-0.166W-1KΩJ
R880	carbon film resistor	RT13-0.166W-1KΩJ
R836	carbon film resistor	RT13-0.166W-1KΩJ
R823	carbon film resistor	RT13-0.166W-2.7KΩJ
R822	carbon film resistor	RT13-0.166W-3.9KΩJ
R837	carbon film resistor	RT13-0.166W-4.7KΩJ
R834	carbon film resistor	RT13-0.166W-5.6KΩJ
R846A	carbon film resistor	RT13-0.166W-5.6KΩJ
R881	carbon film resistor	RT13-0.166W-5.6KΩJ
R838	carbon film resistor	RT13-0.166W-6.8KΩJ
R847A	carbon film resistor	RT13-0.166W-10KΩJ
R820	carbon film resistor	RT13-0.166W-220KΩJ
R819	oxide metal film resistor	RY21-0.5W-4.7ΩJ
R815	oxide metal film resistor	RY21-0.5W-3.3KΩJ
R832	oxide metal film resistor	RY21-0.5W-56KΩJ
R813	glass enamel film resistor	RI40-0.5W-1.5MΩJ
R833	oxide metal film resistor	RJ20-1W-0.47ΩJ
R831	oxide metal film resistor	RJ20-1W-15KΩJ
R818	oxide metal film resistor	RY21-2W-0.1ΩJ
R821	oxide metal film resistor	RY21-2W-0.1ΩJ
RF855	oxide metal film resistor	RY21-2W-0.68ΩJ
R832A	oxide metal film resistor	RY21-2W-2.2ΩJ
R825	oxide metal film resistor	RY21-2W-47ΩJ
R816	oxide metal film resistor	RY21-2W-47KΩJ
R841	fuse-resistor	RF10-0.5W-12ΩJ
△ R801	glass enamel film resistor	232224413275 or VR68-1W-2.7MΩJ
△ RV899	piezoresistor	232259352316 or PH-593-230V
△ RT812	heat-sensitive resistor	B57237-S479-M
RF872	oxide metal film resistor	RY21-2W-100ΩJ
RF851	fuse	PRF5000F008 or PRF50005491
RF853	fuse	PRF5000F008 or PRF50005491
C869A	ceramic chip capacitor	CC1-63V-08a-C-100PFJ
C809	ceramic chip capacitor	CT1-63V-06c-2B4-470PFK
C829	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C850	ceramic chip capacitor	CT1-63V-06a-2B4-1000PFK
C831	ceramic chip capacitor	CT1-63V-08a-2F4-10nFZ
C837	ceramic chip capacitor	CT1-63V-08a-2F4-10nFZ


C856	ceramic chip capacitor	CT1-63V-08a-2F4-10nFZ
C803	ceramic chip capacitor	DE1107-1E472MAC250 or CT1-500V-12c-2E4-4700PFP
C804	ceramic chip capacitor	DE1107-1E472MAC250 or CT1-500V-12c-2E4-4700PFP
⚠ C822	ceramic chip capacitor	CT81-250VAC-2E4-4700PFM
⚠ C822A	ceramic chip capacitor	CT81-250VAC-2E4-4700PFM
C823	ceramic chip capacitor	DE0910B471K-KX or ECKDNS471MBX or CT7-400VAC-2B4-470PFFK
C824	ceramic chip capacitor	DE0910B471K-KX or ECKDNS471MBX or CT7-400VAC-2B4-470PFFK
C860	ceramic chip capacitor	CT1-500V-06c-2B4-470PFFK
C861	ceramic chip capacitor	CT1-500V-06c-2B4-470PFFK
C866	ceramic chip capacitor	CT1-500V-06c-2B4-470PFFK
C868	ceramic chip capacitor	CT1-500V-06c-2B4-470PFFK
C870	ceramic chip capacitor	CT1-500V-06c-2B4-470PFFK
C872	ceramic chip capacitor	CT1-500V-06c-2B4-470PFFK
C893	ceramic chip capacitor	CT81-2KV-12c-2R4-680PFFK
C818	ceramic chip capacitor	CT81-2KV-16c-2R4-2200PFFK
C817	polyester film capacitor	CL21X-50V-0.1μFJ
C832	polyester film capacitor	CL21X-50V-0.1μFJ
C834	polyester film capacitor	CL21X-50V-0.1μFJ
C836	polyester film capacitor	CL21X-50V-0.1μFJ
C838	polyester film capacitor	CL21X-50V-0.1μFJ
C843	polyester film capacitor	CL21X-50V-0.1μFJ
C851	polyester film capacitor	CL21X-50V-0.1μFJ
C880	polyester film capacitor	CL21X-50V-0.1μFJ
⚠ C801	polypropylene capacitor	222233820224
⚠ C802	polypropylene capacitor	222233820224
C825	polypropylene capacitor	CBB13-630V-0.01μFH
C844	electrolytic capacitor	CD110-16V-10μFM
C842	electrolytic capacitor	CD110X-16V-100μFM
C852	electrolytic capacitor	CD110X-16V-470μFM
C863	electrolytic capacitor	CD288H-16V-3300μFM
C833	electrolytic capacitor	CD110X-25V 470μFM
C862	electrolytic capacitor	CD110X-100V-470μFM
C841	electrolytic capacitor	CD81-50V-10μFM
C819	electrolytic capacitor	CD110X-50V-100μFM
C835	electrolytic capacitor	CD81-50V-330μFM
C869	electrolytic capacitor	CD81-50V-330μFM
C871	electrolytic capacitor	CD81-50V-330μFM
C873	electrolytic capacitor	CD81-50V-330μFM
C867	electrolytic capacitor	CD288H-50V-2200μFM
C884	electrolytic capacitor	CD289H-160V-330μFT
C820	electrolytic capacitor	CD289-450V-820μFM
L812	cored inductance	TEM2011
L814	cored inductance	TEM2011
L816	cored inductance	TEM2011

L860	cored inductance	TEM2011
L861	cored inductance	TEM2011
L866	cored inductance	TEM2011
L868	cored inductance	TEM2011
L869	cored inductance	TEM2011
L871	cored inductance	TEM2011
W806	fixed inductance	LGB0307-22 $\mu$ HJ
L862	jumper	5mm
L863	fixed inductance	TLN2026-11 $\mu$ HK
L867	fixed inductance	TLN2026-11 $\mu$ HK
L870	fixed inductance	TLN2026-11 $\mu$ HK
L876	fixed inductance	TLN2026-11 $\mu$ HK
L883	jumper	7.5mm
L885	fixed inductance	TLN3155D-100 $\mu$ HK
VD831A	diode	W05Z3.6A
VD834	diode	1N4148 or 2CK75D
VD835	diode	1N4148 or 2CK75D
VD836	diode	1N4148 or 2CK75D
VD880	diode	W05Z6.8R
VD850	diode	W05Z9.1B
VD817	diode	W05Z12A
VD819	diode	W05Z12A
VD831	diode	W05Z5.6B
VD812	diode	W05Z18C
VD821	diode	W05Z18C
VD810	diode	W05Z24C
VD832	diode	W05Z24C
VD818	diode	W05Z30B
VD809	diode	AU01Z
VD813	diode	AU01Z
VD822	diode	AU01Z
VD823	diode	AK03
VD861	diode	RU4A(LF-L1) or RU4AM(LF-L1)
VD866	diode	RU4A(LF-L1) or RU4AM(LF-L1)
VD863	diode	EU2A
⚠ VD815	diode	SARS01
VD864	diode	FML-G12S
VD865	diode	FML-G12S
VD867	diode	FML-G12S
VD893	diode	FML-G16S
⚠ V802	transistor	2SC2655-Y(C)
V806	transistor	2SC1815-Y
V809	transistor	2SC1815-Y
V882	transistor	2SC1815-Y
V883A	transistor	2SC1815-Y
V807	transistor	2SC3852
V880	transistor	2SC3852
V881	transistor	2SC3852

V883	transistor	2SC3852
△F801	fuse	U/C/T 51S-8A-125VAC
△F802	fuse	U/C/T 51S-8A-125VAC
△T801	filter line	TRF3173 or LCL-F11
△T802	filter line	TRF3197 or LCL-F12
△T862	transformer switch	BCK-25503L
N803	IC	L7805CV or MC7805CT
△N801	IC	STR-F6629B
△VQ805	IC	SE125N
△N804	photo-electrical coupling	LTV-816
△VC801	rectifier	RBV-606,LFA or D6SB60L
RF852	jumper	15mm
RF856	jumper	15mm

**Y-G board**

RG35	carbon film resistor	RT13-0.166W-56ΩJ
RG36	carbon film resistor	RT13-0.166W-56ΩJ
RG14	carbon film resistor	RT13-0.166W-100ΩJ
RG03	carbon film resistor	RT13-0.166W-1KΩJ
RG08	carbon film resistor	RT13-0.166W-1KΩJ
RG53	carbon film resistor	RT13-0.166W-1KΩJ
RG02	carbon film resistor	RT13-0.166W-1.5KΩJ
RG06	carbon film resistor	RT13-0.166W-1.5KΩJ
RG52	carbon film resistor	RT13-0.166W-2.7KΩJ
RG39	carbon film resistor	RT13-0.166W-3.6KΩJ
RG38	carbon film resistor	RT13-0.166W-10KΩJ
RG51	carbon film resistor	RT13-0.166W-10KΩJ
RG11	carbon film resistor	RT13-0.166W-68KΩJ
RG01A	carbon film resistor	RT13-0.166W-100KΩJ
RG17A	oxide metal film resistor	RY21-0.5W-3.9KΩJ
RC20	oxide metal film resistor	RY21-1W-33ΩJ
RG50	oxide metal film resistor	RY21-1W-100KΩJ
RG17	oxide metal film resistor	RY21-0.5W-330ΩK
RG05	glass enamel film resistor	RI40-0.5W-10KΩJ
RGP06	glass enamel film potentiometer	VG067TL1B200Ω or WI06-2Y-0.125W-200Ω-A
CG02	ceramic chip capacitor	CC1-63V-06a-C-2PFJ
CG03	ceramic chip capacitor	CC1-63V-06a-C-8PFC
CG14	ceramic chip capacitor	CT1-500V-06c-2B4-560PFC
CG04	ceramic chip capacitor	CT1-500V-06c-2B4-470PFC
CG08	polyester film capacitor	CL21X-50V-0.022μFJ
CG05	polyester film capacitor	CL21X-50V-0.1μFJ
CG11	polyester film capacitor	CL21X-250V-0.1μFJ
CGY01	polypropylene capacitor	CBB81-1.6KV-1800PFJ
CG30	electrolytic capacitor	CD110X-16V-10μFM
CG26	electrolytic capacitor	CD110X-16V-470μFM
CG27	electrolytic capacitor	CD110X-25V-100μFM
CG28	electrolytic capacitor	CD110-50V-0.47μFM
CG29	electrolytic capacitor	CD288H-250V-33μFM
CG50	electrolytic capacitor	CD288-250V-10μFQ

LG17	fixed inductance	LGA0204-4.7 $\mu$ HJ
LGY05	cored inductance	TEM2011
VDG02	diode	1N4148 or 2CK75D
VDG08	diode	1N4148 or 2CK75D
VDG10	diode	1N4148 or 2CK75D
VDG20	diode	W05Z9.1B
VDG14	diode	MTZJ13A or W05Z13A
VDG01	diode	2CZRU2
VDG18	diode	BAV21
VG06	diode	BF422
VG05	transistor	2SC1815-Y or 3DG1815-Y
VG07	transistor	2SC1815-Y or 3DG1815-Y
NG02	IC	TDA6111Q
 SG01	CRT socket	GZS10-2-108
RG19	jumper	20mm

**Y-B board**

RB35	carbon film resistor	RT13-0.166W-56 $\Omega$ J
RB36	carbon film resistor	RT13-0.166W-56 $\Omega$ J
RB14	carbon film resistor	RT13-0.166W-100 $\Omega$ J
RB03	carbon film resistor	RT13-0.166W-1K $\Omega$ J
RB08	carbon film resistor	RT13-0.166W-1K $\Omega$ J
RB52	carbon film resistor	RT13-0.166W-1K $\Omega$ J
RB02	carbon film resistor	RT13-0.166W-1.5K $\Omega$ J
RB05	carbon film resistor	RT13-0.166W-1.5K $\Omega$ J
RB53	carbon film resistor	RT13-0.166W-2.7K $\Omega$ J
RB40	carbon film resistor	RT13-0.166W-3.6K $\Omega$ J
RB39	carbon film resistor	RT13-0.166W-10K $\Omega$ J
RB51	carbon film resistor	RT13-0.166W-10K $\Omega$ J
RB11	carbon film resistor	RT13-0.166W-68K $\Omega$ J
RB17	oxide metal film resistor	RY21-0.5W-330 $\Omega$ K
RB17A	oxide metal film resistor	RY21-0.5W-3.9K $\Omega$ K
RB20	oxide metal film resistor	RY21-1W-33 $\Omega$ J
RB50	oxide metal film resistor	RY21-1W-100K $\Omega$ J
RB16	glass enamel film resistor	RI40-0.5W-10K $\Omega$ K
CB02	ceramic chip capacitor	CC1-63V-06a-C-2PFJ
CB04	ceramic chip capacitor	CT1-500V-06a-2B4-470PFK
CB14	ceramic chip capacitor	CT1-500V-06a-2B4-560PFK
CB08	polyester film capacitor	CL21X-50V-0.022 $\mu$ FJ
CB05	polyester film capacitor	CL21X-50V-0.1 $\mu$ FJ
CB11	polyester film capacitor	CL21X-250V-0.1 $\mu$ FJ
CB39	polypropylene capacitor	CBB81-1.6KV-1800PFJ
CB30	electrolytic capacitor	CD110-16V-10 $\mu$ FM
CB26	electrolytic capacitor	CD110X-16V-470 $\mu$ FM
CB27	electrolytic capacitor	CD110X-25V-100 $\mu$ FM
CB28	electrolytic capacitor	CD110-50V-0.47 $\mu$ FM
CB50	electrolytic capacitor	CD288-250V-10 $\mu$ FM
CB29	electrolytic capacitor	CD288H-250V-33 $\mu$ FM
LB17	cored inductance	LGA0204-4.7 $\mu$ HJ
LB01	cored inductance	TEM2011

VDB01	diode	1N4148 or 2CK75D
VDB08	diode	1N4148 or 2CK75D
VDB10	diode	1N4148 or 2CK75D
VDB20	diode	W05Z9.1B
VDB14	diode	W05Z13A or MTZJ13A
VDB07	diode	2CZRU2
VDB18	diode	BAV21
VB06	transistor	BF422
VB05	transistor	2SC1815-Y or 3DG1815-Y
VB07	transistor	2SC1815-Y or 3DG1815-Y
NB02	IC	TDA6111Q
△ SB01	CRT socket	GZS10-2-108
RB19	jumper	20mm
<b>Y-R board</b>		
RR35	carbon film resistor	RT13-0.166W-56ΩJ
RR36	carbon film resistor	RT13-0.166W-56ΩJ
RR14	carbon film resistor	RT13-0.166W-100ΩJ
RR08	carbon film resistor	RT13-0.166W-1KΩJ
RR03	carbon film resistor	RT13-0.166W-1KΩJ
RR53	carbon film resistor	RT13-0.166W-1KΩJ
RR02	carbon film resistor	RT13-0.166W-1.5KΩJ
RR05	carbon film resistor	RT13-0.166W-1.5KΩJ
RR52	carbon film resistor	RT13-0.166W-2.7KΩJ
RR39	carbon film resistor	RT13-0.166W-3.6KΩJ
RR38	carbon film resistor	RT13-0.166W-10KΩJ
RR51	carbon film resistor	RT13-0.166W-10KΩJ
RR11	carbon film resistor	RT13-0.166W-68KΩJ
RR17	oxide metal film resistor	RY21-0.5W-330ΩJ
RR17A	oxide metal film resistor	RY21-0.5W-3.9KΩJ
RR20	oxide metal film resistor	RY21-1W-33ΩJ
RR50	oxide metal film resistor	RY21-1W-100KΩJ
RRP05	glass enamel film potentiometer	VG067TLIB200Ω or WI06-2Y-0.125W-200Ω-A
RR16	glass enamel film resistor	RI40-0.5W-10KΩJ
CR02	ceramic chip capacitor	CC1-63V-06a-C-2PFC
CR03	ceramic chip capacitor	CC1-63V-06a-C-8PFD
CR04	ceramic chip capacitor	CT1-500V-06a-2B4-470PFFK
CR14	ceramic chip capacitor	CT1-500V-06a-2B4-560PFFK
CR08	polyester film capacitor	CL21X-50V-0.022μFJ
CR05	polyester film capacitor	CL21X-50V-0.1μFJ
CR11	polyester film capacitor	CL21X-250V-0.1μFJ
CR39	polypropylene capacitor	CBB81-1.6KV-1800PFFJ
CR30	electrolytic capacitor	CD110X-16V-10μFM
CR17	electrolytic capacitor	CD110X-16V-470μFM
CR27	electrolytic capacitor	CD110X-25V-100μFM
CR28	electrolytic capacitor	CD110-50V-0.47μFM
CR29	electrolytic capacitor	CD288H-250V-33μFM
CR18	electrolytic capacitor	CD288-250V-10μFM
LR17	cored inductance	LGA0204-4.7uHJ
LR01	cored inductance	TEM2011



VDR01	diode	1N4148 or 2CK75D
VDR08	diode	1N4148 or 2CK75D
VDR10	diode	1N4148 or 2CK75D
VDR20	diode	W05Z9.1B
VDR14	diode	MTZJ13A or W05Z13A
VDR18	diode	BAV21
VR06	transistor	BF422
VR05	transistor	2SC1815-Y or 3DG1815-Y
VR07	transistor	2SC1815-Y or 3DG1815-Y
NR02	IC	TDA6111Q
△ SR01	CRT socket	GZS10-2-108
RR19	jumper	20mm
	<b>convergence board</b>	
Z711	carbon film resistor	RT13-0.166W-10KΩJ
Z712	carbon film resistor	RT13-0.166W-10KΩJ
R17	chip resistor	ERJ6GEYJ000V or CR1/10000V or RC-05K000JT
R62	chip resistor	ERJ6GEYJ000V or CR1/10000V or RC-05K000JT
R136	chip resistor	ERJ6GEYJ000V or CR1/10000V or RC-05K000JT
R712	chip resistor	ERJ6GEYJ100V or CR1/10100JV or RC-05K100JT
R713	chip resistor	ERJ6GEYJ100V or CR1/10100JV or RC-05K100JT
R714	chip resistor	ERJ6GEYJ100V or CR1/10100JV or RC-05K100JT
R02	chip resistor	ERJ6GEYJ101V or CR1/10101JV or RC-05K101JT
R66	chip resistor	ERJ6GEYJ101V or CR1/10101JV or RC-05K101JT
R80	chip resistor	ERJ6GEYJ101V or CR1/10101JV or RC-05K101JT
R81	chip resistor	ERJ6GEYJ101V or CR1/10101JV or RC-05K101JT
R82	chip resistor	ERJ6GEYJ101V or CR1/10101JV or RC-05K101JT
R83	chip resistor	ERJ6GEYJ101V or CR1/10101JV

R86	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R87	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R88	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R89	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R92	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R93	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R94	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R95	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R98	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R99	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R100	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R101	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R104	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R105	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R106	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R107	chip resistor	or RC-05K101JT ERJ6GEYJ101V or CR1/10101JV
R110	chip resistor	or RC-05K101JT ERJ6GEYJ101V

		or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R111	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R112	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R113	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R778	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R779	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R780	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R781	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R782	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R783	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R701	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R702	chip resistor	or CR1/10101JV or RC-05K101JT ERJ6GEYJ101V
R23	chip resistor	or CR1/10561JV or RC-05K561JT ERJ6GEYJ561V
R24	chip resistor	or CR1/10561JV or RC-05K561JT ERJ6GEYJ561V
R30	chip resistor	or CR1/10561JV or RC-05K561JT ERJ6GEYJ561V
R31	chip resistor	or CR1/10561JV or RC-05K561JT ERJ6GEYJ561V
R37	chip resistor	or CR1/10561JV or RC-05K561JT ERJ6GEYJ561V

R38	chip resistor	ERJ6GEYJ561V or CR1/10561JV or RC-05K561JT
R44	chip resistor	ERJ6GEYJ561V or CR1/10561JV or RC-05K561JT
R45	chip resistor	ERJ6GEYJ561V or CR1/10561JV or RC-05K561JT
R51	chip resistor	ERJ6GEYJ561V or CR1/10561JV or RC-05K561JT
R52	chip resistor	ERJ6GEYJ561V or CR1/10561JV or RC-05K561JT
R58	chip resistor	ERJ6GEYJ561V or CR1/10561JV or RC-05K561JT
R59	chip resistor	ERJ6GEYJ561V or CR1/10561JV or RC-05K561JT
R19	chip resistor	ERJ6GEYJ102V or CR1/10102JV or RC-05K102JT
R70	chip resistor	ERJ6GEYJ102V or CR1/10102JV or RC-05K102JT
R1	chip resistor	ERJ6GEYJ222V or CR1/10222JV
R67	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT
R788	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT
R789	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT
R01	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT
R6	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT
R10	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT
R11	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT

R786	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT
R787	chip resistor	ERJ6GEYJ472V or CR1/10472JV or RC-05K472JT
R21	chip resistor	ERJ6GEYJ622V or CR1/10622JV or RC-05K622JT
R28	chip resistor	ERJ6GEYJ622V or CR1/10622JV or RC-05K622JT
R35	chip resistor	ERJ6GEYJ622V or CR1/10622JV or RC-05K622JT
R42	chip resistor	ERJ6GEYJ622V or CR1/10622JV or RC-05K622JT
R49	chip resistor	ERJ6GEYJ622V or CR1/10622JV or RC-05K622JT
R56	chip resistor	ERJ6GEYJ622V or CR1/10622JV or RC-05K622JT
R3	chip resistor	ERJ6GEYJ332V or CR1/10332JV or RC-05K332JT
R84	chip resistor	ERJ6GEYJ332V or CR1/10332JV or RC-05K332JT
R85	chip resistor	ERJ6GEYJ332V or CR1/10332JV or RC-05K332JT
R90	chip resistor	ERJ6GEYJ332V or CR1/10332JV or RC-05K332JT
R91	chip resistor	ERJ6GEYJ332V or CR1/10332JV or RC-05K332JT
R96	chip resistor	ERJ6GEYJ332V or CR1/10332JV or RC-05K332JT
R97	chip resistor	ERJ6GEYJ332V or CR1/10332JV or RC-05K332JT
R102	chip resistor	ERJ6GEYJ332V or CR1/10332JV or RC-05K332JT
R103	chip resistor	ERJ6GEYJ332V or CR1/10332JV

R108	chip resistor	or RC-05K332JT ERJ6GEYJ332V or CR1/10332JV
R109	chip resistor	or RC-05K332JT ERJ6GEYJ332V or CR1/10332JV
R114	chip resistor	or RC-05K332JT ERJ6GEYJ332V or CR1/10332JV
R115	chip resistor	or RC-05K332JT ERJ6GEYJ332V or CR1/10332JV
R2	chip resistor	or RC-05K332JT ERJ6GEYJ682V or CR1/10682JV
R126	chip resistor	or RC-05K682JT ERJ6GEYJ682V or CR1/10682JV
R127	chip resistor	or RC-05K682JT ERJ6GEYJ682V or CR1/10682JV
R128	chip resistor	or RC-05K682JT ERJ6GEYJ682V or CR1/10682JV
R129	chip resistor	or RC-05K682JT ERJ6GEYJ682V or CR1/10682JV
R130	chip resistor	or RC-05K682JT ERJ6GEYJ682V or CR1/10682JV
R131	chip resistor	or RC-05K682JT ERJ6GEYJ682V or CR1/10682JV
R33	chip resistor	or RC-05K682JT ERJ6GEYJ822V or CR1/10882JV
R40	chip resistor	or RC-05K822JT ERJ6GEYJ822V or CR1/10882JV
R47	chip resistor	or RC-05K822JT ERJ6GEYJ822V or CR1/10882JV
R54	chip resistor	or RC-05K822JT ERJ6GEYJ822V or CR1/10882JV
R26	chip resistor	or RC-05K822JT ERJ6GEYJ123V or CR1/10123JV
R61	chip resistor	or RC-05K123JT ERJ6GEYJ123V

R74	chip resistor	or CR1/10123JV or RC-05K123JT ERJ6GEYJ123V
R22	chip resistor	or CR1/10123JV or RC-05K123JT ERJ6GEYJ153V
R29	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R36	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R43	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R50	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R57	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R116	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R117	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R118	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R121	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R122	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R123	chip resistor	or CR1/10153JV or RC-05K153JT ERJ6GEYJ153V
R119	chip resistor	or CR1/10273JV or RC-05K273JT ERJ6GEYJ273V
R120	chip resistor	or CR1/10273JV or RC-05K273JT ERJ6GEYJ273V
R124	chip resistor	or CR1/10273JV or RC-05K273JT ERJ6GEYJ273V

R125	chip resistor	ERJ6GEYJ273V or CR1/10273JV or RC-05K273JT
R4	chip resistor	ERJ6GEYJ363V or CR1/10363JV or RC-05K363JT
R7	chip resistor	ERJ6GEYJ103V or CR1/10103JV or RC-05K103JT
R68	chip resistor	ERJ6GEYJ103V or CR1/10103JV or RC-05K103JT
R5	chip resistor	ERJ6GEYJ223V or CR1/10223JV or RC-05K223JT
R71	chip resistor	ERJ6GEYJ223V or CR1/10223JV or RC-05K223JT
R72	chip resistor	ERJ6GEYJ223V or CR1/10223JV or RC-05K223JT
R64	chip resistor	ERJ6GEYJ473V or CR1/10473JV or RC-05K473JT
R73	chip resistor	ERJ6GEYJ473V or CR1/10473JV or RC-05K473JT
R20	chip resistor	ERJ6GEYJ683V or CR1/10683JV or RC-05K683JT
R25	chip resistor	ERJ6GEYJ683V or CR1/10683JV or RC-05K683JT
R27	chip resistor	ERJ6GEYJ683V or CR1/10683JV or RC-05K683JT
R32	chip resistor	ERJ6GEYJ683V or CR1/10683JV or RC-05K683JT
R34	chip resistor	ERJ6GEYJ683V or CR1/10683JV or RC-05K683JT
R39	chip resistor	ERJ6GEYJ683V or CR1/10683JV or RC-05K683JT
R41	chip resistor	ERJ6GEYJ683V or CR1/10683JV or RC-05K683JT
R46	chip resistor	ERJ6GEYJ683V or CR1/10683JV



R48	chip resistor	or RC-05K683JT ERJ6GEYJ683V or CR1/10683JV
R53	chip resistor	or RC-05K683JT ERJ6GEYJ683V or CR1/10683JV
R55	chip resistor	or RC-05K683JT ERJ6GEYJ683V or CR1/10683JV
R60	chip resistor	or RC-05K683JT ERJ6GEYJ683V or CR1/10683JV
R18	chip resistor	or RC-05K683JT ERJ6GEYJ104V or CR1/10104JV
C1	chip capacitor	or RC-05K104JT GRM40B471K50PT or 0805B471K500NT
C63	chip capacitor	GRM40B471K50PT or 0805B471K500NT
C69	chip capacitor	GRM40B471K50PT or 0805B471K500NT
C75	chip capacitor	GRM40B471K50PT or 0805B471K500NT
C81	chip capacitor	GRM40B471K50PT or 0805B471K500NT
C87	chip capacitor	GRM40B471K50PT or 0805B471K500NT
C93	chip capacitor	GRM40B471K50PT or 0805B471K500NT
C95	chip capacitor	GRM40F682Z50PT or 0805F682Z500NT
C2	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C17	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C23	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C25	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C30	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C35	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C40	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C47	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C52	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT

C56	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C97	chip capacitor	GRM40F103Z50PT or 0805F103Z500NT
C4	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C5	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C6	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C10	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C12	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C14	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C16	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C20	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C29	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C34	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C39	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C48	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C53	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C58	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C59	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C65	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C71	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C77	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C83	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C89	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C100	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C720	chip capacitor	GRM40F104Z50PT or 0805F104Z500NT
C62	polyester film capacitor	CL21X-50V-1500PFJ
C68	polyester film capacitor	CL21X-50V-1500PFJ

C74	polyester film capacitor	CL21X-50V-1500PFJ
C80	polyester film capacitor	CL21X-50V-1500PFJ
C86	polyester film capacitor	CL21X-50V-1500PFJ
C92	polyester film capacitor	CL21X-50V-1500PFJ
C61	polyester film capacitor	CL21X-50V-5600PFJ
C67	polyester film capacitor	CL21X-50V-5600PFJ
C73	polyester film capacitor	CL21X-50V-5600PFJ
C79	polyester film capacitor	CL21X-50V-5600PFJ
C85	polyester film capacitor	CL21X-50V-5600PFJ
C91	polyester film capacitor	CL21X-50V-5600PFJ
C01	electrolytic capacitor	CD110X-50V-1 $\mu$ FM
C18	electrolytic capacitor	CD110X-16V-10 $\mu$ FM
C32	electrolytic capacitor	CD110X-16V-33UFJ
C33	electrolytic capacitor	CD110X-16V-33UFJ
C37	electrolytic capacitor	CD110X-16V-33UFJ
C38	electrolytic capacitor	CD110X-16V-33UFJ
C42	electrolytic capacitor	CD110X-16V-33UFJ
C43	electrolytic capacitor	CD110X-16V-33UFJ
C44	electrolytic capacitor	CD110X-16V-33UFJ
C45	electrolytic capacitor	CD110X-16V-33UFJ
C49	electrolytic capacitor	CD110X-16V-33UFJ
C50	electrolytic capacitor	CD110X-16V-33UFJ
C54	electrolytic capacitor	CD110X-16V-33UFJ
C55	electrolytic capacitor	CD110X-16V-33UFJ
C3	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C7	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C9	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C11	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C13	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C15	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C21	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C22	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C24	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C41	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C46	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C51	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C96	electrolytic capacitor	CD110X-16V-47 $\mu$ FM
C19	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
C795	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
C798	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
C799	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
C7701	electrolytic capacitor	CD110X-16V-100 $\mu$ FM
L745	fixed inductance	LGB0606-1.0 $\mu$ HK
L751	fixed inductance	LGB0606-1.0 $\mu$ HK
L712	fixed inductance	LGA0204-1 $\mu$ HJ
L713	fixed inductance	LGA0204-1 $\mu$ HJ
L714	fixed inductance	LGA0204-1 $\mu$ HJ
L739	fixed inductance	LGA0307-56 $\mu$ HK
L740	fixed inductance	LGA0307-56 $\mu$ HK
Z711A	cored inductance	TEM2011

L737	cored inductance	TEM2011
L738	cored inductance	TEM2011
D02	diode	2CK75D or 1N4148
D701	diode	2CK75D or 1N4148
D702	diode	2CK75D or 1N4148
D703	diode	2CK75D or 1N4148
D704	diode	2CK75D or 1N4148
D705	diode	2CK75D or 1N4148
V701	transistor	2SC1815-Y or 3DG1815-Y
V702	transistor	2SC1815-Y or 3DG1815-Y
N708	IC	uPC4570G2-E1
N709	IC	uPC4570G2-E1
N710	IC	uPC4570G2-E1
N711	IC	uPC4570G2-E1
N712	IC	uPC4570G2-E1
N713	IC	uPC4570G2-E1
N715	IC	uPC4570G2-E1
N701	IC	uPD6376GS-E1
N702	IC	uPD6376GS-E1
N703	IC	uPD6376GS-E1
N704	IC	uPD6376GS-E1
N705	IC	uPD6376GS-E1
N706	IC	uPD6376GS-E1
N714	IC	AT24C64-10PC
N722	IC	CM0007AF
D03	jumper	7.5mm
L701	jumper	7.5mm
L702	jumper	7.5mm
<b>VM board</b>		
RY50	carbon film resistor	RT13-0.166W-27ΩJ
RY60	carbon film resistor	RT13-0.166W-47ΩJ
RY58	carbon film resistor	RT13-0.166W-47ΩJ
RY25	carbon film resistor	RT13-0.166W-47ΩJ
RY26	carbon film resistor	RT13-0.166W-47ΩJ
RY31	carbon film resistor	RT13-0.166W-68ΩJ
RY32	carbon film resistor	RT13-0.166W-68ΩJ
RY20	carbon film resistor	RT13-0.166W-100ΩJ
RY14	carbon film resistor	RT13-0.166W-100ΩJ
RY03A	carbon film resistor	RT13-0.166W-150ΩJ
RY24	carbon film resistor	RT13-0.166W-270ΩJ
RY27	carbon film resistor	RT13-0.166W-270ΩJ
RY05	carbon film resistor	RT13-0.166W-330ΩJ
RY04	carbon film resistor	RT13-0.166W-470ΩJ
RY07	carbon film resistor	RT13-0.166W-470ΩJ
RY09	carbon film resistor	RT13-0.166W-470ΩJ
WY03	carbon film resistor	RT13-0.166W-470ΩJ
RY22	carbon film resistor	RT13-0.166W-1KΩJ
RY16	carbon film resistor	RT13-0.166W-1.5KΩJ
RY23	carbon film resistor	RT13-0.166W-1.5KΩJ
RY10	carbon film resistor	RT13-0.166W-2.2KΩJ

RY03B	carbon film resistor	RT13-0.166W-3.3KΩJ
RY17	carbon film resistor	RT13-0.166W-3.3KΩJ
RY02	carbon film resistor	RT13-0.166W-4.7KΩJ
RY28	carbon film resistor	RT13-0.166W-4.7KΩJ
RY30	carbon film resistor	RT13-0.166W-4.7KΩJ
RY03	carbon film resistor	RT13-0.166W-9.1KΩJ
RY11	carbon film resistor	RT13-0.166W-10KΩJ
RY12	carbon film resistor	RT13-0.166W-10KΩJ
RY18	carbon film resistor	RT13-0.166W-100KΩJ
RY15	carbon film resistor	RT13-0.166W-100KΩJ
RY29	carbon film resistor	RT13-0.166W-1MΩJ
WY01	oxide metal film resistor	RY21-0.5W-4.7ΩJ
CY08	ceramic chip capacitor	CC1-63V-06a-SL-100PFJ
CY06	ceramic chip capacitor	CC1-63V-10a-SL-390PFJ
CY07	ceramic chip capacitor	CC1-63V-06a-SL-470PFK
CY02	ceramic chip capacitor	CT1-63V-10a-2B4-3900PFK
CY02A	ceramic chip capacitor	CT1-63V-10a-2B4-3900PFK
CY14	ceramic chip capacitor	CT1-63V-10a-2B4-4700PFK
CY07A	polyester film capacitor	CL21X-50V-0.01μFJ
CY12	polyester film capacitor	CL21X-50V-0.01μFJ
CY17	polyester film capacitor	CL21X-50V-0.047μFJ
CY09	polyester film capacitor	CL21X-50V-0.047μFJ
CY01	electrolytic capacitor	CD110-50V-10μFM
RY08	electrolytic capacitor	CD110-50V-10μFM
CY10	electrolytic capacitor	CD110X-50V-47μFM
VDY01	diode	2CK75D or 1N4148
VDY02	diode	2CK75D or 1N4148
VDY04	diode	2CK75D or 1N4148
VY05	transistor	BC547
VY04	transistor	BC547
VY10	transistor	BC547
VY07	transistor	BC547
VY18	transistor	BC547
VY06	transistor	BC557
VY19	transistor	BC557
VY20	transistor	BC557
VY02	transistor	3CG1015-Y or 2SA1015-Y
VY03	transistor	3CG1015-Y or 2SA1015-Y
VGY15	transistor	3CG1015-Y or 2SA1015-Y
VY01	transistor	2SC1815-Y or 3DG1815-Y
VGY16	transistor	2SC1815-Y or 3DG1815-Y
VY08	transistor	2SC2878-A
VY09	transistor	2SC2878-A
UV01	luminance delay line	LPF15M
<b>VM amplifier board(R)</b>		
RRY16	carbon film resistor	RT13-0.166W-20ΩJ
RRY14	carbon film resistor	RT13-0.166W-20ΩJ
RRY27	carbon film resistor	RT13-0.166W-100ΩJ
RRY29	carbon film resistor	RT13-0.166W-100ΩJ
RRY28	carbon film resistor	RT13-0.166W-220ΩJ

RRY08	carbon film resistor	RT13-0.166W-1.2KΩJ
RRY06	carbon film resistor	RT13-0.166W-1.5KΩJ
RRY40	carbon film resistor	RT13-0.166W-2.2KΩJ
RRY07	carbon film resistor	RT13-0.166W-2.4KΩJ
RRY09	carbon film resistor	RT13-0.166W-2.4KΩJ
RRY41	carbon film resistor	RT13-0.166W-5.6KΩJ
RRY02	carbon film resistor	RT13-0.166W-10KΩJ
RRY03	carbon film resistor	RT13-0.166W-10KΩJ
RRY13	carbon film resistor	RT13-0.166W-12KΩJ
RRY10	carbon film resistor	RT13-0.166W-68KΩJ
RRY11	carbon film resistor	RT13-0.166W-68KΩJ
RRY15	oxide metal film resistor	RY21-0.5W-2.7ΩJ
RRY17	oxide metal film resistor	RY21-0.5W-2.7ΩJ
RRY30	oxide metal film resistor	RY21-0.5W-4.7ΩJ
RRY31	oxide metal film resistor	RY21-0.5W-4.7ΩJ
RRY18	oxide metal film resistor	RY21-2W-220ΩJ
RRY01	oxide metal film resistor	RY21-2W-470ΩJ
CRY15	ceramic chip capacitor	CT1-63V-10a-2B4-4700PFK
CRY16	ceramic chip capacitor	CT1-63V-10a-2B4-4700PFK
CRY04	ceramic chip capacitor	CT1-500V-14C-2B4-4700PFK
CRY06	ceramic chip capacitor	CT1-500V-14C-2B4-4700PFK
CRY11	electrolytic capacitor	CD110-35V-220μFM
CRY02	electrolytic capacitor	CD110-160V-47μFM
CRY05	electrolytic capacitor	CD110-160V-47μFM
CRY03	electrolytic capacitor	CD110-250V-10μFM
CRY10	electrolytic capacitor	CD110-250V-10μFM
LRY01	cored inductance	TEM2011
LRY02	cored inductance	TEM2011
VDRY04	diode	2CK75D or 1N4148
VDRY03	diode	2CK75D or 1N4148
VDRY05	diode	BYV26C
VDRY06	diode	BYV26C
VRY03	transistor	2SA1837
VRY04	transistor	2SC4793
VRY10	transistor	3CG1015-Y or 2SA1015-Y
VRY13	transistor	3CG1015-Y or 2SA1015-Y
VRY11	transistor	2SC1815-Y or 3DG1815-Y
VRY12	transistor	2SC1815-Y or 3DG1815-Y
VRY16	transistor	2SC1815-Y or 3DG1815-Y
XRP02	VM coil	92LTU-040
<b>VM amplifier board(G)</b>		
RGY16	carbon film resistor	RT13-0.166W-20ΩJ
RGY14	carbon film resistor	RT13-0.166W-20ΩJ
RGY27	carbon film resistor	RT13-0.166W-100ΩJ
RGY29	carbon film resistor	RT13-0.166W-100ΩJ
RGY28	carbon film resistor	RT13-0.166W-220ΩJ
RGY08	carbon film resistor	RT13-0.166W-1.2KΩJ
RGY07	carbon film resistor	RT13-0.166W-2.4KΩJ
RGY09	carbon film resistor	RT13-0.166W-2.4KΩJ
RGY06	carbon film resistor	RT13-0.166W-1.5KΩJ

RGY40	carbon film resistor	RT13-0.166W-2.2K $\Omega$ J
RGY41	carbon film resistor	RT13-0.166W-5.6K $\Omega$ J
RGY02	carbon film resistor	RT13-0.166W-10K $\Omega$ J
RGY03	carbon film resistor	RT13-0.166W-10K $\Omega$ J
RGY13	carbon film resistor	RT13-0.166W-12K $\Omega$ J
RGY10	carbon film resistor	RT13-0.166W-68K $\Omega$ J
RGY11	carbon film resistor	RT13-0.166W-68K $\Omega$ J
RCY15	oxide metal film resistor	RY21-0.5W-2.7 $\Omega$ J
RGY17	oxide metal film resistor	RY21-0.5W-2.7 $\Omega$ J
RGY30	oxide metal film resistor	RY21-0.5W-4.7 $\Omega$ J
RCY31	oxide metal film resistor	RY21-0.5W-4.7 $\Omega$ J
RGY18	oxide metal film resistor	RY21-2W-220 $\Omega$ J
RGY01	oxide metal film resistor	RY21-2W-470 $\Omega$ J
CGY15	ceramic chip capacitor	CT1-63V-10a-2B4-4700PFK
CGY16	ceramic chip capacitor	CT1-63V-10a-2B4-4700PFK
CGY04	ceramic chip capacitor	CT1-500V-14C-2B4-4700PFK
CGY06	ceramic chip capacitor	CT1-500V-14C-2B4-4700PFK
CGY11	electrolytic capacitor	CD110-35V-220 $\mu$ FM
CGY02	electrolytic capacitor	CD110-160V-47 $\mu$ FM
CGY05	electrolytic capacitor	CD110-160V-47 $\mu$ FM
CGY03	electrolytic capacitor	CD110-250V-10 $\mu$ FM
CGY10	electrolytic capacitor	CD110-250V-10 $\mu$ FM
LGY01	cored inductance	TEM2011
LGY02	cored inductance	TEM2011
VDGY04	diode	2CK75D or 1N4148
VDGY03	diode	2CK75D or 1N4148
VDGY05	diode	BYV26C
VDGY06	diode	BYV26C
VGY03	transistor	2SA1837
VGY04	transistor	2SC4793
VGY10	transistor	3CG1015-Y or 2SA1015-Y
VGY13	transistor	3CG1015-Y or 2SA1015-Y
VGY11	transistor	2SC1815-Y or 3DG1815-Y
VGY12	transistor	2SC1815-Y or 3DC1815-Y
VGY16	transistor	2SC1815-Y or 3DG1815-Y
XGP02	VM coil	92LTU-040
<b>VM amplifier board(B)</b>		
RBY16	carbon film resistor	RT13-0.166W-20 $\Omega$ J
RBY14	carbon film resistor	RT13-0.166W-20 $\Omega$ J
RBY27	carbon film resistor	RT13-0.166W-100 $\Omega$ J
RBY29	carbon film resistor	RT13-0.166W-100 $\Omega$ J
RBY28	carbon film resistor	RT13-0.166W-220 $\Omega$ J
RBY08	carbon film resistor	RT13-0.166W-1.2K $\Omega$ J
RBY07	carbon film resistor	RT13-0.166W-2.4K $\Omega$ J
RBY09	carbon film resistor	RT13-0.166W-2.4K $\Omega$ J
RBY06	carbon film resistor	RT13-0.166W-1.5K $\Omega$ J
RBY40	carbon film resistor	RT13-0.166W-2.2K $\Omega$ J
RBY41	carbon film resistor	RT13-0.166W-5.6K $\Omega$ J
RBY02	carbon film resistor	RT13-0.166W-10K $\Omega$ J
RBY03	carbon film resistor	RT13-0.166W-10K $\Omega$ J

RBY13	carbon film resistor	RT13-0.166W-12KΩJ
RBY10	carbon film resistor	RT13-0.166W-68KΩJ
RBY11	carbon film resistor	RT13-0.166W-68KΩJ
RBY15	oxide metal film resistor	RY21-0.5W-2.7ΩJ
RBY17	oxide metal film resistor	RY21-0.5W-2.7ΩJ
RBY30	oxide metal film resistor	RY21-0.5W-4.7ΩJ
RBY31	oxide metal film resistor	RY21-0.5W-4.7ΩJ
RBY18	oxide metal film resistor	RY21-2W-220ΩJ
RBY01	oxide metal film resistor	RY21-2W-470ΩJ
CBY15	ceramic chip capacitor	CT1-63V-10a-2B4-4700PFK
CBY16	ceramic chip capacitor	CT1-63V-10a-2B4-4700PFK
CBY04	ceramic chip capacitor	CT1-500V-14C-2B4-4700PFK
CBY06	ceramic chip capacitor	CT1-500V-14C-2B4-4700PFK
CBY11	electrolytic capacitor	CD110-35V-220μFM
CBY02	electrolytic capacitor	CD110-160V-47μFM
CBY05	electrolytic capacitor	CD110-160V-47μFM
CBY03	electrolytic capacitor	CD110-250V-10μFM
CBY10	electrolytic capacitor	CD110-250V-10μFM
LBY01	cored inductance	TEM2011
LBY02	cored inductance	TEM2011
VDBY04	diode	2CK75D or 1N4148
VDBY03	diode	2CK75D or 1N4148
VDBY05	diode	BYV26C
VDBY06	diode	BYV26C
VBY03	transistor	2SA1837
VBY04	transistor	2SC4793
VBY10	transistor	3CG1015-Y or 2SA1015-Y
VBY13	transistor	3CG1015-Y or 2SA1015-Y
VBY11	transistor	2SC1815-Y or 3DG1815-Y
VBY12	transistor	2SC1815-Y or 3DG1815-Y
VBY16	transistor	2SC1815-Y or 3DG1815-Y
XBP02	VM coil	92LTU-040
<b>K board</b>		
RK52	carbon film resistor	RT13-0.166W-2.4KΩJ
RK55	carbon film resistor	RT13-0.166W-2.4KΩJ
RK53	carbon film resistor	RT13-0.166W-7.5KΩJ
RK56	carbon film resistor	RT13-0.166W-7.5KΩJ
VDK04	diode	1N4148
VDK03	diode	FG5RGD
VK02	transistor	2SA1015-Y
VK03	transistor	2SA1015-Y
VK01	transistor	2SC1815-Y
KK01	Key-press	KA3L6X7X7.5-22-10
KK02	Key-press	KA3L6X7X7.5-22-10
XPV01	front AV jack	AV-1S-1PB
<b>remote board</b>		
RM01	carbon film resistor	RT13-0.166W-2.4KΩJ
CM01	electrolytic capacitor	CD110-16V-47μFM
NK01	IC	HS0038A2 or HS0038B
<b>N-S correction board</b>		



RB01	oxide film resistor	RY21-2W-3.3KΩJ
RB02	oxide film resistor	RY21-2W-3.3KΩJ
CB01	polyester film capacitor	CBB13-400V-0.043μFJ
CB02A	polyester film capacitor	CL21X-250V-0.1μFJ
CB02B	polyester film capacitor	CL21X-250V-0.1μFJ
LB01	correction inductance	HFT90
TB01	correction transformer	BCJ-F10
RBP01	jumper	5mm
RY33	jumper	5mm
<b>other components</b>		
⚠	anode leader	HV-WR
⚠	anode leader	HV-WB
⚠	anode leader	HV-WG
⚠	power switch	KDC-A04-MU171
⚠	power cord with connector	RVVZ-CH2-ZA420-TJC1-3Y
	electronic speaker	YD140-A1-30W-8Ω
	electronic speaker	YDQG80-A1-10W-8Ω
	electrolytic capacitor	CD71-50V-2.2μFM
<b>import module</b>		
⚠	projection tube(R)	P16LNM07RJA
⚠	projection tube(R)	P16LSG03RJA
⚠	projection tube(R)	P16QDU11RJA
⚠	projection tube(G)	P16LNM07HKA
⚠	projection tube(G)	P16LSG03HKA
⚠	projection tube(G)	P16QDU11GHA
⚠	projection tube(B)	P16LNM07BMB
⚠	projection tube(B)	P16LSG03BMB
⚠	projection tube(B)	P16QDU11BEA
⚠	focus module	MHF116-62A or 841-01
	DY deflection coil	DAV4925
	DY deflection coil	DAV4925
	DY deflection coil	DAV4925
⚠	high voltage capacitor module	MSC102-01C or BTFYH
	VM coil	TLHX003
	VM coil	TLHX003
	VM coil	TLHX003
<b>PCB</b>		
⚠	main board	JUT7.820.032
⚠	AV board	JUT7.820.035
⚠	digital board	JUT7.820.049
⚠	scan board	JUC7.820.079-4U
⚠	power board	JUT7.820.033
⚠	Y-G board	JUC7.820.085-3U
⚠	Y-B board	JUC7.820.086-3
⚠	Y-R board	JUC7.820.084-3
⚠	convergence board	JUC7.820.081
⚠	VM board	JUC7.820.163-2
⚠	VM amplifier board(R)	JUT7.820.057
⚠	VM amplifier board(G)	JUT7.820.058
⚠	VM amplifier board(B)	JUT7.820.059
⚠	K board	JUC7.820.082-2U
⚠	remote board	JUC7.820.083
⚠	N-S correction board	JUC7.820.295