TOSHIBA

FILE NO. 020-200101

SERVICE MANUAL

COLOR TELEVISION

N1ES Chassis

32A41, 36A41

(TAC0101) *(TAC0102)*

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CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

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

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a 120V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

   Refer to table-1 for high voltage (A), (B).
   (See SETTING & ADJUSTING DATA on page 17)

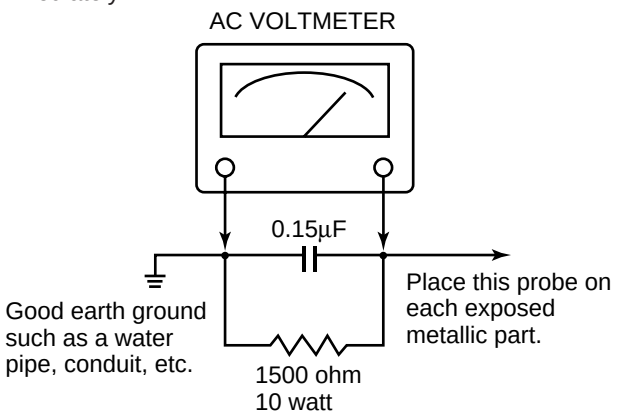
   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

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

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
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 shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 120V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner:

   Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 μF, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts rms. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE “X-RAY RADIATION PRECAUTION”, “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON PAGE 3 OF THIS MANUAL.

SET-UP ADJUSTMENT (FOR 13”, 14”, 19”, 20”)

■ The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

1. Color Purity
2. Convergence
3. White Balance

Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning. Refer to figure 1.
Mounting position of the purity magnet assembly should fit to same position as old one because slightly difference to the position depend on a kind of tube.

* There are no adjustment of purity and convergence in some picture tube (Unified with purity magnet)

COLOR PURITY ADJUSTMENT

NOTE : Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

1. Demagnetize the picture tube and cabinet using a degaussing coil.
2. Set the brightness and contrast to maximum.
3. Use a green raster from among the built-in test signals.
4. Loosen the clamp screw holding the yoke and slide the yoke backward or forward to provide vertical green belt (zone) in the picture screen.
5. Remove the Rubber Wedges.
6. Rotate and spread the tabs of the purity magnet (See figure 2.) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, enter the raster vertically.
7. Slowly move the yoke forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check the purity of the red and blue raster.

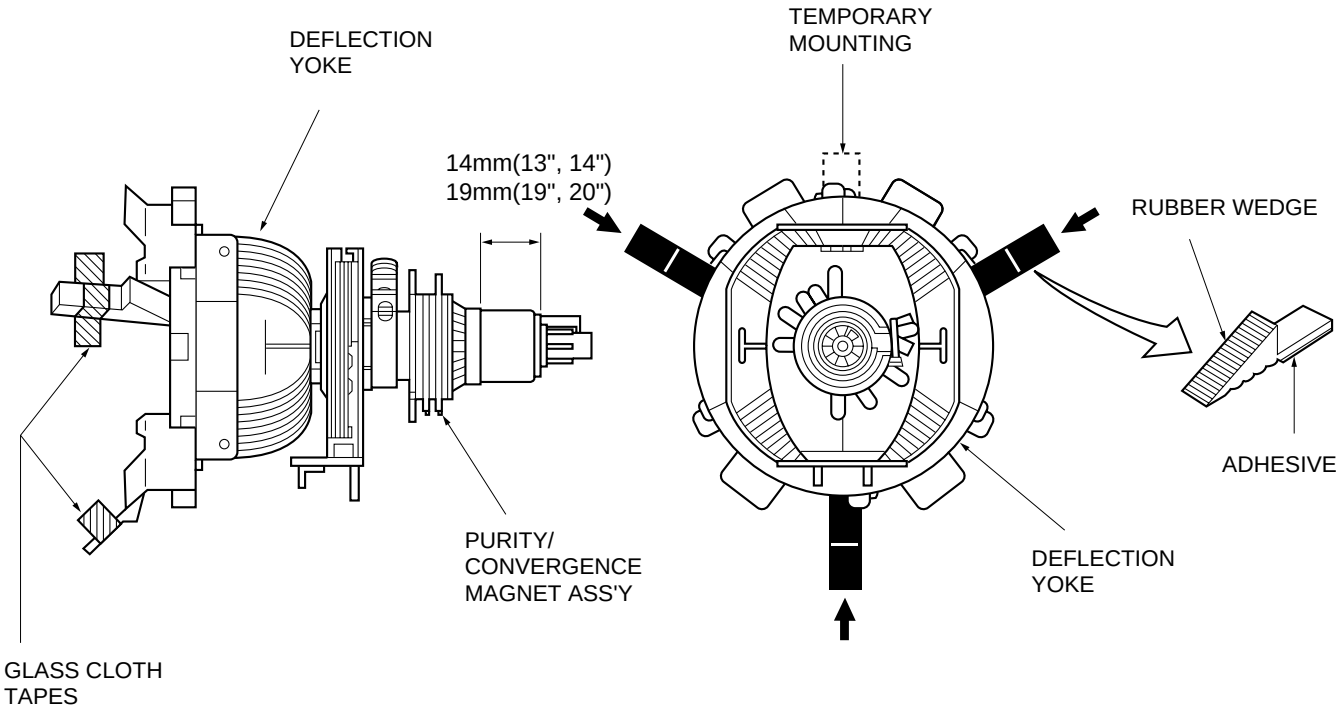


Figure 1.

CONVERGENCE ADJUSTMENTS

NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

■ CENTER CONVERGENCE ADJUSTMENT

1. Use the cross-dot pattern from among the built-in test signals.
2. Set the brightness and contrast for well defined pattern.
3. Adjust two tabs of the 4-Pole Magnets to change the angle between them (See figure 2.) and superimpose red and blue vertical lines in the center area of the picture screen.
4. Turn the both tabs at the same time keeping the angle constant to superimpose red and blue horizontal lines at the center of the screen.
5. Adjust two tabs of 6-Pole Magnets to superimpose red/blue line and green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 keeping in mind red, green and blue movement, because 4-Pole Magnets and 6-Pole Magnets have mutual interaction and make dot movement complex.

■ CIRCUMFERENCE CONVERGENCE ADJUSTMENT

1. Loosen the clamping screw of deflection yoke slightly to allow the yoke to tilt.
2. Temporarily put a wedge as shown in figure 1. (Do not remove cover paper on adhesive part of the wedge.)
3. Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See figure 3.) Push the mounted wedge into the space between picture tube and the yoke to fix the yoke temporarily.
4. Put other wedge into bottom space and remove the cover paper to stick.
5. Tilt front of the yoke right or left to obtain better convergence in circumference. (See figure 3.)
6. Keep the yoke position and put another wedge in either upper space. Remove cover paper and stick the wedge on picture tube to fix the yoke.
7. Detach the temporarily mounted wedge and put it in another upper space. Stick it on picture tube to fix the yoke.
8. After fixing three wedges, recheck overall convergence. Tighten the screw firmly to fix the yoke and check the yoke is firm.
9. Stick three adhesive tapes on wedges as shown in figure 1.

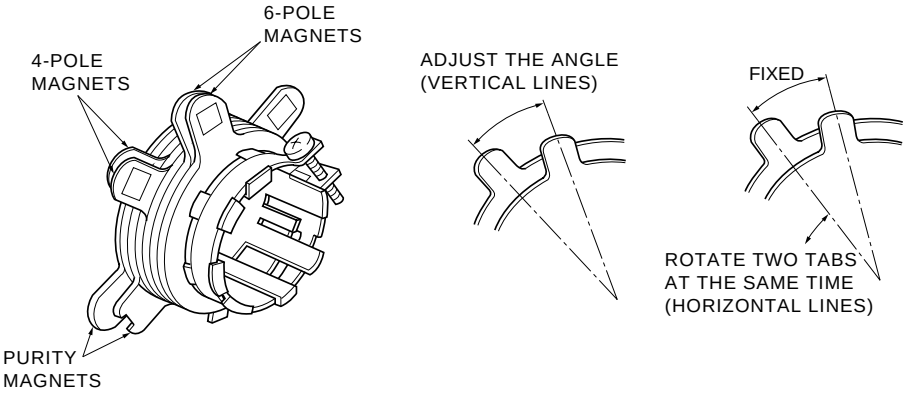
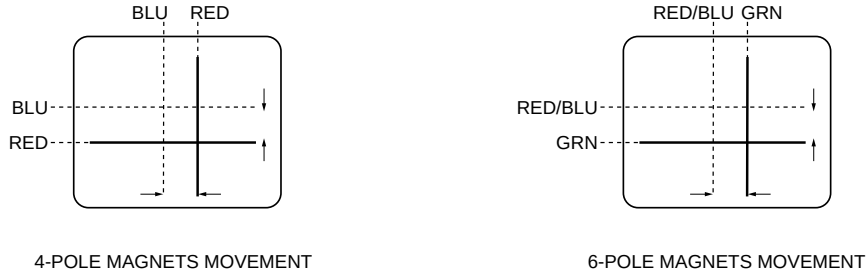


Figure 2.



Center Convergence by Convergence Magnets



Circumference Convergence by DEF Yoke

Figure 3. Dot Movement Pattern

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE “X-RAY RADIATION PRECAUTION”, “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON PAGE 3 OF THIS MANUAL.

(FOR 35”, 36”)

■ The following adjustments should be made when a complete realignment is required or a new picture tube is installed. Perform the adjustments in order as follows :

1. Color Purity
2. Convergence
3. White Balance

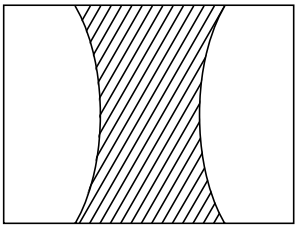
Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning. Refer to figure 1.
Mounting position of the purity magnet assembly should fit to same position as old one because slightly difference to the position depend on a kind of tube.

* There are no adjustment of purity and convergence in some picture tube (Unified with purity magnet)

COLOR PURITY ADJUSTMENT

NOTE : Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.

1. Evenly degauss the entire screen.
2. Set the CONTRAST and BRIGHTNESS Controls to the maximum.
3. Display built-in green raster using the TEST SIGNAL SELECTION function.
4. Loosen the clamp screw holding the deflection yoke (and remove the Rubber Wedges).
5. Slide the yoke forward or backward to provide vertical green belt (zone) in the picture screen.
6. Rotate and spread the tabs of the purity magnet (See figure 4.) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically by adjusting the magnet as shown below.



Green Belt

7. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check the purity of the red and blue raster.
9. Put four wedges into the space between the picture tube and the yoke to hold the yoke in the adjusted position. (See figure 2.)
   Do not tilt the yoke by excessive insertion of the wedge.
10. Remove cover paper of wedge and stick wedges on the tube to fix the yoke in the adjusted position.
    Fix the wedges with glass cloth tapes.

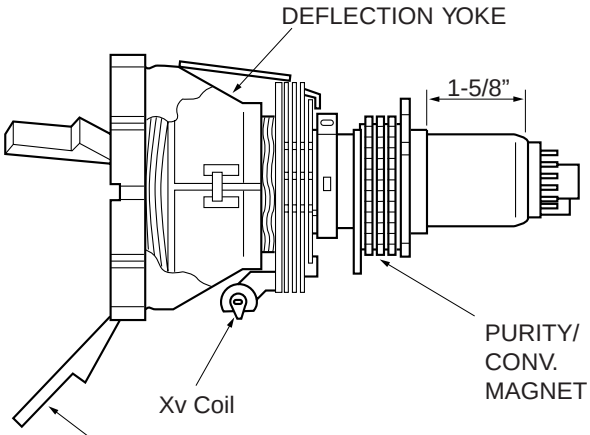


Figure 1.

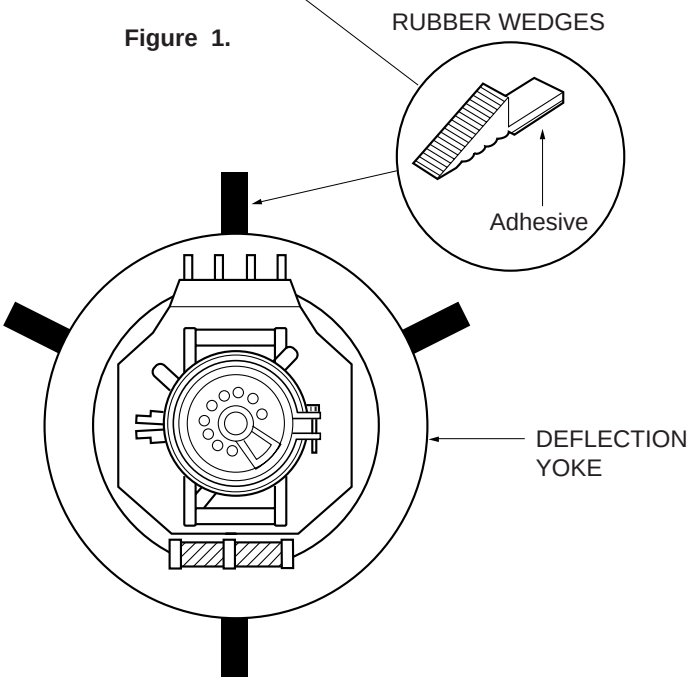


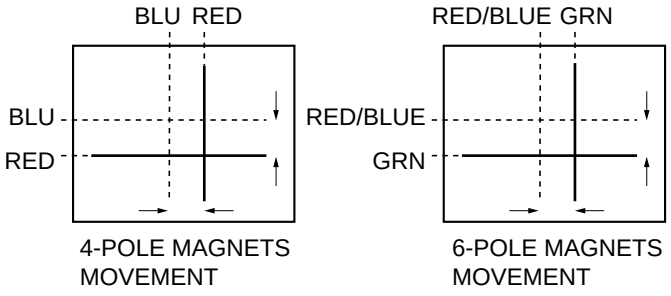
Figure 2.

CONVERGENCE ADJUSTMENTS

NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

■ **CENTER CONVERGENCE ADJUSTMENT**

1. Display built-in cross-dot pattern using the TEST SIGNAL SELECTION function.
2. Adjust the BRIGHTNESS and CONTRAST Controls for well defined pattern.
3. Loosen the tightening ring and adjust two tabs of the 4-Pole Magnets to change the angle between them (See figure 4.) and superimpose red and blue vertical lines in the center area of the picture screen. (See figure 3.)
4. Turn the both tabs at the same time keeping the constant angle to superimpose red and blue horizontal lines at the centre of the screen. (See figure 3.)
5. Adjust two tabs of 6-Pole Magnets to superimpose red/blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 3, 4, 5 keeping in mind red, green and blue movement, because 4-Pole Magnets and 6-Pole magnets interact and make dot movement complex.
7. After completing the "CENTER CONVERGENCE ADJUSTMENT" tighten the tightening ring to fix the magnets.



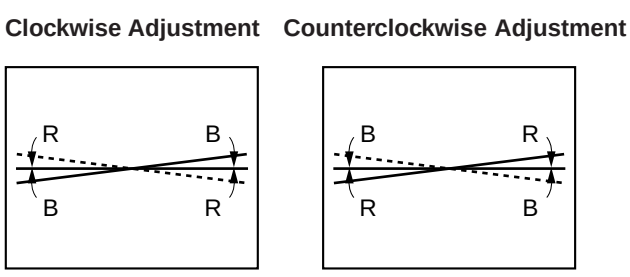
Center Convergence by Convergence Magnets

Figure 3.

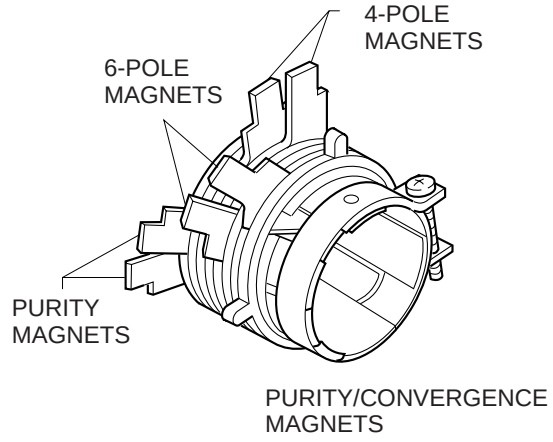
■ **Xv COIL ADJUSTMENT**

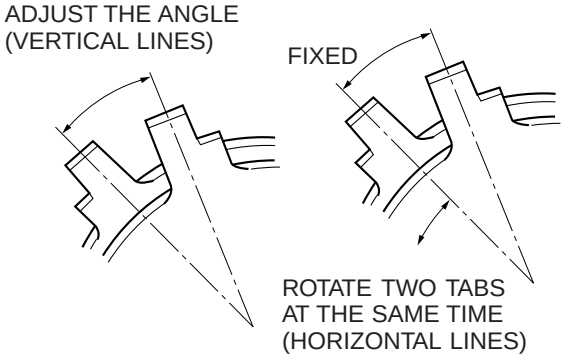
Adjust the Xv coil (on the deflection yoke) to correct misconvergence at both sides on screen.

Use a hexagonal tip stick (plastic) to adjust the core of coil.



X_V Cross Pattern View





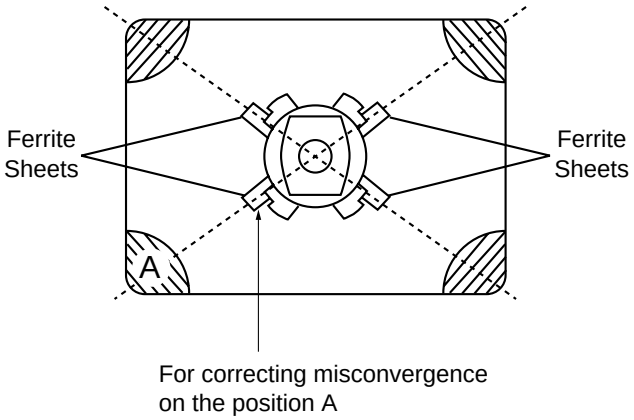
ADJUSTMENT OF MAGNETS

Figure 4.

■ **SCREEN-CORNER CONVERGENCE**

When the misconvergence is still evident on corners even though the above adjustment is done, use the ferrite sheet (Part No. 23993622) to correct misconvergence.

1. Put ferrite sheets into the space under the yoke. Decide such position that misconvergence becomes minimum, watching picture screen. (See figure below.)
2. Remove cover paper of ferrite sheet to stick it in the place on the tube. Put adhesive tapes on ferrite sheets to fix.



SERVICE MODE

1. ENTERING TO SERVICE MODE

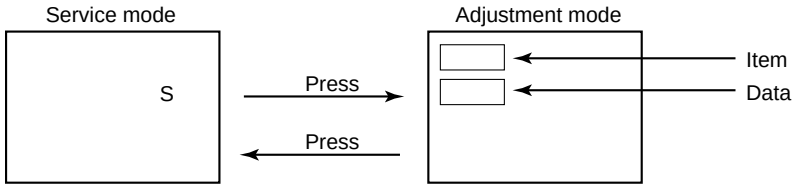
1) Press MUTE button once on Remote Control.
2) Press MUTE button again to keep pressing.
3) While pressing the MUTE button, press MENU button on TV set.



(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

A single horizontal line ON/OFF:	TV (ANT)/VIDEO button (on TV)
Test signal selection :	TV (ANT)/VIDEO button (on Remote)
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)
Change of the data value :	Volume ▲/▼ (on TV or Remote)
Adjustment menu mode ON/OFF :	MENU button (on TV)
Initialization of the memory (QA02) :	RECALL+Channel (▲) button on TV
Initialization of the self diagnostic data:	RECALL+Channel (▼) button on TV

“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“CNTX” selection :	4 button
“COLC” selection :	5 button
“TNTC” selection :	6 button
Test audio signal ON/OFF (1kHz) :	8 button
Self diagnostic display ON/OFF :	9 button

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 17)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ▲ or ▼ button will cahnge the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02

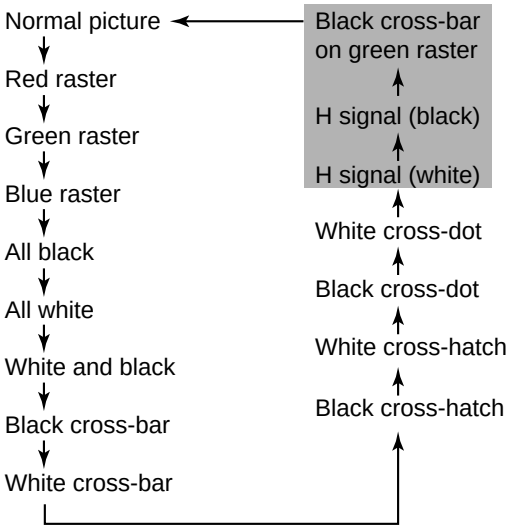
After replacing QA02, the following initialization is required.

1. Enter the service mode, then select any register item.
2. Press and hold the RECALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been complated.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Programming Channel Memory” on the owner’s manual.

CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

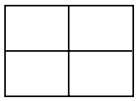
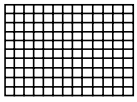
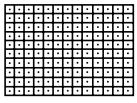
7. TEST SIGNAL SELECTION

1) Every pressing of TV/VIDEO button on the Remote Control in the Service mode changes the built-in test patterns on screen in the following order.



2) Press “8” button while any built-in test pattern to on the screen to output the 1 kHz sound. Press the button again to cut off the sound.

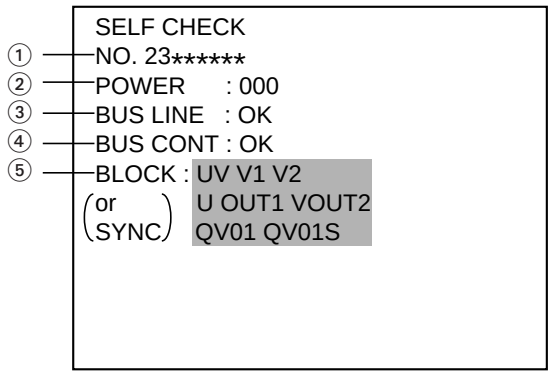
Note: If the video cable is connected to the VIDEO1 INPUT jack, the built-in pattern signals are not displayed.

Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	
• Black & White	
• Black cross-bar • White cross-bar • Black cross-bar on green raster	
• Black cross-hatch • White cross-hatch	
• Black cross-dot • White cross-dot	
• H signal (white) • H signal (black)	

* The signals marked with ▒ are not usable to display in the Test signal for some model.

8. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s are executed properly.
2) During diagnosis, the following displays are shown.



① Part number of microprocessor (QA01)
② Operation number of protection circuit (current limiter) . . . . “000” is normal.
③ BUS line check
- “OK” ..... Normal
- “SCL-GND” or “NG” ..... SCL-GND short circuit
- “SDA-GND” or “NG” ..... SDA-GND short circuit
- “SCL-SDA” or “NG” ..... SCL-SDA short circuit

④ BUS line ACK (acknowledge) check
- “OK” ..... Normal
- Display of Location Number . . . . NG
  (Display example)
  “QA02 NG”, “H001 NG”, “Q501 NG” etc.
- Note: The indication of failure place is only one place though failure places are plural. When repair of a failure place finishes, the next failure place is indicated. (The order of priority of indication is left side.)

⑤ Sync. signal check
- Green display ..... Normal
- Cyan display ..... No check
- Red display ..... NG

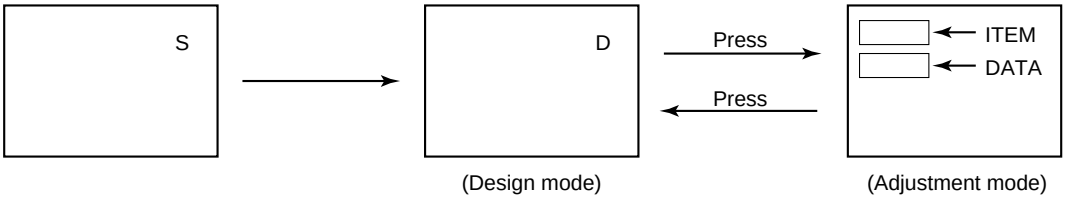
UV ..... TV mode
V1 ..... VIDEO 1 mode
V2 ..... VIDEO 2 mode

* The items marked with ▒ are not usable to display in the SELF DIAGNOSTIC FUNCTION for some model.

DESIGN MODE

1. ENTERING TO DESIGN MODE

1) Select the Service mode. 2) While pressing RECALL button on Remote and press MENU button on TV. 3) Press MENU button on TV.



When QA02 is initialized, items “OPT0” and “OPT1” of DESIGN MODE are set to the data of the representative model of this chassis family.
Therefore, because ON-SCREEN specification remains in the state of the representative of model. This model is required to reset the data of items “OPT0” and “OPT1”.

2. SELECTING THE ADJUSTING ITEMS

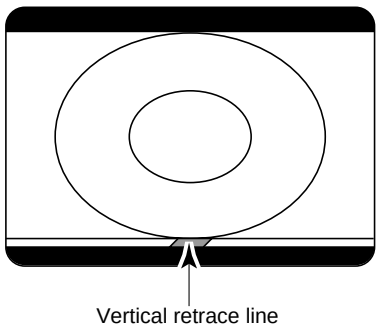
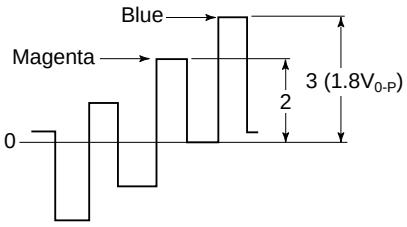
Every pressing of CHANNEL ▼ button in the design mode changes the adjustment items in the order of table-3.
(▲ button for reverse order)

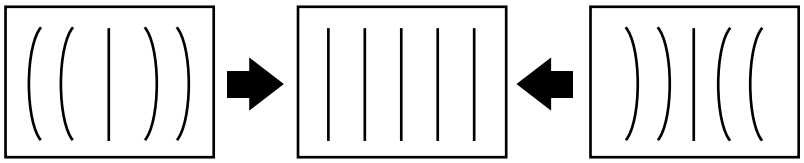
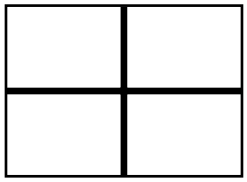
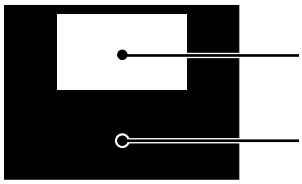
Refer to table-3 for data of design mode.
(See SETTING & ADJUSTING DATA on page 17)

3. ADJUSTING THE DATA

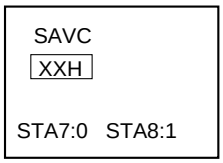
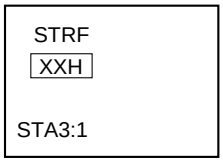
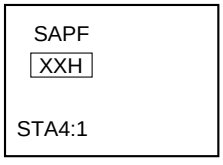
Pressing of VOLUME ▲ or ▼ button will change the value of data.

ELECTRICAL ADJUSTMENTS

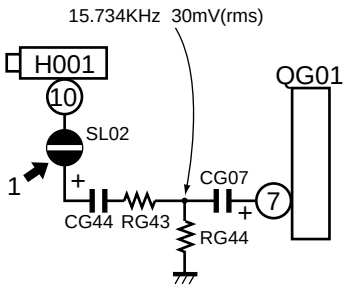
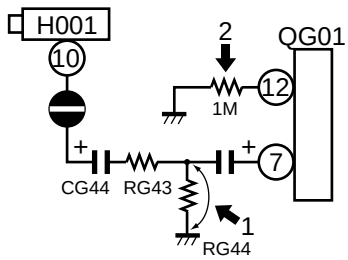
ITEM	ADJUSTMENT PROCEDURE
FOCUS VR ADJ	1. Enter the service mode, then select any register item. 2. Press the TV/VIDEO button on the Remote until the black cross-bar pattern appears on the screen. 3. Adjust the FOCUS control (on T461) for well defined scanning lines on the picture screen.
SUB-BRIGHTNESS (BRTC)	1. Constrict the picture height until the vertical retrace line appears adjusting the HEIGHT control on the MAIN board. 2. Adjust the CONTRAST to the minimum and BRIGHTNESS to the center. 3. Enter the service mode, then select "**BRTC**" register. 4. Adjust the data value so the belt of vertical retrace line just disappear. 5. Adjust the CONTRAST for the desired contrast. 6. Adjust the HEIGHT control. 
SUB-COLOR (COLC) SUB-TINT (TNTC)	1. Receive color-bar signal from color-bar generator. 2. Press the RESET button. 3. Connect oscilloscope to base of Q906 on CRT-D board. 4. Enter the service mode, then select "**COLC**". 5. Adjust the SUB-COLOR by pressing the VOLUME ▲ or ▼ button to achieve about $1V_{0\text{-}p}$ of blue bar. 6. Select "**TNTC**" register. 7. Adjust the data value to obtain the blue bar to magenta bar ratio of 3:2 as shown. 8. Select "**COLC**" register. 9. Adjust the data value to achieve $1.8_{0\text{-}p}$ of blue bar on scope. 10. Check the picture with off-air signal. 
WIDTH (WID)	1. Call up the adjustment mode display, then select the item **WID**. 2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack. 3. Press the VOLUME ▲ or ▼ button to advance the data by 7 steps. Note : Check the horizontal picture position is correct.

ITEM	ADJUSTMENT PROCEDURE
E-W PARABOLA (DPC)	1. Call up the adjustment mode display, then select the Item **DPC**. 2. Press the TV/VIDEO button on Remote until the cross-hatch pattern appears on the screen. 3. Press the VOLUME ▲ or ▼ button to make vertical lines straight as shown below. 
HORIZONTAL POSITION (HPOS) VERTICAL POSITION (VPOS)	1. Call up the adjustment mode display, then select the item **HPOS** or **VPOS**. 2. Press the TV/VIDEO button on Remote until the white cross-bar or black cross-bar pattern appears on the screen. 3. Adjust the HORIZONTAL and VERTICAL position alternately by pressing the VOLUME ▲ or ▼ button for proper picture position. 4. Check the picture with off-air signal. 
HEIGHT (HIT)	1. Call up the adjustment mode display, then select the item **HIT**. 2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack. 3. Press the VOLUME ▲ button to advance the data by 8 steps. Note : Check the vertical picture position is correct.
WHITE BALANCE (RCUT) (GCUT) (BCUT) (GDRV) (BDRV)	1. Adjust the CONTRAST control to the center, and BRIGHTNESS control to the maximum. 2. Call up the adjustment mode display, and press the TV/VIDEO button on Remote until the white and black pattern appears on the screen. 3. Adjust the following item with the CHANNEL ▲/▼ and VOLUME ▲/▼ buttons. RCUT ⟶ Data : 40H GCUT ⟶ Data : 40H BCUT ⟶ Data : 40H GDRV ⟶ Data : 80H BDRV ⟶ Data : 80H 4. Press the TV/VIDEO button on TV to display a single horizontal line on the screen. 5. Turn the SCREEN control (FBT) fully counterclockwise and gradually rotate clockwise until the first horizontal line appears slightly on the screen. 6. Press the TV/VIDEO button to display the normal picture. 7. Adjust the remaining two "?CUT" items (CHANNEL ▲/▼ → TV/VIDEO → VOLUME ▲/▼ in order) to obtain the slightly lighted horizontal line in the same levels of three (red, green, blue) colors. The line should be white if the adjustments are proper.  Bright area Adjust "GDRV" or "BDRV" to be white. Dark area Fine adjust "RCUT", "GCUT" or "BCUT" to be black.

MTS ADJUSTMENT (FOR N7S CHASSIS)

No.	ITEM	INPUT SIGNAL	ADJUSTMENT PROCEDURE
1	ATTENUATOR (ATT)	• 1kHz 30% mod. → ANT terminal	1. Connect rms meter to pin 12 of H002. 2. Display item **ATT** on screen. 3. Change data by Volume ▲/▼ buttons so that output at pin 12 of H002 becomes value as close as 142mVrms.
2	STEREO VCO (STVC)	• No signal	1. Display item **STVC**, and connect pin 9 of H002 to ground. 2. Connect frequency counter to pin 12 of H002. 3. Change data by Volume ▲/▼ buttons so that the reading of counter becomes value as close as 4fH (62.936kHz).
3	SAP VCO (SAVC)	• 78.670kHz 147mVrms → pin 9 of H002 • Monaural signal → ANT	1. Display item **SAVC**. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA7=0 and STA8=1. 
4	STEREO FILTER (STRF)	• 9.4kHz 600mVrm → pin 9 of H002 Monaural signal → ANT	1. Display item **STRF** on screen. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA3=1. 
5	SAP FILTER (SAPF)	• 88kHz 120mVrms → pin 9 of H002 • Monaural signal → ANT	1. Display item **SAPF**. 2. Change data by Volume ▲/▼ buttons so that the data becomes in the center of range for STA4=1. 
6	STEREO SEPARATION (WBAN)	• STEREO 300Hz R-channel only → ANT	1. Select “STEREO” mode from the MTS function in the Audio menu. 2. Display item **WBAN** on screen. 3. Connect oscilloscope to pin 14 of H002. 4. Change data by Volume ▲/▼ buttons so that 300Hz element on scope becomes minimum.
	(SPEC)	• STEREO 3kHz R-channel only → ANT	5. Display item **SPEC** on screen. 6. Change data by Volume ▲/▼ buttons so that 3kHz element on scope becomes minimum.

MTS ADJUSTMENT (FOR N1ES CHASSIS)

No.	ITEM	INPUT SIGNAL	ADJUSTMENT PROCEDURE
1	ATTENUATOR (ATT)	• 1kHz 30% mod. → ANT terminal	1. Connect rms meter to pin 34 of QG01. 2. Display item **ATT** on screen. 3. Change data by VOLUME ▲/▼ buttons so that the reading of meter becomes value as close as 137mVrms.
2	STEREO VCO (STVC)	• No signal	1. Short circuit RG44 with a jumper wire. 2. Display item **STVC** on screen. 3. Connect frequency counter to pin 34 of QG01. 4. Change data by VOLUME ▲/▼ buttons so that the reading of counter becomes value as close as 15.73kHz.
3	STEREO FILTER (STRF)	• 15.734kHz 30mV(rms) 	1. Unsolder the solder link SL02. 2. Display item **STRF** on screen. 3. Connect oscilloscope to pin 34 of QG01. 4. Change data by VOLUME ▲/▼ button to minimize AC output level on scope. 5. Resolder SL02.
4	STEREO SEPARATION (WBAN)	• STEREO 300Hz R-channel only → ANT	1. Display item **WBAN** on screen. 2. Connect oscilloscope to pin 35 of QG01. 3. Change data by VOLUME ▲/▼ buttons so that 300Hz element on scope becomes minimum.
	(SPEC)	• STEREO 3kHz R-channel only → ANT	4. Display item **SPEC** on screen. 5. Change data by Volume ▲/▼ buttons so that 3kHz element on scope becomes minimum.
5	SAP VCO (SAVC)	• No signal 	1. Shortcircuit RG44 with a short jumper. 2. Connect 1Mohm resistor between pin 12 of QG01 and ground. 3. Display item **SAVC** on screen. 4. Connect frequency counter to pin 34 of QG01. 5. Change data by VOLUME ▲/▼ buttons so that the reading of counter becomes value as close as 78.67kHz. 6. Remove the short jumper and 1M ohm resistor.

CIRCUIT CHECKS

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

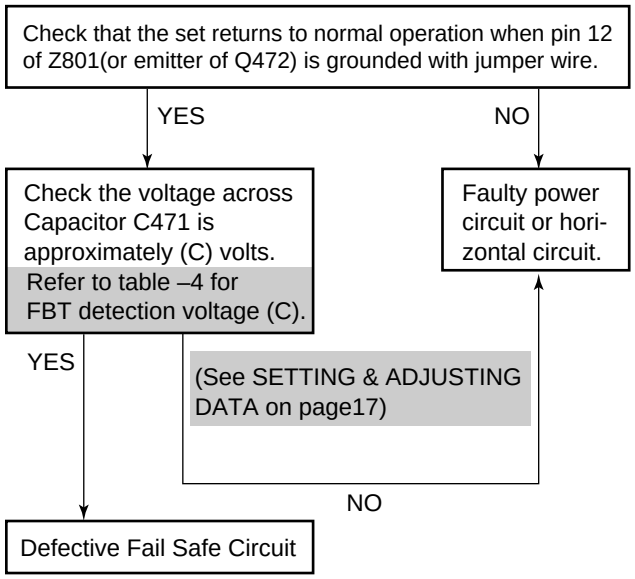
1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST controls to minimum (zero beam current).
3. High voltage must be measured below (B) kV.
   Refer to table-1 for high voltage (B).
   (See SETTING & ADJUSTING DATA on page 17)
4. Vary the BRIGHTNESS control to both extremes to be sure the high voltage does not exceed the limit under any conditions.

FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on and press the RESET button.
2. Temporarily short TP-(R) and TP-(X) with a jumper wire. Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the power switch on to produce a normal picture.

Troubleshooting Guide for Fail Safe Circuit



CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

【SAFETY INSTRUCTIONS】

		32"	36"
HIGH VOLTAGE AT ZERO BEAM:	(A)	31.0 kV	31.9 kV
MAX HIGH VOLTAGE:	(B)	32.4 kV	33.3 kV

Table-1

【SERVICE MODE】

ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE:

Item	Name of Adjustments	Preset Data	Data	
			32"	36"
RCUT	R CUTOFF	40H	←	←
GCUT	G CUTOFF	40H	←	←
BCUT	B CUTOFF	40H	←	←
GDRV	G DRIVE	40H	←	←
BDRV	B DRIVE	40H	←	←
SCNT	SUB-CONTRAST	08H	0AH	←
BRTC	SUB-BRIGHT	40H	←	←
COLC	SUB-COLOR	40H	3AH	←
TNTC	SUB-TINT	40H	44H	←
SAVC	SAP VCO	20H	←	←
ATT	ATTENUATOR	20H	←	←
STVC	STEREO VCO	20H	←	←
STRF	STEREO FILTER	20H	←	←
SPEC	SPECTRAL	20H	←	←
WBAN	STEREO SEPARATION	20H	←	←
HPOS	HORIZ. POSITION	16H	←	←

Item	Name of Adjustments	Preset Data	Data	
			32"	36"
VPOS	VERT. POSITION	03H	←	←
HIT	HEIGHT	1EH	1DH	26H
LIN	V-LINEARITY	06H	←	←
VSC	V-S CORRECTION	04H	03H	02H
WID	PICTURE WIDTH	18H	27H	35H
DPC	E-W PARABOLA (DPC)	0AH	0EH	17H
CNR	E-W CORNER	07H	04H	07H
TRAP	TRAPEZIUM	09H	←	08H
PCOL	PIP COLOR	91H	←	←
PHUE	PIP TINT	09H	←	←
VPS	V-SHIFT	1BH	←	←
VCP	V-COMPENSATION	03H	←	←
HCP	H-COMPENSATION	00H	←	←
VFC	V-F CORRECTION	0FH	←	←
DAC	DAC	03H	←	←
PBRT	–	0DH	←	←

Table-2

【DESIGN MODE】

ADJUSTING ITEMS AND DATAS IN THE DESIGN MODE:

Item	Name of adjustment	Preset Data	Data		Remarks
			32"	36"	
OPT0	OPTION 1	20H	22H	A2H	
OPT1	OPTION 2	80H	84H	84H	

Table-3

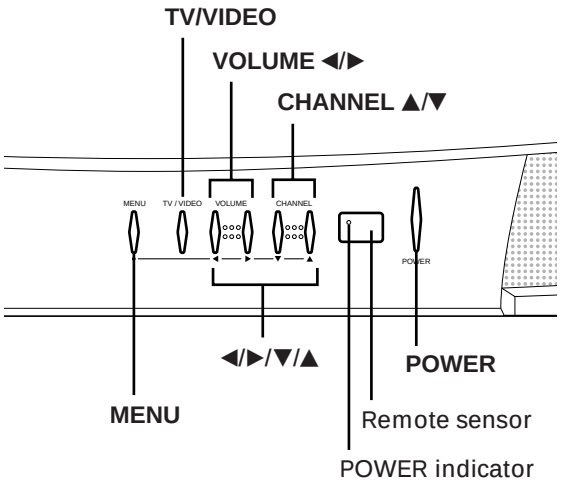
【CIRCUIT CHECKS】

FBT DETECTION VOLTAGE	(C)	22.3 V

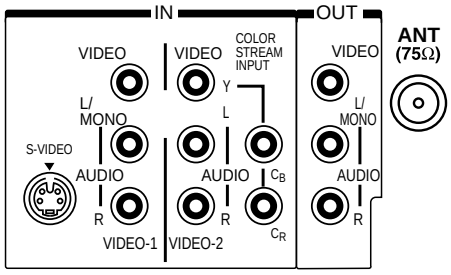
Table-4

LOCATION OF CONTROLS (Representative: 32A41)

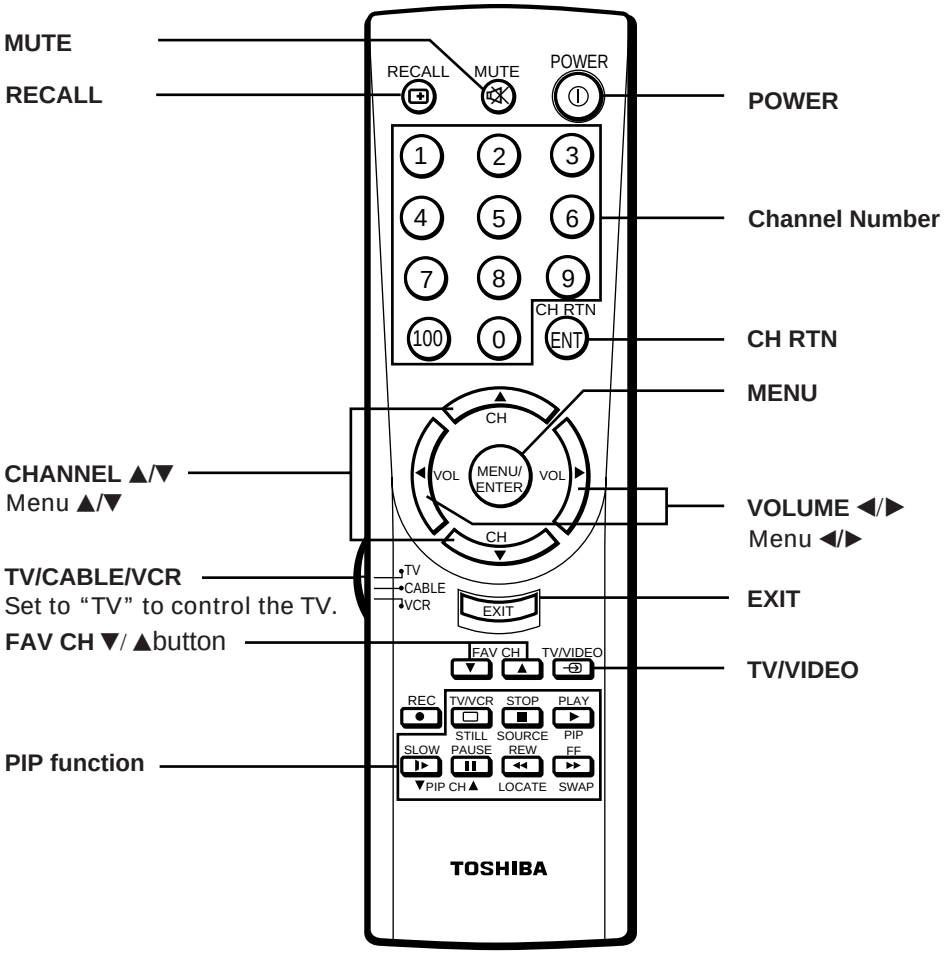
Front Control



Back Term.



Remote Control



PROGRAMMING CHANNEL MEMORY

The channel memory is a list of TV channel numbers your TV will stop on when you press the CHANNEL ▲ or ▼ button.
First, use the TV/CABLE and CH PROGRAM functions to preset all active channels in your area.
If necessary, arrange the preset channels with the ADD/ERASE functions so that you can tune into only desired channels.

TV/CABLE function

1 Press **POWER** to turn on the TV.

2 Press **MENU** repeatedly until the Setup menu is displayed on the screen.

3 Press ▼ or ▲ repeatedly until "TV/CABLE" is displayed in purple.

4 Press ◄ or ► until the mode that corresponds to your TV signal system is displayed in purple.
TV: TV broadcasts signals.
(VHF channels 2 through 13 and UHF channels 14 through 69)
CABLE: Cable TV signals.
(Cable channels 1 through 125)

CH PROGRAM function

1 Press **MENU** repeatedly until the Setup menu is displayed on the screen.

2 Press ▲ or ▼ repeatedly until "CH PROGRAM" is displayed in purple.

3 Press ◄ or ► to start channel programming.
The TV will automatically cycle through all the TV or CABLE channels depending on the mode selected, and store active channels in the channel memory.

4 When channel programming is complete, you will see the message on the screen.

5 Press **CHANNEL** ▲ or ▼ to make sure the channel programming has been done properly.

ADD/ERASE function

After performing the CH PROGRAM function, you can add or erase specific channels.

1 Select the channel you want to erase using the **CHANNEL** ▲ or ▼ button, or select the channel you want to add using the **Channel Number** buttons.

2 Press **MENU** repeatedly until the Setup menu is displayed on the screen.

3 Press ▼ or ▲ repeatedly until "ADD/ERASE" is displayed in purple.

4 Press ◄ or ► :
To erase the channel
Press the button until "ERASE" is displayed in purple indicating that the channel has been erased from the memory.

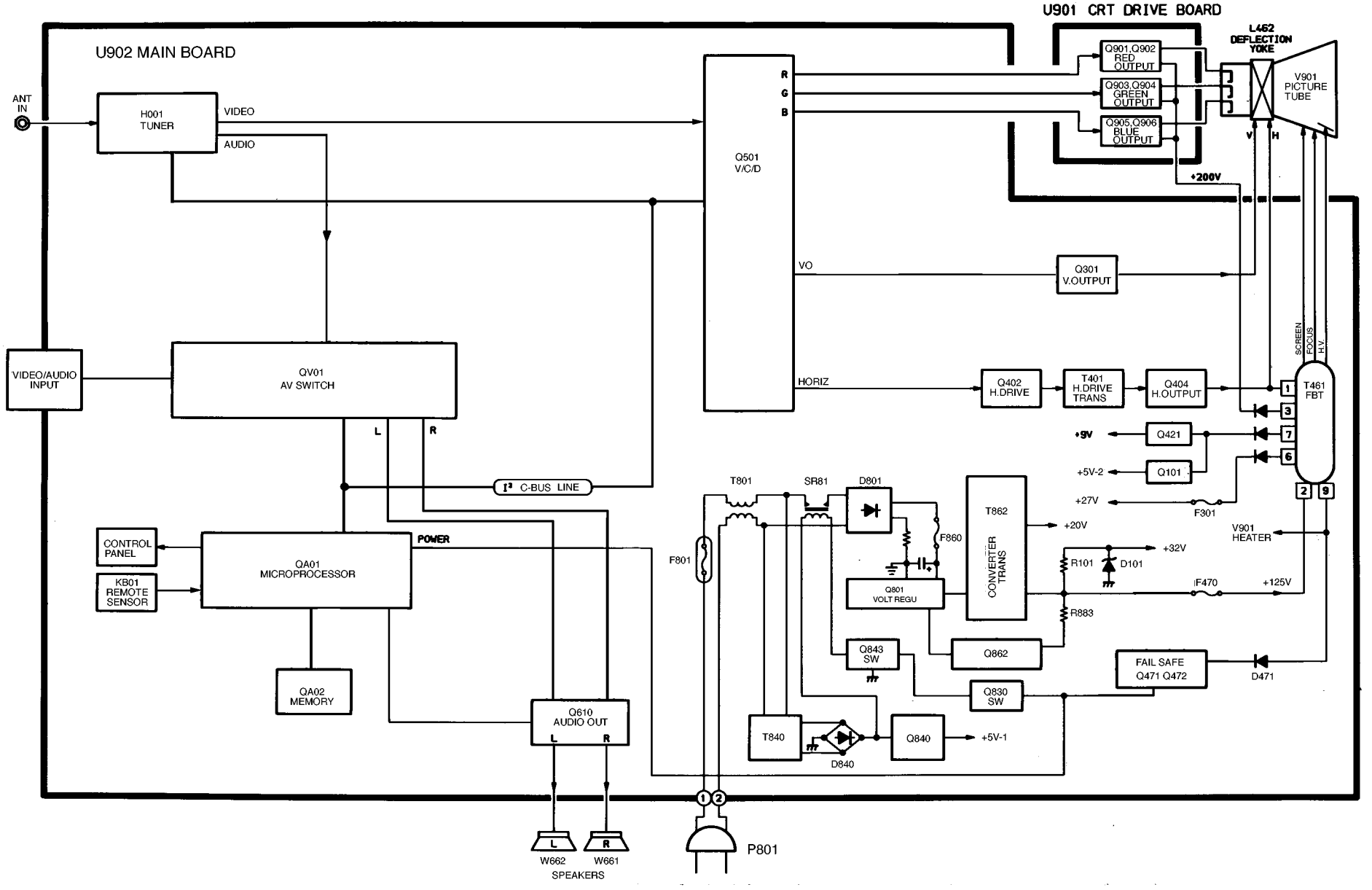
To add the channel
Press the button until "ADD" is displayed in purple indicating that the channel has been memorized.

5 Repeat steps 1 to 4 for other channels.

You have now completed the channel programming.

*Please refer to owner's manual in detail.

CIRCUIT BLOCK DIAGRAM



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate com-ponents which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with ∗ mark is no longer available after the end of the production.*

Model : 32A41, 36A41

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Location No.	Part No.	Description
CAPACITORS		
C102	24793101	EL, 100μF, ±20%, 10V
C105	24212102	CD, 1000pF, ±10%
C106	24797479	EL, 4.7μF, ±20%, 50V
C107	24763221	EL, 220μF, ±20%, 16V
C201	24503041	PF, 0.1μF, 63V
C204	24797010	EL, 1μF, ±20%, 50V
C205	24794100	EL, 10μF, ±20%, 16V
C216	24797100	EL, 10μF, ±20%, 50V
C221	24232103	CD, 0.01μF, +80%, -20%
C222	24232103	CD, 0.01μF, +80%, -20%
C223	24232103	CD, 0.01μF, +80%, -20%
C224	24503041	PF, 0.1μF, 63V
C225	24503041	PF, 0.1μF, 63V
C226	24503041	PF, 0.1μF, 63V
C245	24206108	EL, 0.1μF, ±20%, 50V
C261	24503041	PF, 0.1μF, 63V
C262	24503041	PF, 0.1μF, 63V
C263	24503041	PF, 0.1μF, 63V
C305	24617912	EL, 2.2μF, ±10%, 50V (32A41)
C305	24617915	EL, 1μF, ±10%, 50V (36A41)
C306	24073058	EL, 2200μF, ±20%, 25V(32A41)
C306	24073059	EL, 3300μF, ±20%, 25V(36A41)
C307	24693273	PF, 0.027μF, 100V
C308	24668221	EL, 220μF, ±20%, 35V
C309	24591102	PF, 1000pF
C310	24796102	EL, 1000μF, ±20%, 35V
C311	24435820	CD, 82pF, 500V (32A41)
C311	24214102	CD, 1000pF, ±10%, 500V (36A41)
C313	24082057	PF, 0.22μF, 100V
C314	24503041	PF, 0.1μF, 63V
C317	24214471	CD, 470pF, ±10%, 500V
C319	24212102	CD, 1000pF, ±10%
C320	24668101	EL, 100μF, ±20%, 35V
C323	24567474	PF, 0.47μF
C325	24567683	PF, 0.068μF
C326	24503041	PF, 0.1μF, 63V
C327	24617915	EL, 1μF, ±10%, 50V
C337	24797229	EL, 2.2μF, ±20%, 50V
C360	24793221	EL, 220μF, ±20%, 10V

Location No.	Part No.	Description
C370	24794101	EL, 100μF, ±20%, 16V
C371	24794100	EL, 10μF, ±20%, 16V
C403	24591103	PF, 0.01μF
C404	24797010	EL, 1μF, ±20%, 50V
C407	24503041	PF, 0.1μF, 63V
C410	24232103	CD, 0.01μF, +80%, -20%
C413	24214821	CD, 820pF, ±10%, 500V
C415	24567273	PF, 0.027μF
C416	24678010	EL, 1μF, ±20%, 200V
C417	24214391	CD, 390pF, ±10%, 500V
C419	24539474	PF, 0.47μF
C421	24794101	EL, 100μF, ±20%, 16V
C430	24232103	CD, 0.01μF, +80%, -20%
C431	24794101	EL, 100μF, ±20%, 16V
C439	24829433	PF, 0.043μF, 400V
⚠ C440	24082958	PF, 7800pF, ±3%, 1500V (32A41)
⚠ C440	24082957	PF, 7500pF, ±3%, 1500V (36A41)
⚠ C442	24082920	PF, 0.39μF, 315V
⚠ C444	24082611	PF, 6200pF, ±3%, 1800V (32A41)
⚠ C444	24082837	PF, 5600pF, ±3%, 1800V (36A41)
C445	24828563	PF, 0.056μF, 200V
C446	24679100	EL, 10μF, ±20%, 250V
C448	24640908	EL, 33μF, ±20%, 160V
C449	24666102	EL, 1000μF, ±20%, 16V
C457	24591222	PF, 2200pF
C463	24212152	CD, 1500pF, ±10%
C464	24640872	EL, 10μF, ±20%, 100V
C466	24503041	PF, 0.1μF, 63V
⚠ C467	24095881	PF, 0.018μF, ±3%, 630V (32A41)
⚠ C467	24095883	PF, 0.015μF, ±3%, 630V (36A41)
C471	24797479	EL, 4.7μF, ±20%, 50V
C474	24794100	EL, 10μF, ±20%, 16V
C477	24503041	PF, 0.1μF, 63V
C478	24591563	PF, 0.056μF (32A41)
C480	24747220	EL, 22μF, ±20%, 50V

Location No.	Part No.	Description
C481	24567474	PF, 0.47μF
C482	24766478	EL, 0.47μF, ±20%, 50V
C499	24212102	CD, 1000pF, ±10%
C501	24436102	CD, 1000pF
C504	24591222	PF, 2200pF
C505	24353120	CD, 12pF, CH
C510	24763101	EL, 100μF, ±20%, 16V
C511	24232103	CD, 0.01μF, +80%, -20%
C512	24206228	EL, 0.22μF, ±20%, 50V
C582	24232103	CD, 0.01μF, +80%, -20%
C583	24762471	EL, 470μF, ±20%, 10V
C612	24794470	EL, 47μF, ±20%, 16V
C661	24212102	CD, 1000pF, ±10%
C662	24212102	CD, 1000pF, ±10%
C663	24794100	EL, 10μF, ±20%, 16V
C671	24667470	EL, 47μF, ±20%, 25V
C672	24667470	EL, 47μF, ±20%, 25V
C673	24669229	EL, 2.2μF, ±20%, 50V
C676	24503041	PF, 0.1μF, 63V
C677	24503041	PF, 0.1μF, 63V
C678	24669229	EL, 2.2μF, ±20%, 50V
C679	24667470	EL, 47μF, ±20%, 25V
C681	24667102	EL, 1000μF, ±20%, 25V
C682	24668101	EL, 100μF, ±20%, 35V
C683	24667102	EL, 1000μF, ±20%, 25V
C801	24503002	PF, 0.22μF, ±20%, AC275V
C802	24503001	PF, 0.1μF
C805	24092623	CD, 0.01μF, +80%, -20%, AC250V
C806	24092623	CD, 0.01μF, +80%, -20%, AC250V
C808	24667221	EL, 220μF, ±20%, 25V
C810	24086061	EL, 470μF, ±20%, 200V
C811	24092597	CD, 4700pF, ±20%, AC250V
C812	24092597	CD, 4700pF, ±20%, AC250V
C813	24092597	CD, 4700pF, ±20%, AC250V
C815	24092597	CD, 4700pF, ±20%, AC250V
C816	24092597	CD, 4700pF, ±20%, AC250V
C817	24092339	CD, 330pF, ±10%, 2kV
C818	24082402	PF, 2200pF, ±3%, 1250V
C821	24214471	CD, 470pF, ±10%, 500V
C822	24503041	PF, 0.1μF, 63V
C823	24212471	CD, 470pF, ±10%
C829	24591122	PF, 1200pF
C832	24794470	EL, 47μF, ±20%, 16V
C840	24795221	EL, 220μF, ±20%, 25V
C842	24792101	EL, 100μF, ±20%, 6.3V
C843	24797479	EL, 4.7μF, ±20%, 50V
C884	24086052	EL, 220μF, ±20%, 200V
C885	24214471	CD, 470pF, ±10%, 500V
C889	24796222	EL, 2200μF, ±20%, 35V
C891	24503041	PF, 0.1μF, 63V
C893	24092339	CD, 330pF, ±10%, 2kV
C898	24503045	PF, 0.22μF, 63V
C902	24092345	CD, 1000pF, ±10%, 2kV
C904	24436471	CD, 470pF
C905	24436471	CD, 470pF
C907	24436471	CD, 470pF
C909	24679220	EL, 22μF, ±20%, 250V
C910	24797478	EL, 0.47μF, ±20%, 50V
C911	24794100	EL, 10μF, ±20%, 16V
C912	24763471	EL, 470μF, ±20%, 16V
C913	24794100	EL, 10μF, ±20%, 16V
C914	24232103	CD, 0.01μF, +80%, -20%

Location No.	Part No.	Description
C920	24214101	CD, 100pF, ±10%, 500V
C921	24232103	CD, 0.01μF, +80%, -20%
C922	24232103	CD, 0.01μF, +80%, -20%
CA13	24474101	CD, 100pF, ±10%
CA33	24232103	CD, 0.01μF, +80%, -20%
CA37	24474101	CD, 100pF, ±10%
CA38	24474101	CD, 100pF, ±10%
CA42	24794100	EL, 10μF, ±20%, 16V
CA43	24232103	CD, 0.01μF, +80%, -20%
CA44	24232103	CD, 0.01μF, +80%, -20%
CA68	24794100	EL, 10μF, ±20%, 16V
CA69	24232103	CD, 0.01μF, +80%, -20%
CB01	24797470	EL, 47μF, ±20%, 50V
CB60	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
CB61	24591102	PF, 1000pF
CB62	24436561	CD, 560pF
CB63	24591122	PF, 1200pF
CB64	24763471	EL, 470μF, ±20%, 16V
CB65	24503041	PF, 0.1μF, 63V
CG02	24203220	EL, 22μF, ±20%, 16V
CG03	24503041	PF, 0.1μF, 63V
CG05	24797010	EL, 1μF, ±20%, 50V
CG06	24797479	EL, 4.7μF, ±20%, 50V
CG07	24206229	EL, 2.2μF, ±20%, 50V
CG08	24591473	PF, 0.047μF
CG09	24797478	EL, 0.47μF, ±20%, 50V
CG10	24503041	PF, 0.1μF, 63V
CG12	24206108	EL, 0.1μF, ±20%, 50V
CG14	24797010	EL, 1μF, ±20%, 50V
CG16	24704106	Tantalum, 10μF, ±20%, 16V
CG17	24797010	EL, 1μF, ±20%, 50V
CG18	24797010	EL, 1μF, ±20%, 50V
CG19	24797479	EL, 4.7μF, ±20%, 50V
CG20	24797010	EL, 1μF, ±20%, 50V
CG25	24797479	EL, 4.7μF, ±20%, 50V
CG26	24797479	EL, 4.7μF, ±20%, 50V
CG27	24591223	PF, 0.022μF
CG28	24797229	EL, 2.2μF, ±20%, 50V
CG29	24591102	PF, 1000pF
CG30	24206108	EL, 0.1μF, ±20%, 50V
CG31	24797229	EL, 2.2μF, ±20%, 50V
CG32	24591102	PF, 1000pF
CG33	24206108	EL, 0.1μF, ±20%, 50V
CG36	24206229	EL, 2.2μF, ±20%, 50V
CG37	24206229	EL, 2.2μF, ±20%, 50V
CG38	24206229	EL, 2.2μF, ±20%, 50V
CG39	24206229	EL, 2.2μF, ±20%, 50V
CG42	24206010	EL, 1μF, ±20%, 50V
CG44	24203100	EL, 10μF, ±20%, 16V
CG46	24203101	EL, 100μF, ±20%, 16V
CG71	24206229	EL, 2.2μF, ±20%, 50V (36A41)
CG72	24206229	EL, 2.2μF, ±20%, 50V (36A41)
CG73	24206229	EL, 2.2μF, ±20%, 50V (36A41)
CG74	24206229	EL, 2.2μF, ±20%, 50V (36A41)
CG76	24794100	EL, 10μF, ±20%, 16V (36A41)
CG77	24232103	CD, 0.01μF, +80%, -20% (36A41)
CG78	24794101	EL, 100μF, ±20%, 16V (36A41)
CM51	24503041	PF, 0.1μF, 63V
CM55	24436101	CD, 100pF
CM58	24503041	PF, 0.1μF, 63V
CR01	24232103	CD, 0.01μF, +80%, -20%
CR02	24232103	CD, 0.01μF, +80%, -20%

Location No.	Part No.	Description
CR03	24232103	CD, 0.01μF, +80%, -20%
CS70	24794220	EL, 22μF, ±20%, 16V
CS71	24794220	EL, 22μF, ±20%, 16V
CV01	24206108	EL, 0.1μF, ±20%, 50V
CV03	24206108	EL, 0.1μF, ±20%, 50V
CV05	24232103	CD, 0.01μF, +80%, -20%
CV07	24206108	EL, 0.1μF, ±20%, 50V
CV09	24206108	EL, 0.1μF, ±20%, 50V
CV11	24232103	CD, 0.01μF, +80%, -20%
CV13	24092398	CD, 0.1μF, +80%, -20%, 25V (36A41)
CV29	24232103	CD, 0.01μF, +80%, -20%
CV31	24206108	EL, 0.1μF, ±20%, 50V
CV36	24794220	EL, 22μF, ±20%, 16V
CV38	24763221	EL, 220μF, ±20%, 16V
CV39	24232103	CD, 0.01μF, +80%, -20%
CV41	24591223	PF, 0.022μF
CV60	24763471	EL, 470μF, ±20%, 16V
CV61	24762471	EL, 470μF, ±20%, 10V
CZ03	24092743	Chip, 0.47μF, +80%, -20%, 10V
CZ05	24109103	Chip, 0.01μF, ±10%
CZ07	24092730	Chip, 0.1μF, ±10%, 16V
CZ09	24105220	Chip, 22pF
CZ10	24105100	Chip, 10pF, ±0.5pF
CZ11	24105220	Chip, 22pF
CZ12	24109103	Chip, 0.01μF, ±10%
CZ13	24109103	Chip, 0.01μF, ±10%
CZ14	24203100	EL, 10μF, ±20%, 16V
CZ17	24109103	Chip, 0.01μF, ±10%
CZ19	24105181	Chip, 180pF
CZ20	24109103	Chip, 0.01μF, ±10%
CZ21	24109122	Chip, 1200pF, ±10%
CZ22	24203100	EL, 10μF, ±20%, 16V
CZ23	24109103	Chip, 0.01μF, ±10%
CZ24	24109103	Chip, 0.01μF, ±10%
CZ25	24203100	EL, 10μF, ±20%, 16V
CZ26	24109103	Chip, 0.01μF, ±10%
CZ28	24109103	Chip, 0.01μF, ±10%
CZ29	24109103	Chip, 0.01μF, ±10%
CZ30	24203100	EL, 10μF, ±20%, 16V
CZ31	24092730	Chip, 0.1μF, ±10%, 16V
CZ32	24105150	Chip, 15pF
CZ33	24105390	Chip, 39pF
CZ34	24105150	Chip, 15pF
CZ35	24105390	Chip, 39pF
CZ37	24203100	EL, 10μF, ±20%, 16V
CZ38	24203100	EL, 10μF, ±20%, 16V
CZ41	24105470	Chip, 47pF
CZ42	24105470	Chip, 47pF
CZ45	24105100	Chip, 10pF, ±0.5pF
CZ46	24436120	CD, 12pF

RESISTORS

R101	24382223	OMF, 22k ohm, 1W
R201	24366102	CF, 1k ohm
R202	24366102	CF, 1k ohm
R203	24366474	CF, 470k ohm
R207	24366101	CF, 100 ohm
R208	24366101	CF, 100 ohm
R209	24366101	CF, 100 ohm
R216	24366223	CF, 22k ohm
R223	24366471	CF, 470 ohm
R228	24366473	CF, 47k ohm
R238	24366473	CF, 47k ohm
R239	24366274	CF, 270k ohm
R240	24366562	CF, 5600 ohm
R241	24366682	CF, 6800 ohm
R245	24366104	CF, 100k ohm
R261	24366472	CF, 4700 ohm
R262	24366102	CF, 1k ohm
R263	24366472	CF, 4700 ohm
R264	24366102	CF, 1k ohm
R265	24366472	CF, 4700 ohm
R266	24366102	CF, 1k ohm
R271	24366101	CF, 100 ohm
R272	24366222	CF, 2200 ohm
R301	24366102	CF, 1k ohm
R303	24321109	MF, 1 ohm, 1/2W
R304	24366393	CF, 39k ohm (32A41)
R304	24366623	CF, 62k ohm (36A41)
R305	24322688	MF, 0.68 ohm, 1W (32A41)
R305	24322828	MF, 0.82 ohm, 1W (36A41)
R306	24366563	CF, 56k ohm (32A41)
R306	24366683	CF, 68k ohm (36A41)
R307	24366474	CF, 470k ohm (32A41)
R307	24366684	CF, 680k ohm (36A41)
R308	24383391	OMF, 390 ohm, 2W (32A41)
R308	24383821	OMF, 820 ohm, 2W (36A41)
R309	24553181	OMF, 180 ohm, 1W (32A41)
R310	24366153	CF, 15k ohm
R311	24366392	CF, 3900 ohm
R313	24366104	CF, 100k ohm
R314	24366105	CF, 1M ohm
R315	24366824	CF, 820k ohm
R317	24366102	CF, 1k ohm
R327	24339569	MF, 5.6 ohm, 2W (32A41)
R327	24339479	MF, 4.7 ohm, 2W (36A41)
R328	24366824	CF, 820k ohm (32A41)
R328	24366684	CF, 680k ohm (36A41)
R336	24383221	OMF, 220 ohm, 2W
R360	24366104	CF, 100k ohm
R361	24366473	CF, 47k ohm
R363	24366105	CF, 1M ohm (36A41)
R364	24366103	CF, 10k ohm (36A41)
R368	24545479	FR, 4.7 ohm, 1/4W
R369	24366391	CF, 390 ohm
R370	24321109	MF, 1 ohm, 1/2W
R371	24366103	CF, 10k ohm
R372	24366392	CF, 3900 ohm
R373	24366102	CF, 1k ohm
R374	24366163	CF, 16k ohm
R401	24366391	CF, 390 ohm
R403	24366622	CF, 6200 ohm
R405	24382682	OMF, 6800 ohm, 1W
R406	24366104	CF, 100k ohm
R407	24366103	CF, 10k ohm
R408	24366472	CF, 4700 ohm
R410	24366271	CF, 270 ohm
R411	24366561	CF, 560 ohm
R415	24553272	OMF, 2700 ohm, 1W
R416	24510432	Cement, 4300 ohm, 5W
R418	24383181	OMF, 180 ohm, 2W
R424	24546279	FR, 2.7 ohm, 1/2W
R425	24366561	CF, 560 ohm
R430	24366102	CF, 1k ohm
R431	24366103	CF, 10k ohm
R432	24366202	CF, 2k ohm

Location No.	Part No.	Description
R441	24532102	FR, 1k ohm, 1W
R448	24338478	MF, 0.47 ohm, 1W
R456	24366103	CF, 10k ohm
R457	24366104	CF, 100k ohm
R460	24366333	CF, 33k ohm
R461	24366393	CF, 39k ohm
R462	24366561	CF, 560 ohm
R463	24322479	MF, 4.7 ohm, 1W
R464	24366102	CF, 1k ohm
R465	24366682	CF, 6800 ohm
R466	24366103	CF, 10k ohm
R467	24366474	CF, 470k ohm
R472	24381270	OMF, 27 ohm, 1/2W
R473	24366473	CF, 47k ohm
R474	24366184	CF, 180k ohm
⚠R475	24366391	CF, 390 ohm
R476	24366823	CF, 82k ohm
R477	24366273	CF, 27k ohm
⚠R478	24327133	MF, 13k ohm, ±1%, 1/4W
R481	24366333	CF, 33k ohm
⚠R482	24327472	MF, 4700 ohm, ±1%, 1/4W
R485	24338568	MF, 0.56 ohm, 1W
R486	24552820	OMF, 82 ohm, 1/2W
R487	24552301	OMF, 300 ohm, 1/2W
R488	24327183	MF, 18k ohm, ±1%, 1/4W
R489	24327183	MF, 18k ohm, ±1%, 1/4W
R490	24366102	CF, 1k ohm
R493	24366102	CF, 1k ohm
R494	24366471	CF, 470 ohm
R495	24366561	CF, 560 ohm
R501	24366333	CF, 33k ohm
R502	24366101	CF, 100 ohm
R503	24366101	CF, 100 ohm
R508	24366102	CF, 1k ohm
R509	24366102	CF, 1k ohm
R510	24366471	CF, 470 ohm
R511	24366471	CF, 470 ohm
R612	24366103	CF, 10k ohm
R613	24366222	CF, 2200 ohm
R614	24366102	CF, 1k ohm
R661	24366682	CF, 6800 ohm
R662	24366682	CF, 6800 ohm
R663	24366332	CF, 3300 ohm
R664	24366332	CF, 3300 ohm
R667	24366223	CF, 22k ohm
R668	24366103	CF, 10k ohm
R669	24366103	CF, 10k ohm
R676	24366229	CF, 2.2 ohm
R677	24366229	CF, 2.2 ohm
R808	24019483	PTC Thermistor, 7.0 ohm
R810	24568828	Cement, 0.82 ohm, ±10%, 7W
R814	24366103	CF, 10k ohm
R815	24552332	OMF, 3300 ohm, 1/2W
R818	24323479	MF, 4.7 ohm, 2W
R820	24322208	MF, 0.2 ohm, 1W
R821	24552470	OMF, 47 ohm, 1/2W
R823	24366152	CF, 1500 ohm
R829	24004945	MF, 0.18 ohm, 1W
R830	24322759	MF, 7.5 ohm, 1W
R831	24366561	CF, 560 ohm
R835	24552681	OMF, 680 ohm, 1/2W
R861	24553153	OMF, 15k ohm, 1W
R883	24366471	CF, 470 ohm
R884	24366471	CF, 470 ohm

Location No.	Part No.	Description
R885	24366102	CF, 1k ohm
R888	24321228	MF, 0.22 ohm, 1/2W
R891	24366102	CF, 1k ohm
R898	24002000	CC, 3.9M ohm, ±10%, 1/2W
R901	24552102	OMF, 1k ohm, 1/2W
R902	24552102	OMF, 1k ohm, 1/2W
R903	24552102	OMF, 1k ohm, 1/2W
R904	24366103	CF, 10k ohm
R905	24366101	CF, 100 ohm
R911	24366150	CF, 15 ohm
R914	24366561	CF, 560 ohm
R915	24366301	CF, 300 ohm
R917	24366102	CF, 1k ohm
R918	24366820	CF, 82 ohm
R920	24000880	FR, 5.1 ohm, 1W (32A41)
R920	24000961	FR, 2.2 ohm, 2W (36A41)
R921	24366561	CF, 560 ohm
R922	24366301	CF, 300 ohm
R924	24366820	CF, 82 ohm
R925	24366102	CF, 1k ohm
R928	24366561	CF, 560 ohm
R929	24366301	CF, 300 ohm
R930	24366820	CF, 82 ohm
R932	24366272	CF, 2700 ohm
R934	24366391	CF, 390 ohm
R935	24366821	CF, 820 ohm
R936	24366750	CF, 75 ohm
R937	24366102	CF, 1k ohm
R939	24366101	CF, 100 ohm
R942	24366562	CF, 5600 ohm
R943	24366562	CF, 5600 ohm
R944	24366562	CF, 5600 ohm
R960	24383153	OMF, 15k ohm, 2W
R961	24383153	OMF, 15k ohm, 2W
R962	24383153	OMF, 15k ohm, 2W
R977	24366122	CF, 1200 ohm
R980	24366471	CF, 470 ohm
R981	24366821	CF, 820 ohm
R982	24366103	CF, 10k ohm
R983	24366222	CF, 2200 ohm
R984	24367152	CF, 1500 ohm, ±2%
R985	24367471	CF, 470 ohm, ±2%
R986	24367681	CF, 680 ohm, ±2%
R987	24367681	CF, 680 ohm, ±2%
R988	24367472	CF, 4700 ohm, ±2%
R989	24367472	CF, 4700 ohm, ±2%
R990	24366222	CF, 2200 ohm
R991	24367681	CF, 680 ohm, ±2%
RA03	24366102	CF, 1k ohm
RA04	24366102	CF, 1k ohm
RA07	24366102	CF, 1k ohm
RA08	24366102	CF, 1k ohm
RA09	24366102	CF, 1k ohm
RA10	24366102	CF, 1k ohm
RA13	24366103	CF, 10k ohm
RA15	24366102	CF, 1k ohm
RA16	24366102	CF, 1k ohm
RA17	24366102	CF, 1k ohm
RA18	24366102	CF, 1k ohm
RA21	24366102	CF, 1k ohm
RA22	24366331	CF, 330 ohm
RA23	24366331	CF, 330 ohm
RA24	24366331	CF, 330 ohm
RA25	24366331	CF, 330 ohm

Location No.	Part No.	Description
RA26	24366102	CF, 1k ohm
RA27	24366102	CF, 1k ohm
RA33	24366103	CF, 10k ohm
RA34	24366102	CF, 1k ohm
RA35	24366102	CF, 1k ohm
RA36	24366102	CF, 1k ohm
RA37	24366331	CF, 330 ohm
RA38	24366331	CF, 330 ohm
RA40	24366101	CF, 100 ohm
RA41	24366101	CF, 100 ohm
RA61	24366103	CF, 10k ohm
RA62	24366103	CF, 10k ohm
RA67	24366472	CF, 4700 ohm
RA68	24366472	CF, 4700 ohm
RA70	24366333	CF, 33k ohm
RA71	24366683	CF, 68k ohm
RA72	24366223	CF, 22k ohm
RA73	24366103	CF, 10k ohm
RA051	24366103	CF, 10k ohm (36A41)
RB01	24366271	CF, 270 ohm
RB03	24366101	CF, 100 ohm
RB09	24366470	CF, 47 ohm
RB11	24366103	CF, 10k ohm
RB24	24366472	CF, 4700 ohm
RB25	24366472	CF, 4700 ohm
RB30	24366103	CF, 10k ohm
RB40	24366103	CF, 10k ohm
RB41	24366152	CF, 1500 ohm
RB42	24366102	CF, 1k ohm
RB43	24366103	CF, 10k ohm
RB44	24366103	CF, 10k ohm
RB45	24366181	CF, 180 ohm
RB46	24366101	CF, 100 ohm
RB60	24366101	CF, 100 ohm
RB61	24366244	CF, 240k ohm
RB62	24366133	CF, 13k ohm
RB63	24366392	CF, 3900 ohm
RB64	24366103	CF, 10k ohm
RB65	24366103	CF, 10k ohm
RB66	24366221	CF, 220 ohm
RB67	24366102	CF, 1k ohm
RG05	24366102	CF, 1k ohm
RG08	24366394	CF, 390k ohm
RG09	24366473	CF, 47k ohm
RG14	24366332	CF, 3300 ohm
RG15	24327153	MF, 15k ohm, ±1%, 1/4W
RG16	24366162	CF, 1600 ohm
RG17	24366472	CF, 4700 ohm
RG22	24366101	CF, 100 ohm
RG23	24366101	CF, 100 ohm
RG36	24366472	CF, 4700 ohm
RG37	24366472	CF, 4700 ohm
RG41	24366103	CF, 10k ohm
RG43	24366472	CF, 4700 ohm
RG44	24366222	CF, 2200 ohm
RG45	24545479	FR, 4.7 ohm, 1/4W
RG46	24552681	OMF, 680 ohm, 1/2W
RG71	24366222	CF, 2200 ohm (36A41)
RG72	24366222	CF, 2200 ohm (36A41)
RG73	24366222	CF, 2200 ohm (36A41)
RG74	24366222	CF, 2200 ohm (36A41)
RG75	24366473	CF, 47k ohm (36A41)
RG76	24366473	CF, 47k ohm (36A41)
RG77	24366223	CF, 22k ohm (36A41)

Location No.	Part No.	Description
RG78	24366123	CF, 12k ohm (36A41)
RG79	24366103	CF, 10k ohm (36A41)
RG80	24366473	CF, 47k ohm (36A41)
RG81	24366473	CF, 47k ohm (36A41)
RG82	24366101	CF, 100 ohm (36A41)
RG84	24366101	CF, 100 ohm (36A41)
RM02	24366332	CF, 3300 ohm
RM50	24366103	CF, 10k ohm
RM56	24366332	CF, 3300 ohm
RR93	24366472	CF, 4700 ohm
RS21	24366472	CF, 4700 ohm
RS24	24366472	CF, 4700 ohm
RS60	24366101	CF, 100 ohm
RS61	24366222	CF, 2200 ohm
RS62	24366101	CF, 100 ohm
RS63	24366222	CF, 2200 ohm
RS64	24366102	CF, 1k ohm
RS65	24366102	CF, 1k ohm
RS66	24366102	CF, 1k ohm
RS68	24366223	CF, 22k ohm
RS69	24366223	CF, 22k ohm
RS70	24366104	CF, 100k ohm
RS71	24366104	CF, 100k ohm
RV01	24366750	CF, 75 ohm
RV02	24366750	CF, 75 ohm
RV03	24366750	CF, 75 ohm
RV04	24366750	CF, 75 ohm
RV05	24366750	CF, 75 ohm (36A41)
RV07	24366103	CF, 10k ohm
RV08	24366102	CF, 1k ohm
RV11	24366103	CF, 10k ohm
RV12	24366102	CF, 1k ohm
RV19	24366101	CF, 100 ohm
RV20	24366101	CF, 100 ohm
RV60	24552101	OMF, 100 ohm, 1/2W
RV61	24366101	CF, 100 ohm
RV62	24366750	CF, 75 ohm
RV63	24366221	CF, 220 ohm
RW02	24366750	CF, 75 ohm
RW03	24366750	CF, 75 ohm
RZ01	24872102	Chip, 1k ohm, 1/16W
RZ02	24872102	Chip, 1k ohm, 1/16W
RZ03	24872332	Chip, 3300 ohm, 1/16W
RZ04	24872122	Chip, 1200 ohm, 1/16W
RZ05	24872471	Chip, 470 ohm, 1/16W
RZ06	24872821	Chip, 820 ohm, 1/16W
RZ08	24872122	Chip, 1200 ohm, 1/16W
RZ09	24872101	Chip, 100 ohm, 1/16W
RZ10	24872471	Chip, 470 ohm, 1/16W
RZ12	24872332	Chip, 3300 ohm, 1/16W
RZ13	24872122	Chip, 1200 ohm, 1/16W
RZ14	24872821	Chip, 820 ohm, 1/16W
RZ15	24872821	Chip, 820 ohm, 1/16W
RZ17	24872471	Chip, 470 ohm, 1/16W
RZ18	24872122	Chip, 1200 ohm, 1/16W
RZ19	24872332	Chip, 3300 ohm, 1/16W
RZ20	24872101	Chip, 100 ohm, 1/16W
RZ22	24872471	Chip, 470 ohm, 1/16W
RZ29	24872331	Chip, 330 ohm, 1/16W
RZ30	24366102	CF, 1k ohm
RZ30	24872331	Chip, 330 ohm, 1/16W

COILS & TRANSFORMERS

L101	23289842	Coil, Peaking, TRF4220AT

Location No.	Part No.	Description
L301	23103880	Coil (Ferrite Bead), TEM2011Y
L400	23238714	Coil, Peaking, TRF4100AJ
⚠L441	23233941	Coil, Linearity, TLN2157G (32A41)
⚠L441	23233979	Coil, Linearity, TLN2206AG (36A41)
L442	23248122	Coil, Choke, TLN3384D
⚠L461	23248115	Coil, Choke, TLN3367D (32A41)
⚠L461	23248179	Coil, Choke, TLN3339AD (36A41)
L463	23103880	Coil (Ferrite Bead), TEM2011Y
L501	23289844	Coil, Peaking, TRF4470AT (32A41)
L501	23289101	Coil, Peaking, TRF4101AF (36A41)
L502	23289844	Coil, Peaking, TRF4470AT
L805	23248227	Coil, Choke, TLN3481AD
L806	23248227	Coil, Choke, TLN3481AD
L815	23103880	Coil (Ferrite Bead), TEM2011Y
L883	23103880	Coil (Ferrite Bead), TEM2011Y
L885	23248073	Coil, Choke, TLN3299D
L886	23103880	Coil (Ferrite Bead), TEM2011Y
L901	23200376	Coil, Degaussing, TSB-2304CK (32A41)
L901	23200335	Coil, Degaussing, TSB-2362CP (36A41)
L902	23289221	Coil, Peaking, TRF4221AF
L903	23289221	Coil, Peaking, TRF4221AF
L904	23289221	Coil, Peaking, TRF4221AF
L910	23237991	Coil, Peaking, TRF4479AC
LA01	23289100	Coil, Peaking, TRF4100AF
LB01	23262280	Coil, IF, TRF1196D
LV01	23289840	Coil, Peaking, TRF4100AT
LV98	23103852	Coil, Filter, TEM2028AH
LV99	23103852	Coil, Filter, TEM2028AH
LZ01	23238710	Coil, Peaking, TRF4220AJ
LZ02	23238714	Coil, Peaking, TRF4100AJ
LZ03	23238714	Coil, Peaking, TRF4100AJ
LZ04	23238714	Coil, Peaking, TRF4100AJ
LZ05	23238714	Coil, Peaking, TRF4100AJ
LZ08	23238707	Coil, Peaking, TRF4390AJ
LZ11	23238710	Coil, Peaking, TRF4220AJ
LZ11	23289836	Coil, Peaking, TRF42R2AT
LZ12	23238710	Coil, Peaking, TRF4220AJ
T401	23224367	Transformer, Horiz. Drive, TLN1098AH
⚠T461	23236540	Transformer, Flyback, TFB4132ED (32A41)
⚠T461	23236492	Transformer, Flyback, TFB4132XD (36A41)
⚠T461	23236675	Transformer, Flyback, TFB4132EY (36A41)
T801	23211739	Line Filter, TRF3229AL
T840	23213513	Transformer, Power, TPW1459AZ
T862	23217460	Transformer, Converter, TPW3445AE

SEMICONDUCTORS

Q202	23114528	Transistor, 2SC1740S, Q
Q203	23114528	Transistor, 2SC1740S, Q
Q204	A6002040	Transistor, RN1204
Q205	A6002040	Transistor, RN1204

Location No.	Part No.	Description
Q301	B0378560	IC, TA8427K (32A41)
Q301	23319787	IC, LA7833S (36A41)
Q301B	72471082	Screw, BRDT2W3X10 SZN
Q360	23114528	Transistor, 2SC1740S, Q (36A41)
Q361	23314444	Transistor, 2SC4721P
Q370	23114530	Transistor, 2SA933S-Q
Q402	A6330069	Transistor, 2CS2482 FA-1
Q403	23314444	Transistor, 2SC4721P
Q404	A6873777	Transistor, 2SD2553
Q404B	72471082	Screw, BRDT2W3X10 SZN
Q421	23314141	Transistor, 2SC3852
Q421B	23035308	Screw, BTB3X8SZN
Q460	23314938	Transistor, 2SD2493(P)
Q460B	72471082	Screw, BRDT2W3X10 SZN
Q461	23114530	Transistor, 2SA933S-Q
Q471	A6534020	Transistor, 2SA1015-O
Q472	23114528	Transistor, 2SC1740S, Q
Q480	A6532853	Transistor, 2SA949-Y(C)
Q481	23114528	Transistor, 2SC1740S, Q
Q482	23114528	Transistor, 2SC1740S, Q
Q483	A6012010	Transistor, RN2201
Q501	B01A0007	IC, TA1310N
Q503	23114528	Transistor, 2SC1740S, Q
Q610	B01A0068	IC, TA8265K
Q610B	70391356	Screw, BITTB3X10 SZN
Q611	A6342200	Transistor, 2CS2878-A
Q612	23314962	Transistor, KTA1266 Y
Q613	A6342200	Transistor, 2CS2878-A
Q801	23135012	IC, STR-G6624
Q801B	72471082	Screw, BRDT2W3X10 SZN
Q830	23314707	Transistor, 2SD1944, H
Q830B	23035308	Screw, BTB3X8SZN
Q840	23318299	IC, L78MR05
Q843	A6002050	Transistor, RN1205
Q862	A8643112	Photo Coupler, TLP621(GRL-L
⚠Q883	23000352	IC, SE125N, LF4
Q901	A6368700	Transistor, 2CS4544
Q902	A6317440	Transistor, 2SC1815-Y
Q903	A6368700	Transistor, 2CS4544
Q904	A6317440	Transistor, 2SC1815-Y
Q905	A6368700	Transistor, 2CS4544
Q906	A6317440	Transistor, 2SC1815-Y
Q907	23114530	Transistor, 2SA933S-Q
Q908	A6321240	Transistor, 2SC2120-Y
Q910	23114528	Transistor, 2SC1740S, Q
Q911	23114528	Transistor, 2SC1740S, Q
Q912	23114530	Transistor, 2SA933S-Q
Q913	23114530	Transistor, 2SA933S-Q
Q914	23114528	Transistor, 2SC1740S, Q
QA01	23000773	IC, 8700CPN-XXXX
QA02	70129486	IC, AT24C08-10PC
QB01	23114528	Transistor, 2SC1740S, Q
QB03	A6002050	Transistor, RN1205
QB23	23114528	Transistor, 2SC1740S, Q
QB30	23114528	Transistor, 2SC1740S, Q
QB40	23114528	Transistor, 2SC1740S, Q
QB60	23114530	Transistor, 2SA933S-Q
QB61	23114528	Transistor, 2SC1740S, Q
QB62	23114528	Transistor, 2SC1740S, Q
QG01	23906499	IC, μPC1851BCU
QG05	A6333346	Transistor, 2SC2655-Y(C)
QG70	23000043	IC, TC4053BP(N) (36A41)
QG71	23314965	Transistor, KTC3198 Y (36A41)

Location No.	Part No.	Description
QM53	23314360	Transistor, DTC143TN
QS60	23314965	Transistor, KTC3198 Y
QS61	23314965	Transistor, KTC3198 Y
QS62	A6012040	Transistor, RN2204
QS63	A6342200	Transistor, 2CS2878-A
QS64	A6342200	Transistor, 2CS2878-A
QV01	23906364	IC, MM1313BD
QV60	23114528	Transistor, 2SC1740S, Q
QZ01	B0410895	IC, TC90A49P
QZ02	A6541130	Transistor, 2SA1162-Y
QZ03	A6541130	Transistor, 2SA1162-Y
QZ04	A6541130	Transistor, 2SA1162-Y
QZ05	A6335470	Transistor, 2SC2712-Y
QZ06	A6541130	Transistor, 2SA1162-Y
QZ07	A6541130	Transistor, 2SA1162-Y
QZ08	A6335470	Transistor, 2SC2712-Y
QZ11	23114528	Transistor, 2SC1740S, Q
D101	23316755	Diode, Zener, MTZJ33C
D201	23118859	Diode, 1SS133
D221	23118859	Diode, 1SS133
D222	23118859	Diode, 1SS133
D225	23316686	Diode, Zener, MTZJ9.1A
D226	23316686	Diode, Zener, MTZJ9.1A
D301	23118095	Diode, ERB44-06, E
D302	23118094	Diode, EU2A, LF-F10
D308	23118822	Diode, ERB12-02 (32A41)
D309	23118822	Diode, ERB12-02 (32A41)
D310	23118859	Diode, 1SS133
D313	23118859	Diode, 1SS133
D314	23118859	Diode, 1SS133 (36A41)
D315	23118859	Diode, 1SS133 (36A41)
D316	23316673	Diode, Zener, MTZJ5.6C (36A41)
D316	23316679	Diode, Zener, MTZJ6.8C (36A41)
D370	23316672	Diode, Zener, MTZJ5.6B
D371	23118859	Diode, 1SS133
D406	23118094	Diode, EU2A, LF-F10
D408	A7580658	Diode, 3JH41
D409	23316690	Diode, Zener, MTZJ10B
D411	23316684	Diode, Zener, MTZJ8.2B
D421	23316665	Diode, Zener, MTZJ4.7A
D422	23316669	Diode, Zener, MTZJ5.1B
D430	23316720	Diode, Zener, MTZJ12C
D441	23316687	Diode, Zener, MTZJ9.1B
D461	23316582	Diode, ERC20-06
D461B	70391356	Screw, BITTB3X10 SZN
D464	23316648	Diode, Zener, MTZJ2.2A
D466	23316653	Diode, Zener, MTZJ2.7B
D467	23118095	Diode, ERB44-06, E
D471	23118095	Diode, ERB44-06, E
⚠D472	23115774	Diode, Zener, RD6.2E(4)
D473	23118859	Diode, 1SS133
D480	23316727	Diode, Zener, MTZJ16A
D611	23118859	Diode, 1SS133
D612	23118859	Diode, 1SS133
D801	23316391	Diode, D3SB60, 4109
D805	23118859	Diode, 1SS133
D806	23118094	Diode, EU2A, LF-F10
D807	23118859	Diode, 1SS133
D810	23316269	Diode, AK04
D815	23316746	Diode, Zener, MTZJ27B
D830	23316673	Diode, Zener, MTZJ5.6C
D840	23316962	Diode, S1WBA20 4101

Location No.	Part No.	Description
D845	23118859	Diode, 1SS133
D881	23118859	Diode, 1SS133
D883	23357344	Diode, RU3AM LF-C1
D885	23118094	Diode, EU2A, LF-F10
D899	24019485	Varistor, TNR10V431K35
D901	23118859	Diode, 1SS133
D902	23118859	Diode, 1SS133
D903	23118859	Diode, 1SS133
D904	23118859	Diode, 1SS133
D905	23118859	Diode, 1SS133
D906	23118859	Diode, 1SS133
D911	23118095	Diode, ERB44-06, E
DA42	23316672	Diode, Zener, MTZJ5.6B
DB03	23358522	Diode (LED), SIR-56SB3F
DB30	23118859	Diode, 1SS133
DB45	23118859	Diode, 1SS133
DE50	23358501	Diode (LED), SCL003URC5F
DG02	23316690	Diode, Zener, MTZJ10B
DV01	23316686	Diode, Zener, MTZJ9.1A
DV03	23316686	Diode, Zener, MTZJ9.1A
DV05	23316686	Diode, Zener, MTZJ9.1A
DV07	23316686	Diode, Zener, MTZJ9.1A
DV09	23316686	Diode, Zener, MTZJ9.1A
DV13	23316686	Diode, Zener, MTZJ9.1A (36A41)

MISCELLANEOUS

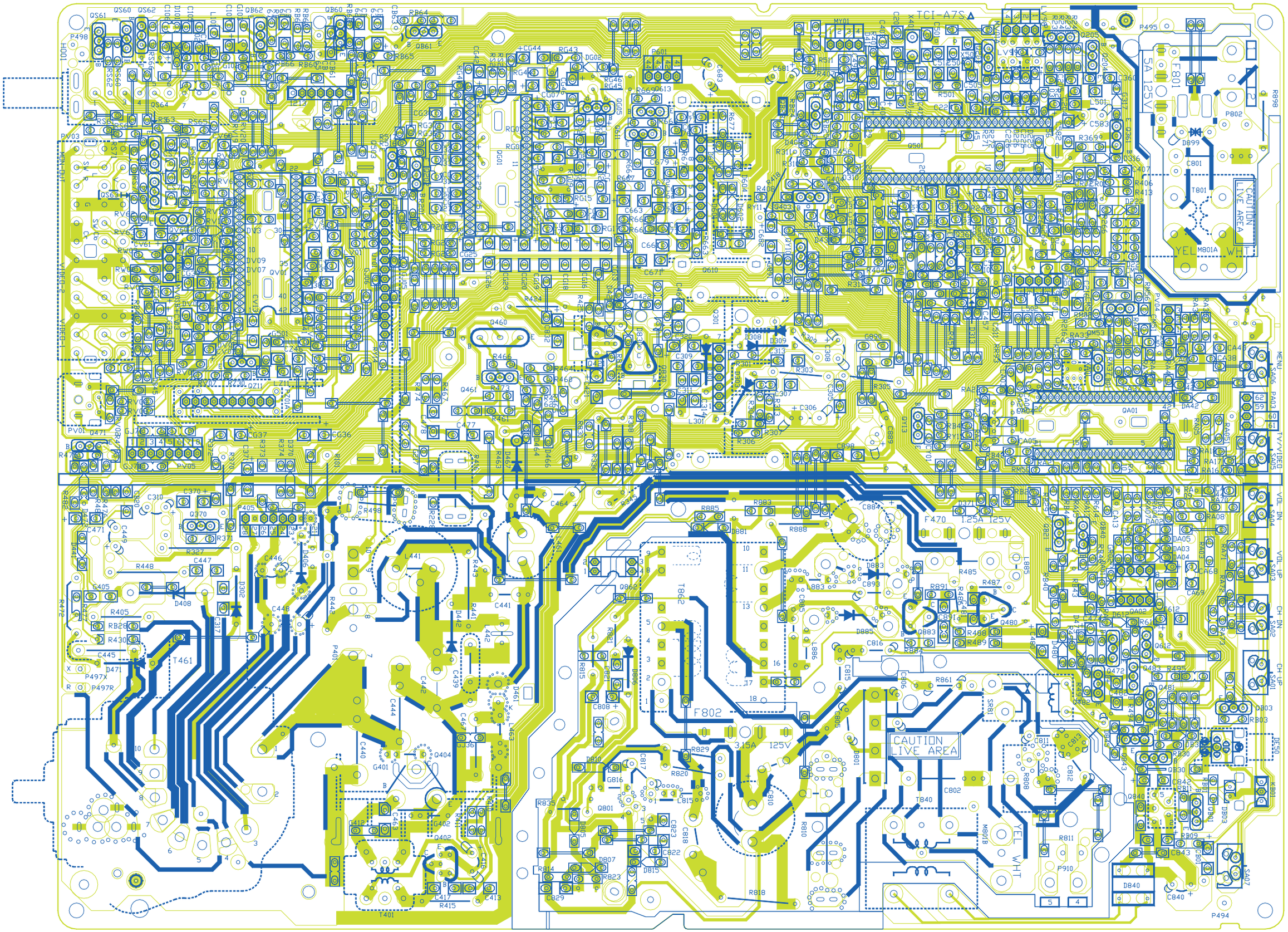
B231	23035412	Screw, BTB 4X12 SZN
B232	23037312	Screw, BTBW 3X12 SZN
F470	23144785	Fuse, 1.25A, 125V
F470A	23165433	Holder, Fuse
F801	23144888	Fuse, 5.0A, 125V
F801A	23165433	Holder, Fuse
F802	23144733	Fuse, 3.15A-T, 125V, Mini
F802A	23165433	Holder, Fuse
G217	24366333	CF, 33k ohm
G500	23289840	Coil, Peaking, TRF4100AT
G501	24366101	CF, 100 ohm
G816	23103880	Coil (Ferrite Bead), TEM2011Y
G890	23280016	Coil, Peaking, TRF4100AZ
G890A	23960136	Adhesive, TSE3843-W
G891	23280016	Coil, Peaking, TRF4100AZ
G908	23289100	Coil, Peaking, TRF4100AF
GR01	24366470	CF, 47 ohm
GR02	24366101	CF, 100 ohm
GR03	24366101	CF, 100 ohm
KB01	23906805	Remote Sensor, PIC-TB17
P801	23372115	Power Cord
P910	23164725	Plug, 2P
PV01	23365818	Jack, SVHS
PV02	23365990	Jack, 6P
PV03	23365991	Jack, 5P
PZ01	23368130	Plug, 10P
PZ01A	23902745	Socket, B-B, 10P
SA01	23145227	Switch, Push, 1C1P
SA02	23145227	Switch, Push, 1C1P
SA03	23145227	Switch, Push, 1C1P
SA04	23145227	Switch, Push, 1C1P
SA05	23145227	Switch, Push, 1C1P
SA06	23145227	Switch, Push, 1C1P
SA07	23145227	Switch, Push, 1C1P
SR81	23146564	Relay, DC12V
V901A	23902068	Socket, CRT, 10P

Location No.	Part No.	Description
W661	23351088	Speaker, SPK-1360, 60X120mm, 8 ohm
W662	23351088	Speaker, SPK-1360, 60X120mm, 8 ohm
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
X501	23153961	Crystal, 3.58MHz
XA01	23153504	Ceramic Resonator, 8.00MHz, TCR1056BM
PC BOARD ASSEMBLIES		
* U901	23782922	CRT Drive Board, PB8625A (32A41)
* U901	23783079	CRT Drive Board, PB8625D (36A41)
* U902	23785951	Main Board, PD0004A
* U903	23785952	Front Board, PD0005 (36A41)
* UZ01	23784601	DIG COM Board, PB9398
PICTURE TUBE		
⚠ V901	23312737	Picture Tube, A81AGZ50X01 (32A41)
⚠ V901	23312923	Picture Tube, A90AKB50X02V (36A41)
TUNER		
H001	23321404	Tuner, EL961L
ACCESSORIES		
K912	23306359	Remote Hand Unit, CT-90037
AT03	23588307	Battery Cover
Y101	23565217	Owner's Manual, English, 32A41
Y101	23565241	Owner's Manual, English, 36A41
Y101F	23565218	Owner's Manual, French, 32A41
Y101F	23565242	Owner's Manual, French, 36A41
CABINET PARTS		
A201	23549928	Front Cover (32A41)
A201	23540611	Front Cover (36A41)
A213	23427939	Door (36A41)
A221	23104044	Lens (32A41)
A221	23104060	Lens (36A41)
A222	23104043	Filter (32A41)
A222	23104061	Filter (36A41)
A223	23445475	Button (36A41)
A411	23549930	Back Cover (32A41)
A431	23540477	Back Cover (36A41)
A701	23525037	Container (32A41)
A701	23064519	Container (36A41)
A703	23946024	Packing, Top (32A41)
A703	23946145	Packing, Top (36A41)
A708	23946025	Packing, Bottom (32A41)
A708	23946146	Packing, Bottom (36A41)

Location No.	Part No.	Description

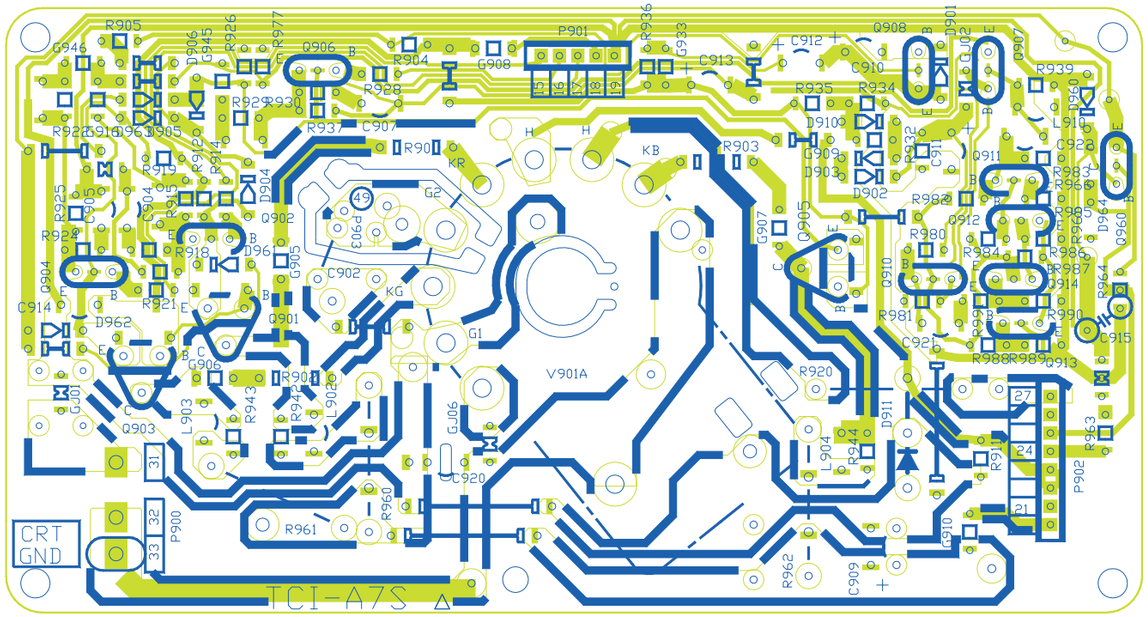
MAIN BOARD PD0004A

BOTTOM (FOIL) SIDE



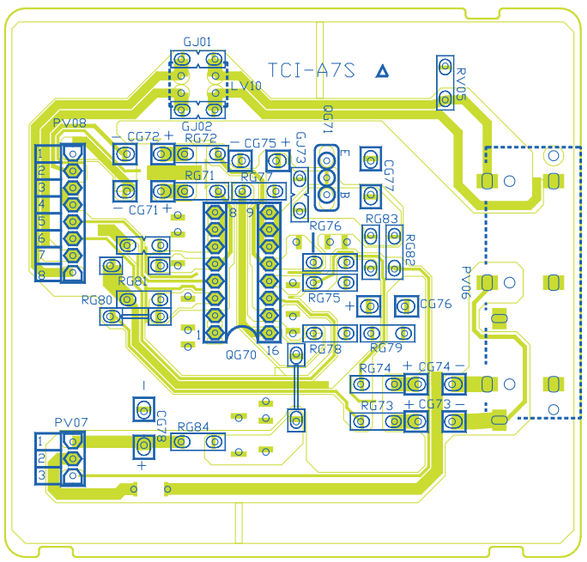
CRT DRIVE BOARD PB8625A

BOTTOM (FOIL) SIDE



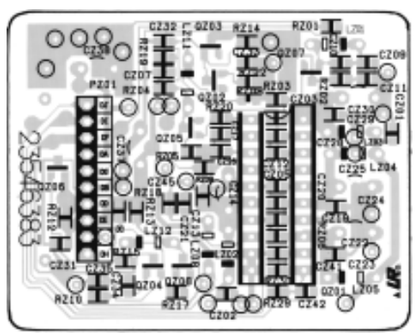
FRONT BOARD PD0005

BOTTOM (FOIL) SIDE



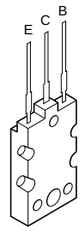
DIGI-COMB BOARD PB9398

BOTTOM (FOIL) SIDE

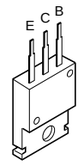


TERMINAL VIEW OF TRANSISTORS

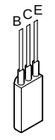
① 2SD2253 (old)
2SC5243



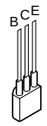
② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



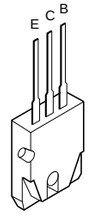
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



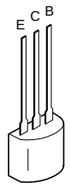
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



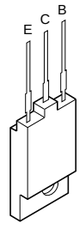
⑤ 2SA1788



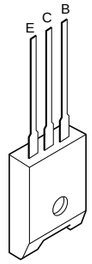
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SC5143
2SD2553



⑧ ON4409



SPECIFICATIONS

TELEVISION SYSTEM	NTSC standard
CHANNEL COVERAGE	VHF: 2 through 13 UHF: 14 through 69 Cable TV: mid band (A-8 through A-1, A through I) super band (J through W) hyper band (AA through ZZ, AAA, BBB) ultra band (65 through 94, 100 through 125)
POWER SOURCE	120V AC, 60Hz (32A41: 96W, 36A41: 92W)
AUDIO POWER	5W + 5W
SPEAKER TYPE	2-3/8 x 4-3/4 inches (60 x 120 mm)
VIDEO/AUDIO TERMINALS	S-VIDEO INPUT (VIDEO1) Y-INPUT: 1V (p-p), 75 ohm, negative sync. C-INPUT: 0.286V (p-p) (burst signal), 75 ohm VIDEO/AUDIO INPUT (VIDEO1/VIDEO2) VIDEO: 1V(p-p), 75 ohm, negative sync. AUDIO: 150mV(rms) (30% modulation equivalent, 47k ohm) ColorStream™ (component video) INPUT Y: 1V (p-p), 75 ohm C_R: 0.7V (p-p), 75 ohm C_B: 0.7V (p-p), 75 ohm VIDEO/AUDIO OUTPUT VIDEO: 1V(p-p), 75 ohm, negative sync. AUDIO: 150mV(rms) (30% modulation equivalent, 4.7k ohm)
DIMENSIONS	Width 30-5/8 inches (778mm) Height 27-9/32 inches (693mm) Depth 22-41/64 inches (575mm)
MASS	121.7 lbs (55.2 kg)
SUPPLIED ACCESSORIES	Remote Control with 2 size “AA” batteries

*Please refer to owner's manual in detail.

SCHEMATIC DIAGRAM

MODEL : 32A41 Chassis No. TAC0101
36A41 Chassis No. TAC0102

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
    Electolytic capacitor  Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 120 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

SCHEMATIC DIAGRAM

MODEL : 32A41 **Chassis No. TAC0101**

36A41 **Chassis No. TAC0102**

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   Electolytic capacitor Mylar capacitor
3. The parts indicated with " ⚠ " have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 120 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

MAIN UNIT 36" PD0004B 32" PD0004A

TO PIP (PB8622) TO PIP PM01 TO 3L COMB (TO 2L COMB)

TO SPK

VIDEO-1 VIDEO-2 MV03 TO FRONT AV

MONTER OUT (MON-OUT) R L/MOND

P801 AC125V 7A POWER CORD

M901 TO CRT/D PB7820A P901

TO CRT/D

TO CRT/D

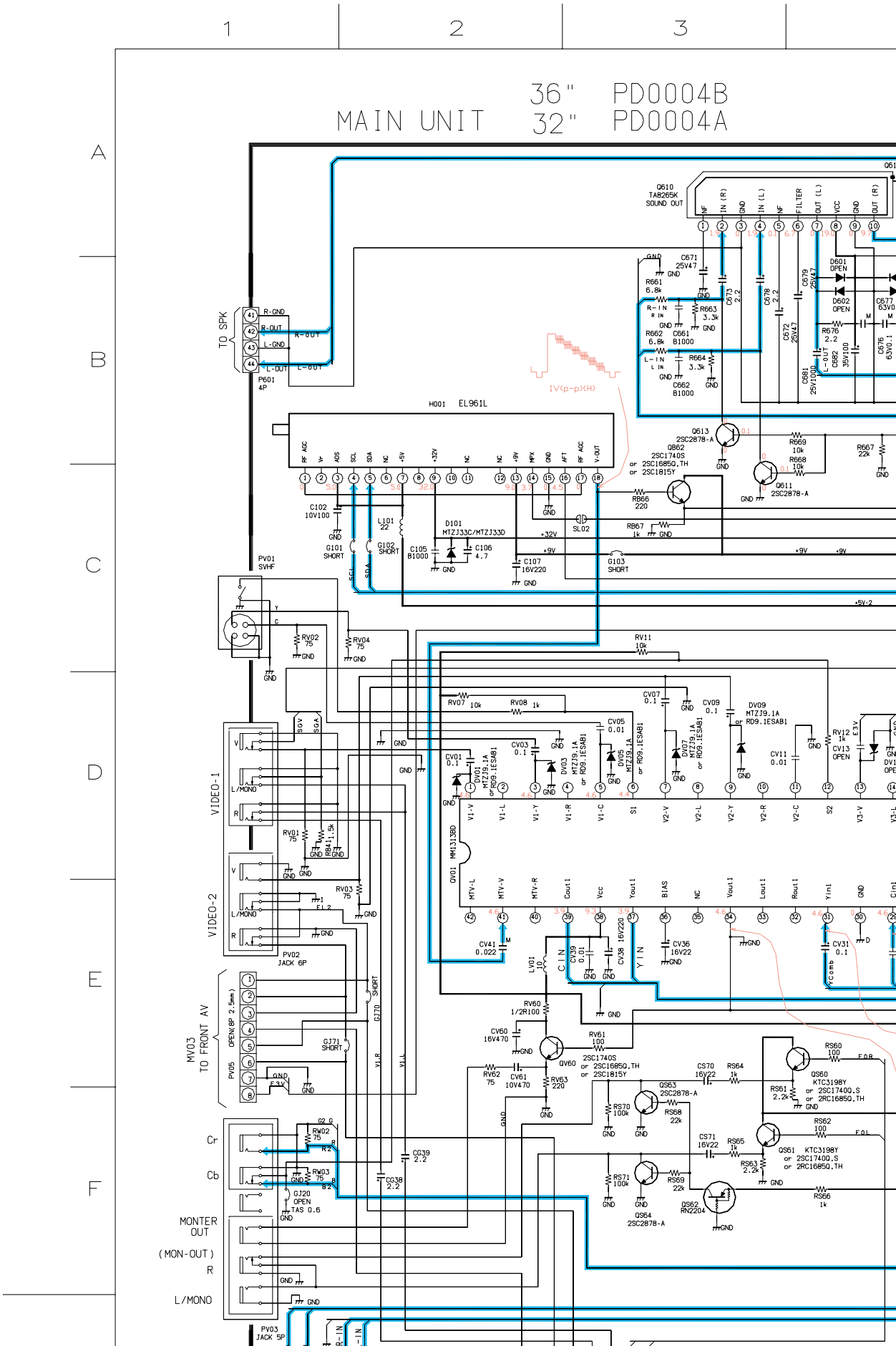
TO FRONT AV MV02

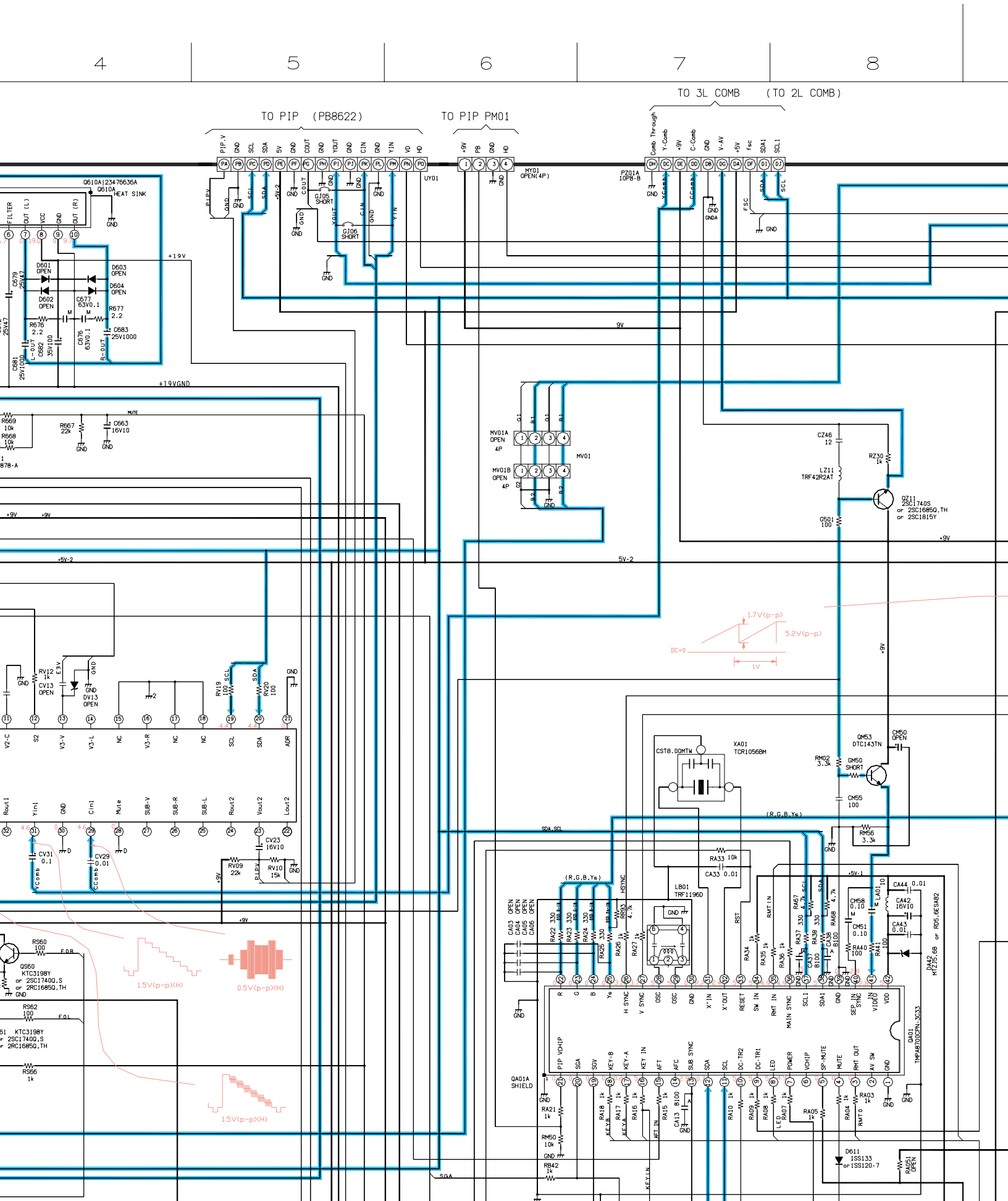
410 DY ITC

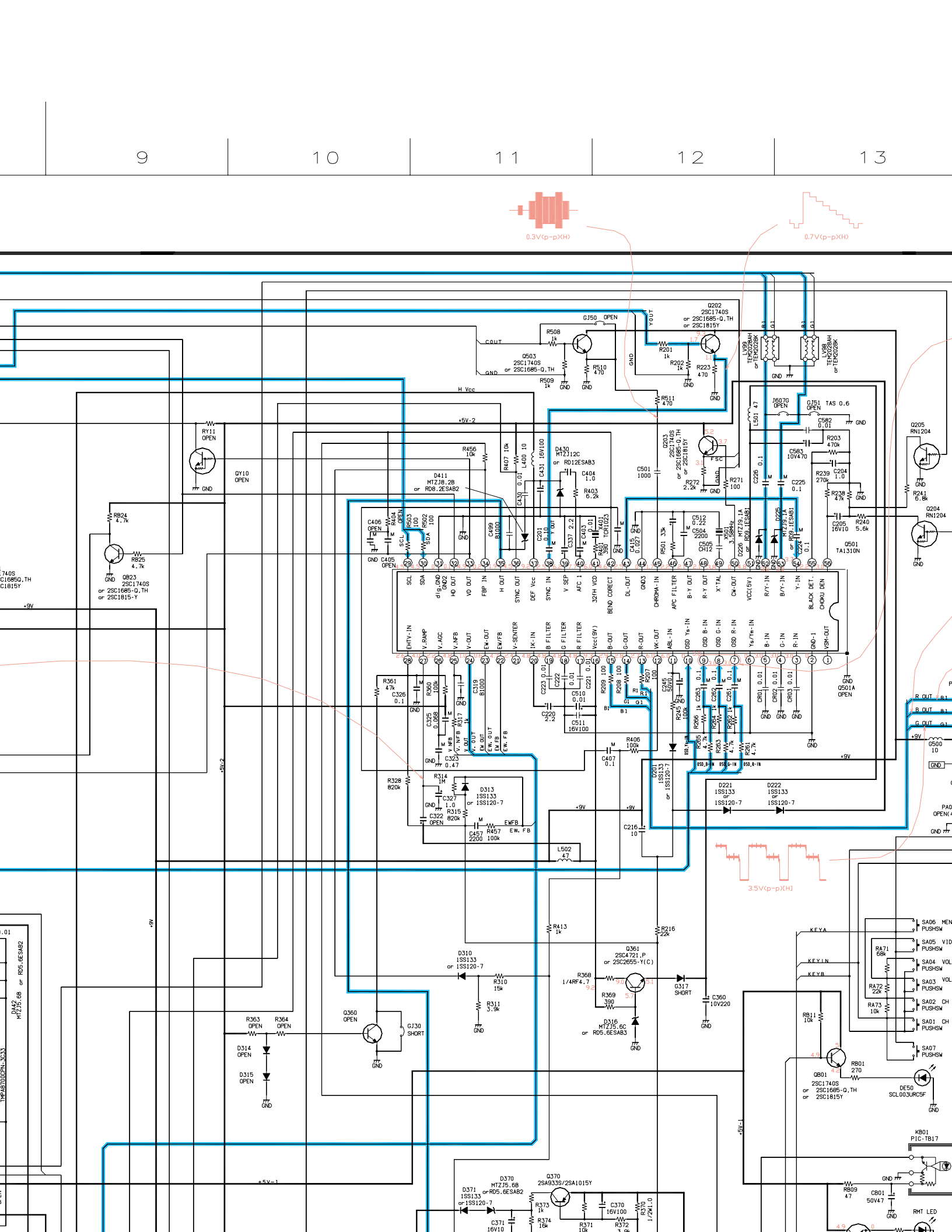
DIFFERENCE LIST

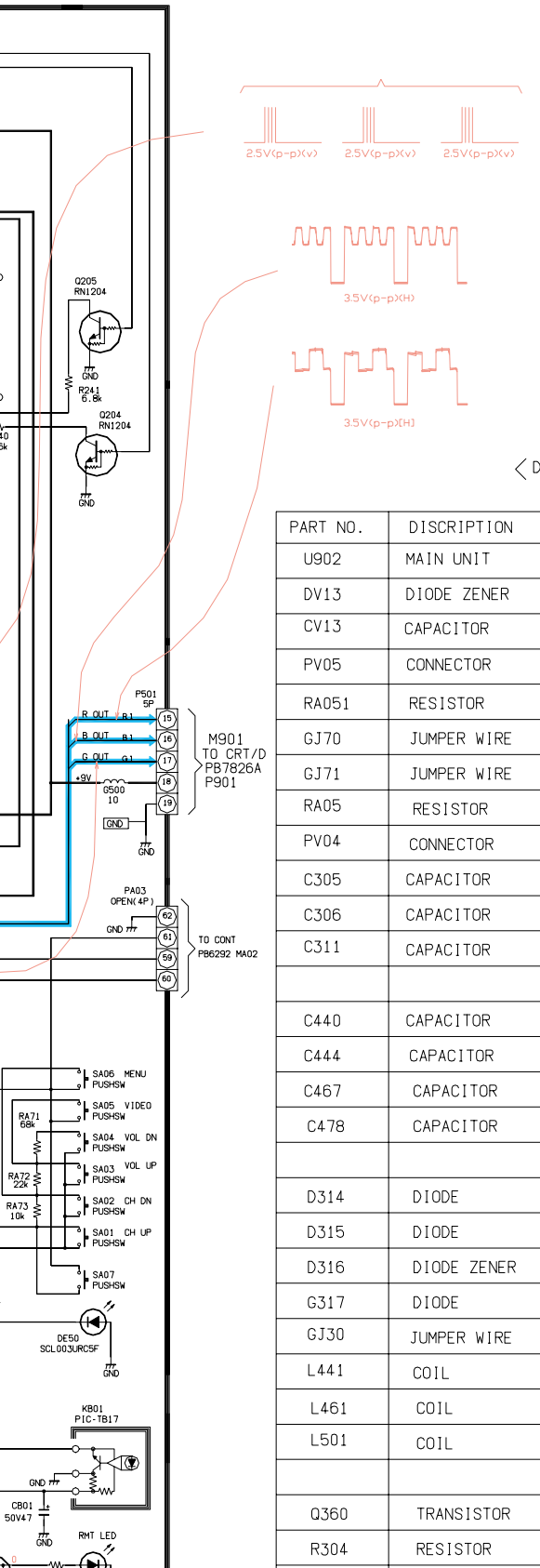
PART NO.	DISCRIPTION	32A41	36A41	
U902	MAIN UNIT	PD0004A	PB0004B	
DV13	DIODE ZENER	OPEN	MTZJ9.1A	
CV13	CAPACITOR	OPEN	25V0.1∞F	
PV05	CONNECTOR	OPEN	8P(2.5mm)	
RA051	RESISTOR	OPEN	1/6W10k	
GJ70	JUMPER WIRE	SHORT	OPEN	
GJ71	JUMPER WIRE	SHORT	OPEN	
RA05	RESISTOR	OPEN	1/6W1k	
PV04	CONNECTOR	OPEN	3P(2.5mm)	
C305	CAPACITOR	50V2.2∞F	50V1.0∞F	
C306	CAPACITOR	25V2200∞F	25V3300∞F	
C311	CAPACITOR	500V82pF	500V1000pF	
C440	CAPACITOR	1.5kV7800pF	1.5kV7500pF	
C444	CAPACITOR	1.8kV6200pF	1.8kV5600pF	
C467	CAPACITOR	630V0.018∞F	630V0.015∞F	
C478	CAPACITOR	50V0.056∞F	OPEN	
D314	DIODE	OPEN	1SS133	
D315	DIODE	OPEN	1SS133	
D316	DIODE ZENER	MTZJ5.6C	MTZJ6.8C	
G317	DIODE	SHORT	1SS133	
GJ30	JUMPER WIRE	SHORT	OPEN	
L441	COIL	TLN2157G	TLN2206AG	
L461	COIL	TLN3367D	TLN3339AD	
L501	COIL	TRF4470AT	TRF4101AF	
Q360	TRANSISTOR	OPEN	2SC1740S,Q	
R304	RESISTOR	1/6W39k	1/6W62k	
R305	RESISTOR	1W0.68	1W0.82	
R306	RESISTOR	1/6W56k	1/6W68k	
R307	RESISTOR	1/6W470k	1/6W680k	
R308	RESISTOR	2W390	2W820	
R309	RESISTOR	1W180	OPEN	
R327	RESISTOR	2W5.6	2W4.7	
R328	RESISTOR	1/6W820k	1/6W680k	
R363	RESISTOR	OPEN	1/6W1M	
R364	RESISTOR	OPEN	1/6W10k	
Q301	IC	TA8427K	LA7833S	
Q301A	HERT SINC	2347654A	2347773B	
D308	DIODE	ERB12-02	OPEN	
D309	DIODE	ERB12-02	SHORT	

MAIN
32A41/36A41


MAIN UNIT
36" PD0004B
32" PD0004A
TO SPK
P601
4P
H001 EL961L
Q610
TA8265K
SOUND OUT
Q613
2SC2878-A
Q862
2SC1740S
or 2SC1685Q,TH
or 2SC1815Y
Q611
2SC2878-A
PV01
SVHF
PV02
JACK 6P
PV03
JACK 5P
MV03
TO FRONT AV
VIDEO-1
VIDEO-2
MONTER
OUT
(MON-OUT)
R
L/MONO
Cr
Cb
QV01 MM1313BD
QV60
2SC1685Q,TH
or 2SC1815Y
QS60
KTC3198Y
or 2SC1740Q,S
or 2RC1685Q,TH
QS61 KTC3198Y
or 2SC1740Q,S
or 2RC1685Q,TH
QS62
RN2204
QS63
2SC2878-A
QS64
2SC2878-A
SL02
C IN
Y/C IN
Vcomb

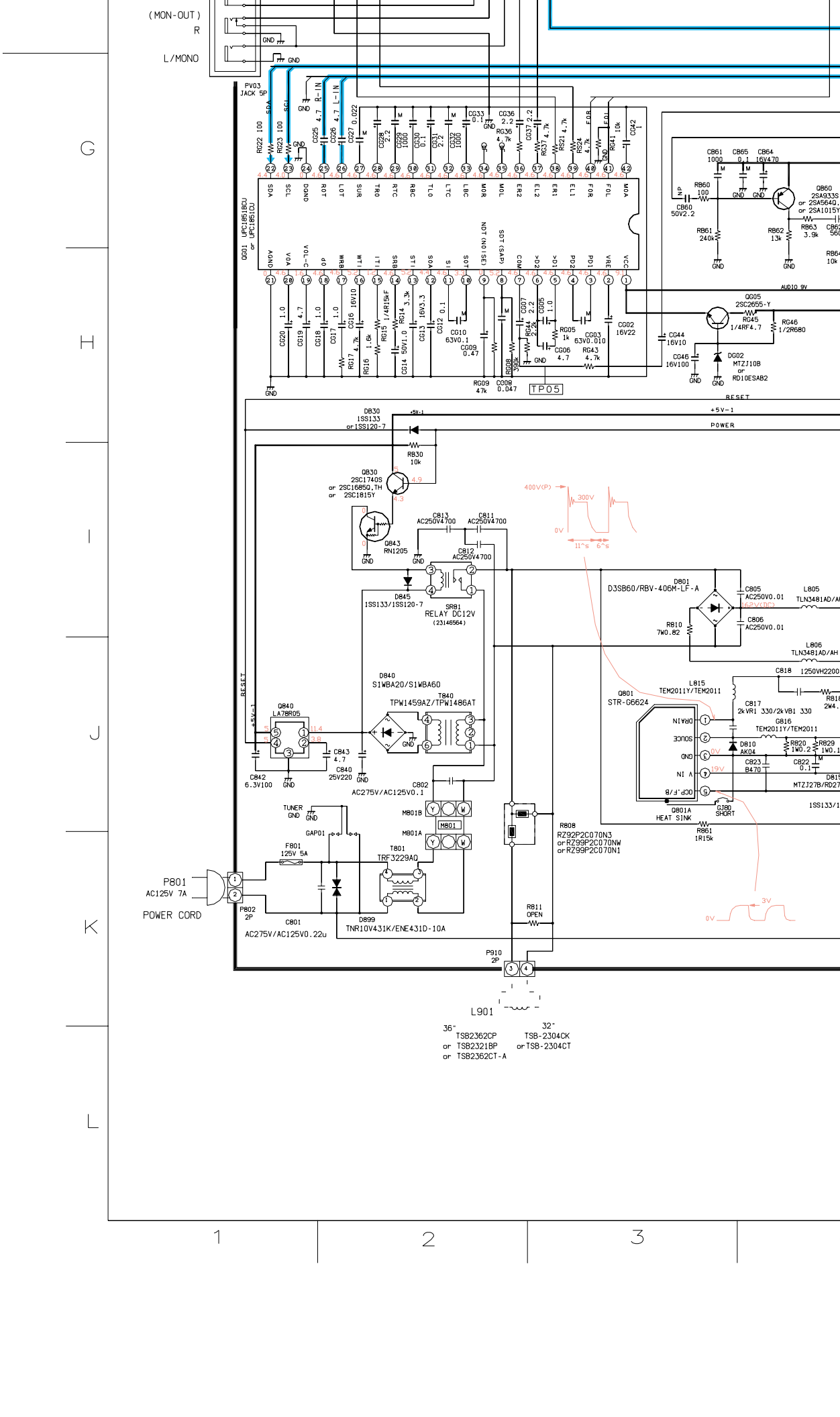

4
5
6
7
8
TO PIP (PB8622)
TO PIP PM01
TO 3L COMB (TO 2L COMB)
UY01
MY01 OPEN(4P)
PZ01A 10PB-B
Q610A|23476636A
Q610A HEAT SINK
+19V
+19VGND
9V
5V-2
+9V
D601 OPEN
D602 OPEN
D603 OPEN
D604 OPEN
C677 63V0.1
R677 2.2
R676 2.2
C683 25V1000
C679 25V47
C682 35V100
C681 25V1000
R669 10k
R668 10k
R667 22k
C663 16V10
MUTE
MV01A OPEN 4P
MV01B OPEN 4P
MV01
CZ46 12
RZ30 1k
LZ11 TRF42R2AT
QZ11 2SC1740S or 2SC1685Q,TH or 2SC1815Y
Q501 100
1.7V(p-p)
5.2V(p-p)
DC=0
1V
RV12 1k
CV13 OPEN
DV13 OPEN
RV19 100
RV20 100
CV23 16V10
RV09 22k
RV10 15k
CV31 0.1
CV29 0.01
Ycomb
Ccomb
V2-C
S2
V3-V
V3-L
NC
V3-R
SCL
SDA
ADR
Rout1
Yin1
Cin1
Mute
SUB-V
SUB-R
SUB-L
Rout2
Vout2
Lout2
CST8.00MTW
XA01 TCR1056BM
QM53 DTC143TN
CM50 OPEN
RM02 3.3k
GM50 SHORT
CM55 100
RM56 3.3k
(R,G,B,Ys)
SDA,SCL
RA33 10k
CA33 0.01
LB01 TRF1196D
RM53 4.7k
CA03 OPEN
CA04 OPEN
CA05 OPEN
CA06 OPEN
RA22 330
RA23 330
RA24 330
RA25 330
RA26 1k
RA27 1k
RA34 1k
RA35 1k
RA36 1k
RA37 330
RA38 330
RA39 330
CA36 B100
CA37 B100
RA40 100
RA41 100
CA44 0.01
CA42 16V10
CA43 0.01
CM56 0.10
CM51 0.10
LA01 10
DA42 MTZ5.6B or RD5.6ESA82
RST
RMT IN
SCL1
SDA1
+5V-1
QS60 KTC3198Y or 2SC1740Q,S or 2RC1685Q,TH
RS60 100
RS62 100
RS66 1k
F.O.B
F.O.L
1.5V(p-p)(H)
0.5V(p-p)(H)
QA01 TMP48P700DFN-3C33
QA01A SHIELD
PIP VCHIP
SGA
SGV
KEY-B
KEY-A
KEY IN
AFT
AFC
SUB SYNC
DC-TR2
DC-TR1
LED
POWER
VCHIP
SP-MUTE
MUTE
RMT OUT
AV SW
RA18 1k
RA17 1k
RA16 1k
RA15 1k
RA10 1k
RA09 1k
RA08 1k
RA07 1k
RA05 1k
RA04 1k
RA03 1k
RA21 1k
RM50 10k
RB42 1k
CA13 B100
D611 1SS133 or 1SS120-7
RMT0 OPEN
KEY.I.N
AFT IN
SGA

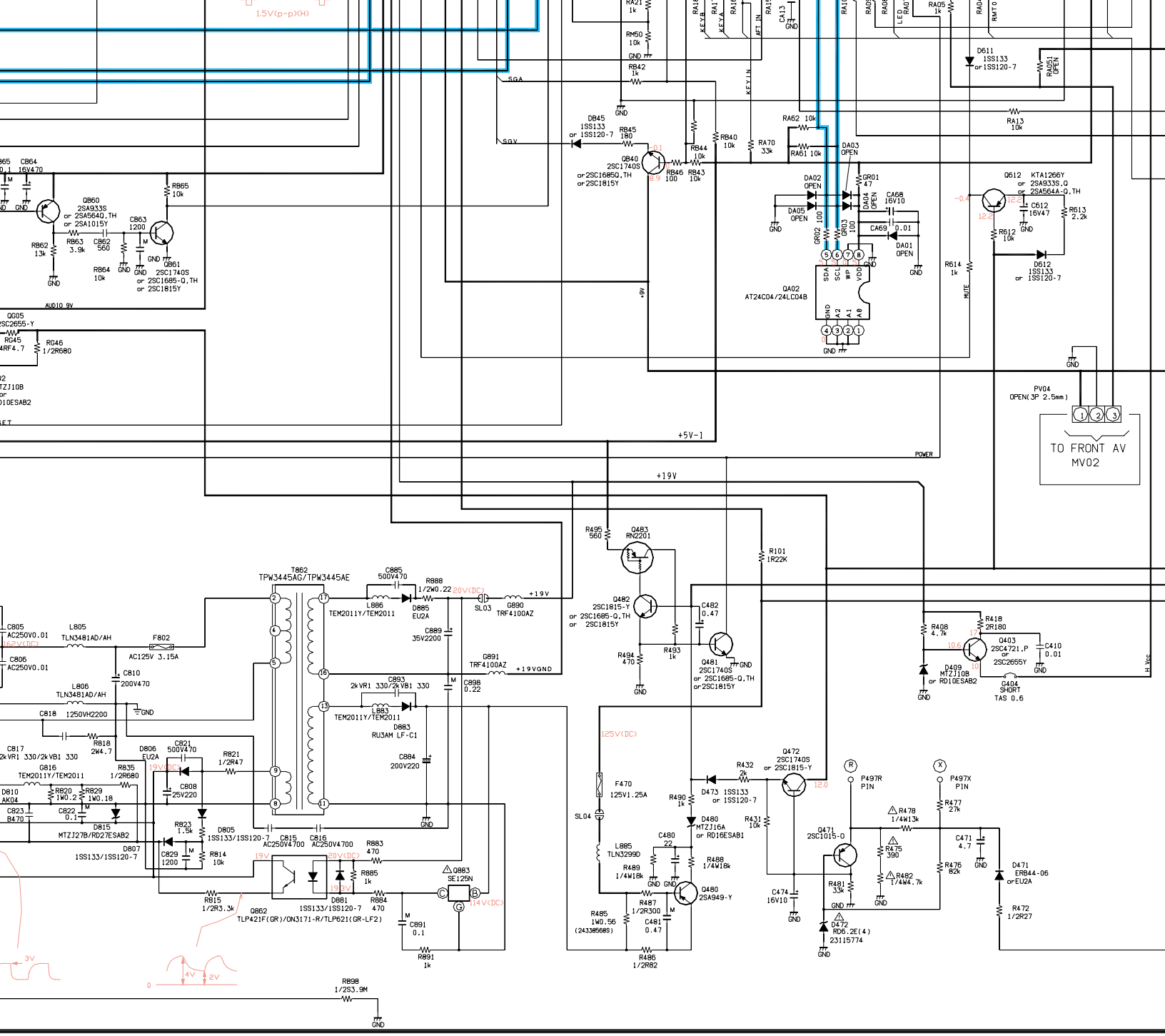

9
10
11
12
13
0.3V(p-p)(H)
0.7V(p-p)(H)
3.5V(p-p)(H)
Q202 2SC1740S or 2SC1685-Q,TH or 2SC1815Y
Q203 2SC1740S or 2SC1685-Q,TH or 2SC1815Y
Q205 RN1204
Q204 RN1204
Q501 TA1310N
Q501A OPEN
Q360 OPEN
Q361 2SA4721-P or 2SC2655-Y(C)
Q317 SHORT
Q801 2SC1740S or 2SC1685-Q,TH or 2SC1815Y
Q823 2SC1740S or 2SC1685-Q,TH or 2SC1815-Y
D503 2SC1740S or 2SC1685-Q,TH
D411 MTZJ8.2B or RD8.2ESAB2
D430 MTZJ12C or RD12ESAB3
D442 MTZJ5.6B or RD5.6ESAB2
D370 MTZJ5.6B or RD5.6ESAB2
D371 1SS133 or 1SS120-7
D310 1SS133 or 1SS120-7
D313 1SS133 or 1SS120-7
D314 OPEN
D315 OPEN
D316 MTZJ5.6C or RD5.6ESAB3
D221 1SS133 or 1SS120-7
D222 1SS133 or 1SS120-7
D231 1SS133 or 1SS120-7
GJ50 OPEN
GJ51 OPEN
GJ30 SHORT
J607G OPEN
RY11 OPEN
QY10 OPEN
H Vcc
+5V-2
+9V
+5V-1
GND
C OUT
Y OUT
FSC
SCL
SDA
SCL 10k
SDA 10k
R508 1k
R509 1k
R510 470
R511 470
R201 1k
R202 1k
R223 470
R456 10k
R407 10k
L400 10
C430 0.01
C431 16V100
C404 1.0
R403 6.2k
C501 1000
R272 2.2k
R271 100
L501 47
C582 0.01
C583 10V470
R203 470k
C204 1.0
R239 270k
R238 4.7k
R241 6.8k
R240 5.6k
C226 0.1
C225 0.1
C205 16V10
C406 OPEN
C405 OPEN
R404 100
R503 100
R502 100
C499 B1000
C201 0.01
C337 2.2
C403 0.01
R401 390
X401 TCR1023
C512 0.22
C504 2200
C505 CH12
X501 3.58MHz
C415 0.022
R501 33k
C220 2.2
C510 0.01
C511 16V100
C221 0.01
C222 0.01
C223 0.01
R209 100
R208 100
R207 100
C245 5000
R245 100k
C263 0.1
C262 0.1
C261 0.1
R266 1k
R264 1k
R262 1k
R265 4.7k
R263 4.7k
R261 4.7k
CR01 0.01
CR02 0.01
CR03 0.01
R361 47k
C326 0.1
R360 100k
C319 B1000
C325 0.068
R317 1k
C323 0.47
R406 100k
C407 0.1
R328 820k
R314 1M
C327 1.0
R315 820k
C322 OPEN
C457 2200
R457 100k
L502 47
R413 1k
R216 22k
C216 10
R310 15k
R311 3.9k
R368 1/4RF4.7
R369 390
C360 10V220
R363 OPEN
R364 OPEN
R373 1k
R374 16k
C370 16V100
R370 1/2W1.0
R371 10k
R372 3.3k
C371 16V10
RB24 4.7k
RB25 4.7k
RB23 2SC1740S or 2SC1685-Q,TH or 2SC1815-Y
RB11 10k
RB01 270
RB09 4.7
CB01 50V47
DE50 SCL003URC5F
RMT LED
KB01 PIC-TB17
KEY A
KEY B
KEY IN
SA06 MEN PUSHSW
SA05 VID PUSHSW
SA04 VOL PUSHSW
SA03 VOL PUSHSW
SA02 CH PUSHSW
SA01 CH PUSHSW
SA07 PUSHSW
RA71 68k
RA72 22k
RA73 10k
R OUT
B OUT
G OUT
G500 10
PA0 OPEN(4
TMPA8700CPN-3C33
SDA
SCL
EWFB
EW. FB
V. NFB
OSD_B-IN
OSD_G-IN
OSD_R-IN
SCL SDA dig.GND GND2 HD OUT VD OUT FBP IN H OUT SYNC OUT DEF Vcc SYNC IN V SEP AFC 1 32fH VCO BEND CORRECT DL-OUT GND3 CHROMA-IN APC FILTER B-Y OUT R-Y OUT X'TAL CH-OUT VCC(5V) R/Y-IN B/Y-IN Y-IN BLACK DET. CHOKU DEN
EHTV-IN V.RAMP V.AGC V.NFB V-OUT EW-OUT EW/FB V-SENTER 1K-IN B FILTER G FILTER R FILTER Vcc(9V) B-OUT G-OUT R-OUT WK-OUT ABL-IN OSD Ys-IN OSD B-IN OSD G-IN OSD R-IN Ys/Yn-IN B-IN G-IN R-IN GND-1 VSM-OUT

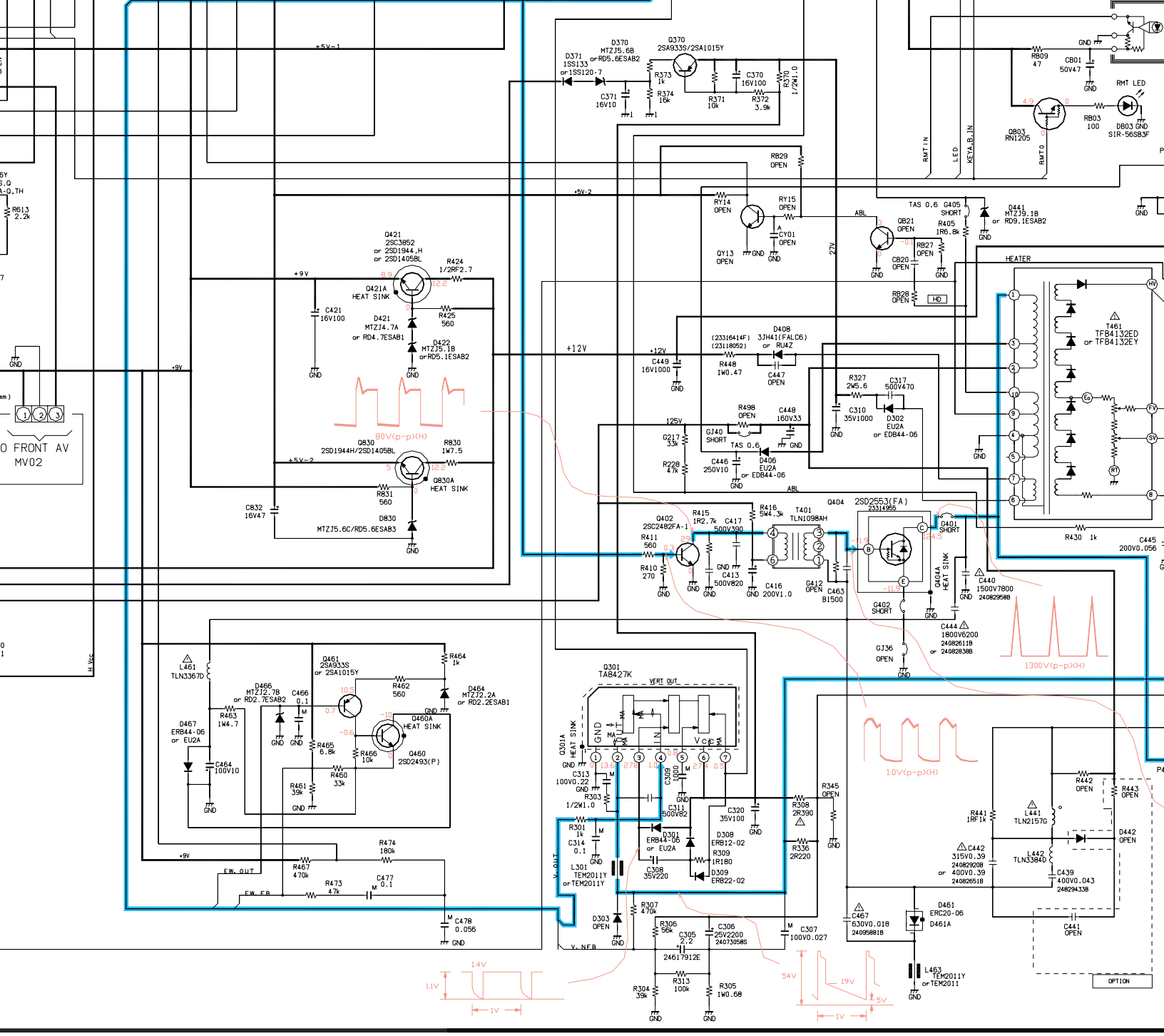


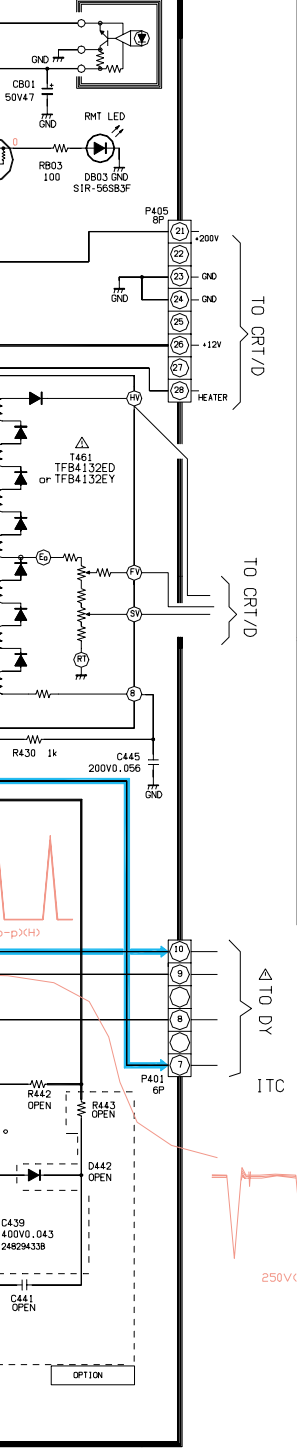
〈 DIFFERENCE LIST 〉

PART NO.	DISCRIPTION	32A41	36A41	
U902	MAIN UNIT	PD0004A	PB0004B	
DV13	DIODE ZENER	OPEN	MTZJ9.1A	
CV13	CAPACITOR	OPEN	25V0.1μF	
PV05	CONNECTOR	OPEN	8P(2.5mm)	
RA051	RESISTOR	OPEN	1/6W10k	
GJ70	JUMPER WIRE	SHORT	OPEN	
GJ71	JUMPER WIRE	SHORT	OPEN	
RA05	RESISTOR	OPEN	1/6W1k	
PV04	CONNECTOR	OPEN	3P(2.5mm)	
C305	CAPACITOR	50V2.2μF	50V1.0μF	
C306	CAPACITOR	25V2200μF	25V3300μF	
C311	CAPACITOR	500V82pF	500V1000pF	
C440	CAPACITOR	1.5kV7800pF	1.5kV7500pF	
C444	CAPACITOR	1.8kV6200pF	1.8kV5600pF	
C467	CAPACITOR	630V0.018μF	630V0.015μF	
C478	CAPACITOR	50V0.056μF	OPEN	
D314	DIODE	OPEN	1SS133	
D315	DIODE	OPEN	1SS133	
D316	DIODE ZENER	MTZJ5.6C	MTZJ6.8C	
G317	DIODE	SHORT	1SS133	
GJ30	JUMPER WIRE	SHORT	OPEN	
L441	COIL	TLN2157G	TLN2206AG	
L461	COIL	TLN3367D	TLN3339AD	
L501	COIL	TRF4470AT	TRF4101AF	
Q360	TRANSISTOR	OPEN	2SC1740S,Q	
R304	RESISTOR	1/6W39k	1/6W62k	


(MON-OUT)
R
L/MONO
GND
PV03
JACK 5P
SDA
SCL
R-IN
L-IN
UPC1851BCU
or UPC1851D1U
AUDIO 9V
QG05
2SC2655-Y
DG02
MTZJ10B
or
RD10ESAB2
TP05
RESET
+5V-1
POWER
DB30
1SS133
or 1SS120-7
QB30
2SC1740S
or 2SC1685Q_TH
or 2SC1815Y
D843
RN1205
C813
AC250V4700
C811
AC250V4700
C812
AC250V4700
D845
1SS133/1SS120-7
SR81
RELAY DC12V
(23146564)
400V(P)
300V
0V
11"s
6"s
D801
D3SB60/RBV-406M-LF-A
C805
AC250V0.01
C806
AC250V0.01
R810
7W0.82
L805
L806
TLN3481AD/AH
D840
S1WBA20/S1WBA60
T840
TPW1459AZ/TPW1486AT
Q840
LA78R05
C843
4.7
C842
6.3V100
C840
25V220
C802
AC275V/AC125V0.1
Q801
STR-G6624
L815
TEM2011Y/TEM2011
C817
2kVR1 330/2kVB1 330
G816
TEM2011Y/TEM2011
D810
AK04
C823
B470
C822
0.1
DRAIN
SOURCE
GND
V IN
OCP.F/B
Q801A
HEAT SINK
G190
SHORT
R861
1R15k
R808
RZ92P2C070N3
or RZ99P2C070NW
or RZ99P2C070N1
TUNER
GND
GAP01
F801
125V 5A
M801B
M801A
M801
T801
TRF3229AQ
P801
AC125V 7A
POWER CORD
P802
2P
C801
AC275V/AC125V0.22u
D899
TNR10V431K/ENE431D-10A
R811
OPEN
P910
2P
L901
36"
TSB2362CP
or TSB2321BP
or TSB2362CT-A
32"
TSB-2304CK
or TSB-2304CT
3V
0V
19V
1SS133/1


1.5V(p-p)(H)
SGA
SGV
KEY.IN
AFT IN
LED
RMT0
RMT1
D611 1SS133 or 1SS120-7
RA13 10k
RA62 10k
RA61 10k
RA70 33k
DA03 OPEN
DB45 1SS133 or 1SS120-7
RB45 180
RB44 10k
RB40 10k
RB46 100
RB43 10k
QB40 2SC1740S or 2SC1685Q,TH or 2SC1815Y
DA02 OPEN
DA05 OPEN
DA04 OPEN
GR01 47
GR02 100
GR03 100
CA68 16V10
CA69 0.01
DA01 OPEN
QA02 AT24C04/24LC04B
SDA SCL WP VDD GND A2 A1 A0
Q612 KTA1266Y or 2SA933S,Q or 2SA564A-Q,TH
C612 16V47
R613 2.2k
R612 10k
D612 1SS133 or 1SS120-7
R614 1k
MUTE
PV04 OPEN(3P 2.5mm)
TO FRONT AV MV02
POWER
+5V-1
+9V
+19V
AUDIO 9V
QB60 2SA933S or 2SA564Q,TH or 2SA1015Y
QB61 2SC1740S or 2SC1685-Q,TH or 2SC1815Y
RB62 13k
RB63 3.9k
RB64 10k
RB65 10k
CB62 560
CB63 1200
CB64 16V470
QG05 2SC2655-Y
RG45 ARF4.7
RG46 1/2R680
T862 TPW3445AG/TPW3445AE
L886 TEM2011Y/TEM2011
D885 EU2A
C885 500V470
R888 1/2W0.22
SL03
G890 TRF4100AZ
C889 35V2200
G891 TRF4100AZ
+19VGND
C893 2kVR1 330/2kVB1 330
C898 0.22
L883 TEM2011Y/TEM2011
D883 RU3AM LF-C1
C884 200V220
C805 AC250V0.01
L805 TLN3481AD/AH
F802 AC125V 3.15A
C806 AC250V0.01
C810 200V470
L806 TLN3481AD/AH
C818 1250VH2200
R818 2W4.7
C817 2kVR1 330/2kVB1 330
D806 EU2A
C821 500V470
R821 1/2R47
G816 TEM2011Y/TEM2011
R835 1/2R680
C808 25V220
D810 AK04
R820 1W0.2
R829 1W0.18
C823 B470
C822 0.1
D815 MTZJ27B/RD27ESAB2
D807 1SS133/1SS120-7
R823 1.5k
D805 1SS133/1SS120-7
C829 1200
R814 10k
C815 AC250V4700
C816 AC250V4700
R883 470
R885 1k
D881 1SS133/1SS120-7
R884 470
Q883 SE125N
Q862 TLP421F(GR)/ON3171-R/TLP621(GR-LF2)
R815 1/2R3.3k
C891 0.1
R891 1k
R898 1/2S3.9M
R495 560
Q483 RN2201
R101 1R22K
Q482 2SC1815-Y or 2SC1685-Q,TH or 2SC1815Y
C482 0.47
R494 470
R493 1k
Q481 2SC1740S or 2SC1685-Q,TH or 2SC1815Y
R408 4.7k
R418 2R180
Q403 2SC4721,P or 2SC2655Y
C410 0.01
D409 MTZJ10B or RD10ESAB2
G404 SHORT TAS 0.6
H.Vcc
F470 125V1.25A
SL04
R490 1k
D473 1SS133 or 1SS120-7
R432 2k
Q472 2SC1740S or 2SC1815-Y
D480 MTZJ16A or RD16ESAB1
R431 10k
C480 22
L885 TLN3299D
R488 1/4W18k
R489 1/4W18k
Q480 2SA949-Y
R487 1/2R300
C481 0.47
R485 1W0.56 (2433856S)
R486 1/2R82
C474 16V10
Q471 2SC1015-O
R481 33k
R478 1/4W13k
R475 390
R482 1/4W4.7k
D472 RD6.2E(4) 23115774
P497R PIN
P497X PIN
R477 27k
C471 4.7
R476 82k
D471 ERB44-06 or EU2A
R472 1/2R27
125V(DC)
20V(DC)
19V
19.2V
14V(DC)
3V
4V
2V
0


+5V-1
D370 MTZJ5.6B or RD5.6ESAB2
D371 1SS133 or 1SS120-7
Q370 2SA933S/2SA1015Y
R373 1k
R374 16k
C371 16V10
C370 16V100
R371 10k
R372 3.9k
R370 1/2W1.0
RB09 4.7
CB01 50V47
RMT LED
RB03 100
DB03 GND SIR-56SB3F
Q803 RN1205
RMT IN
LED
KEY A.B.IN
RMT O
RB29 OPEN
+5V-2
RY14 OPEN
RY15 OPEN
A CY01 OPEN
QY13 OPEN
GND
27V
ABL
TAS 0.6 G405 SHORT
D441 MTZJ9.1B or RD9.1ESAB2
QB21 OPEN
R405 1R6.8k
RB27 OPEN
CB20 OPEN
RB28 OPEN
HD
HEATER
T461 TFB4132ED or TFB4132EY
Q421 2SC3852 or 2SD1944.H or 2SD1405BL
+9V
Q421A HEAT SINK
R424 1/2RF2.7
C421 16V100
D421 MTZJ4.7A or RD4.7ESAB1
R425 560
D422 MTZJ5.1B or RD5.1ESAB2
80V(p-p)(H)
+12V
D408 (23316414F) (23118052) 3JH41(FALC6) or RU4Z
C449 16V1000
R448 1W0.47
C447 OPEN
R327 2W5.6
C317 500V470
C310 35V1000
D302 EU2A or EDB44-06
R498 OPEN
C448 160V33
125V
GJ40 SHORT
TAS 0.6
G217 33k
R228 47k
C446 250V10
D406 EU2A or EDB44-06
Q830 2SD1944H/2SD1405BL
R830 1W7.5
Q830A HEAT SINK
R831 560
C832 16V47
D830 MTZJ5.6C/RD5.6ESAB3
Q402 2SC2482FA-1
R415 1R2.7k
C417 500V390
T401 TLN1098AH
R411 560
R410 270
C413 500V820
C416 200V1.0
C463 B1500
Q404 2SD2553(FA) 2331495
G401 SHORT
G402 SHORT
Q404A HEAT SINK
C440 1500V7800 24082958B
C444 1800V6200 24082611B or 24082838B
GJ36 OPEN
1300V(p-p)(H)
R430 1k
C445 200V0.056
L461 TLN3367D
Q461 2SA933S or 2SA1015Y
D466 MTZJ2.7B or RD2.7ESAB2
C466 0.1
R462 560
R464 1k
D464 MTZJ2.2A or RD2.2ESAB1
R463 1W4.7
D467 ERB44-06 or EU2A
C464 100V10
R465 6.8k
R466 10k
Q460 2SD2493(P)
Q460A HEAT SINK
R460 33k
R461 39k
Q301 TA8427K
VERT OUT
Q301A HEAT SINK
GND
MA
IN
Vcc
C313 100V0.22
R303 1/2W1.0
C309 1000
C311 500V82
C320 35V100
R345 OPEN
R308 2R390
R336 2R220
R301 1k
C314 0.1
D301 ERB44-06 or EU2A
D308 ERB12-02
R309 1R180
D309 ERB22-02
C308 35V220
L301 TEM2011Y or TEM2011Y
V OUT
1.0V(p-p)(H)
R442 OPEN
R443 OPEN
R441 1RF1k
L441 TLN2157G
D442 OPEN
C442 315V0.39 24082920B or 400V0.39 24082651B
L442 TLN3384D
C439 400V0.043 24829338
C441 OPEN
OPTION
D461 ERC20-06 D461A
C467 630V0.018 24095881B
L463 TEM2011Y or TEM2011
D303 OPEN
R307 470k
R306 56k
C305 2.2
C306 25V2200 24073058S
24617912E
C307 100V0.027
R313 100k
R304 39k
R305 1W0.68
V. NFB
54V
19V
5V
1V
1.4V
1.1V
R466 180k
R467 470k
R473 47k
C477 0.1
C478 0.056
F.W. OUT
F.W. FB
+9V
R474 180k
C832 16V47
D830 MTZJ5.6C/RD5.6ESAB3
O FRONT AV MV02
R613 2.2k

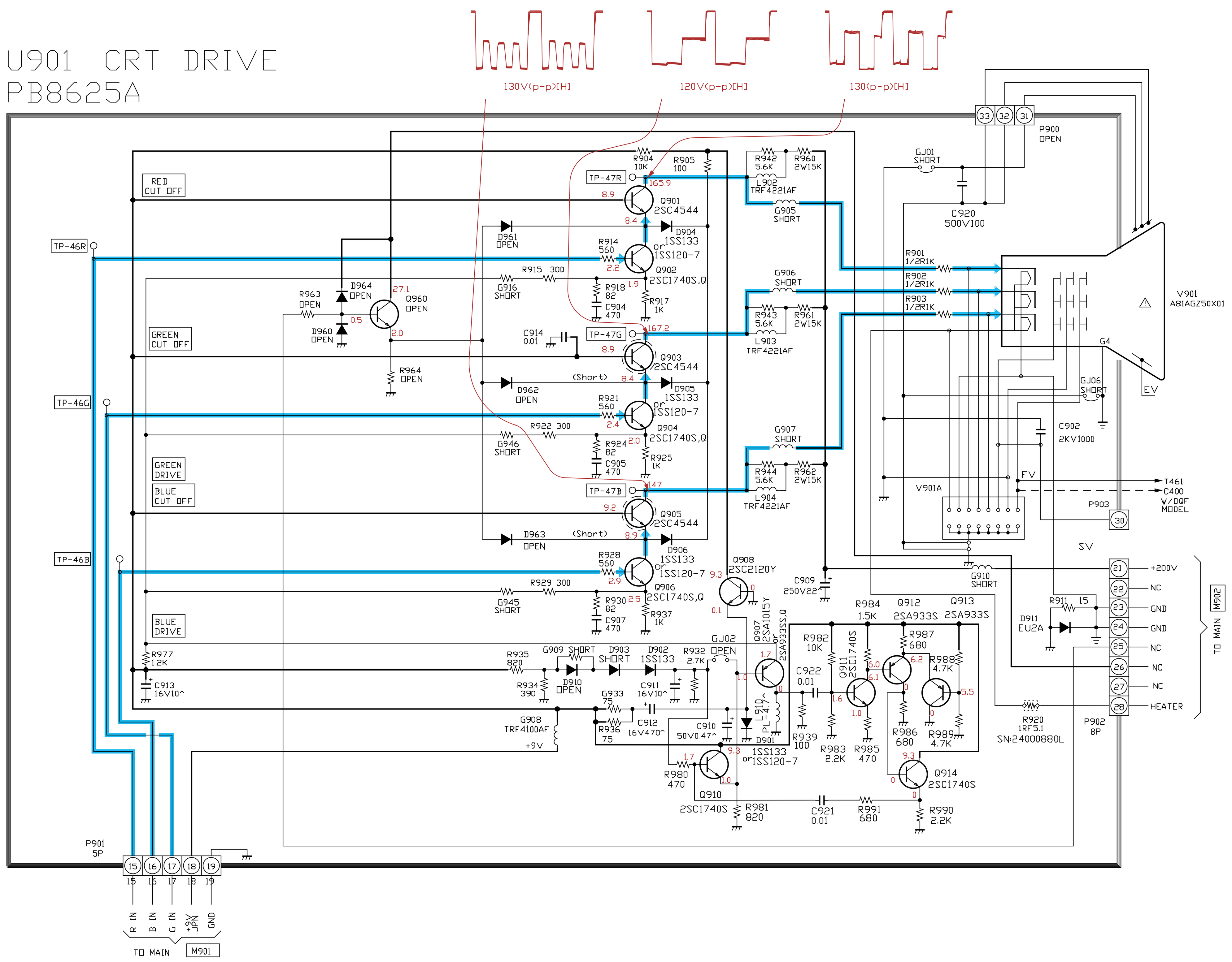


L501	COIL	TRF4470AT	TRF4101AF	
Q360	TRANSISTOR	OPEN	2SC1740S,Q	
R304	RESISTOR	1/6W39k	1/6W62k	
R305	RESISTOR	1W0.68	1W0.82	
R306	RESISTOR	1/6W56k	1/6W68k	
R307	RESISTOR	1/6W470k	1/6W680k	
R308	RESISTOR	2W390	2W820	
R309	RESISTOR	1W180	OPEN	
R327	RESISTOR	2W5.6	2W4.7	
R328	RESISTOR	1/6W820k	1/6W680k	
R363	RESISTOR	OPEN	1/6W1M	
R364	RESISTOR	OPEN	1/6W10k	
Q301	IC	TA8427K	LA7833S	
Q301A	HERT SINC	23476514A	23477738	
D308	DIODE	ERB12-02	OPEN	
D309	DIODE	ERB12-02	SHORT	

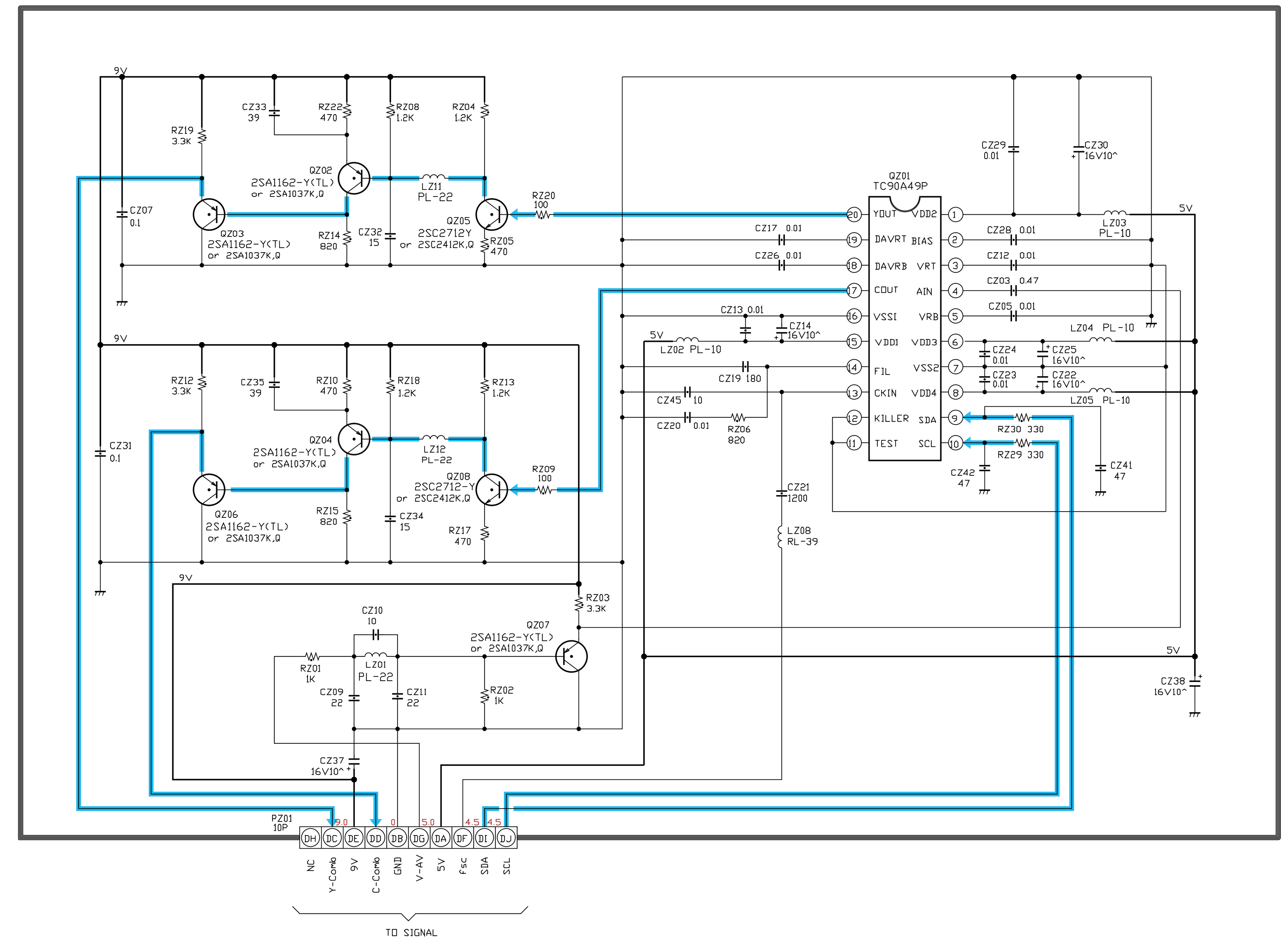
G H I J K L

MAIN
32A41/36A41

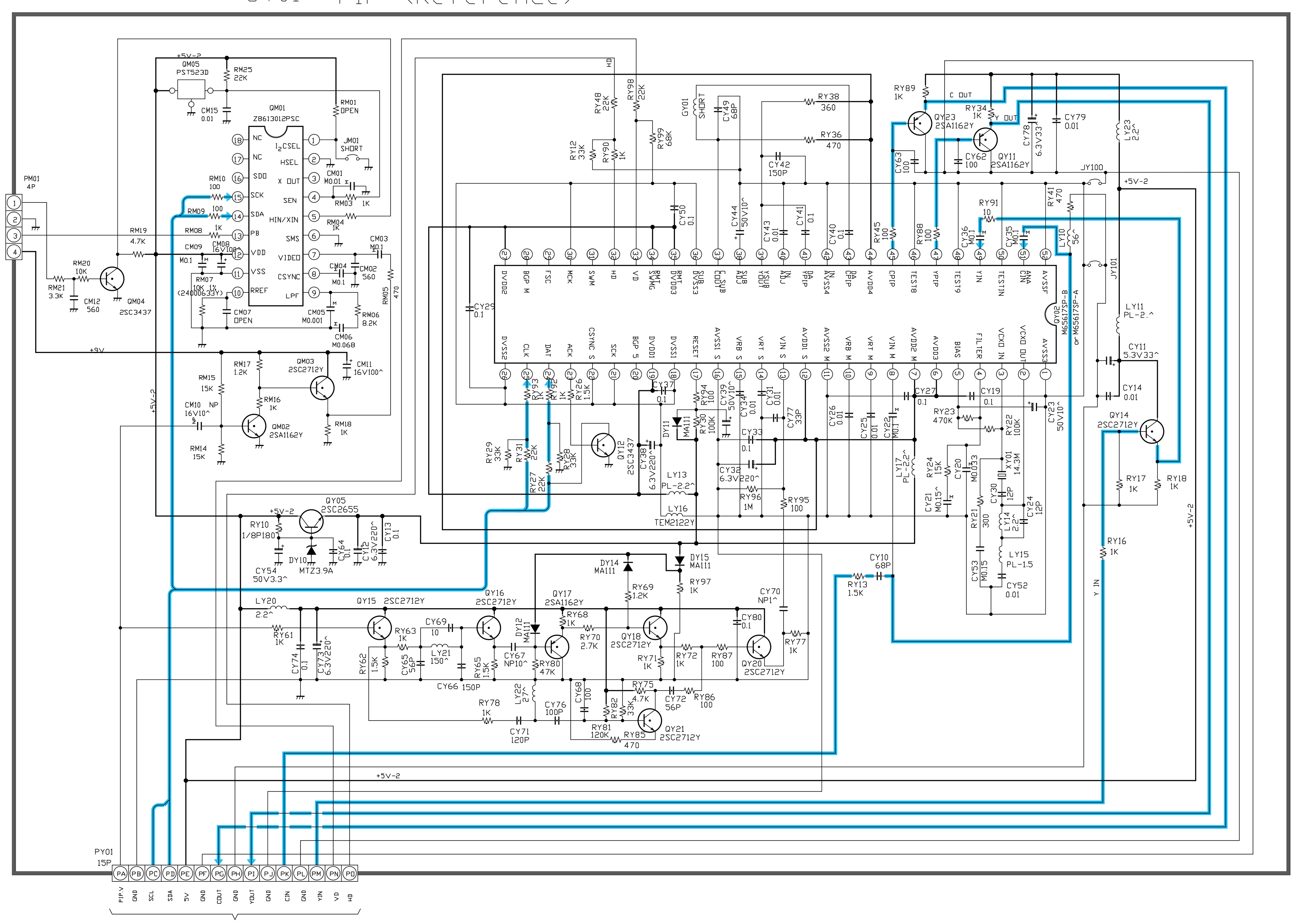
U901 CRT DRIVE
PB8625A



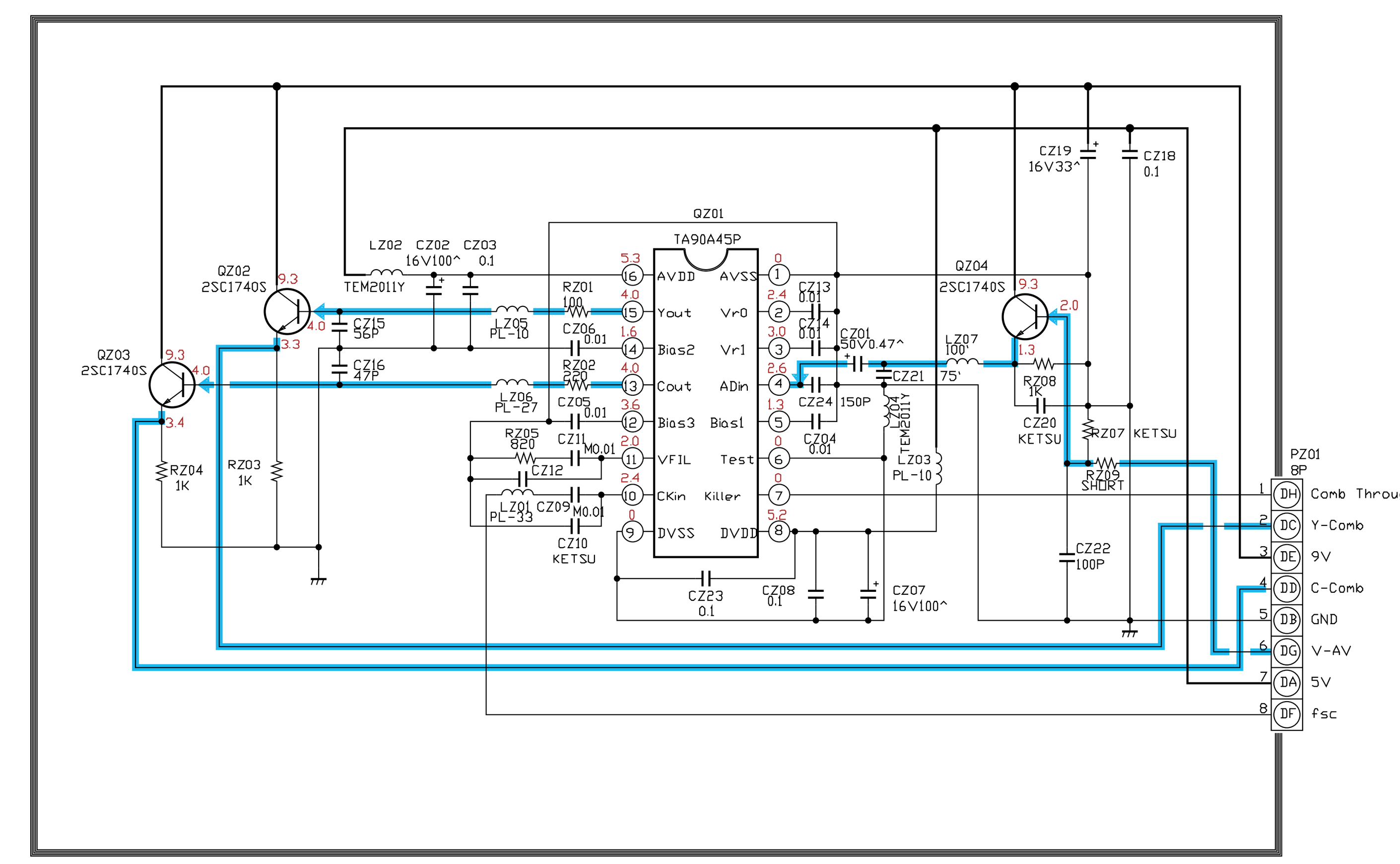
DIGTAL COME FILTER(3LINE) PB9398



UY01 PIP (Reference)

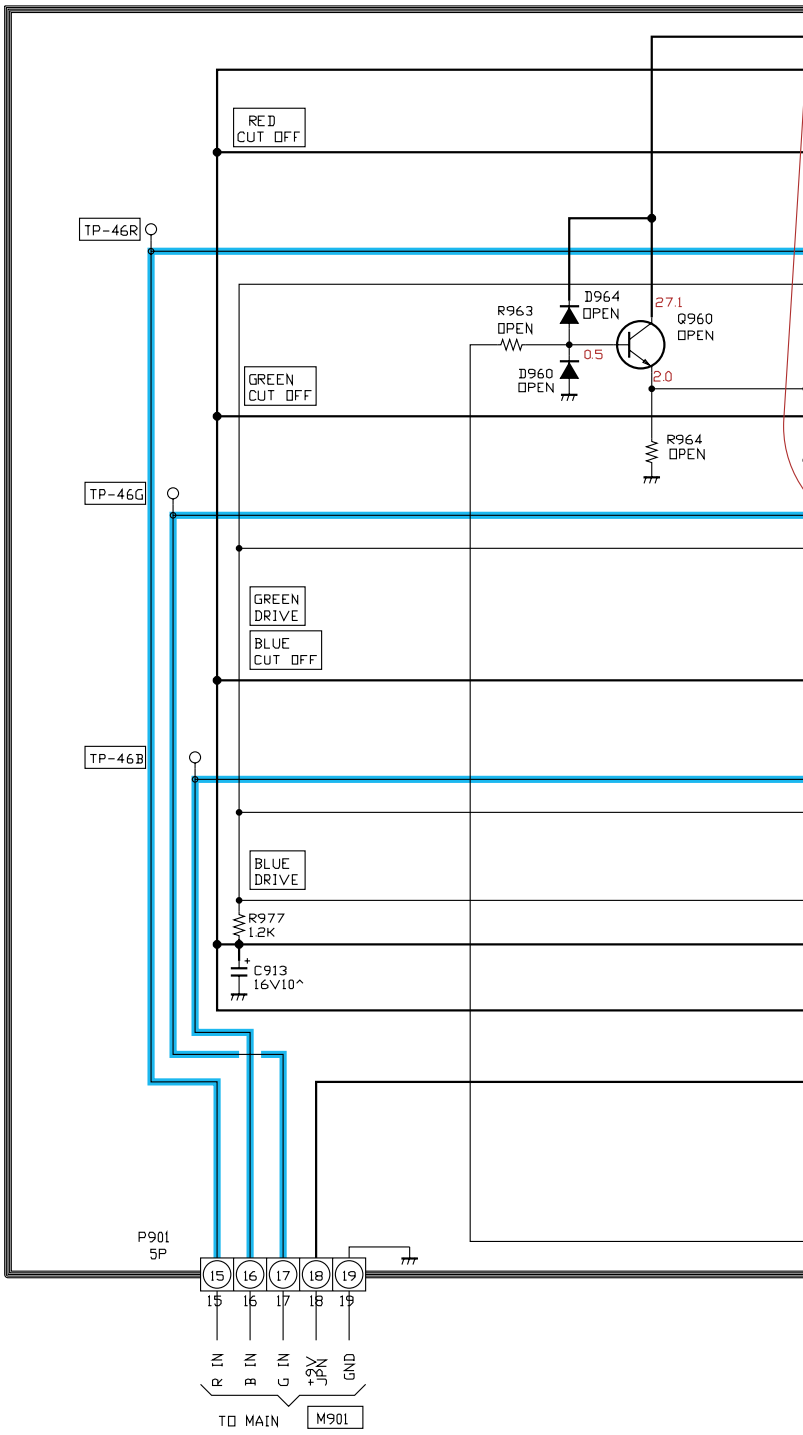


DIGITAL COMB FILTER(2LINE) (Reference)

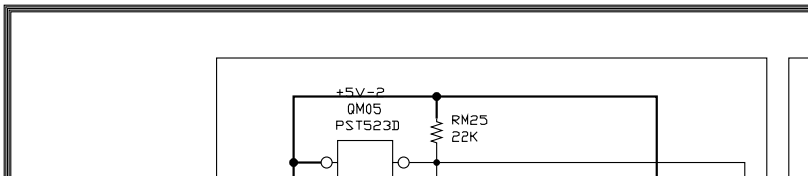


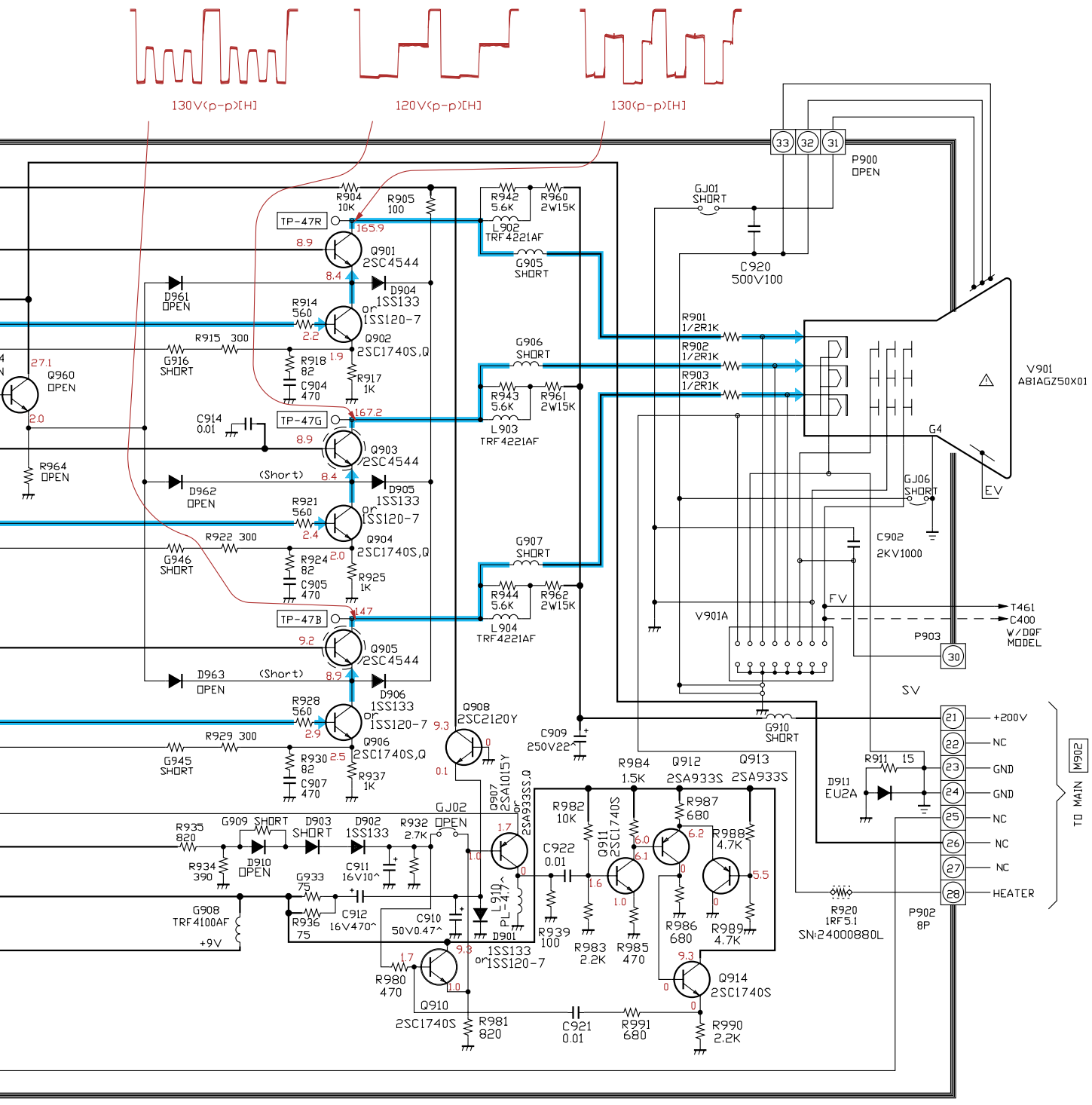
PIP/CRT-DRIVE
36A41/32A41

U901 CRT DRIVE
PB8625A

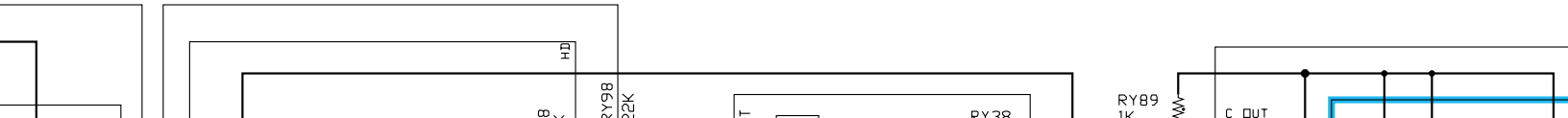


UY01 PIP

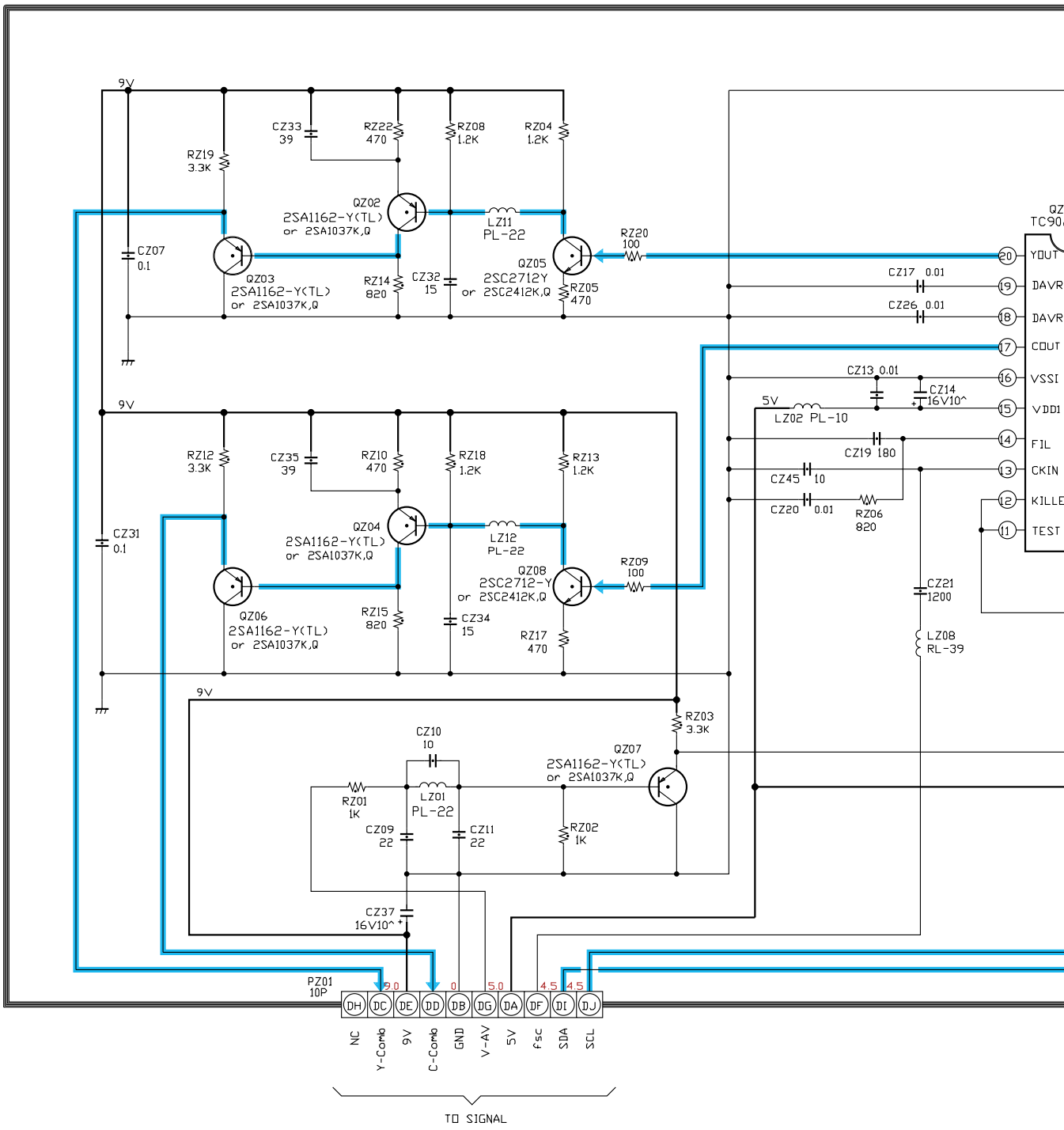




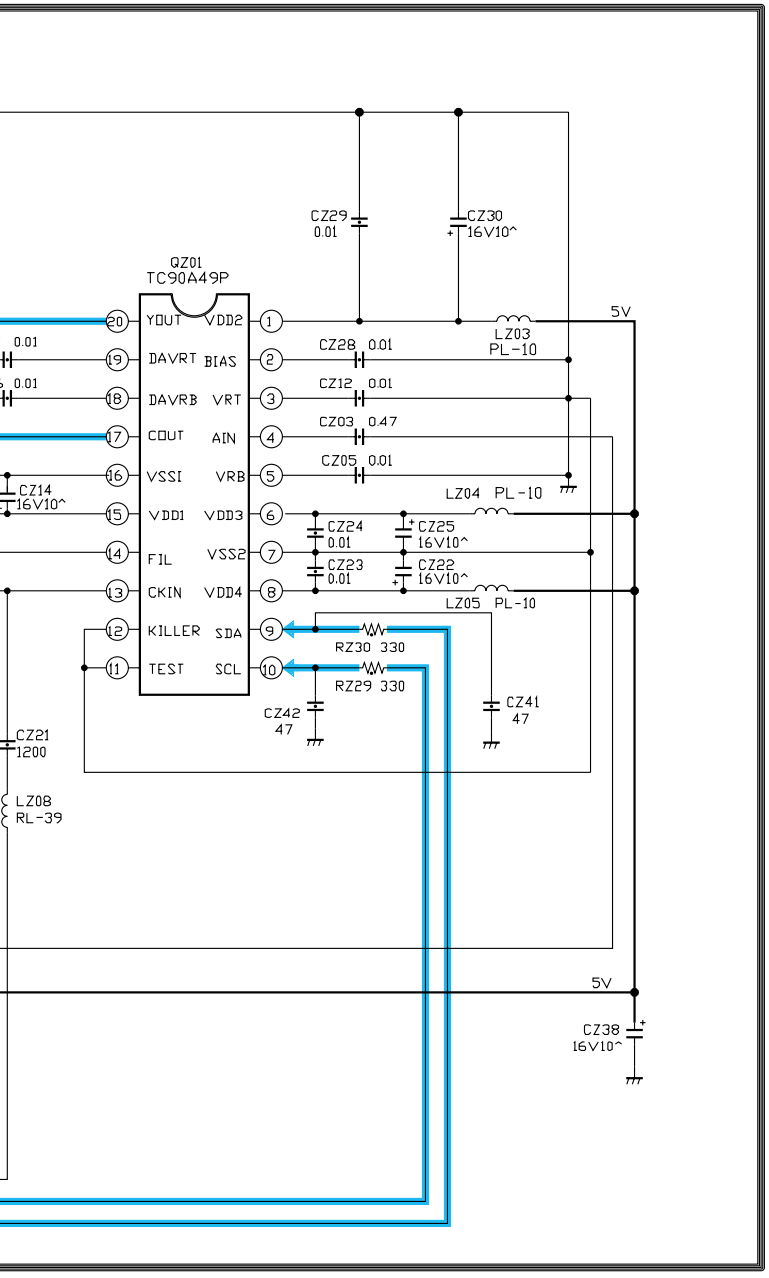
PIP (Reference)



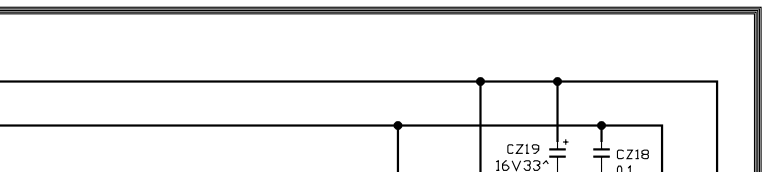
DIGTAL COME FILTER(3LINE) PB9398

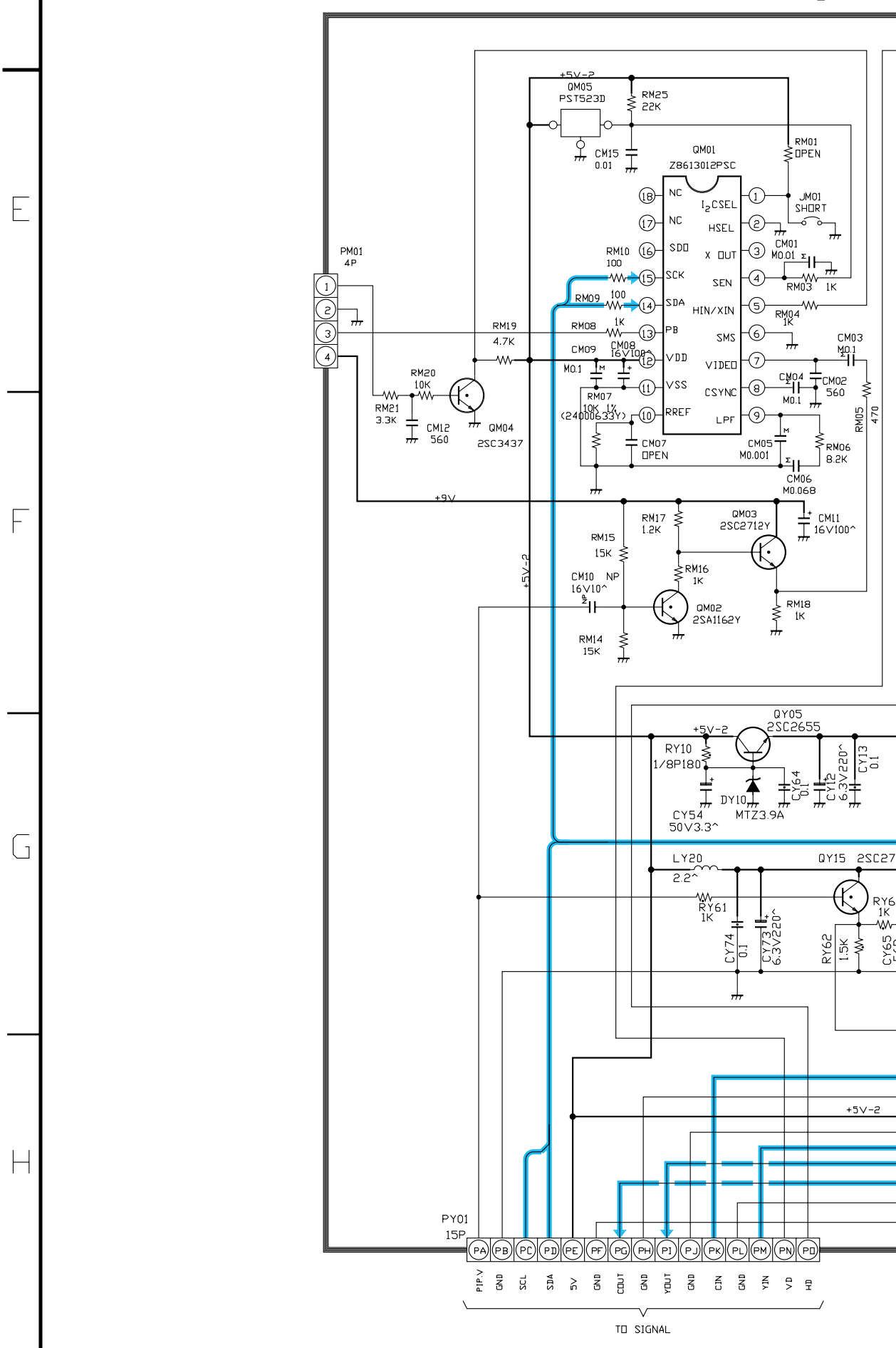


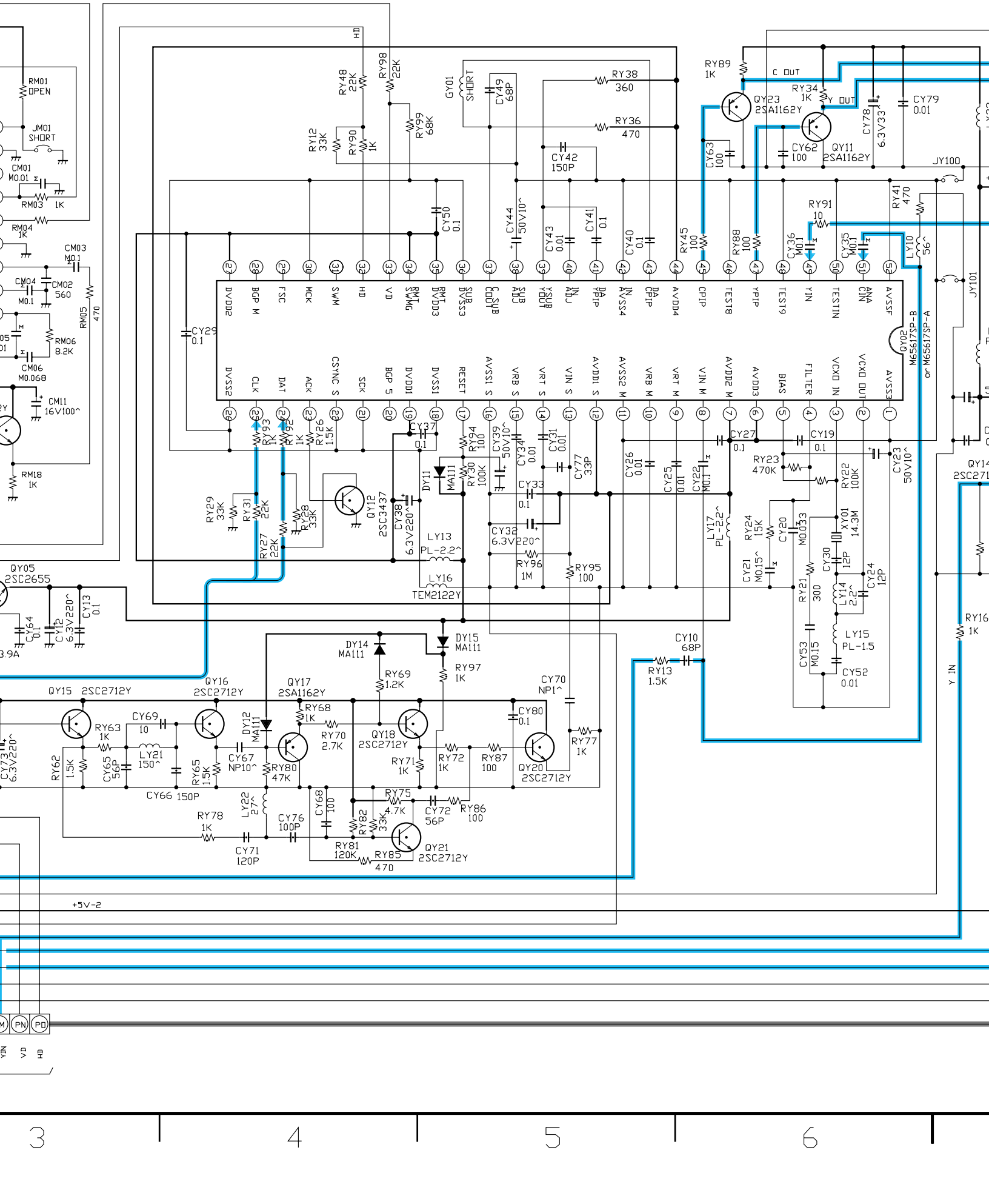
DIGITAL COMB FILTER(2LINE

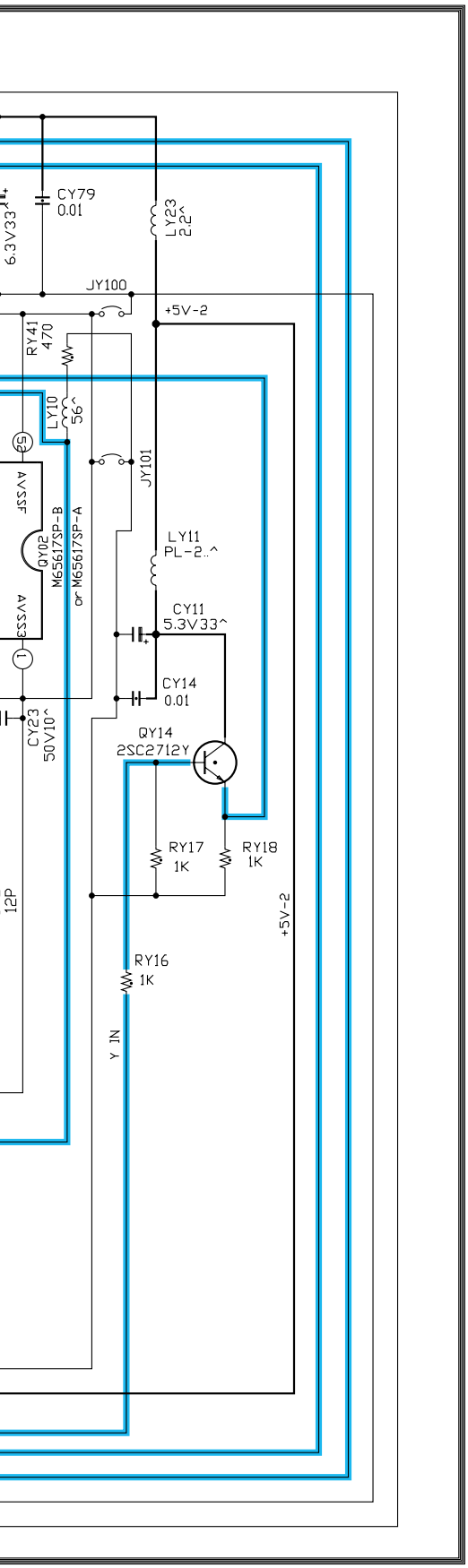


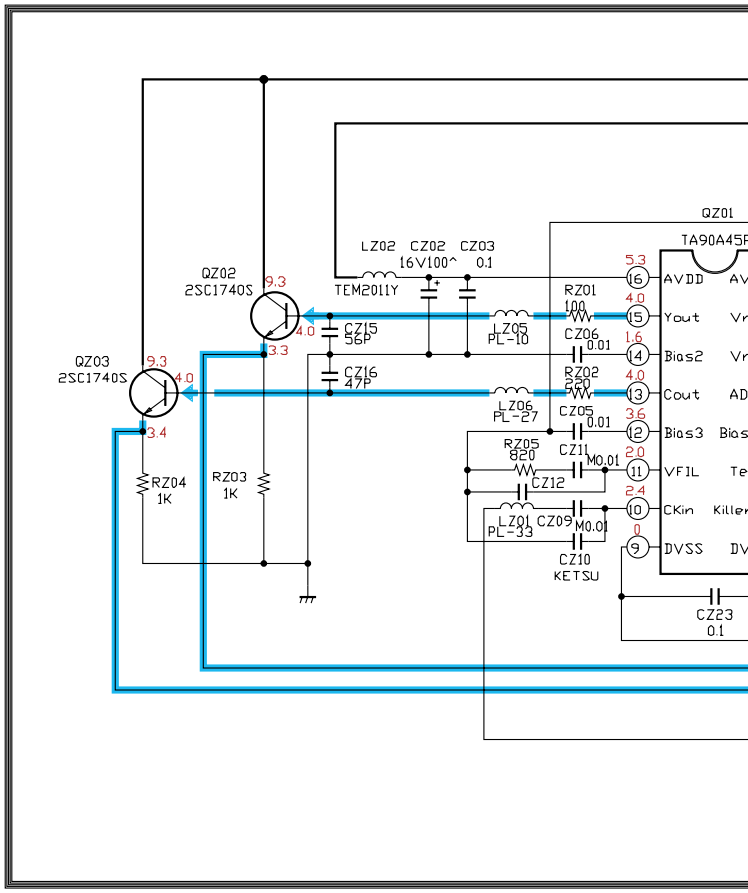
R(2LINE) (Reference)

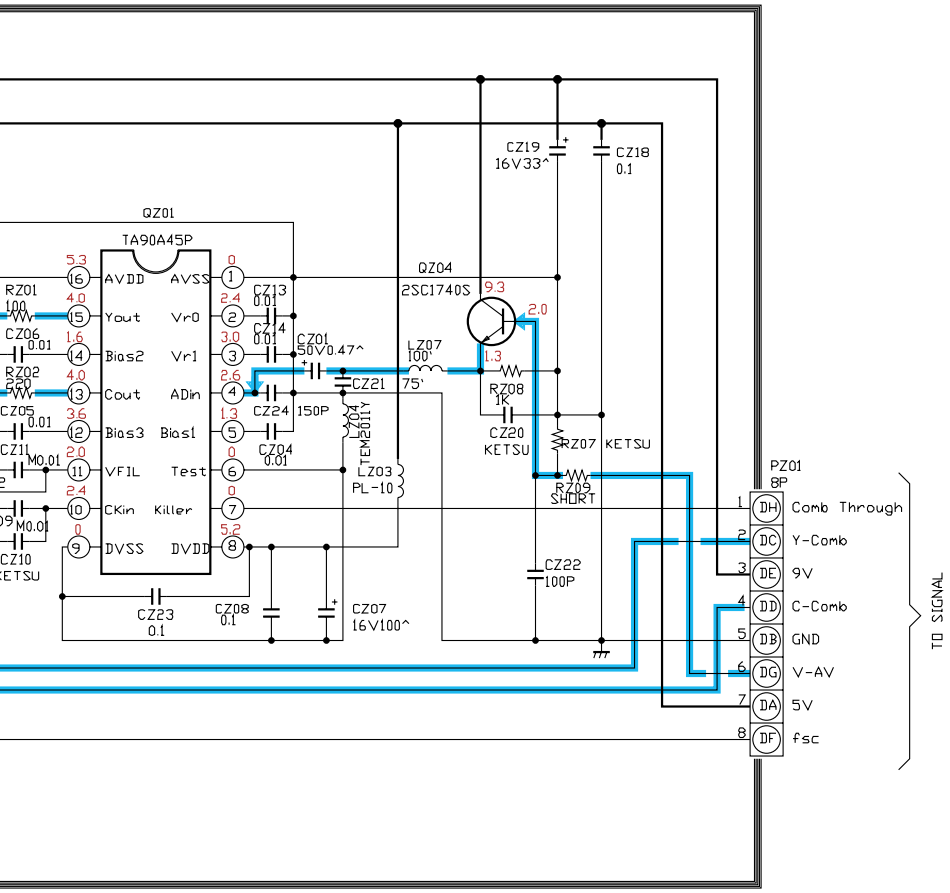



+5V-2
QM05
PST523D
RM25
22K
CM15
0.01
QM01
Z8613012PSC
RM01
OPEN
JM01
SHORT
CM01
M0.01
RM03
1K
RM04
1K
CM03
M0.1
CM02
560
RM05
470
CM04
M0.1
CM05
M0.001
RM06
8.2K
CM06
M0.068
CM07
OPEN
RM07
10K 1%
(2400063Y)
CM08
16V100^
CM09
M0.1
RM08
1K
RM09
100
RM10
100
PM01
4P
RM19
4.7K
RM20
10K
RM21
3.3K
CM12
560
QM04
2SC3437
+9V
QM03
2SC2712Y
CM11
16V100^
RM17
1.2K
RM15
15K
RM16
1K
CM10 NP
16V10^
QM02
2SA1162Y
RM18
1K
RM14
15K
QY05
2SC2655
RY10
1/8P180
DY10
MTZ3.9A
CY54
50V3.3^
CY64
0.1
CY12
6.3V220^
CY13
0.1
LY20
2.2^
QY15
RY61
1K
CY74
0.1
CY73
6.3V220^
RY62
1.5K
PY01
15P
PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO
PIPV GND SCL SDA 5V GND COUT GND YOUT GND CIN GND YIN VD HD
TO SIGNAL


RM01 OPEN
JM01 SHORT
CM01 M0.01
RM03 1K
RM04 1K
CM03 M0.1
CM04 M0.1
CM02 560
RM05 470
RM06 8.2K
CM06 M0.068
CM11 16V100^
RM18 1K
QY05 2SC2655
CY64 0.1
CY12 6.3V220^
CY13 0.1
RY48 22K
RY98 22K
RY12 33K
RY90 1K
RY99 68K
GY01 SHORT
CY49 68P
RY38 360
RY36 470
CY42 150P
CY50 0.1
CY44 50V10^
CY43 0.01
CY41 0.1
CY40 0.1
RY45 100
RY89 1K
C OUT
RY34 1K
Y OUT
QY23 2SA1162Y
QY11 2SA1162Y
CY78 6.3V33^
CY79 0.01
CY63 100
CY62 100
JY100
RY91 10
RY41 470
CY36 M0.1
CY35 M0.1
LY10 56^
RY88 100
JY101
QY02 M65617SP-B or M65617SP-A
CY29 0.1
DVSS2 CLK DAT ACK SCK CSYNC S BGP S DVDD1 DVSS1 RESET AVSS1 S VRB S VRT S VIN S AVDD1 S AVSS2 M VRB M VRT M VIN M AVDD2 M AVDD3 BIAS FILTER VCXO IN VCXO OUT AVSS3
BVDD2 BGP M FSC XCK SWM H V SWMS RMT DVDD3 BVSS3 SUB CDOUT SUB ADC VSUB IN DAPIP DAPIP AVSS4 DAPIP AVDD4 CPIP TEST8 HPIP TEST9 VIN TESTIN ANA CIN AVSSF
CY37 0.1
RY93 1K
RY92 1K
RY26 1.5K
RY94 100
CY39 50V10^
CY34 0.01
CY31 0.01
CY77 33P
CY26 0.01
CY25 0.01
CY22 M0.1
CY27 0.1
CY19 0.1
CY23 50V10^
RY23 470K
RY22 100K
QY14 2SC271
RY29 33K
RY31 22K
RY28 33K
RY27 22K
QY12 2SC3437
CY38 6.3V220^
DY11 MA111
RY30 100K
CY33 0.1
CY32 6.3V220^
LY13 PL-2.2^
LY16 TEM2122Y
RY96 1M
RY95 100
LY17 PL-2.2^
RY24 15K
CY20 M0.033
XY01 14.3M
CY30 12P
CY21 M0.15^
CY24 12P
RY21 300
LY14 2.2^
LY15 PL-1.5
CY53 M0.15
CY52 0.01
RY16 1K
Y IN
CY10 68P
RY13 1.5K
DY14 MA111
DY15 MA111
RY69 1.2K
RY97 1K
CY70 NP1^
QY15 2SC2712Y
QY16 2SC2712Y
QY17 2SA1162Y
QY18 2SC2712Y
QY20 2SC2712Y
QY21 2SC2712Y
RY63 1K
CY69 10
LY21 150^
CY65 56P
RY62 1.5K
CY73 6.3V220^
RY65 1.5K
CY66 150P
DY12 MA111
CY67 NP10^
RY80 47K
RY68 1K
RY70 2.7K
RY71 1K
RY72 1K
RY87 100
CY80 0.1
RY77 1K
RY75 4.7K
CY72 56P
RY86 100
RY78 1K
CY71 120P
LY22 27^
CY76 100P
CY68 100
RY82 33K
RY81 120K
RY85 470
+5V-2
PN
PD
YIN
VD
HD


CY79
0.01
LY23
2.2^
6.3V33^
JY100
+5V-2
RY41
470
LY10
56^
JY101
LY11
PL-2..^
CY11
5.3V33^
CY14
0.01
CY23
50V10^
QY14
2SC2712Y
RY17
1K
RY18
1K
RY16
1K
12P
+5V-2
Y IN
QY02
M65617SP-B
or M65617SP-A
AVSSF
AVSS3


QZ01
TA90A45F
LZ02 CZ02 CZ03
16V100^ 0.1
TEM2011Y
QZ02
2SC1740S
9.3
4.0
3.3
CZ15
56P
CZ16
47P
QZ03
2SC1740S
9.3
4.0
3.4
RZ04
1K
RZ03
1K
LZ05
PL-10
LZ06
PL-27
LZ01
PL-33
RZ01
100
CZ06
0.01
RZ02
220
CZ05
0.01
RZ05
820
CZ11
M0.01
CZ12
CZ09
M0.01
CZ10
KETSU
5.3
4.0
1.6
4.0
3.6
2.0
2.4
0
AVDD
Yout
Bias2
Cout
Bias3
VFIL
CKin
DVSS
CZ23
0.1



PIP/CRT-DRIVE
36A41/32A41

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN