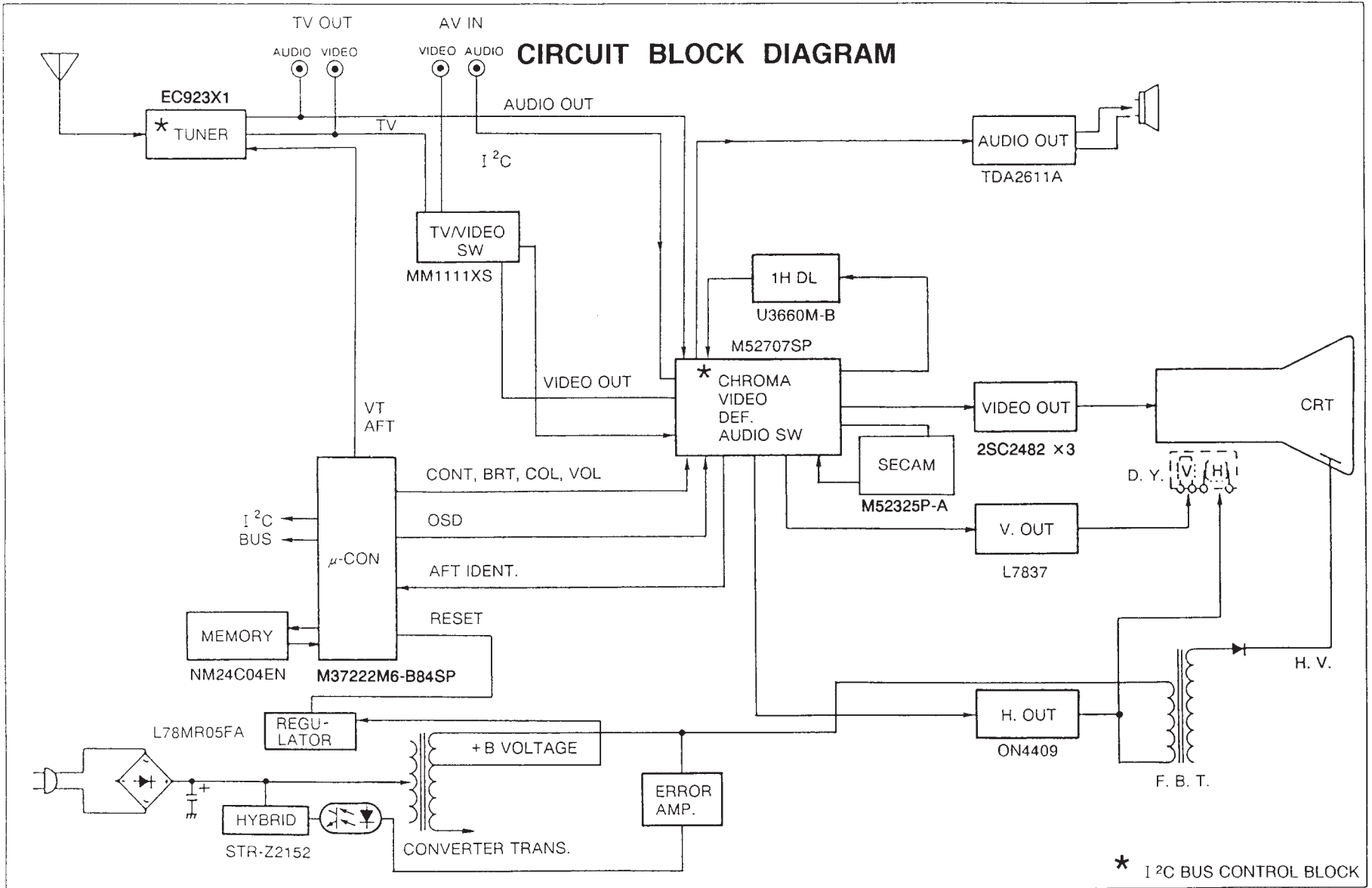


TOSHIBA 1450, 2050, 2150

CIRCUIT BLOCK DIAGRAM



WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

INSTALLATION AND SERVICE ADJUSTMENTS

GENERAL INFORMATION

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated.

This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials. Plug the power cord into a convenient 110 ~ 240 volts 50/60Hz AC two pin power outlet.

Turn the receiver ON and adjust the FINE TUNING for best picture detail with the AFC turned OFF.

Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour or B/W picture.

AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least one hour in order that the automatic degaussing circuit operates properly.

Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 m before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures, as mentioned later.

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis.

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 will be measured below 29kV.
4. Rotate the BRIGHTNESS Control to both extremes to be sure the high voltage does not exceed the limit of 29kV under any conditions.

HEIGHT ADJUSTMENT

1. Receive the WG PHILIPS pattern, and set the contrast to max and set the colour and the brightness to center.
2. Adjust HEIGHT Control (R350) so that white blocks at top and bottom of picture are just masked.

FOCUS ADJUSTMENT

Adjust FOCUS Control on FLYBACK TRANS. (T461) for well defined scanning lines in the centre area on the screen.

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

SET-UP ADJUSTMENT

- 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 (See page 26.)

Note: The PURITY/CONVERGENCE MAGNET assembly and rubber wedges need mechanical positioning.

Refer to figure 2.

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. See page 24.
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 3.) 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.

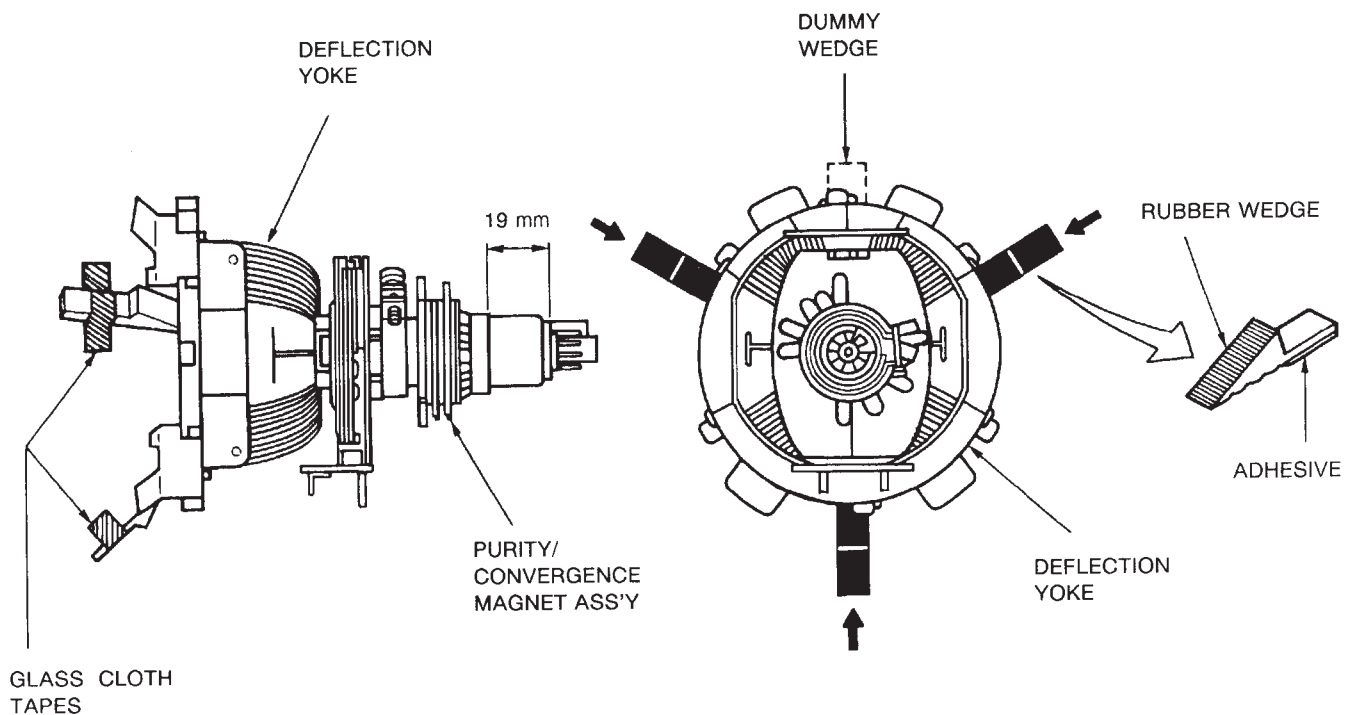


Figure 2.

CONVERGENCE ADJUSTMENTS

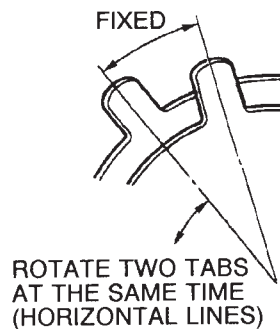
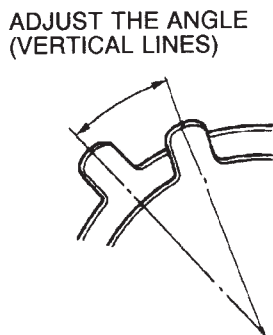
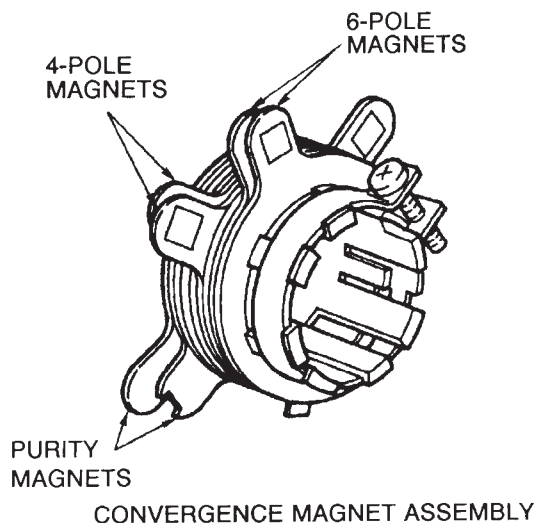
NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.

■ CENTER CONVERGENCE ADJUSTMENT

1. Use the cross-dot pattern from among the built-in test signals. See page 24.
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 3.) 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.

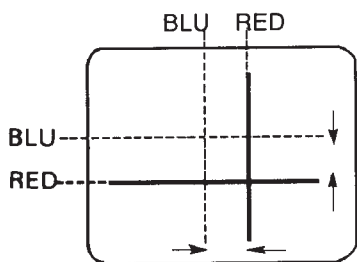
■ CIRCUMFERENCE CONVERGENCE ADJUSTMENT

1. Loosen the clamping screw of deflection yoke slightly to allow the yoke to tilt.
2. Temporarily put a wedge as shown in figure 2. (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 4.) 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 4.)
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 2.

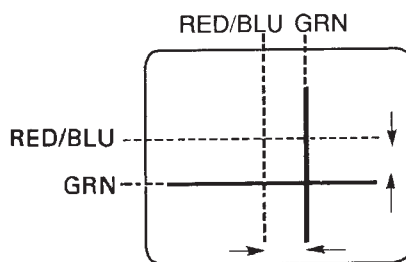


ADJUSTMENT OF MAGNETS

Figure 3.

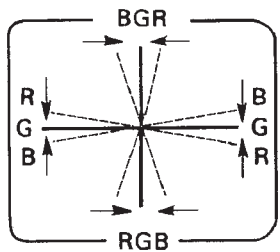


4-POLE MAGNETS MOVEMENT

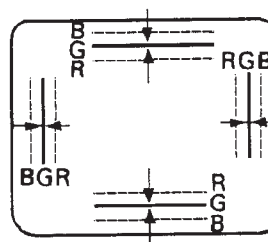


6-POLE MAGNETS MOVEMENT

Center Convergence by Convergence Magnets



INCLINE THE YOKE UP (OR DOWN)




INCLINE THE YOKE RIGHT (OR LEFT)

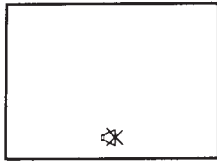
Circumference Convergence by DEF Yoke


Figure 4. Dot Movement Pattern

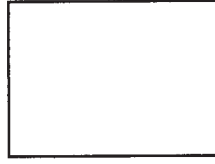
SERVICE MODE GENERAL INSTRUCTIONS


1. ENTERING TO SERVICE MODE

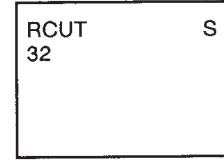
1) Press  button once on Remote Control.



2) Press  button again to keep pressing.



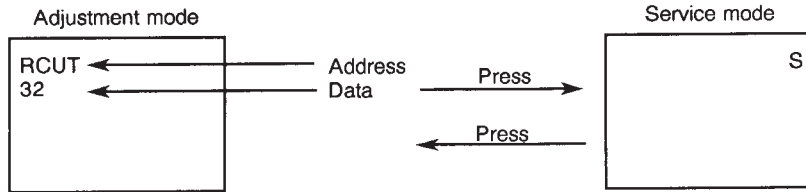
3) Keep pressing the  button, press MENU button on TV set.





(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU



Press MENU button on TV.



3. SELECTING THE ADJUSTING ITEMS

Every pressing of CHANNEL  button changes the adjustment items in the following order. ( button for reverse order.)

4. ADJUSTING THE DATA



Pressing of VOLUME  or  button will change the value of data in the range from 00 to FF. The variable range depends on the adjusting item.

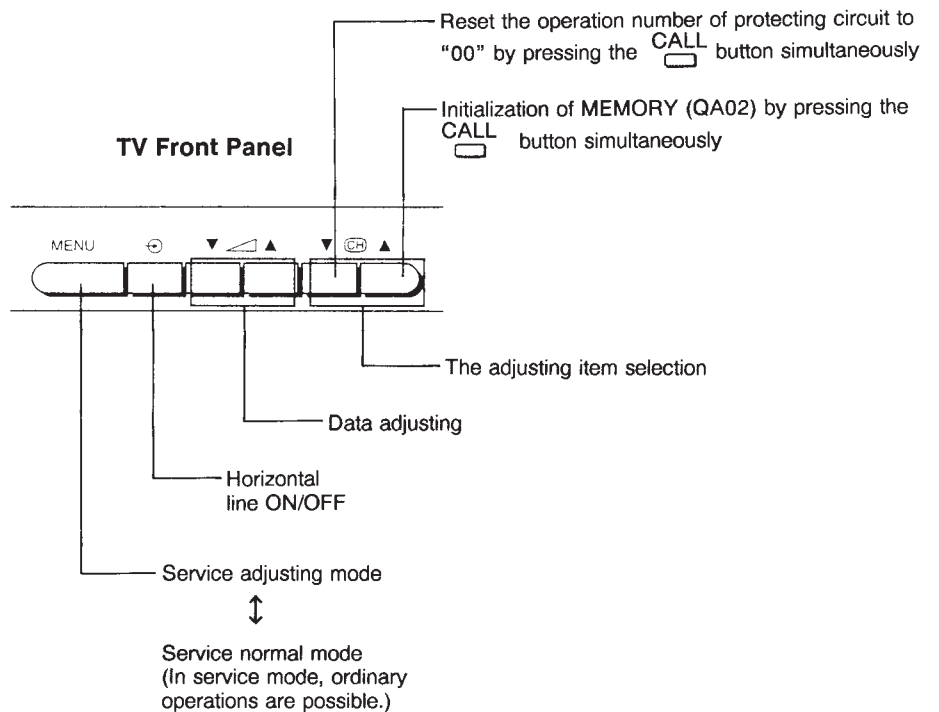
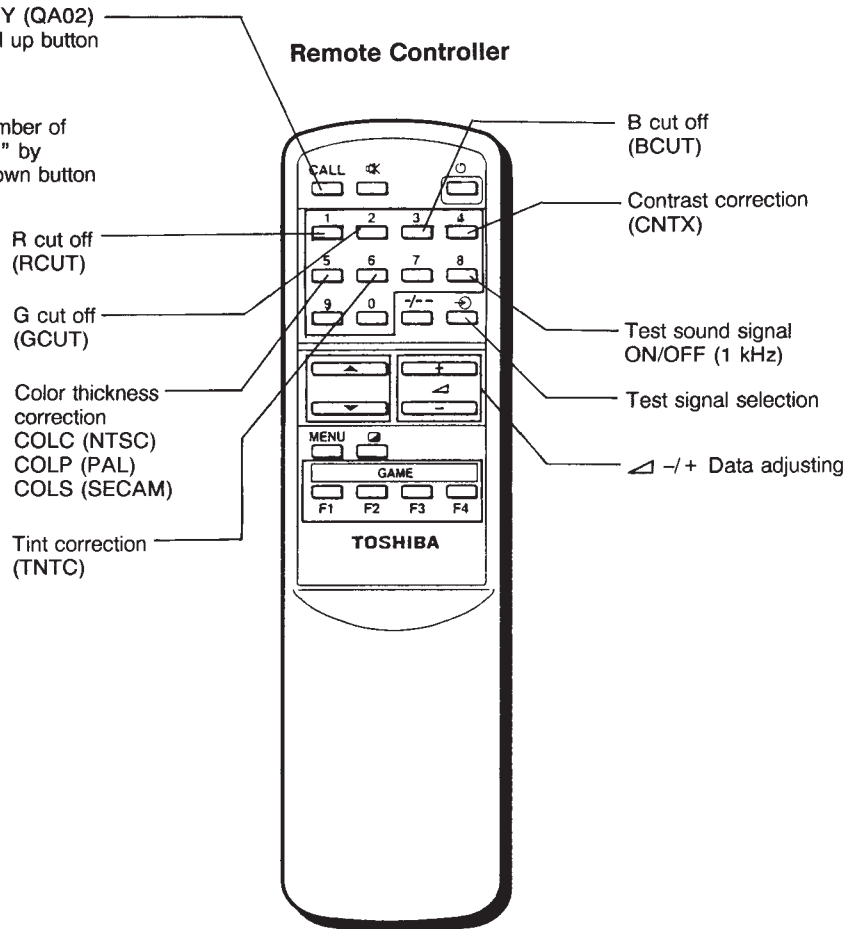
5. EXIT FROM SERVICE MODE

Press POWER button to turn off the TV once.

OTHER SERVICE FUNCTION

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

- ① Initialization of MEMORY (QA02) by pressing the channel up button ( ▲) on the TV set simultaneously.
- ② Reset the operation number of protecting circuit to "00" by pressing the channel down button ( ▼) on the TV set simultaneously.









TEST SIGNAL SELECTION

Every pressing of  button changes the test patterns on screen as described below in service mode.

Signal off → NTSC signals (14 patterns)

↑ PAL signals (14 patterns) ↓

- About inside signal: The inside signal is output at video input terminal from QA01, and is not output with the pin inserted into terminal. (Single color signal can be output.)

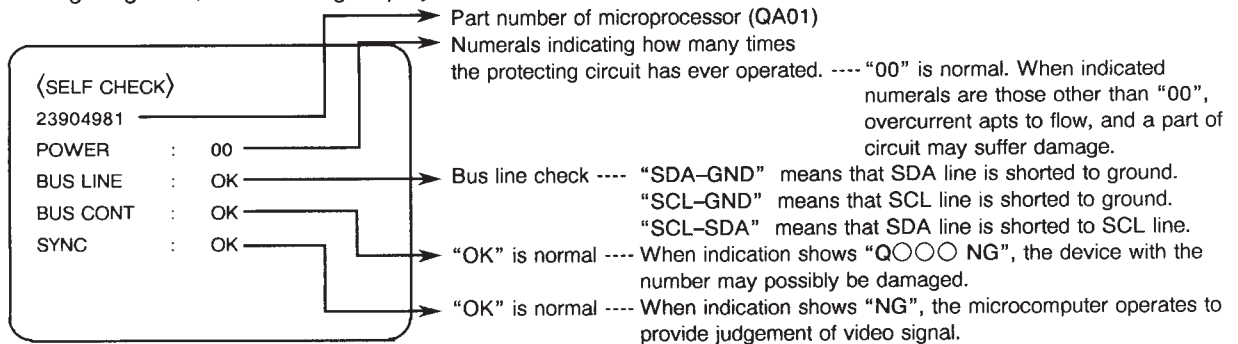
| Signals | Picture | Using method |
|---|---|--|
| <ul style="list-style-type: none"> • Red single color • Green single color • Blue single color • Black single color • White single color |  | Purity and White uniformity of CRT Red single color. . . . Stopping G and B output of Q501 Green single color. . . . Stopping R and B output of Q501 Blue single color. . . . Stopping R and G output of Q501 Black single color. . . . Making black signal of approx. 1Vp-p in QA01 White single color. . . . Making white signal of approx. 1Vp-p in QA01 |
| <ul style="list-style-type: none"> • W/B adjustment |  | White balance adjustment White part. . . . White balance adjustment/check in light area Black part. . . . White balance adjustment/check in dark area ※ Making approx. 1Vp-p signal in QA01. |
| <ul style="list-style-type: none"> • Black cross-bar • White cross-bar |  | Picture position (horizontal, vertical and slant) in CRT adjustment ※ Making approx. 1Vp-p signal in QA01. |
| <ul style="list-style-type: none"> • Black cross-hatch • White cross-hatch |  | Convergence and vertical amplitude adjustment ※ Making approx. 1Vp-p signal in QA01. |
| <ul style="list-style-type: none"> • Black cross-dot • White cross-dot |  | Convergence adjustment ※ Making approx. 1Vp-p signal in QA01. |
| <ul style="list-style-type: none"> • H signal (Left, right, white) • H signal (Left, right, black) |  | For checking (of purity drift) of white uniformity of CRT H signal (Left, right, white). . . . Check in light area H signal (Left, right, black). . . . Check in dark area The adjustment will be the best, if the time when unevenness of color in light area occurs, is a little longer than that in dark area. ※ Making approx. 1Vp-p signal in QA01. |

SELF DIAGNOSTIC FUNCTION

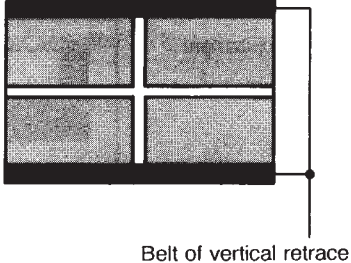
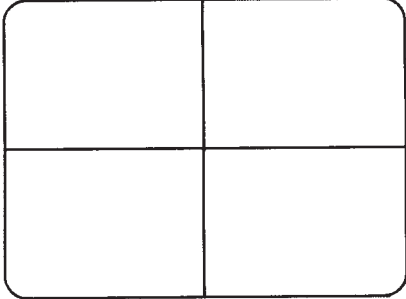
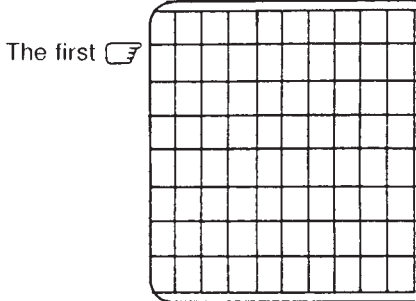
1) Press "9" button on Remote Control during display of adjustment menu.

The diagnosis will begin to check if interface among IC's are executed properly.

2) During diagnosis, the following displays are shown.



SERVICE MODE ADJUSTMENT

| ITEM | ADJUSTMENT PROCEDURE |
|--|--|
| INITIALIZATION OF QA02 (MEMORY) | <p>After replacing QA02, the following initialization is required.</p> <ol style="list-style-type: none"> 1. Call up the adjustment mode display following the steps 1 and 2 on page 21. 2. Press the RECALL and CHANNEL ▲ buttons on the Remote Control simultaneously. The initialization of QA02 has been completed. 3. Check the picture carefully. If necessary, adjust any adjustment item. Perform "AUTOMATIC SEARCH MEMORY" on page 8. |
| SUB-BRIGHTNESS (Address : BRTC) | <ol style="list-style-type: none"> 1. Set CONTRAST to "00", and BRIGHTNESS to "50" by adjusting user controls. 2. Set the TV in service mode to get white cross-bar of inside pattern. 3. Select BRTC (brightness correction), and adjust the ◀ - / + button to reduce the value so that white portion of inside pattern slightly light. 4. Rotate R350 to show the belt of vertical retrace. See figure right. 5. Adjust ◀ - / + button to increase the data value of BRTC, and set it just before the difference between the belt of vertical retrace and the border of black portion of inside pattern is visible. After that, return vertical height and contrast. <div style="text-align: right;">  <p style="text-align: right;">Belt of vertical retrace</p> </div> |
| HORIZONTAL POSITION ADJUSTMENT (HPOS) VERTICAL POSITION ADJUSTMENT (VPOS) | <ol style="list-style-type: none"> 1. Set the TV in service mode, and get black or white cross-bar signal with VIDEO button on remote hand unit. 2. Select either HPOS (Horizontal picture phase) or VPOS (Vertical picture phase) with CHANNEL ▲, ▼ buttons, and adjust horizontal or vertical picture position in the center of screen with VOLUME ◀ - / + buttons. <div style="text-align: right;">  </div> |
| VERTICAL AMPLITUDE ADJUSTMENT (HIT) | <ol style="list-style-type: none"> 1. Set the TV in service mode, and get black or white cross-hatch signal with VIDEO button on remote hand unit. 2. Select HIT (Vertical amplitude) with CHANNEL ▲, ▼ buttons, and adjust vertical amplitude with VOLUME ◀ - / + buttons so that vertical amplitude lacks a little. 3. Adjust vertical amplitude with VOLUME ◀ - / + buttons so that the first bar on cross-hatch signal touches edge of screen. <div style="text-align: right;">  <p style="text-align: right;">The first </p> </div> |

| ITEM | ADJUSTMENT PROCEDURE |
|---|--|
| <p>WHITE BALANCE ADJUSTMENT</p> <ul style="list-style-type: none"> • CUTOFF ADJUSTMENT (RCUT) (GCUT) (BCUT) • DRIVE ADJUSTMENT (GDRV) (BDRV) | <ol style="list-style-type: none"> 1. Set Contrast to 40, and brightness to +20 by picture control. 2. Set the TV in service mode (page 21), and get the inside W/B adjusting signal with VIDEO button. (page 23) 3. Select RCUT, GCUT and BCUT with CHANNEL ▲, ▼ buttons, to set individual values to 32, and to set GDRV and BDRV to 20 with VOLUME ◀ - / + buttons. 4. Press VIDEO button on TV set and rotate Screen VR to get one slight horizontal line on screen. Note: Every pressing of VIDEO button provides Horizontal line picture and Normal picture alternately. 5. Press VIDEO button to release horizontal line picture, and select the two other colors which did not light in the above step with CHANNEL ▲, ▼ buttons. Then tap VOLUME ◀ - / + buttons so that three colors slightly light in the same level. <p>※ To correct white balance in light area, select GDRV and BDRV with CHANNEL ▲, ▼ buttons to adjust.</p> <p>※ To correct white balance in dark area, perform fine adjustment of RCUT, GCUT and BCUT.</p> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-top: 20px;"> <div style="border: 1px solid black; width: fit-content; margin: 0 auto; padding: 5px; text-align: center;">Light area check (to show white)</div> <div style="text-align: center; margin-top: 20px;">Dark area check (to show black)</div> </div> |

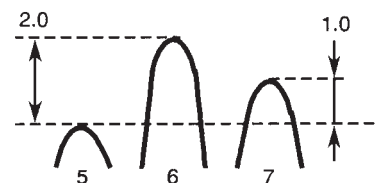
ADJUSTMENT OF VIDEO-CHROMA SYSTEM (Factory adjustment)

Model Name: S5E

| Item | Name | Setting (User control) | Input signal | Measureme nt point | Adjustment procedure | Adjustment standard |
|--|--|---|------------------------------------|---|--|--|
| Slave address 36 [BRTC] | SUB BRIGHT CENTER | Contrast: MAX Bright : CENTER Color : MIN | Sub-bright signal | Screen adjustment | 1. This adjustment must be done after [BRTC], screen VR and white balance adjustments have been completed. 2. Adjust number of black collapse lines of sub-bright signal. | 5 ± 1.5 |
| Slave address 37 [COLC] | COLOR CONTROL CENTER NTSC | Contrast: MAX Bright : CENTER Color : CENTER Tint : CENTER | Sub-bright signal (3.58NTSC) | IC501 #23... (B-OUT) | 1. Select slave address 37 [COLC]. 2. When [COLC] is selected, Y-signal is muted and only color signals are outputted. (This adjustment must be done after [TNTC] has been adjusted.) 3. Adjust amplitude of the upper half of the rainbow color bar output. | $1.4V(p-p) \pm 0.2V(p-p)$ |
| Slave address 39 [COLP] | SUB COLOR PAL | Contrast: MAX Bright : CENTER Color : CENTER | PHILIPS signal (PAL) | IC501 #23... (B-OUT) | 1. Select slave address 39 [COLP]. 2. When [COLP] is selected, Y-signal is muted and only color signals are outputted. (This adjustment must be done after [COLC] has been adjusted.) 3. Adjust amplitude of the upper half of the color bar output. | $1.4V(p-p) \pm 0.2V(p-p)$ |
| Slave address 38 [TNTC] | TINT CONTROL CENTER | Contrast: MAX Bright : CENTER Color : CENTER Tint : CENTER | Sub-bright signal (3.58NTSC) | IC501 #23... (B-OUT) | 1. Select slave address 38 [TNTC]. 2. When [TNTC] is selected, Y-signal is muted and only color signals are outputted. 3. Adjust it so that 6.25 of the rainbow color bar becomes max. (See Fig.-1.) | $-5.0^\circ \pm 5.0^\circ$ (Refer to the conversion table.) |
| RQ50 (R-Y axis) RQ51 (B-Y axis) | SECAM W/B R-Y axis B-Y axis | Contrast: MAX Bright : CENTER Color : CENTER | SECAM color bar signal | QQ01 #9 (R-Y axis) #10 (B-Y axis) | 1. Coincide the level of black and white portion of color difference signal to that of H. BLK portion. 2. Adjust RQ50 for R-Y axis and adjust RQ51 for B-Y axis. 3. Repeat the above steps because RQ50 and RQ51 affect each other. | $\pm 10mV$ or less on both axis |
| Slave address 3A [COLS] | SUB COLOR CENTER SECAM | Contrast: MAX Bright : CENTER Color : CENTER | SECAM color bar signal | Q501 #23 (B-OUT) | 1. Select slave address 3A [COLS]. 2. When [COLS] is selected, Y signal is muted, and only color signal is output. Perform this step after the adjustment of RQ50 and RQ51. 3. Adjust the peak amplitude of color bar. | $1.9V(p-p) \pm 0.2V(p-p)$ |

Model Name: S5E

| Item | Name | Setting (User control) | Input signal | Measurement point | Adjustment procedure | Adjustment standard |
|--|--|---|--------------------|-------------------------|---|--|
| Slave address 30 [RCUT] 31 [GCUT] 32 [BCUT] Screen VR | R cut-off G cut-off B cut-off Screen | RCUT) GCUT) 32 Hexa-decimal BCUT) GDRV) 20 Hexa-decimal BDRV) Select horizontal line mode by pressing \ominus button on TV set in service mode. | | Screen adjustment | 1. Set the controls as shown in the left column. 2. Gradually increase the screen VR (T461) until one of R, G or B line begins to brighten slightly. 3. Determine the position of the screen VR here. 4. Adjust RCUT, GCUT and BCUT, brighten other lines until they begin to light slightly. (Adjust DATA so that the line becomes almost white.) 5. Press \ominus button on TV set to escape from the horizontal line mode. | — |
| Slave address 30 [RCUT] 31 [GCUT] 32 [BCUT] 33 [GDRV] 34 [BDRV] | R cut-off G cut-off B cut-off G drive B drive (White balance) | Contrast: MAX Bright : CENTER Color : CENTER | Cross-hatch, etc. | Screen adjustment | 1. This adjustment must be done after adjustment of the above-mentioned cut-off and screen VR's have been completed. 2. Adjust cut-off and drive DATA alternately. 3. Use a checker to adjust brightness by changing modulation factor. | HIGH LIGHT; (103cd/m ³) 7195K -0.005uv DARK; (17cd/m ³) 7695K $\pm 0uv$ |
| Slave address F0 [PID] | ID ref | | VIDEO No input | Pin 52 of IC501 | 1. Connect a resistor 220k ohm across pin 52 of IC501 and GND, and connect digital voltmeter. 2. Select slave address F0 [PID]. 3. Adjust DC voltage. | 2.0V DC $\pm 0.1V$ DC |
| Slave address F1 [TRP] | Chroma trap f_0 adjusting | Contrast: MAX Bright : MIN Color : MIN | 4.43NTSC color bar | Pin 23 of IC501 (B-OUT) | 1. Select slave address F1 [TRP]. 2. Adjust chroma trap so that chroma level at pin 23 of IC501 becomes minimum. | Chroma level: MIN |



Status of TCC 6.25
Fig.-1

MULTI BUS E2PROM ADDRESS, ADJUSTING ADDRESS TABLE

| Adjusting method | Micom adjusting number | QA02 memory ADDR | Name of item | Value of initializing QA02 (Hexa-decimal) | Adjustments |
|--|------------------------|------------------|--------------|---|--------------------------|
| F ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ F | 30 | 06D | RCUT | 32 | R CUTOFF |
| | 31 | 06E | GCUT | 32 | G CUTOFF |
| | 32 | 06F | BCUT | 32 | B CUTOFF |
| | 33 | 070 | GDRV | 20 | G DRIVE |
| | 34 | 071 | BDRV | 20 | B DRIVE |
| | 35 | 072 | CNTX | 39 | SUBCONTRAST MAX |
| | 36 | 073 | BRTC | 32 | SUBBRIGHT CEN |
| | 37 | 074 | COLC | 32 | SUBCOLOR CEN NTSC |
| | 38 | 075 | TNTC | 39 | SUBTINT CEN |
| | 39 | 076 | COLP | 32 | SUBCOLOR CEN PAL |
| | 3A | 077 | COLS | 32 | SUBCOLOR CEN SECAM |
| | 80 | 08F | HPOS | 08 | 50Hz HORIZONTAL POSITION |

F ... This item may require adjustments by models after initialization, when QA02 is replaced.

CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

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 page 2. 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.

ABBREVIATIONS:

| | | | | | | |
|--------------------|----------------|--------------------|----------------------|---------------------|----------------|--------------------|
| 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 | | |
| C101 | 24797100 | EL, 10μF, ±20%, 50V |
| C102 | 24794101 | EL, 100μF, ±20%, 16V |
| C103 | 24232103 | CD, 0.01μF, +80%, -20% |
| C201 | 24797478 | EL, 0.47μF, ±20%, 50V |
| C207 | 24232103 | CD, 0.01μF, +80%, -20% |
| C211 | 24793470 | EL, 47μF, ±20%, 10V |
| C212 | 24794100 | EL, 10μF, ±20%, 16V |
| C214 | 24794101 | EL, 100μF, ±20%, 16V |
| C215 | 24793471 | EL, 470μF, ±20%, 10V |
| C216 | 24232103 | CD, 0.01μF, +80%, -20% |
| C219 | 24794100 | EL, 10μF, ±20%, 16V |
| C220 | 24591104 | PF, 0.1μF |
| C221 | 24591104 | PF, 0.1μF |
| C222 | 24591104 | PF, 0.1μF |
| C230 | 24794100 | EL, 10μF, ±20%, 16V |
| C301 | 24436561 | CD, 560pF |
| C302 | 24591103 | PF, 0.01μF |
| C303 | 24617915 | EL, 1μF, ±10%, 50V |
| C305 | 24617915 | EL, 1μF, ±10%, 50V |
| C306 | 24666332 | EL, 3300μF, ±20%, 16V |
| C307 | 24214472 | CD, 4700pF, ±10%, 500V |
| C308 | 24668101 | EL, 100μF, ±20%, 35V |
| C309 | 24434100 | CD, 10pF, ±0.5pF, 500V |
| C310 | 24796102 | EL, 1000μF, ±20%, 35V |
| C313 | 24082057 | PF, 0.22μF, 100V |
| C317 | 24214471 | CD, 470pF, ±10%, 500V |
| C321 | 24666101 | EL, 100μF, ±20%, 16V |
| C402 | 24591562 | PF, 5600pF |
| C403 | 24232103 | CD, 0.01μF, +80%, -20% |
| C404 | 24797010 | EL, 1μF, ±20%, 50V |
| C405 | 24212182 | CD, 1800pF, ±10% |
| C406 | 24085958 | EL, 1.0μF, ±20%, 50V, Non-Polar |
| C408 | 24794470 | EL, 47μF, ±20%, 16V |
| C409 | 24474221 | CD, 220pF, ±10% |
| C417 | 24214102 | CD, 1000pF, ±10%, 500V |
| C421 | 24538474 | PF, 0.47μF |
| C422 | 24591474 | PF, 0.47μF |
| C430 | 24232103 | CD, 0.01μF, +80%, -20% |
| C431 | 24794102 | EL, 1000μF, ±20%, 16V |

| Location No. | Part No. | Description |
|--------------|----------|--------------------------------|
| △C440 | 24082344 | PF, 6000pF, ±3%, 1500V |
| △C442 | 24082694 | PF, 0.33μF, 250V |
| C444 | 24082559 | PF, 1500pF, ±3%, 1500V |
| C445 | 24828563 | PF, 0.056μF, 200V |
| C446 | 24700220 | EL, 22μF, ±20%, 250V |
| C448 | 24640908 | EL, 33μF, ±20%, 160V |
| C449 | 24666471 | EL, 470μF, ±20%, 16V |
| △C463 | 24212152 | CD, 1500pF, ±10% |
| C467 | 24095881 | PF, 0.018μF, ±3%, 630V |
| C470 | 24794220 | EL, 22μF, ±20%, 16V |
| C472 | 24538474 | PF, 0.47μF |
| C501 | 24473680 | CD, 68pF |
| C502 | 24473680 | CD, 68pF |
| C503 | 24473680 | CD, 68pF |
| C504 | 24353560 | CD, 56pF |
| C506 | 24591153 | PF, 0.015μF |
| C507 | 24353101 | CD, 100pF |
| C510 | 24797010 | EL, 1μF, ±20%, 50V |
| C511 | 24474101 | CD, 100pF, ±10% |
| C512 | 24474101 | CD, 100pF, ±10% |
| C520 | 24436471 | CD, 470pF |
| C530 | 24591473 | PF, 0.047μF |
| C531 | 24591473 | PF, 0.047μF |
| C560 | 24797010 | EL, 1μF, ±20%, 50V |
| C561 | 24212182 | CD, 1800pF, ±10% |
| C606 | 24797479 | EL, 4.7μF, ±20%, 50V |
| C607 | 24797100 | EL, 10μF, ±20%, 50V |
| C608 | 24797229 | EL, 2.2μF, ±20%, 50V |
| C609 | 24591103 | PF, 0.01μF |
| C610 | 24795220 | EL, 22μF, ±20%, 25V |
| C611 | 24591104 | PF, 0.1μF |
| C612 | 24794470 | EL, 47μF, ±20%, 16V |
| C613 | 24796221 | EL, 220μF, ±20%, 35V |
| C614 | 24797478 | EL, 0.47μF, ±20%, 50V |
| △C801 | 24082374 | PF, 0.22μF, AC250V |
| C805 | 24092300 | CD, 0.01μF, +80%, -20%, AC250V |
| C806 | 24092300 | CD, 0.01μF, +80%, -20%, AC250V |
| C810 | 24086936 | EL, 270μF, ±20%, 450V |
| C813 | 24094655 | CD, 1000pF, ±20%, AC400V |

| Location No. | Part No. | Description |
|--------------|----------|------------------------------------|
| C814 | 24094655 | CD, 1000pF, $\pm 20\%$, AC400V |
| C819 | 24538474 | PF, 0.47 μ F |
| C832 | 24666470 | EL, 47 μ F, $\pm 20\%$, 16V |
| C841 | 24667100 | EL, 10 μ F, $\pm 20\%$, 25V |
| C842 | 24666100 | EL, 10 μ F, $\pm 20\%$, 16V |
| C843 | 24538104 | PF, 0.1 μ F |
| C846 | 24538224 | PF, 0.22 μ F |
| C861 | 24214471 | CD, 470pF, $\pm 10\%$, 500V |
| C862 | 24082857 | PF, 680pF, $\pm 2\%$ |
| C863 | 24538104 | PF, 0.1 μ F |
| C864 | 24092469 | CD, 100pF, $\pm 10\%$, 2kV |
| C866 | 24669100 | EL, 10 μ F, $\pm 20\%$, 50V |
| C868 | 24676470 | EL, 47 μ F, $\pm 20\%$, 100V |
| C869 | 24678229 | EL, 2.2 μ F, $\pm 20\%$, 200V |
| C871 | 24092483 | CD, 1200pF, $\pm 10\%$, 2kV |
| C872 | 24212102 | CD, 1000pF, $\pm 10\%$ |
| C873 | 24212102 | CD, 1000pF, $\pm 10\%$ |
| C876 | 24538104 | PF, 0.1 μ F |
| C877 | 24667470 | EL, 47 μ F, $\pm 20\%$, 25V |
| C884 | 24640018 | EL, 220 μ F, $\pm 20\%$, 160V |
| C885 | 24214471 | CD, 470pF, $\pm 10\%$, 500V |
| C889 | 24667471 | EL, 470 μ F, $\pm 20\%$, 25V |
| C891 | 24082229 | PF, 0.1 μ F, $\pm 10\%$, 250V |
| C893 | 24092338 | CD, 270pF, $\pm 10\%$, 2kV |
| C894 | 24092338 | CD, 270pF, $\pm 10\%$, 2kV |
| C898 | 24212102 | CD, 1000pF, $\pm 10\%$ |
| C899 | 24212271 | CD, 270pF, $\pm 10\%$ |
| C902 | 24211102 | CD, 1000pF, $\pm 10\%$, 2kV |
| C921 | 24212681 | CD, 680pF, $\pm 10\%$ |
| C922 | 24212681 | CD, 680pF, $\pm 10\%$ |
| C923 | 24212681 | CD, 680pF, $\pm 10\%$ |
| C971 | 24763221 | EL, 220 μ F, $\pm 20\%$, 16V |
| C972 | 24794100 | EL, 10 μ F, $\pm 20\%$, 16V |
| C980 | 24763471 | EL, 470 μ F, $\pm 20\%$, 16V |
| C981 | 24797479 | EL, 4.7 μ F, $\pm 20\%$, 50V |
| CA10 | 24474331 | CD, 330pF, $\pm 10\%$ |
| CA11 | 24474151 | CD, 150pF, $\pm 10\%$ |
| CA33 | 24232103 | CD, 0.01 μ F, +80%, -20% |
| CA36 | 24474101 | CD, 100pF, $\pm 10\%$ |
| CA37 | 24474101 | CD, 100pF, $\pm 10\%$ |
| CA38 | 24474101 | CD, 100pF, $\pm 10\%$ |
| CA42 | 24794100 | EL, 10 μ F, $\pm 20\%$, 16V |
| CA43 | 24232103 | CD, 0.01 μ F, +80%, -20% |
| CA68 | 24794100 | EL, 10 μ F, $\pm 20\%$, 16V |
| CA69 | 24232103 | CD, 0.01 μ F, +80%, -20% |
| CB01 | 24794470 | EL, 47 μ F, $\pm 20\%$, 16V |
| CB20 | 24474101 | CD, 100pF, $\pm 10\%$ |
| CP01 | 24538104 | PF, 0.1 μ F |
| CP03 | 24538104 | PF, 0.1 μ F |
| CP04 | 24538104 | PF, 0.1 μ F |
| CP05 | 24232103 | CD, 0.01 μ F, +80%, -20% |
| CP06 | 24232103 | CD, 0.01 μ F, +80%, -20% |
| CP07 | 24793470 | EL, 47 μ F, $\pm 20\%$, 10V |
| CP08 | 24591223 | PF, 0.022 μ F |
| CQ01 | 24797470 | EL, 47 μ F, $\pm 20\%$, 50V |
| CQ02 | 24538104 | PF, 0.1 μ F |
| CQ03 | 24591224 | PF, 0.22 μ F |
| CQ04 | 24538104 | PF, 0.1 μ F |
| CQ05 | 24232103 | CD, 0.01 μ F, +80%, -20% |
| CQ06 | 24232103 | CD, 0.01 μ F, +80%, -20% |
| CS02 | 24797010 | EL, 1 μ F, $\pm 20\%$, 50V |
| CS03 | 24797478 | EL, 0.47 μ F, $\pm 20\%$, 50V |
| CS04 | 24797478 | EL, 0.47 μ F, $\pm 20\%$, 50V |
| CS05 | 24794221 | EL, 220 μ F, $\pm 20\%$, 16V |

| Location No. | Part No. | Description |
|------------------|----------|-----------------------------------|
| CS06 | 24793471 | EL, 470 μ F, $\pm 20\%$, 10V |
| CS07 | 24794101 | EL, 100 μ F, $\pm 20\%$, 16V |
| CS08 | 24797479 | EL, 4.7 μ F, $\pm 20\%$, 50V |
| CV05 | 24794100 | EL, 10 μ F, $\pm 20\%$, 16V |
| CV06 | 24232103 | CD, 0.01 μ F, +80%, -20% |
| CV07 | 24591104 | PF, 0.1 μ F |
| CV08 | 24794100 | EL, 10 μ F, $\pm 20\%$, 16V |
| RESISTORS | | |
| R101 | 24382153 | OMF, 15k ohm, 1W |
| R207 | 24366102 | CF, 1k ohm |
| R208 | 24366101 | CF, 100 ohm |
| R209 | 24366101 | CF, 100 ohm |
| R211 | 24366103 | CF, 10k ohm |
| R212 | 24366224 | CF, 220k ohm- |
| R214 | 24366103 | CF, 10k ohm |
| R215 | 24366153 | CF, 15k ohm |
| R219 | 24366511 | CF, 510k ohm |
| R227 | 24366123 | CF, 12k ohm |
| R301 | 24366332 | CF, 3300 ohm |
| R302 | 24366683 | CF, 68k ohm |
| R303 | 24552751 | OMF, 750 ohm, 1/2W |
| R304 | 24366243 | CF, 24k ohm |
| R305 | 24322119 | MF, 1.1 ohm, 1W |
| R306 | 24366363 | CF, 36k ohm |
| R307 | 24366134 | CF, 130k ohm |
| R309 | 24321109 | MF, 1 ohm, 1/2W |
| R310 | 24366102 | CF, 1k ohm |
| R311 | 24366432 | CF, 4300 ohm |
| R312 | 24366273 | CF, 27k ohm |
| R313 | 24366273 | CF, 27k ohm |
| R320 | 24366473 | CF, 47k ohm |
| R331 | 24545479 | FR, 4.7 ohm, 1/4W |
| R336 | 24383271 | OMF, 270 ohm, 2W |
| R350 | 24066602 | VR, 50k ohm, 1/10W |
| R365 | 24366244 | CF, 240k ohm |
| R400 | 24366155 | CF, 1.5M ohm |
| R401 | 24366473 | CF, 47k ohm |
| R402 | 24366622 | CF, 6200 ohm |
| R403 | 24366682 | CF, 6800 ohm |
| R404 | 24366123 | CF, 12k ohm |
| R405 | 24366104 | CF, 100k ohm |
| R407 | 24366224 | CF, 220k ohm |
| R409 | 24366101 | CF, 100 ohm |
| R410 | 24366151 | CF, 150 ohm |
| R411 | 24366391 | CF, 390 ohm |
| R412 | 24366560 | CF, 56 ohm |
| △R416 | 24019321 | OMF, 1500 ohm, 5W |
| R417 | 24366182 | CF, 1800 ohm |
| R420 | 24366221 | CF, 220 ohm |
| R430 | 24366103 | CF, 10k ohm |
| R432 | 24382181 | OMF, 180 ohm, 1W |
| R433 | 24366472 | CF, 4700 ohm |
| R443 | 24532102 | FR, 1k ohm, 1W |
| R447 | 24553472 | OMF, 4700 ohm, 1W |
| R448 | 24338228 | OMF, 0.27 ohm, 1W |
| R471 | 24552301 | OMF, 300 ohm, 1/2W |
| R473 | 24366153 | CF, 15k ohm |
| R474 | 24376393 | CF, 39k ohm, 1/2W |
| R479 | 24552820 | OMF, 82 ohm, 1/2W |
| R501 | 24366102 | CF, 1k ohm |
| R502 | 24366102 | CF, 1k ohm |
| R503 | 24366102 | CF, 1k ohm |
| R504 | 24366271 | CF, 270 ohm |

| Location No. | Part No. | Description |
|--------------|----------|--|
| R505 | 24366271 | CF, 270 ohm |
| R506 | 24366271 | CF, 270 ohm |
| R507 | 24366332 | CF, 3300 ohm |
| R509 | 24366101 | CF, 100 ohm |
| R516 | 24366101 | CF, 100 ohm |
| R517 | 24366101 | CF, 100 ohm |
| R520 | 24366475 | CF, 4.7M ohm |
| R522 | 24366475 | CF, 4.7M ohm |
| R540 | 24366103 | CF, 10k ohm |
| R560 | 24366221 | CF, 220 ohm |
| R561 | 24366564 | CF, 560k ohm |
| R603 | 24366162 | CF, 1600 ohm |
| R604 | 24366562 | CF, 5600 ohm |
| R605 | 24366339 | CF, 3.3 ohm |
| R606 | 24366393 | CF, 39k ohm |
| R612 | 24366103 | CF, 10k ohm |
| R613 | 24366103 | CF, 10k ohm |
| R614 | 24366181 | CF, 180 ohm |
| R801 | 24009954 | Metal-Glazed Resistor, 2.2M ohm, 1/2W |
| △R808 | 24000875 | PTC Thermistor, 18 ohm, ±20%, 290V |
| R810 | 24569229 | Cement, 2.2 ohm, 10W |
| R816 | 24366471 | CF, 470 ohm |
| R817 | 24366331 | CF, 330 ohm |
| R818 | 24366561 | CF, 560 ohm |
| R819 | 24366102 | CF, 1k ohm |
| R830 | 24546569 | FR, 5.6 ohm, 1/2W |
| R831 | 24366471 | CF, 470 ohm |
| R840 | 24531120 | FR, 12 ohm, 1/2W |
| R841 | 24366752 | CF, 7500 ohm |
| R846 | 24366332 | CF, 3300 ohm |
| R848 | 24366470 | CF, 47 ohm |
| R861 | 24383223 | OMF, 22k ohm, 2W |
| R862 | 24552220 | OMF, 22 ohm, 1/2W |
| R863 | 24366432 | CF, 4300 ohm |
| R864 | 24366561 | CF, 560 ohm |
| R866 | 24552390 | OMF, 39 ohm, 1/2W |
| R867 | 24000251 | MF, 62k ohm, ±1%, 1/4W |
| R868 | 24552103 | OMF, 10k ohm, 1/2W |
| R870 | 24531220 | FR, 22 ohm, 1/2W |
| R871 | 24310109 | MF, 1.0 ohm, 1/2W |
| R872 | 24377224 | CF, 220k ohm, 1W |
| R881 | 24366472 | CF, 4700 ohm |
| R883 | 24552752 | OMF, 7500 ohm, 1/2W |
| R884 | 24552752 | OMF, 7500 ohm, 1/2W |
| R891 | 24366102 | CF, 1k ohm |
| R898 | 24366222 | CF, 2200 ohm |
| R899 | 24005007 | Metal-Glazed Resistor, 8.2M ohm, 1W |
| R901 | 24376472 | CF, 4700 ohm, 1/2W |
| R902 | 24376472 | CF, 4700 ohm, 1/2W |
| R903 | 24376472 | CF, 4700 ohm, 1/2W |
| R911 | 24366101 | CF, 100 ohm |
| R912 | 24366101 | CF, 100 ohm |
| R913 | 24366101 | CF, 100 ohm |
| R920 | 24000568 | FR, 4.7 ohm, 1W |
| R921 | 24366391 | CF, 390 ohm |
| R922 | 24366391 | CF, 390 ohm |
| R923 | 24366391 | CF, 390 ohm |
| R931 | 24366152 | CF, 1500 ohm |
| R932 | 24366152 | CF, 1500 ohm |
| R933 | 24366152 | CF, 1500 ohm |
| R961 | 24383183 | OMF, 18k ohm, 2W |

| Location No. | Part No. | Description |
|--------------|----------|-------------------|
| R962 | 24383183 | OMF, 18k ohm, 2W |
| R963 | 24383183 | OMF, 18k ohm, 2W |
| R971 | 24366152 | CF, 1500 ohm |
| R972 | 24366221 | CF, 220 ohm |
| R973 | 24366122 | CF, 1200 ohm |
| R980 | 24552560 | OMF, 56 ohm, 1/2W |
| RA02 | 24366102 | CF, 1k ohm |
| RA03 | 24366102 | CF, 1k ohm |
| RA04 | 24366102 | CF, 1k ohm |
| RA05 | 24366102 | CF, 1k ohm |
| RA07 | 24366102 | CF, 1k ohm |
| RA08 | 24366102 | CF, 1k ohm |
| RA13 | 24366102 | CF, 1k ohm |
| RA14 | 24366153 | CF, 15k ohm |
| RA15 | 24366103 | CF, 10k ohm |
| RA16 | 24366102 | CF, 1k ohm |
| RA17 | 24366102 | CF, 1k ohm |
| RA18 | 24366102 | CF, 1k ohm |
| RA22 | 24366472 | CF, 4700 ohm |
| RA23 | 24366472 | CF, 4700 ohm |
| RA24 | 24366472 | CF, 4700 ohm |
| RA25 | 24366332 | CF, 3300 ohm |
| RA26 | 24366102 | CF, 1k ohm |
| RA27 | 24366102 | CF, 1k ohm |
| RA28 | 24366102 | CF, 1k ohm |
| RA33 | 24366103 | CF, 10k ohm |
| RA35 | 24366102 | CF, 1k ohm |
| RA36 | 24366472 | CF, 4700 ohm |
| RA37 | 24366331 | CF, 330 ohm |
| RA38 | 24366331 | CF, 330 ohm |
| RA61 | 24366103 | CF, 10k ohm |
| RA62 | 24366103 | CF, 10k ohm |
| RA64 | 24366333 | CF, 33k ohm |
| RA67 | 24366103 | CF, 10k ohm |
| RA68 | 24366103 | CF, 10k ohm |
| RA70 | 24366333 | CF, 33k ohm |
| RA71 | 24366683 | CF, 68k ohm |
| RA72 | 24366223 | CF, 22k ohm |
| RA73 | 24366103 | CF, 10k ohm |
| RB01 | 24366271 | CF, 270 ohm |
| RB03 | 24366101 | CF, 100 ohm |
| RB09 | 24366470 | CF, 47 ohm |
| RB11 | 24366103 | CF, 10k ohm |
| RB20 | 24366823 | CF, 82k ohm |
| RB22 | 24366103 | CF, 10k ohm |
| RB26 | 24366103 | CF, 10k ohm |
| RB27 | 24366103 | CF, 10k ohm |
| RB28 | 24366104 | CF, 100k ohm |
| RB30 | 24366103 | CF, 10k ohm |
| RB36 | 24366103 | CF, 10k ohm |
| RB40 | 24366103 | CF, 10k ohm |
| RB41 | 24366182 | CF, 1800 ohm |
| RB42 | 24366102 | CF, 1k ohm |
| RB43 | 24366222 | CF, 2200 ohm |
| RB44 | 24366152 | CF, 1500 ohm |
| RB45 | 24366221 | CF, 220 ohm |
| RP02 | 24366105 | CF, 1M ohm |
| RQ03 | 24366222 | CF, 2200 ohm |
| RQ05 | 24366473 | CF, 47k ohm |
| RQ08 | 24366473 | CF, 47k ohm |
| RQ50 | 24066879 | VR, 1k ohm, 0.3W |
| RQ51 | 24066876 | VR, 10k ohm, 0.3W |
| RR22 | 24366471 | CF, 470 ohm |
| RR23 | 24366471 | CF, 470 ohm |

| Location No. | Part No. | Description |
|--------------|----------|--------------|
| RR24 | 24366471 | CF, 470 ohm |
| RS02 | 24366681 | CF, 680 ohm |
| RS03 | 24366472 | CF, 4700 ohm |
| RS04 | 24366513 | CF, 51k ohm |
| RS06 | 24366513 | CF, 51k ohm |
| RS07 | 24366391 | CF, 390 ohm |
| RS08 | 24366750 | CF, 75 ohm |
| RS10 | 24366101 | CF, 100 ohm |
| RS11 | 24366564 | CF, 560k ohm |
| RV01 | 24366750 | CF, 75 ohm |
| RV05 | 24366102 | CF, 1k ohm |
| RV06 | 24366101 | CF, 100 ohm |
| RV07 | 24366104 | CF, 100k ohm |
| RV09 | 24366103 | CF, 10k ohm |
| RV10 | 24366561 | CF, 560 ohm |
| RV11 | 24366101 | CF, 100 ohm |

COILS & TRANSFORMERS

| | | |
|-------|----------|------------------------------------|
| L201 | 23238714 | Coil, Peaking, TRF4100AJ |
| L301 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L410 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L411 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L430 | 23238714 | Coil, Peaking, TRF4100AJ |
| △L441 | 23233071 | Coil, Linearity, TLN2112G |
| △L462 | 23231056 | Deflection Yoke, TDY-621WS |
| L805 | 23261959 | Coil, Choke, TRF9240 |
| L840 | 23289100 | Coil, Peaking, TRF4100AF |
| L861 | 23103880 | Coil (Ferrite Bead), TEM2011Y |
| L862 | 23103937 | Coil (Ferrite Bead), TEM2004 |
| L883 | 23103775 | Coil (Ferrite Bead), TEM2014 |
| L884 | 23103775 | Coil (Ferrite Bead), TEM2014 |
| L885 | 23221722 | Coil, Choke, TLN3142D |
| L886 | 23103859 | Coil (Ferrite Bead), TEM2011 |
| L887 | 23222694 | Coil, Width, TLN2026 |
| △L901 | 23200286 | Coil, Degaussing, TSB-2301AG |
| LA01 | 23289100 | Coil, Peaking, TRF4100AF |
| LP01 | 23289470 | Coil, Peaking, TRF4470AF |
| △T401 | 23224983 | Transformer, Horiz. Drive, TLN1039 |
| △T461 | 23236481 | Transformer, Flyback, TFB4125CH |
| △T801 | 23211673 | Line Filter, TRF3204N |
| △T862 | 23217276 | Transformer, Converter, TPW3319AE |

SEMICONDUCTORS

| | | |
|-------|----------|---------------------------|
| Q301 | 23319459 | IC, LA7837 |
| Q203 | 23114530 | Transistor, 2SA933S-Q |
| Q303 | A6002040 | Transistor, RN1204 |
| Q402 | A6330069 | Transistor, 2SC2482 FA-1 |
| △Q404 | 23314375 | Transistor, ON4409(508D) |
| Q421 | B0372900 | IC, TA78009AP |
| Q430 | A6333346 | Transistor, 2SC2655-Y(C) |
| Q432 | A6002030 | Transistor, RN1203 |
| Q470 | A6547250 | Transistor, 2SA1320 |
| Q501 | 23904952 | IC, M52707SP |
| Q610 | 23119668 | IC, TDA2611A |
| Q611 | A6342206 | Transistor, 2SC2878-A(TE) |
| Q612 | 23114530 | Transistor, 2SA933S-Q |
| Q620 | A6010040 | Transistor, RN2004 |
| △Q801 | 23904956 | IC, STR-Z2152,L |
| Q817 | 23114528 | Transistor, 2SC1740S-Q |
| Q818 | A6012010 | Transistor, RN2201 |
| Q819 | 23114528 | Transistor, 2SC1740S-Q |

| Location No. | Part No. | Description |
|--------------|----------|------------------------------|
| Q830 | 23314141 | Transistor, 2SC3852 |
| Q840 | 23318299 | IC, L78MR05 |
| Q843 | A6002050 | Transistor, RN1205 |
| Q846 | A6360200 | Transistor, 2SC3333 |
| △Q862 | A8643108 | Photo Coupler, TLP621(GR-LF) |
| Q872 | 23314141 | Transistor, 2SC3852 |
| Q883 | A6907752 | IC, S1854 FA-1 |
| Q901 | A6330059 | Transistor, 2SC2482(C) |
| Q902 | A6330059 | Transistor, 2SC2482(C) |
| Q903 | A6330059 | Transistor, 2SC2482(C) |
| Q971 | 23114530 | Transistor, 2SA933S-Q |
| Q980 | A6330059 | Transistor, 2SC2482(C) |
| QA01 | 23905246 | IC, M37222M6-B84 |
| QA02 | 23904665 | IC, NM24C04EN |
| QB01 | 23114528 | Transistor, 2SC1740S-Q |
| QB03 | A6002050 | Transistor, RN1205 |
| QB20 | A6002010 | Transistor, RN1201 |
| QB21 | 23114528 | Transistor, 2SC1740S-Q |
| QB30 | 23114528 | Transistor, 2SC1740S-Q |
| QB40 | 23114528 | Transistor, 2SC1740S-Q |
| QP01 | 23904954 | IC, U3660M-B |
| QQ01 | 23905127 | IC, M52325P-A |
| QS01 | A6342206 | Transistor, 2SC2878-A(TE) |
| QS02 | 23114530 | Transistor, 2SA933S-Q |
| QV04 | 23904943 | IC, MM1111XS |
| QV05 | 23114528 | Transistor, 2SC1740S-Q |
| QV10 | 23114528 | Transistor, 2SC1740S-Q |
| D101 | 23115922 | Diode, Zener, μPC574J(M) |
| D201 | 23118859 | Diode, 1SS133 |
| D230 | 23316309 | Diode, Zener, UZ5.6BSB |
| D301 | 23118479 | Diode, BYD33J |
| D302 | 23118479 | Diode, BYD33J |
| D303 | 23316794 | Diode, SC570A |
| D304 | 23118859 | Diode, 1SS133 |
| D306 | 23316323 | Diode, Zener, UZ9.1BSA |
| D309 | 23316326 | Diode, Zener, UZ10BSA |
| D401 | 23316321 | Diode, Zener, UZ8.2BSB |
| D402 | 23316333 | Diode, Zener, UZ12BSB |
| D406 | 23118479 | Diode, BYD33J |
| D408 | 23118479 | Diode, BYD33J |
| D430 | 23115537 | Diode, 1SS131 |
| D431 | 23316326 | Diode, Zener, UZ10BSA |
| D440 | 23316254 | Diode, ERC06-15 |
| D441 | 23316312 | Diode, Zener, UZ6.2BSB |
| D444 | 23118338 | Diode, RU4AM |
| D470 | 23316333 | Diode, Zener, UZ12BSB |
| D612 | 23118859 | Diode, 1SS133 |
| D620 | 23118859 | Diode, 1SS133 |
| D621 | 23118859 | Diode, 1SS133 |
| D622 | 23118859 | Diode, 1SS133 |
| D801 | 23316391 | Diode, D3SB60, 4109 |
| D818 | 23316337 | Diode, Zener, UZ13BSC |
| D830 | 23316310 | Diode, Zener, UZ5.6BSC |
| D846 | 23316312 | Diode, Zener, UZ6.2BSB |
| D862 | 23118094 | Diode, EU2A |
| D864 | 23118094 | Diode, EU2A |
| D872 | 23316345 | Diode, Zener, UZ18BSB |
| D875 | 23316345 | Diode, Zener, UZ18BSB |
| D876 | 23118859 | Diode, 1SS133 |
| D881 | 23118859 | Diode, 1SS133 |
| D883 | 23316813 | Diode, EG1 |
| D884 | 23316813 | Diode, EG1 |
| D885 | 23118060 | Diode, AL01Z |
| D898 | 23118859 | Diode, 1SS133 |

| Location No. | Part No. | Description |
|----------------------------|----------|---------------------------------------|
| D980 | 23118859 | Diode, 1SS133 |
| D981 | 23316554 | Diode, 1SS146 |
| D982 | 23316554 | Diode, 1SS146 |
| D983 | 23316554 | Diode, 1SS146 |
| DA19 | 23316672 | Diode, Zener, MTZJ5.6B |
| DB01 | 23358501 | Diode (LED), SCL003URC5F |
| DB03 | 23358522 | LED, SIR-56SB3F |
| DB30 | 23118859 | Diode, 1SS133 |
| DQ20 | 23118859 | Diode, 1SS133 |
| MISCELLANEOUS | | |
| E912 | 23848729 | Rubber Wedge |
| △F470 | 23144827 | Fuse, 0.63A |
| F470A | 23165433 | Holder, Fuse |
| △F801 | 23144834 | Fuse, 3.15A |
| F801A | 23165433 | Holder, Fuse |
| G218 | 24366153 | CF, 15k ohm |
| G302 | 23289100 | Coil, Peaking, TRF4100AF |
| G520 | 23238704 | Coil, Peaking, TRF4680AJ |
| GV04 | 24366102 | CF, 1k ohm |
| KB01 | 23904946 | Remote Sensor, RPM-676CBR-S |
| L462A | 23997351 | Compensator, DY, TC-O |
| L462B | 23199314 | Compensator, DY, TC-E |
| L462C | 23993623 | Compensator, DY, TC-L |
| △P801 | 23372011 | Power Cord |
| P910 | 23164725 | Plug, 2P |
| PV01 | 23365814 | Jack, Phono |
| △S801 | 23344382 | Switch, Power |
| 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 |
| △V901A | 23902966 | Socket, CRT |
| V901M | 23102409 | Magnet, P/C, MAG-1070 |
| W661 | 23351085 | Speaker, SPK-1357 |
| W662 | 23351085 | Speaker, SPK-1357 |
| X401 | 23153423 | Ceramic Resonator, 503KHz, TCR1073 |
| X501 | 23153427 | Crystal, 3.58MHz |
| X502 | 23153410 | Crystal, 4.43MHz |
| XA01 | 23153325 | Ceramic Resonator, 8.00M, TCR1056 |
| △ZP03 | 23144778 | Fuse, 1.0A |
| △ZP04 | 23144451 | Protector, PRF5000, 125V, 5A |
| △ZP05 | 23144451 | Protector, PRF5000, 125V, 5A |
| PC BOARD ASSEMBLIES | | |
| * U902A | 23704393 | Main Board, PB5674-1 |
| * U902B | 23704394 | CRT Drive Board, PB5674-2 |
| PICTURE TUBE | | |
| △V901 | A5549139 | Picture Tube, A51KSU93X(VM) |
| TUNER | | |
| H001 | 23321199 | Tuner, EC923X1 |

| Location No. | Part No. | Description |
|--------------------|----------|--|
| ACCESSORIES | | |
| K902 | 23306085 | Remote Hand Unit, CT-9782 |
| AT03 | 23305735 | Battery Cover |
| Y101 | 23562438 | Owner's Manual, English/Russian, 2150XS |

TERMINAL VIEW OF TRANSISTOR, etc.

- ① 2SA1015
2SC388ATM
2SC1815
2SA562TM
2SC1959
2SC1627
2SC2878
2SC2482
2SA1300
2SC752GTM



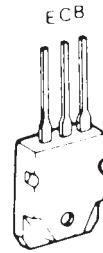
- ② 2SC2120
2SC2230
2SC2655



- ③ RN1203
RN1204
RN1205
RN1206
RN2201



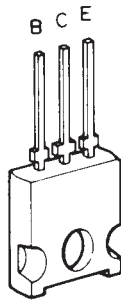
- ④ 2SA1265N



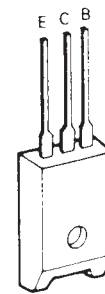
- ⑤ 2SD553
2SC1569
2SC2383
2SC3148
2SA1012

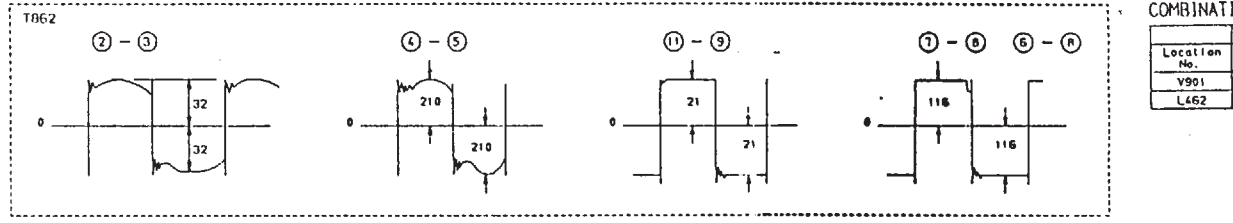
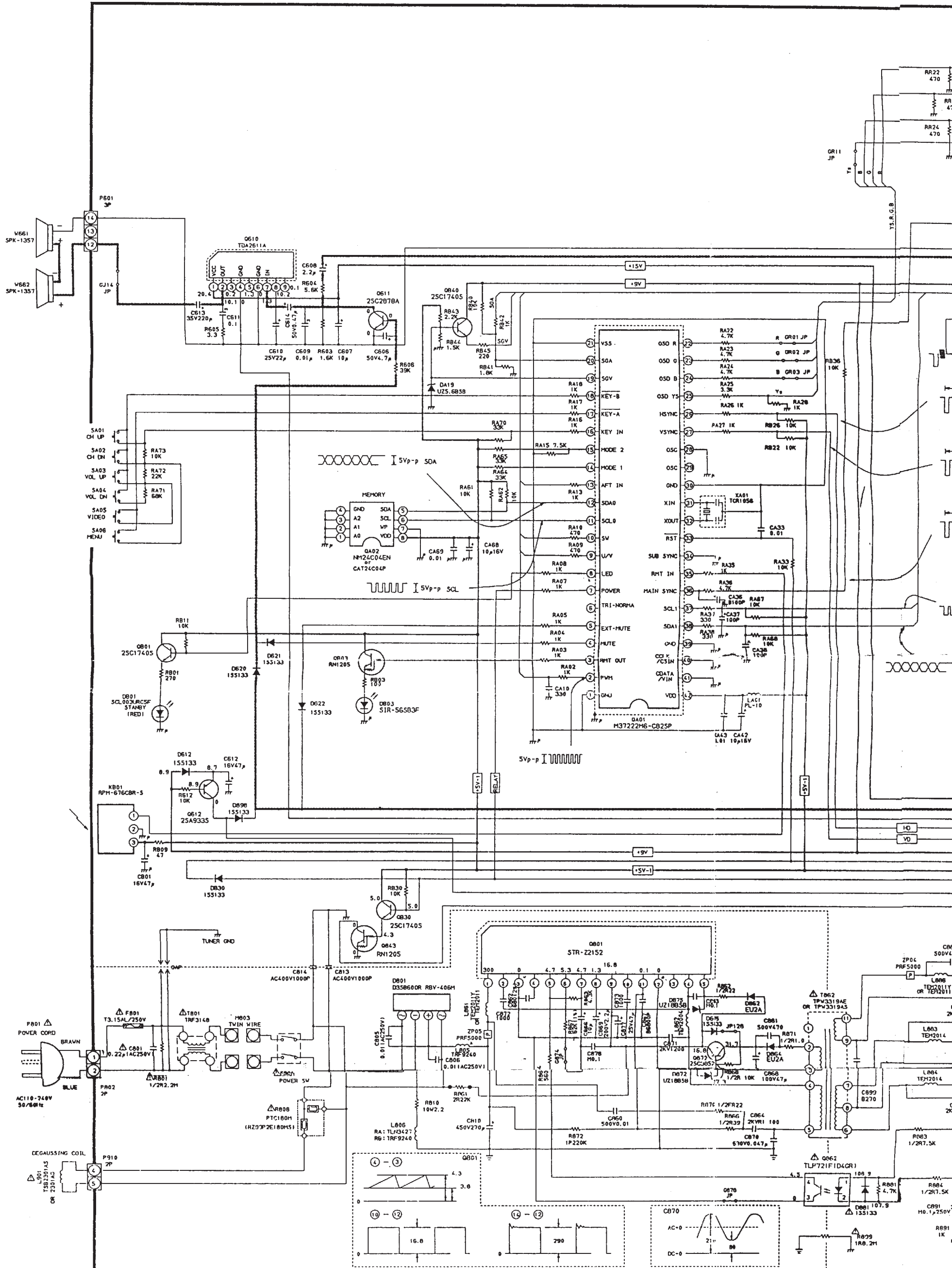


- ⑥ 2SC3619

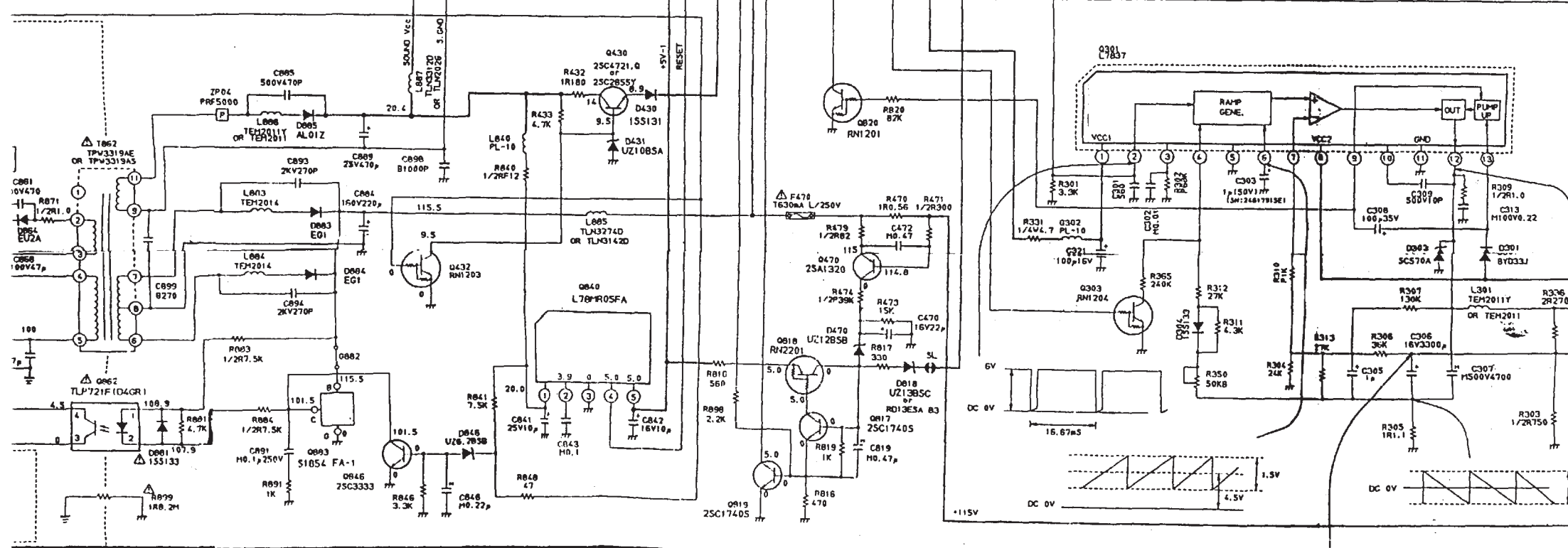
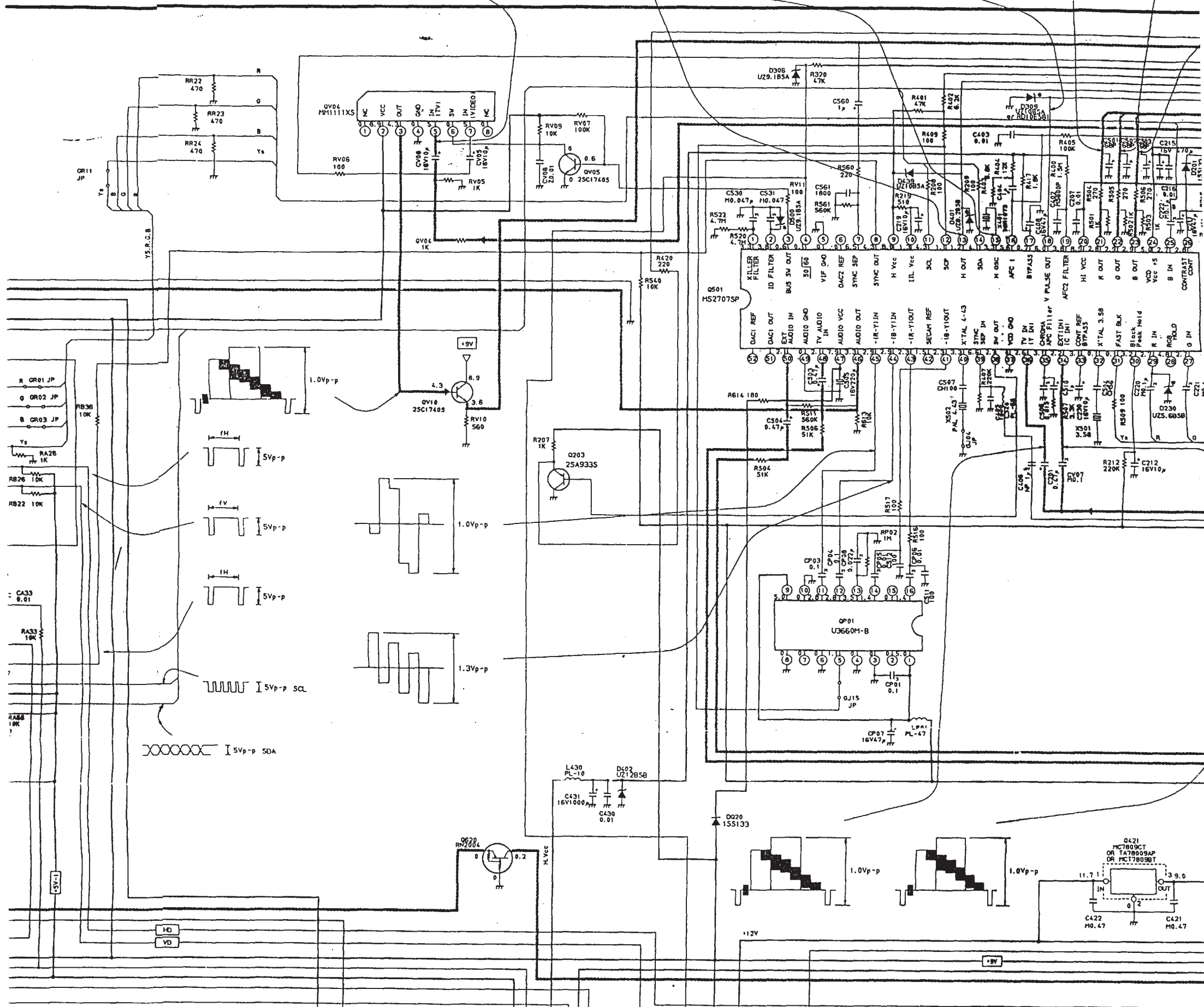
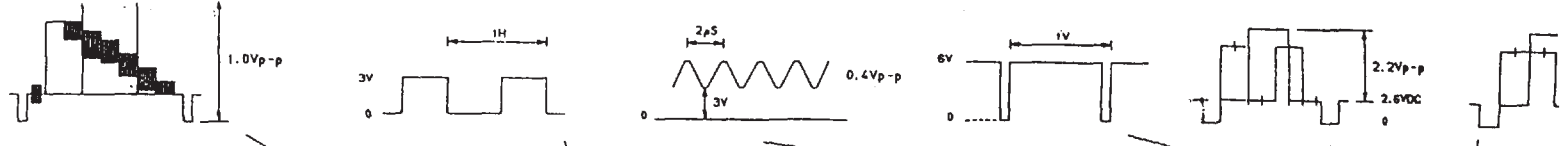


- ⑦ ON4409



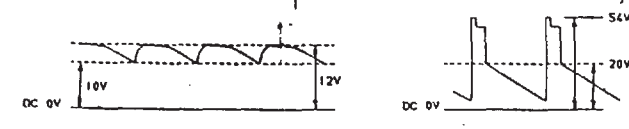
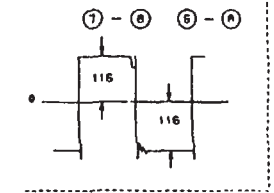


| Location | No. | Value |
|----------|-----|-------|
| V901 | 7 | |
| L462 | 7 | |

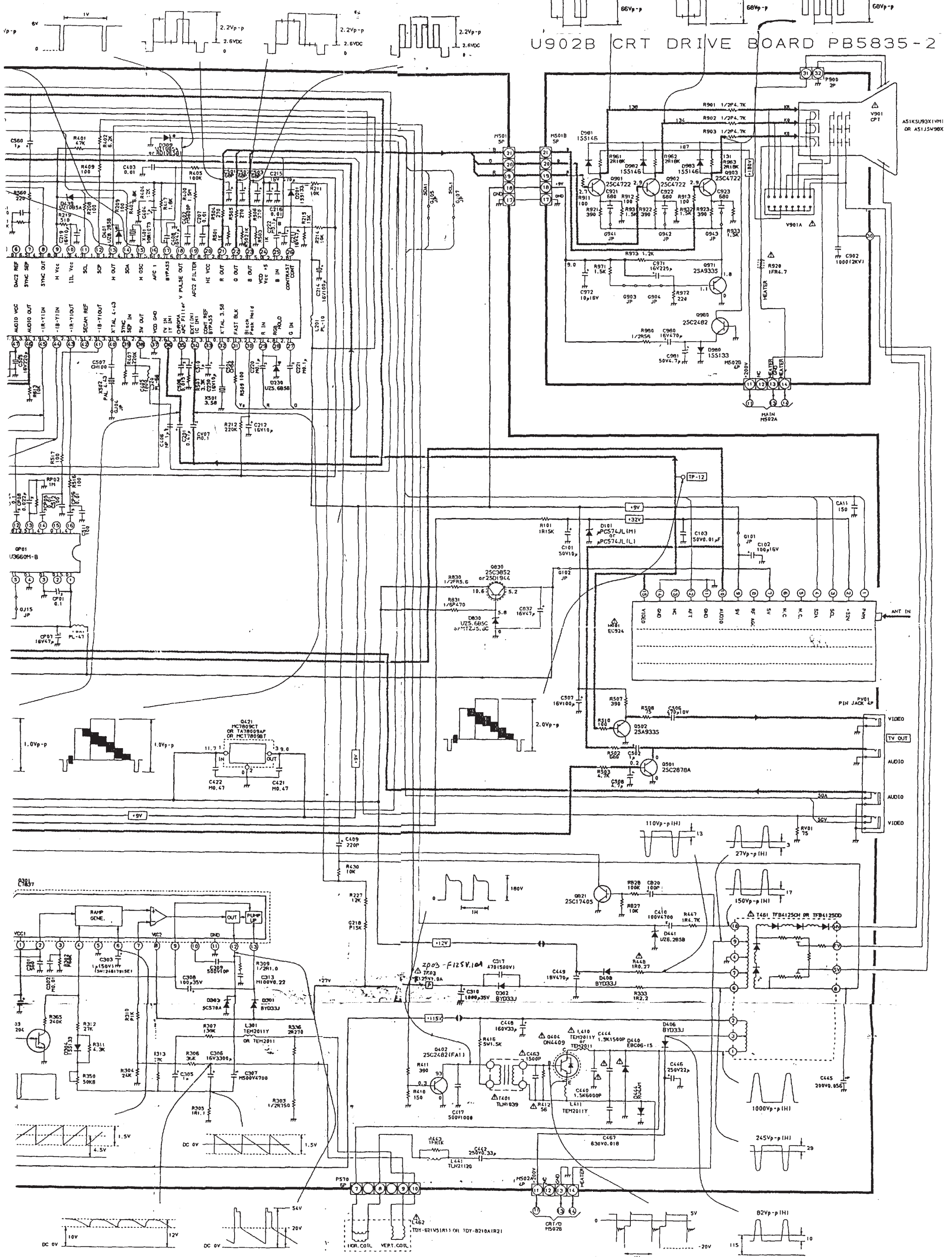


COMBINATION-USE OF PARTS

| Location | Part No. | Description | Part No. | Description |
|----------|----------|--------------------|----------|-------------------|
| V901 | 23317470 | ASIKSU93KI | 23312605 | AS13590X |
| L462 | 23231056 | TDY-621V5(SAHSUNG) | 23231128 | TDY-821BA1(TOCBA) |



U902B CRT DRIVE BOARD PB5835-2



AS1K5U93X(VH1)
OR AS1J5W98X

ANT IN
VIDEO
TV OUT
AUDIO
AUDIO
VIDEO

110Vp-p (IH)
27Vp-p (IH)
150Vp-p (IH)
1000Vp-p (IH)
245Vp-p (IH)
82Vp-p (IH)

6V
1V
2.2Vp-p
2.6VDC
2.2Vp-p
2.6VDC
2.2Vp-p
2.6VDC
65Vp-p
60Vp-p
60Vp-p

DC 0V
10V
12V
5V
20V
-20V

1.0Vp-p
1.8Vp-p
2.0Vp-p

11.7
3.9.0
C422 HO.47
C421 HO.47

1.5V
4.5V
DC 0V
1.5V

54V
20V
-20V

115