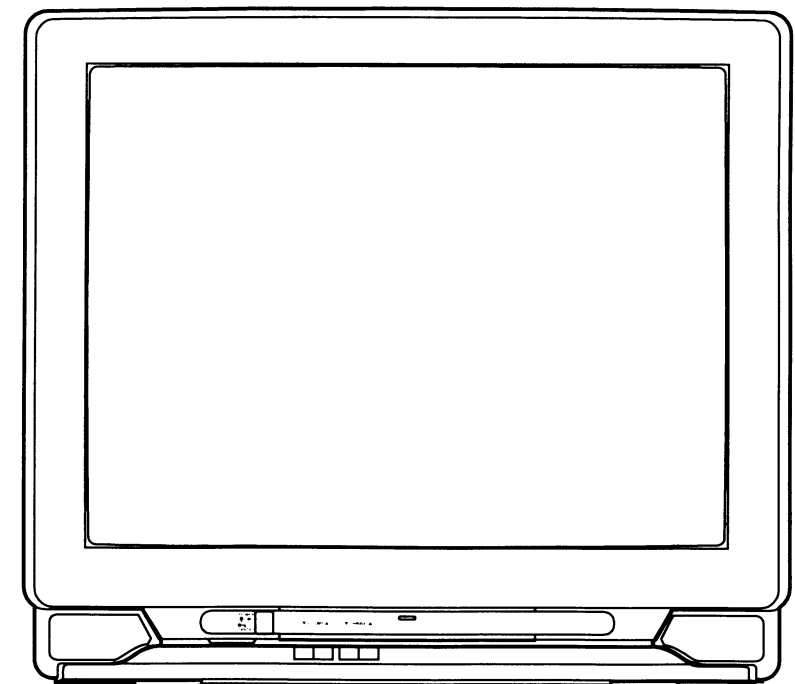




SERVICE MANUAL

25" COLOR TELEVISION

TV-2500A MK8

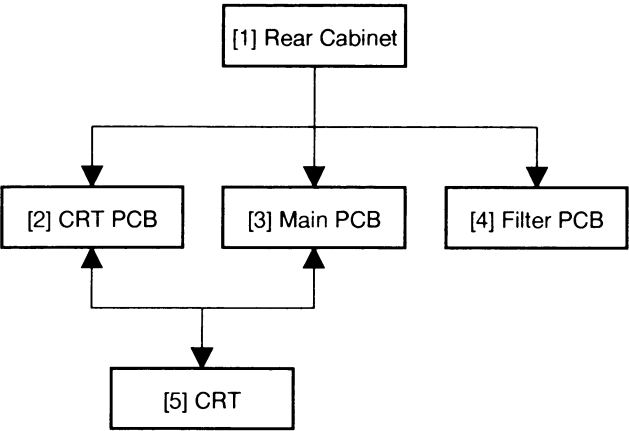


DISASSEMBLY INSTRUCTIONS

1. Disassembly Flow Chart

This flow chart indicates the disassembly steps of the cabinet parts and PCB in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in the reverse order. Bend, route and dress the cables as they were originally.

CAUTION ! :
When removing the CRT, make sure to discharge Anode Lead of the CRT.
Use the CRT Ground Wire to discharge the CRT before removing the Anode Cap.



2. Disassembly Method

| STEP/ LOC. NO. | PART | REMOVAL | | |
|----------------------|--------------|---------------|---|------|
| | | FIG. NO. | REMOVE/*UNLOCK/ RELEASE/UNPLUG/ UNCLAMP/ DESOLDER | NOTE |
| [1] | Rear Cabinet | 1, 2 | L2 (7pcs), L3, L4 | 1 |
| [2] | CRT PCB | 4, 5 | CL451B, CL452B, CN453, CN454 FOCUS WIRE, SCREEN WIRE | 2 |
| [3] | Main PCB | 3, 5 | CL451A, CL452A, CN501, CN601, CN602, CN801, CN802 ANODE CAP, FOCUS WIRE, SCREEN WIRE | 3 |
| [4] | Filter PCB | 2, 3, 4, 5 | CL661 | 4 |
| [5] | CRT | 4, 5 | B1 (4pcs) | 5 |

Reference <Notes> in Table

- (1) Remove 7 screws (L2, L3, L4) and slide the Rear Cabinet backward.
- (1) If not already removed, first remove the Rear Cabinet.
(2) Remove all relative wires, then pull the CRT PCB backward.
- (1) If not already removed, first remove the Rear Cabinet.
(2) Remove all relative wires on the Main PCB and remove the Anode Cap, then slide the Main PCB backward.
- (1) Slide the Filter PCB backward.

Caution !
Discharge Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

- (1) If not already removed, first remove the Rear Cabinet and Main PCB.
(2) Remove 4 screws (B1), then the CRT can be removed.

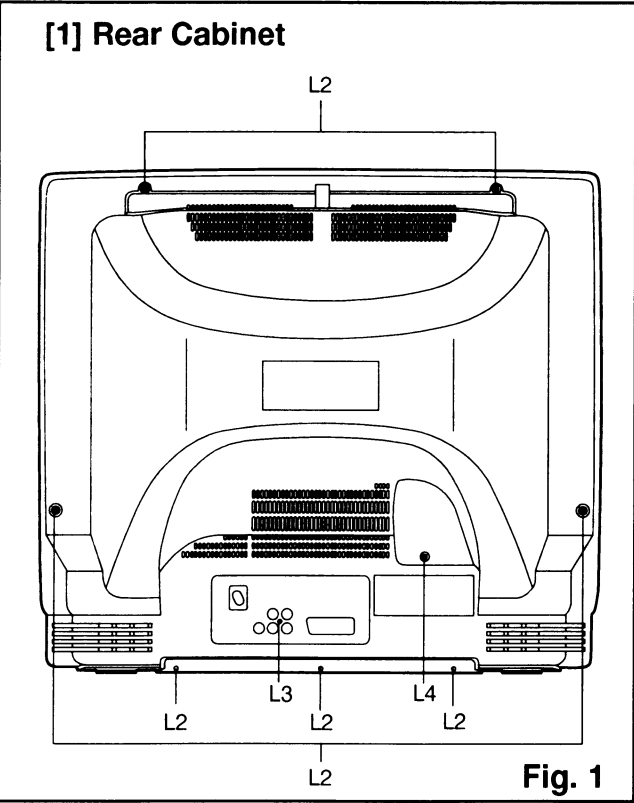


Fig. 1

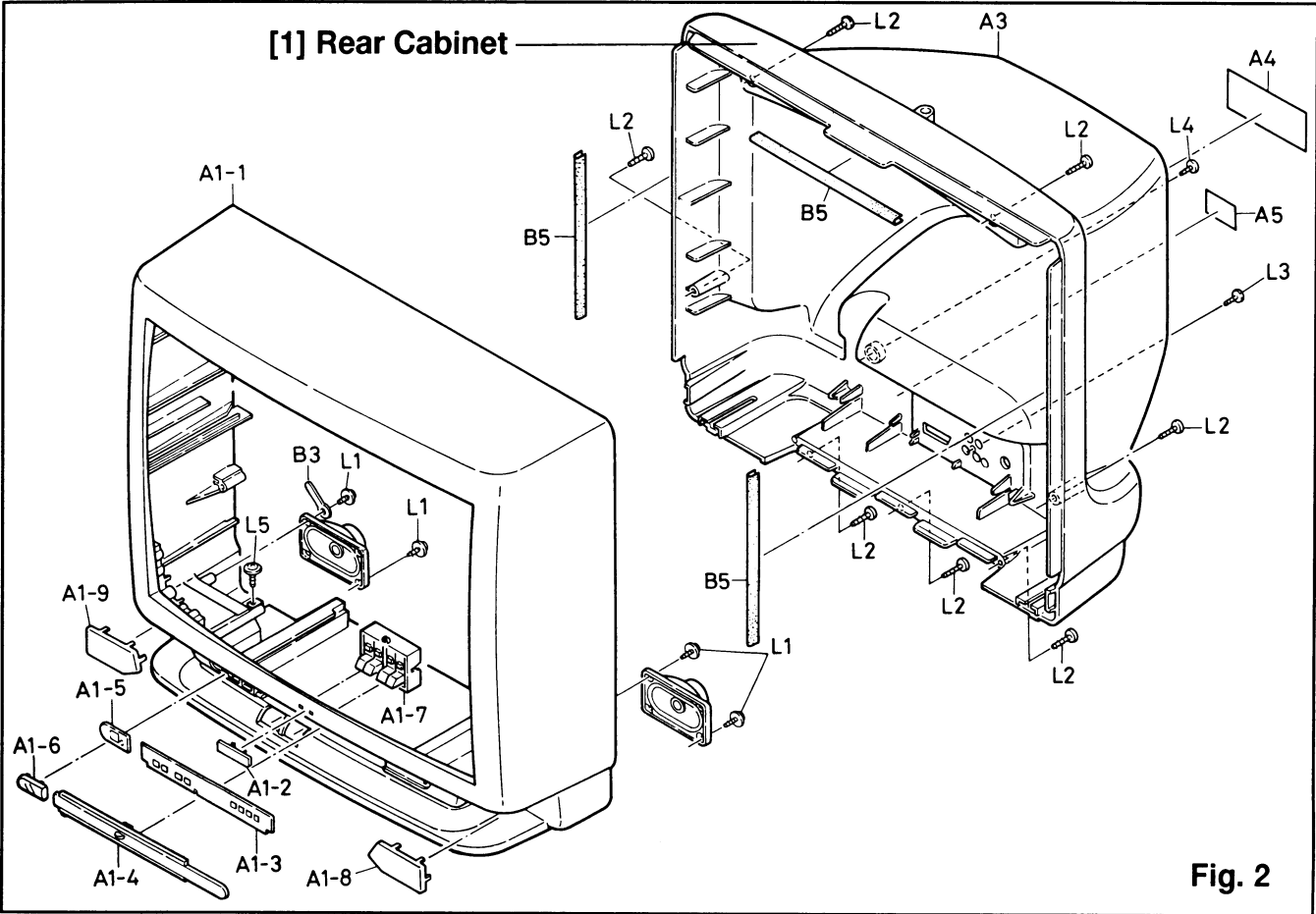


Fig. 2

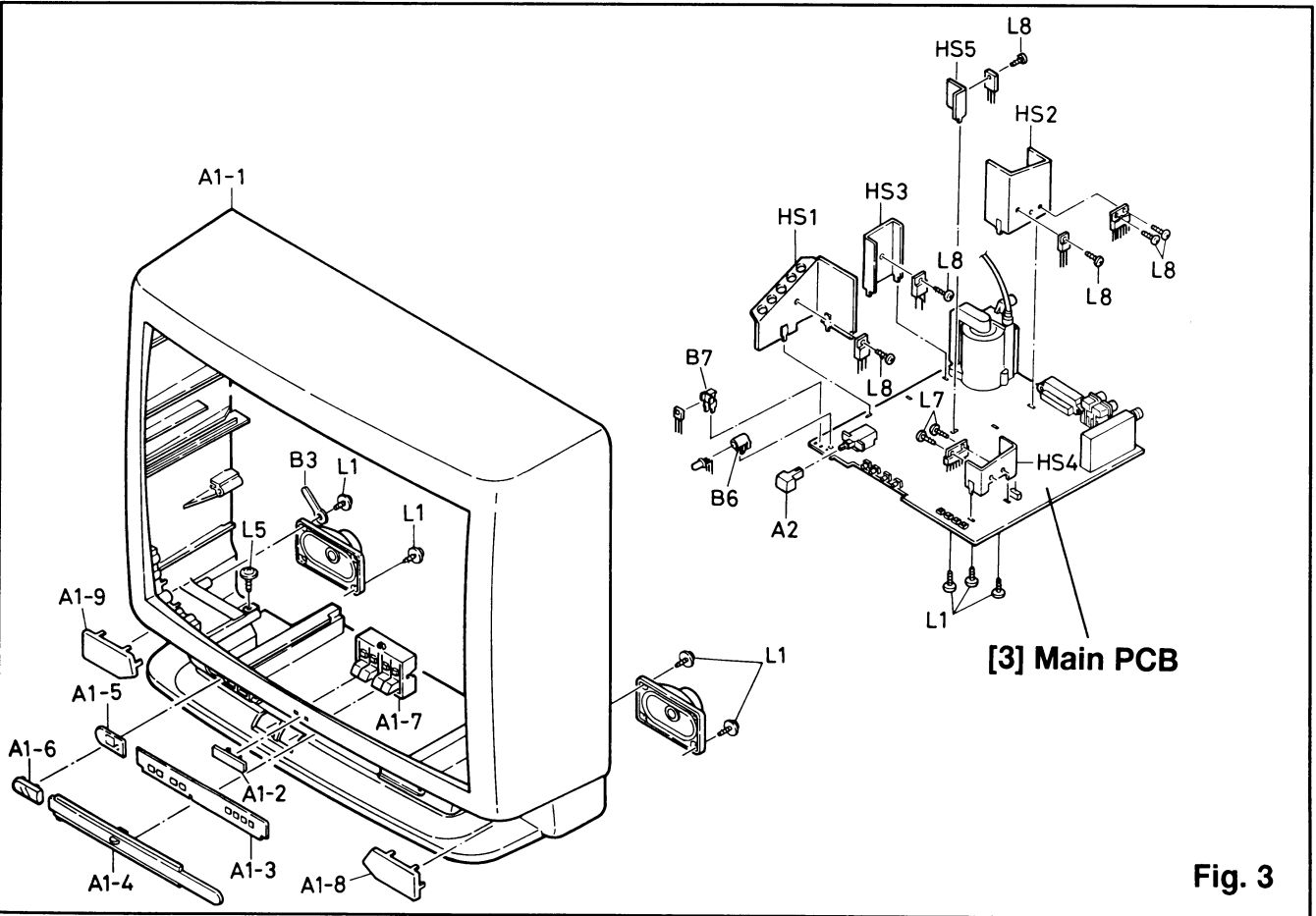


Fig. 3

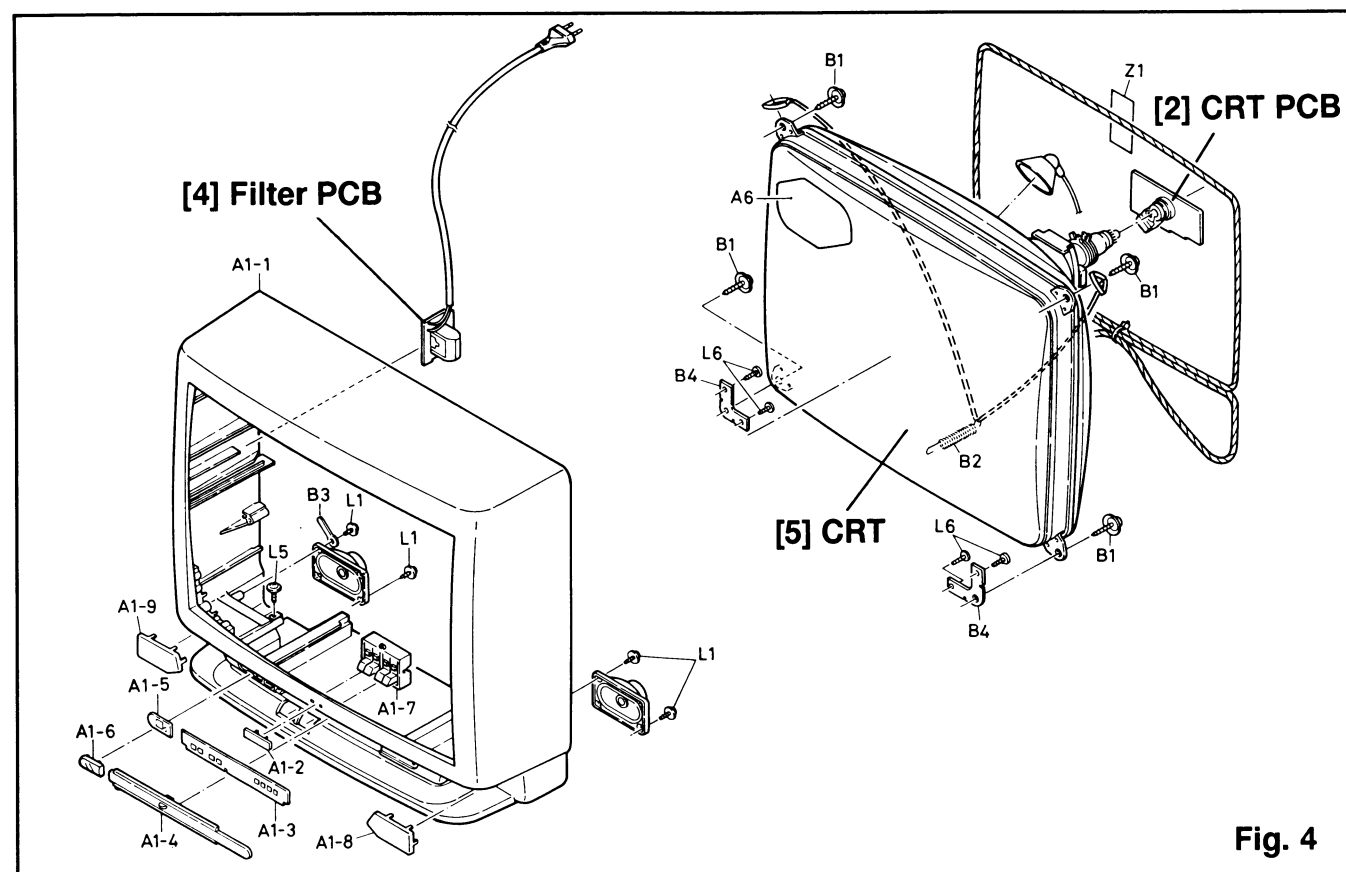


Fig. 4

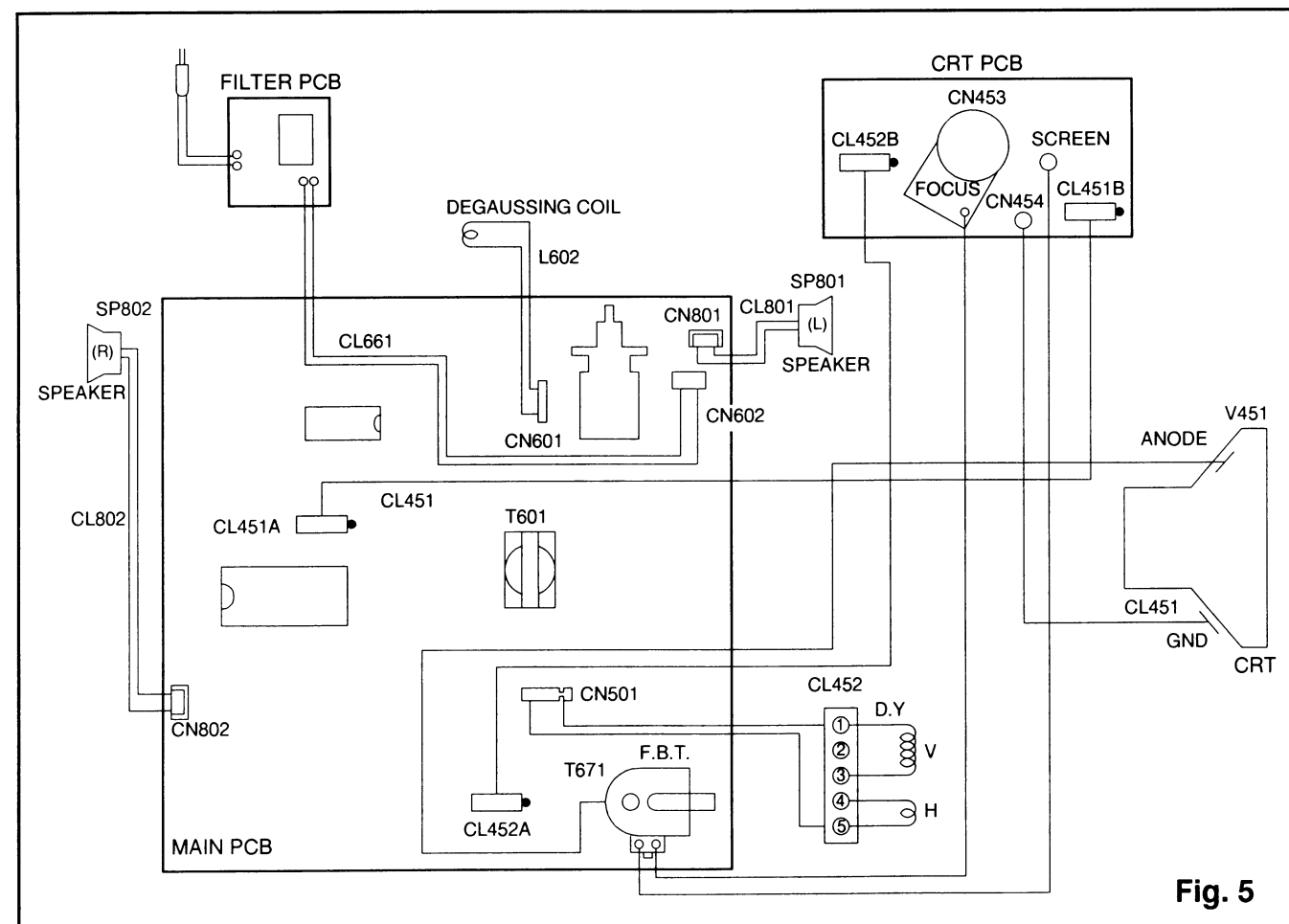


Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

Note:

Electrical adjustments are required after replacing circuit components. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required:

1. Monoscope
2. PAL and SECAM Pattern Generator
3. IF Sweeper and Scope
4. Spectrum Analyzer
5. DC Volt Meter
6. Oscilloscope: Dual Trace with 10:1 probe
7. Color Analyzer
8. AM S.S.G. (Standard Signal Generator)

How to Set Up the Service Mode:

Preset Mode: Press Picture Select button on the remote control unit, then press the number "1" button.

- Brightness ----- Center
- Color ----- Center
- Contrast ----- Approx 70%

All adjustment procedures must be performed in order of numbering.

Operate the unit more than 20 minutes.

1. Power Supply DC Voltage Adjustment

Purpose: To get correct voltage.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

| Test Point | Adjustment Point | Input |
|-------------------------|------------------|-------------------|
| D616 Cathode TP1 (GND) | VR601 | Monoscope Pattern |
| Equipment | | Spec. |
| Monoscope DC Volt Meter | | DC +120±1V |

Reference Notes: D616, TP1, VR601 --- Main PCB

- Adjust VR621 so that the + of C623 becomes DC +120±1V.

2. VCO Adjustment

Purpose: To set the IF (Intermediate Frequency).

Symptom of Misadjustment: Proper picture cannot be obtained.

| Test Point | Adjustment Point | Input |
|-----------------------|------------------|--------------|
| T214 | T214 | — |
| Equipment | | Spec. |
| Spectrum Analyzer | | 38.0±0.05MHz |
| Connections of M. EQ. | | |
| | | |

Reference Notes: T214 --- Main PCB

1. Short C214.
2. Set the Spectrum Analyzer as shown in the above table. (Make a loop by connecting both probes of the Spectrum Analyzer and bring the loop near T214 to pick up the leakage wave.)
3. Adjust T214 for reading 38.0±0.05MHz on the Spectrum Analyzer.

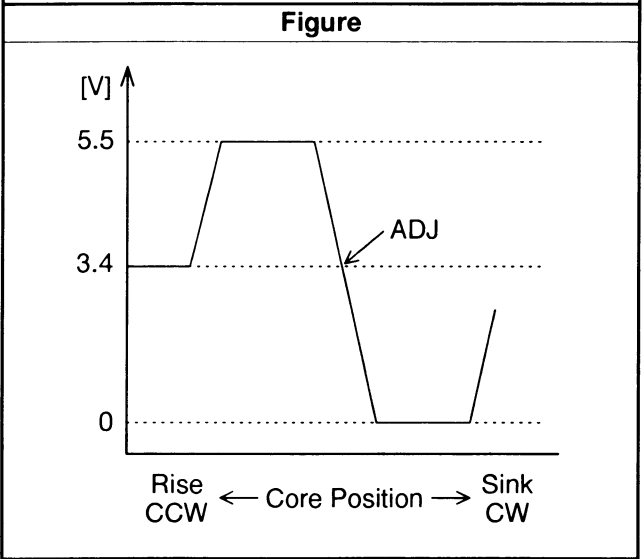
<without Spectrum Analyzer>

1. Turn T214 in both directions, right and left, far enough to find the point where Noise Bands or Beats appear on the TV Screen.
2. After finding those points in both directions, adjust T214 so that it is exactly half-way between those two points.
3. After the above adjustment, tune in another Local Broadcast. Then confirm that no Noise Bands or Beats appear on the TV Screen.

3. AFT Adjustment

Purpose: To operate AFT correctly.
Symptom of Misadjustment: AFT does not work correctly and/or synchronization is faulty.

| Test Point | Adjustment Point | Input |
|---|------------------|--------------|
| TP7 TP1 (GND) | T211 | --- |
| Equipment | | Spec. |
| AM S.S.G. Oscilloscope | | DC +3.4±0.2V |
| Connections of M. EQ. | | |
| <div><div>S.S.G. 38.0MHz 90dBμV</div><div>Oscilloscope</div><div>Main PCB Q201 Base TP7 TP1 (GND)</div></div> | | |



- Reference Notes:** Q201, T211, TP1, TP7 --- Main PCB
1. Input the 38.0MHz (90dBμV) no modulating signal from Q201 base.
 2. Turn the core inside of T211 counterclockwise until the top of core is the same height as metal case.
 3. Turn the core of T211 clockwise and find the point where the voltage drops from approximately 5.5V to 0V immediately on the oscilloscope.
 4. Turn the core of T211 little by little and find the point where DC +3.4±0.2V is obtained between the area mentioned in step 3.

Note: Before the adjustment, confirm that the tuner output does not have any noise except white noise.

4. AGC Adjustment

Purpose: Set AGC (Auto Gain Control) Level.
Symptom of Misadjustment: AGC does not synchronize correctly when RF Input Level is too weak and picture distortion may occur if it is too strong.

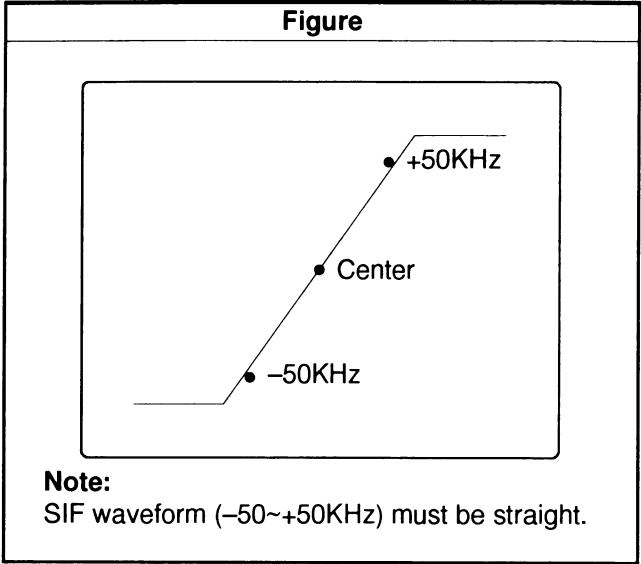
| Test Point | Adjustment Point | Input |
|--|------------------|---------------|
| TP8 TP1 (GND) | VR211 | PAL Color Bar |
| Equipment | | Spec. |
| PAL Pattern Generator DC Volt Meter | | DC +4.6±0.1V |

- Reference Notes:** TP1, TP8, VR211 --- Main PCB
1. Receive the PAL Color Bar signal for channel 2 (48.25MHz). (RF Input Level: 80dBμV)
 2. Adjust VR211 so that the voltage of TP8 becomes DC +4.6±0.1V.

5. SIF Adjustment

Purpose: To set the SIF (Sound Intermediate Frequency).
Symptom of Misadjustment: Not sound.

| Test Point | Adjustment Point | Input |
|---|------------------|-----------|
| TP9 TP1 (GND) | T212, T213 | --- |
| Equipment | | Spec. |
| SIF Sweeper & Scope | | See below |
| Connections of M. EQ. | | |
| <div><div>Main PCB IC201 12p TP9 TP1 (GND)</div><div>SIF Sweeper SIF Scope</div><div>0.1μF</div><div>Insert the Capacitor (100μF/16V)</div></div> | | |

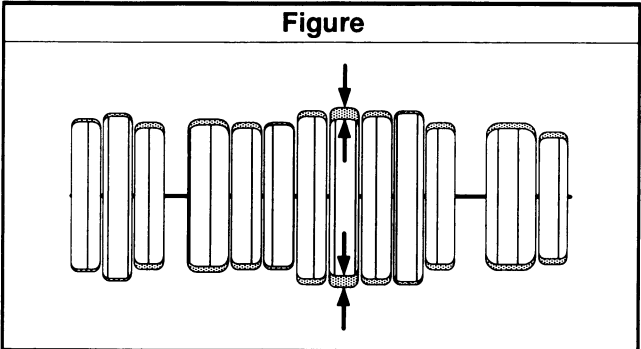


- Note:** SIF waveform (-50~+50KHz) must be straight.
- Reference Notes:** TP1, TP9, T212, T213 --- Main PCB
1. Connect SIF Sweeper & Scope shown in the above table.
 2. Adjust T212 (SIF=6.5MHz) so that the center mark will be center of SIF waveform and its waveform is straight.
 3. Adjust T213 (SIF=5.5MHz) so that the center mark will be center of SIF waveform and its waveform is straight.
 4. Repeat 2 & 3.

6. Bell Filter Adjustment

Purpose: To adjust the center frequency of SECAM bell filter.
Symptom of Misadjustment: The color will be reversed when the SECAM signal is entered.

| Test Point | Adjustment Point | Input |
|---|------------------|-----------------|
| TP2 TP1 (GND) | T404 | SECAM Color Bar |
| Equipment | | Spec. |
| SECAM Pattern Generator Oscilloscope | | See below |
| Connections of M. EQ. | | |
| <div><div>Main PCB TP2 TP1 (GND) D651</div><div>Oscilloscope CH+ Ext. Trig.</div><div>5mV/div (AC) 10μS/div</div></div> | | |



- Reference Notes:** D674, TP1, TP2, T404 --- Main PCB
- Adjust T404 so that the waveform will be flat shown in the above figure.

7. SECAM Ident Coil Adjustment

Purpose: To adjust the peak value of SECAM Ident signal.
Symptom of Misadjustment: The display is not colored when the SECAM signal is entered.

| Test Point | Adjustment Point | Input |
|---|------------------|-----------------|
| TP5 TP1 (GND) | T403 | SECAM Color Bar |
| Equipment | | Spec. |
| SECAM Pattern Generator Oscilloscope | | See below |

- Reference Notes:** TP1, TP5, T403 --- Main PCB
1. Set oscilloscope to 10:1 probe, 0.2V/div (DC) and Range 5μS/div.
 2. Adjust T403 so that the TP5 will be peak DC Voltage.

8. SECAM Demodulate Coil Adjustment

Purpose: To adjust the level of R-Y and (B-Y) color difference signal.

Symptom of Misadjustment: The Red, Green and Blue will be unbalanced.

| Test Point | Adjustment Point | Input |
|---|--------------------------|--------------------|
| TP3 (R-Y) TP4 (B-Y) TP1 (GND) | T402 (R-Y) T401 (B-Y) | SECAM Black Raster |
| Equipment | | Spec. |
| SECAM Pattern Generator Oscilloscope | | See below |

Connections of M. EQ.

Figure

- Reference Notes:**
D674, TP1, TP3, TP4, T401, T402 — Main PCB
- Adjust T402 with core driver so that (A) becomes center of (B) as shown in the above table. (TP3)
 - Adjust T401 with core driver so that (A) becomes center of (B) as shown in the above table. (TP4)

9. 1H Delay Line Adjustment

Purpose: To get correct 1H delay line when the PAL signal is entered.

Symptom of Misadjustment: The Anti-PAL signal part is colored when the Philips Pattern is entered. Each scanning line is colored on the color bar.

| Test Point | Adjustment Point | Input |
|---------------------------------------|------------------|-----------------|
| TP6 TP1 (GND) | T301, VR301 | Philips Pattern |
| Equipment | | Spec. |
| PAL Pattern Generator Oscilloscope | | See below |

Connections of M. EQ.

Figure

- Reference Notes:**
D674, TP1, TP6, T301, VR301 — Main PCB
- Adjust VR301 and T301 so that the amplitude at Anti-PAL signal part becomes minimum (no color) and the waveform at the color bar part is not seen in double ("Venetian Blind" does not appear at the color bar signal part).

10. Black Level Adjustment

Purpose: To obtain optimum picture quality.

Symptom of Misadjustment: Black color may not be properly displayed (lighter or darker).

| Test Point | Adjustment Point | Input |
|-----------------------------------|------------------|---------------|
| TP6 TP1 (GND) | VR351 | Black Raster |
| Equipment | | Spec. |
| Pattern Generator Oscilloscope | | DC +3.2±0.05V |

Figure

- Reference Notes:** TP1, TP6, VR351 — Main PCB
- Preset the picture control to initial position.
 - Receive the Black Raster pattern.
 - Adjust VR351 so that the TP6 becomes DC +3.2±0.05V as shown in the above table. (TP6 waveform)

11. Cut Off Adjustment

Purpose: To adjust the beam current of Red, Green, Blue and screen voltage.

Symptom of Misadjustment: White color may be red-dish, greenish or bluish. When the screen voltage is too high, the scanning line is appeared on the screen.

| Test Point | Adjustment Point | Input |
|-------------------|--------------------------------------|--------------|
| Screen | VR451 VR452 VR453 Screen-VR | Black Raster |
| Equipment | | Spec. |
| Pattern Generator | | See below |

Figure

- Reference Notes:**
VR451, VR452, VR453, VR454, VR455 — CRT PCB
Screen-VR — Main PCB (FBT)
- Degauss the CRT using Degaussing Coil..
 - Set the Screen-VR to minimum. (Counterclockwise)
 - Set the drive VRs (VR454, VR455) to mechanical center, and cut off VRs (VR451, VR452, VR453) to 10 o'clock position.
 - Short the Emitter and Collector of Q125. (Horizontal One Line)
 - Slowly turn the Screen-VR (FBT) to the point where horizontal line is just visible.
 - Adjust VR451 (R. Cut Off), VR452 (G. Cut Off) and VR453 (B. Cut Off) so that horizontal line becomes pure white.
 - Re-adjust the Screen-VR (FBT) to the point where horizontal line is just visible.
 - Open the Emitter and Collector of Q125.

Note: Confirm that White Balance Adj. is correct after this adjustment, and attempt White Balance Adj. if needed.

12. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

| Test Point | Adjustment Point | Input |
|-------------------------------------|------------------|----------------------------|
| Screen | VR454 VR455 | White Raster (APL 100%) |
| Equipment | | Spec. |
| Pattern Generator Color Analyzer | | See below |

- Reference Notes:** VR454, VR455 --- CRT PCB
- Degauss the CRT using Degaussing Coil..

2. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical sensor into close contact with center on the CRT surface.
3. Adjust VR454 (R. DRIVE) and VR455 (B. DRIVE) so that the respective chroma temperatures becomes 8000K-10MPCD (x : 0.300 / y : 0.290) $\pm 3\%$.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

13. Sub Bright Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: Proper brightness cannot be obtained by adjusting the Brightness Control.

| Test Point | Adjustment Point | Input |
|-------------------|------------------|--------------|
| Screen | Screen-VR | Black Raster |
| Equipment | | Spec. |
| Pattern Generator | | See Below |

Reference Notes: Screen-VR — Main PCB (FBT)

- Adjust Screen-VR so that the level of screen (Black) is just visible.

Note: Use the Black Raster Signal without set up.

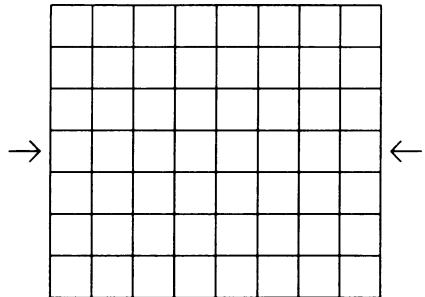
14. Pin Cushion Warp Adjustment

Purpose: To correct the distortion on the both sides of display.

Symptom of Misadjustment: The vertical lines on the both sides of display are distorted.

| Test Point | Adjustment Point | Input |
|------------|------------------|-------------|
| Screen | VR571 | Cross Hatch |
| Equipment | | Spec. |
| Monoscope | | See below |

Figure



Reference Note: VR571 — Main PCB

- Adjust VR571 so that the both side lines become to straighten.

15. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: Blurred images are shown on the display.

| Test Point | Adjustment Point | Input |
|------------|------------------|-------------------|
| Screen | Focus VR | Monoscope Pattern |
| Equipment | | Spec. |
| Monoscope | | See below |

Reference Note: Focus VR — Main PCB (FBT)

- Adjust Focus-VR (FBT) to be obtained clear picture.

16. V. Position & Size Adjustment

Purpose: To get correct vertical position and size of screen image.

Symptom of Misadjustment: Vertical position and size of screen image may not be properly displayed.

| Test Point | Adjustment Point | Input |
|------------|------------------|-------------------|
| Screen | VR501, VR503 | Monoscope Pattern |
| Equipment | | Spec. |
| Monoscope | | See below |

Reference Note: VR501, VR503 — Main PCB

1. Adjust VR503 so that the top & bottom of Monoscope pattern will be equal. ($90\pm 3\%$)
2. Adjust VR501 so that the vertical size will be $90\pm 2\%$ of Monoscope Pattern and the circle is round.

17. H. Position & Size Adjustment

Purpose: To get correct horizontal position and size of screen image.

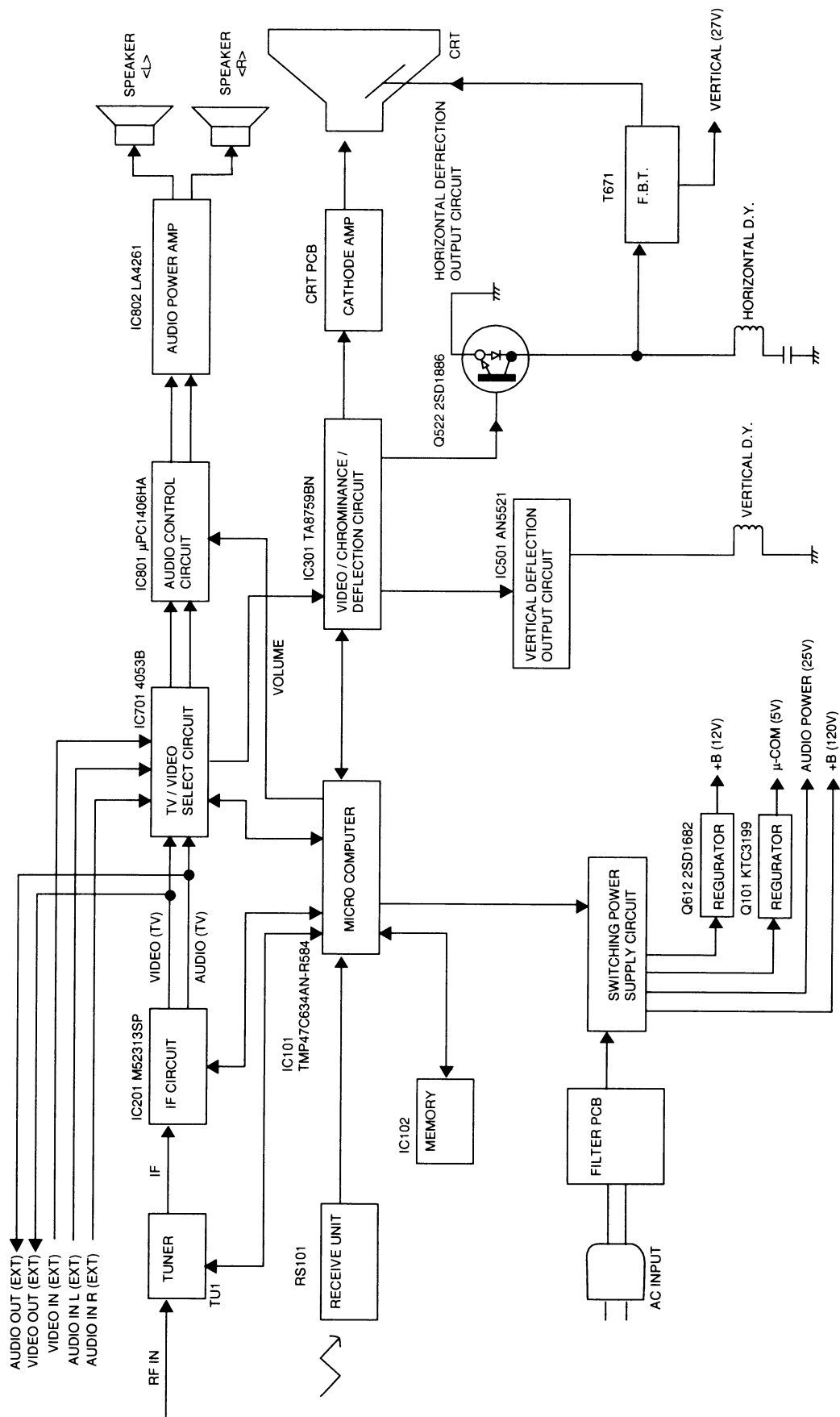
Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

| Test Point | Adjustment Point | Input |
|------------|------------------|-------------------|
| Screen | VR331, VR572 | Monoscope Pattern |
| Equipment | | Spec. |
| Monoscope | | See below |

Reference Note: VR331, VR572 — Main PCB

1. Adjust VR331 so that the right & left of monoscope pattern will be equal. ($90\pm 2\%$)
2. Adjust L572 so that the horizontal size will be $90\pm 2\%$ of Monoscope Pattern and the circle is round.



BLOCK DIAGRAM



SCHEMATIC DIAGRAMS / PCB'S AND TEST POINTS

Standard Notes

Warning

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line * (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Funai Electric Company. Funai assumes no liability,

express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

Notes:

- ① Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
- ② All resistance values are indicated in ohms (K=10³, M=10⁶).
- ③ Resistor wattages are 1/5W or 1/6W unless otherwise specified.
- ④ All capacitance values are indicated in μF (P=10⁻⁶ μF).

VOLTAGE CHART

(Unit: Volt)

| Pin No. | IC101 | IC102 | IC201 | IC501 | IC601 | IC701 | IC801 |
|---------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 2.6 | 0.0 | 2.1 | 0.0 | 63.3 | 1.5 | 10.9 |
| 2 | 2.8 | 0.0 | 5.3 | 15.1 | 62.2 | 1.5 | 0 |
| 3 | 2.4 | 0.0 | 4.7 | 26.9 | 0 | 1.5 | 3.1 |
| 4 | 1.6 | 0.0 | 2.5 | 0.7 | 0.6 | 1.5 | 2.9 |
| 5 | 3.6 | 5.1 | 1.5 | 0 | | 1.6 | 0 |
| 6 | 0.0 | 4.1 | 1.5 | 1.6 | | 0.0 | 2.8 |
| 7 | 0.0 | 0.0 | 0.0 | 26.4 | | 0.0 | 3.0 |
| 8 | 0.0 | 5.1 | 1.9 | | | 0.0 | 0 |
| 9 | 2.9 | | 3.2 | | | 11.9 | NC |
| 10 | 1.7 | | 2.3 | | | 11.9 | |
| 11 | 1.7 | | 3.2 | | | 11.9 | |
| 12 | 1.7 | | 2.8 | | | 2.4 | |
| 13 | 0.0 | | 5.2 | | | 2.5 | |
| 14 | 0.0 | | 4.4 | | | 2.5 | |
| 15 | 0.0 | | 4.4 | | | 1.5 | |
| 16 | 4.3 | | 5.2 | | | 12.0 | |
| 17 | 0.0 | | 2.7 | | | | |
| 18 | 5.2 | | 12.0 | | | | |
| 19 | 5.9 | | 2.7 | | | | |
| 20 | 0.0 | | 2.5 | | | | |
| 21 | 0.0 | | | | | | |
| 22 | 0.0 | | | | | | |
| 23 | 0.0 | | | | | | |
| 24 | 0.0 | | | | | | |
| 25 | 0.0 | | | | | | |
| 26 | 3.9 | | | | | | |
| 27 | 4.8 | | | | | | |
| 28 | 2.9 | | | | | | |
| 29 | 3.0 | | | | | | |
| 30 | 0.0 | | | | | | |
| 31 | 2.2 | | | | | | |
| 32 | 2.3 | | | | | | |
| 33 | 5.1 | | | | | | |
| 34 | 0.0 | | | | | | |
| 35 | 4.8 | | | | | | |
| 36 | 4.4 | | | | | | |
| 37 | 0.0 | | | | | | |
| 38 | 0.0 | | | | | | |
| 39 | 5.1 | | | | | | |
| 40 | 5.1 | | | | | | |
| 41 | 4.1 | | | | | | |
| 42 | 5.1 | | | | | | |

| Pin No. | IC301 | Pin No. | IC301 |
|---------|-------|---------|-------|
| 1 | 8.5 | 33 | 6.9 |
| 2 | 8.0 | 34 | 3.2 |
| 3 | 8.5 | 35 | 1.0 |
| 4 | 6.5 | 36 | 7.9 |
| 5 | 6.5 | 37 | 6.1 |
| 6 | 12.0 | 38 | 7.2 |
| 7 | 3.0 | 39 | 2.2 |
| 8 | 6.5 | 40 | 9.2 |
| 9 | 6.5 | 41 | 3.5 |
| 10 | NC | 42 | 3.5 |
| 11 | 5.9 | 43 | 3.5 |
| 12 | 5.2 | 44 | 5.0 |
| 13 | 5.2 | 45 | 5.0 |
| 14 | 7.8 | 46 | 5.0 |
| 15 | 6.0 | 47 | 7.3 |
| 16 | 10.6 | 48 | 3.1 |
| 17 | 3.4 | 49 | 7.2 |
| 18 | 4.4 | 50 | 0.0 |
| 19 | 0.0 | 51 | 7.4 |
| 20 | 5.9 | 52 | 0.0 |
| 21 | 0.0 | 53 | 0.0 |
| 22 | 11.3 | 54 | 0.0 |
| 23 | 5.3 | 55 | 6.0 |
| 24 | 5.8 | 56 | 3.2 |
| 25 | 4.9 | 57 | 5.8 |
| 26 | 3.2 | 58 | 4.8 |
| 27 | 11.0 | 59 | 3.3 |
| 28 | 3.3 | 60 | 6.0 |
| 29 | 0.7 | 61 | 12.0 |
| 30 | 8.7 | 62 | 6.0 |
| 31 | 6.2 | 63 | 12.0 |
| 32 | 6.1 | 64 | 8.0 |

Input: PAL Color Bar Signal (with 1KHz Audio Signal)


Receiving Ch.: E2 ch (48.25MHz)

Preset Mode: Press Picture Select button on the remote control unit, then press the number "1" button.

Brightness--- Center
Color--- Center
Contrast--- Approx 70%
Volume--- Minimum


| Pin NO. | IC802 | Pin No. | E | C | B | Pin No. | E | C | B |
|---------|-------|---------|------|------|------|---------|--------|--------|--------|
| 1 | 0.6 | Q1 | 0.0 | 1.3 | 0.6 | Q552 | 0.0 | — | -0.1 |
| 2 | 0.0 | Q2 | 11.9 | 0.0 | 11.5 | Q571 | 1.6 | 8.5 | 2.1 |
| 3 | ~ | Q3 | 11.9 | 0.0 | 11.8 | Q572 | 11.0 | 0.6 | 10.5 |
| 4 | 0.0 | Q4 | 11.9 | 11.8 | 11.1 | Q573 | 0.0 | 10.8 | 0.6 |
| 5 | 0.0 | Q101 | 5.1 | 9.8 | 5.7 | Q601 | 0.5(G) | 316(D) | 0.1(S) |
| 6 | ~ | Q102 | 5.7 | 5.7 | 5.0 | Q602 | 0.0 | 0.6 | -0.1 |
| 7 | 9.1 | Q103 | 0.0 | 3.1 | 0.0 | Q603 | 0.0 | 0.6 | -8.5 |
| 8 | 0.0 | Q104 | 29.0 | 9.8 | 28.7 | Q604 | 0.6 | 0.0 | 0.6 |
| 9 | 18.3 | Q105 | 0.0 | 28.5 | 0.0 | Q607 | 6.7 | 62.0 | 7.3 |
| 10 | 9.1 | Q106 | 5.1 | -2.1 | 5.3 | Q608 | 4.2 | 120.0 | 0.0 |
| | | Q121 | 0.0 | 4.8 | 0.0 | Q609 | 0.0 | 0.0 | 0.6 |
| | | Q122 | 0.0 | 3.9 | 0.0 | Q610 | 18.5 | 18.5 | 17.8 |
| | | Q123 | 0.0 | 4.4 | 0.0 | Q611 | 0.0 | 0.1 | 0.6 |
| | | Q125 | 0.0 | 0.7 | 0.0 | Q612 | 12.0 | 12.4 | 12.7 |
| | | Q201 | 0.8 | 9.4 | 1.5 | Q702 | 2.4 | 12.0 | 3.0 |
| | | Q223 | 12.0 | 5.2 | 11.9 | Q703 | 1.9 | 12.0 | 2.5 |
| | | Q224 | 0.0 | 12.0 | 0.0 | Q705 | 0.0 | 11.9 | 0.0 |
| | | Q251 | 0.0 | 4.3 | 0.0 | Q721 | 3.1 | 0.0 | 2.5 |
| | | Q301 | 0.0 | 12.0 | 0.0 | Q802 | 0.0 | 0.0 | 0.6 |
| | | Q391 | 0.0 | 0.0 | 0.7 | Q804 | 0.0 | 18.2 | 0.0 |
| | | Q392 | 0.0 | 6.0 | 0.0 | Q451 | 3.1 | 11.5 | 3.5 |
| | | Q393 | 5.1 | 0.0 | 4.5 | Q452 | 11.5 | 147.1 | 12.0 |
| | | Q394 | 5.1 | 0.0 | 6.0 | Q453 | 3.1 | 11.5 | 3.5 |
| | | Q395 | 0.0 | 6.1 | 0.0 | Q454 | 11.5 | 153.9 | 12.0 |
| | | Q397 | 0.0 | 0.0 | 0.0 | Q455 | 3.2 | 11.5 | 3.5 |
| | | Q551 | 0.0 | 86.1 | 0.3 | Q456 | 11.5 | 154.0 | 12.0 |

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

| Ref. No. | Description | Part No. |
|----------|----------------------------|--------------|
| A 1 | FRONT CABINET ASSEMBLY | 0EM100651 |
| A1-1 | FRONT CABINET | 0EM000188 |
| A1-2 | BRAND BADGE | 0EM400975 |
| A1-3 | CONTROL PLATE | 0EM300803 |
| A1-4 | CONTROL DOOR | 0EM300867 |
| A1-5 | SENSOR PLATE | 0EM402675 |
| A1-6 | SENSOR WINDOW | 0EM402847 |
| A1-7 | CHANNEL/VOLUME KNOB | 0EM300743 |
| A1-8 | SPEAKER GRILLE (R) | 0EM300847 |
| A1-9 | SPEAKER GRILLE (L) | 0EM300848 |
| A 2 | POWER KNOB | 0EM402406 |
| A 3 | REAR CABINET | 0EM100608 |
| A 4 | RATING LABEL | 0EM402805 |
| A 5 | MARK OF CONFORMITY LABEL | 0EM402171 |
| A 6 | POP LABEL | 0EM402806 |
| B 1 | CRT MOUNTING SCREW | 0EM402440 |
| B 2 | TENSION SPRING | 26WH006 |
| B 3 | COATING CLIP | XF01056KZ001 |
| B 4 | CRT HOLDER | 0EM402556 |
| B 5 | CLOTH | TS7623 |
| L 1 | P-TIGHT SCREW 3X10 CUP+ | GFMP3100 |
| L 2 | P-TIGHT SCREW 4X18 BIND+ | GBMP4180 |
| L 3 | P-TIGHT SCREW 3X10 BIND+ | GBKP3100 |
| L 4 | P-TIGHT SCREW 4X12 BIND+ | GBKP4120 |
| L 5 | P-TIGHT SCREW 3X8 ø12 PAN+ | GCMP3080 |
| L 6 | P-TIGHT SCREW 4X12 BIND+ | GBMP4120 |
| L 7 | B-TIGHT SCREW 3X6 BIND+ | GBMB3060 |
| L 8 | B-TIGHT SCREW 3X10 BIND+ | GBMB3100 |
| S 1 | CARTON | 0EM402807 |
| S 2 | STYROFOAM TOP | 0EM000176 |
| S 3 | STYROFOAM BOTTOM | 0EM000177 |
| S 4 | SET BAG | 0EM300164 |
| S 5 | SERIAL NO. LABEL | 24LH033 |
| S 6 | FRONT PAD | 0EM402561 |
| S 7 | T/B PAD | 0EM402562 |
| X 1 | REMOCON UNIT | UREMT20MM011 |
| X 2 | BATTERY UM-3X2 | XB0M451GW003 |
| X 3 | OWNER'S MANUAL (E) | 0EMN00992 |
| X 4 | POLYETHYLENE BAG | Z220300 |
| X 5 | OWNER'S MANUAL (R) | 0EMN00997 |
| X 6 | OWNER'S MANUAL (A) | 0EMN00998 |

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that not assigned part numbers (-----) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%
G.....±2% J.....±5% K.....±10%
M.....±20% N.....±30% Z.....+80/-20%

PCB Assembly

| Ref. No. | Description | Part No. |
|----------|----------------------------|-----------------|
| | PCB Assembly | MMA-145A |
| | Consists of the following: | |
| | Main PCB | ----- |
| | CRT PCB | ----- |
| | Filter PCB | ----- |

Main PCB

| Ref. No. | Description | Part No. |
|----------|---|--------------------------|
| | Main PCB | ----- |
| | Consists of the following: | |
| | CAPACITORS | |
| C 1 | ELECTROLYTIC CAP. 10µF/50V | 126F106S |
| C 2 | CHIP CERAMIC CAP. CH 100pF/50V or CHIP CERAMIC CAP. CH 100pF/50V | CHE1JJ8CH101 12CH101C |
| C 3 | TF CAP. J 0.1µF or TF CAP. J 0.1µF | 125U104S 122Z309S |
| C 4 | TF CAP. J 0.1µF or TF CAP. J 0.1µF | 125U104S 122Z309S |
| C 5 | TF CAP. J 0.1µF or TF CAP. J 0.1µF | 125U104S 122Z309S |
| C 6 | ELECTROLYTIC CAP. 10µF/50V | 126F106S |
| C 7 | ELECTROLYTIC CAP. 10µF/50V | 126F106S |
| C 8 | ELECTROLYTIC CAP. 10µF/50V | 126F106S |
| C 9 | ELECTROLYTIC CAP. 1µF/50V | 126F105S |
| C 10 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 11 | ELECTROLYTIC CAP. 10µF/50V | 126F106S |
| C 101 | ELECTROLYTIC CAP. 47µF/16V | 126C476S |
| C 102 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 103 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 104 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 105 | ELECTROLYTIC CAP. 220µF/6.3V | 126A227S |
| C 110 | ELECTROLYTIC CAP. 47µF/16V | 126C476S |
| C 111 | CHIP CERAMIC CAP. F 0.022µF/50V or CHIP CERAMIC CAP. F 0.022µF/50V | CHE1JJ80F223 12F3223C |
| C 152 | ELECTROLYTIC CAP. 4.7µF/25V | 126D475 |
| C 155 | ELECTROLYTIC CAP. 1µF/50V | 126F105S |
| C 171 | CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V | CHE1JJ8SL101 1270101C |
| C 172 | CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V | CHE1JJ8SL101 1270101C |
| C 173 | CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V | CHE1JJ8SL101 1270101C |
| C 174 | CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V | CHE1JJ8SL101 1270101C |
| C 175 | CHIP CERAMIC CAP. CH 24pF/50V or CHIP CERAMIC CAP. CH 24pF/50V | CHE1JJ8CH240 12CH240C |
| C 176 | CHIP CERAMIC CAP. CH 24pF/50V or | CHE1JJ8CH240 |

| Ref. No. | Description | Part No. |
|----------|--|--------------------------------------|
| C 185 | CHIP CERAMIC CAP. CH 24pF/50V CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V | 12CH240C CHE1JJ8SL101 1270101C |
| C 186 | CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V | CHE1JJ8SL101 1270101C |
| C 187 | CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V | CHE1JJ8SL101 1270101C |
| C 188 | CHIP CERAMIC CAP. SL 100pF/50V or CHIP CERAMIC CAP. SL 100pF/50V | CHE1JJ8SL101 1270101C |
| C 204 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 205 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 206 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 207 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 209 | CHIP CERAMIC CAP. UJ 39pF/50V | CHE1JJ8UJ390 |
| C 210 | CHIP CERAMIC CAP. CH 27pF/50V or CHIP CERAMIC CAP. CH 27pF/50V | CHE1JJ8CH270 12CH270C |
| C 211 | CHIP CERAMIC CAP. CH 8pF/50V or CHIP CERAMIC CAP. CH 8pF/50V | CHE1JJ8CH8R0 12CH8R0C |
| C 212 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 213 | TF CAP. J 0.1µF or TF CAP. J 0.1µF | 125U104S 122Z309S |
| C 214 | TF CAP. J 0.47µF or TF CAP. J 0.47µF | 125U474S 122Z317S |
| C 215 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 216 | ELECTROLYTIC CAP. 100µF/10V | 126B107S |
| C 217 | ELECTROLYTIC CAP. 0.47µF/50V | 126F474S |
| C 219 | CHIP CERAMIC CAP. SL 39pF/50V or CHIP CERAMIC CAP. SL 39pF/50V | CHE1JJ8SL390 1270390C |
| C 220 | CHIP CERAMIC CAP. SL 47pF/50V or CHIP CERAMIC CAP. SL 47pF/50V | CHE1JJ8SL470 1270470C |
| C 221 | CHIP CERAMIC CAP. SL 33pF/50V or CHIP CERAMIC CAP. SL 33pF/50V | CHE1JJ8SL330 1270330C |
| C 223 | ELECTROLYTIC CAP. 100µF/16V | 126C107S |
| C 224 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 226 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 227 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 251 | ELECTROLYTIC CAP. 1µF/50V | 126F105S |
| C 302 | CHIP CERAMIC CAP. F 0.047µF/50V or CHIP CERAMIC CAP. F 0.047µF/50V | CHE1JJ80F473 12F3473C |
| C 303 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 304 | CHIP CERAMIC CAP. F 0.01µF/50V or CHIP CERAMIC CAP. F 0.01µF/50V | CHE1JJ80F103 12F3103C |
| C 305 | ELECTROLYTIC CAP. 0.47µF/50V | 126F474S |

| Ref. No. | Description | Part No. |
|----------|---|------------------------------|
| C 306 | CHIP CERAMIC CAP. F 0.01μF/50V or CHIP CERAMIC CAP. F 0.01μF/50V | CHE1JJ80F103 12F3103C |
| C 307 | *MYLAR CAP. K 0.056μF/50V or MYLAR CAP. K 0.056μF/50V | 1250563S 2250563S |
| C 308 | CHIP CERAMIC CAP. B 0.01μF/50V or CHIP CERAMIC CAP. B 0.01μF/50V | CHE1JK80B103 12B3103C |
| C 309 | ELE CAP. NP 2.2μF/50V | 126X225S |
| C 310 | CHIP CERAMIC CAP. SL 13pF/50V or CHIP CERAMIC CAP. SL 13pF/50V | CHE1JJ8SL130 1270130C |
| C 311 | CHIP CERAMIC CAP. CH 39pF/50V or CHIP CERAMIC CAP. CH 39pF/50V | CHE1JJ8CH390 12CH390C |
| C 312 | CHIP CERAMIC CAP. CH 27pF/50V or CHIP CERAMIC CAP. CH 27pF/50V | CHE1JJ8CH270 12CH270C |
| C 313 | SEMICON CAP. K 0.027μF 25V or SEMICON CAP. K 0.027μF 25V | CDA1EKS0X273 12Y2273S |
| C 314 | CHIP CERAMIC CAP. F 0.01μF/50V or CHIP CERAMIC CAP. F 0.01μF/50V | CHE1JJ80F103 12F3103C |
| C 315 | ELECTROLYTIC CAP. 100μF/16V | 126C107S |
| C 317 | CHIP CERAMIC CAP. SL 33pF/50V or CHIP CERAMIC CAP. SL 33pF/50V | CHE1JJ8SL330 1270330C |
| C 318 | CHIP CERAMIC CAP. F 0.1μF/50V | 12F3104C |
| C 320 | ELECTROLYTIC CAP. 0.47μF/50V | 126F474S |
| C 331 | SEMICON CAP. K 0.015μF/25V or SEMICON CAP. K 0.015μF/25V | CDA1EKS0X153 12Y2153S |
| C 333 | ELE CAP. 0.47μF/50V (L.L.) or ELE CAP. 0.47μF/50V (L.L.) | CE1JMAULLR47 CE1JMASLLR47 |
| C 334 | ELECTROLYTIC CAP. 330μF/10V | CE1AMASTL331 |
| C 335 | CHIP CERAMIC CAP. F 0.01μF/50V or CHIP CERAMIC CAP. F 0.01μF/50V | CHE1JJ80F103 12F3103C |
| C 336 | SEMICON CAP. K 0.022μF 25V or SEMICON CAP. K 0.022μF 25V | CDA1EKS0X223 12Y2223S |
| C 337 | ELECTROLYTIC CAP. 3.3μF/50V | 126F335S |
| C 338 | CHIP CERAMIC CAP. B 0.01μF/50V or CHIP CERAMIC CAP. B 0.01μF/50V | CHE1JK80B103 12B3103C |
| C 339 | CHIP CERAMIC CAP. B 330pF/50V or CHIP CERAMIC CAP. B 330pF/50V | CHE1JK80B331 12B3331C |
| C 340 | CHIP CERAMIC CAP. B 0.0022μF/50V or CHIP CERAMIC CAP. B 0.0022μF/50V | CHE1JK80B222 12B3222C |
| C 351 | CHIP CERAMIC CAP. CH 180pF/50V or CHIP CERAMIC CAP. CH 180pF/50V | CHE1JJ8CH181 12CH181C |
| C 352 | CHIP CERAMIC CAP. CH 180pF/50V or CHIP CERAMIC CAP. CH 180pF/50V | CHE1JJ8CH181 12CH181C |
| C 353 | SEMICON CAP. K 0.1μF/25V or SEMICON CAP. K 0.1μF/25V | CDA1EKS0X104 12Y2104S |
| C 354 | ELECTROLYTIC CAP. 10μF/50V | 126F106S |
| C 355 | SEMICON CAP. K 0.1μF/25V or SEMICON CAP. K 0.1μF/25V | CDA1EKS0X104 12Y2104S |
| C 356 | ELECTROLYTIC CAP. 10μF/50V | 126F106S |
| C 357 | CHIP CERAMIC CAP. CH 27pF/50V or CHIP CERAMIC CAP. CH 27pF/50V | CHE1JJ8CH270 12CH270C |
| C 358 | ELECTROLYTIC CAP. 1μF/50V | 126F105S |
| C 359 | CHIP CERAMIC CAP. CH 120pF/50V or CHIP CERAMIC CAP. CH 120pF/50V | CHE1JJ8CH121 12CH121C |
| C 360 | CHIP CERAMIC CAP. SL 56pF/50V or CHIP CERAMIC CAP. SL 56pF/50V | CHE1JJ8SL560 1270560C |
| C 361 | ELECTROLYTIC CAP. 0.1μF/50V | 126F104S |
| C 362 | ELECTROLYTIC CAP. 0.1μF/50V | 126F104S |
| C 363 | ELECTROLYTIC CAP. 1μF/50V | 126F105S |
| C 364 | ELECTROLYTIC CAP. 0.1μF/50V | 126F104S |
| C 365 | ELECTROLYTIC CAP. 0.47μF/50V | 126F474S |
| C 366 | ELECTROLYTIC CAP. 0.47μF/50V | 126F474S |
| C 367 | ELECTROLYTIC CAP. 0.47μF/50V | 126F474S |
| C 381 | CHIP CERAMIC CAP. SL 68pF/50V or CHIP CERAMIC CAP. SL 68pF/50V | CHE1JJ8SL680 1270680C |

* Mylar is a registered trademark of E. I. DuPont de Nemours and Company.

| Ref. No. | Description | Part No. |
|----------|--|--|
| C 382 | CHIP CERAMIC CAP. SL 33pF/50V or CHIP CERAMIC CAP. SL 33pF/50V | CHE1JJ8SL330 1270330C |
| C 383 | CHIP CERAMIC CAP. SL 47pF/50V or CHIP CERAMIC CAP. SL 47pF/50V | CHE1JJ8SL470 1270470C |
| C 401 | CHIP CERAMIC CAP. CH 180pF/50V or CHIP CERAMIC CAP. CH 180pF/50V | CHE1JJ8CH181 12CH181C |
| C 402 | CHIP CERAMIC CAP. CH 180pF/50V or CHIP CERAMIC CAP. CH 180pF/50V | CHE1JJ8CH181 12CH181C |
| C 403 | CHIP CERAMIC CAP. CH 7pF/50V or CHIP CERAMIC CAP. CH 7pF/50V | CHE1JJ8CH7R0 12CH7R0C |
| C 404 | CHIP CERAMIC CAP. CH 20pF/50V or CHIP CERAMIC CAP. CH 20pF/50V | CHE1JJ8CH200 12CH200C |
| C 405 | CHIP CERAMIC CAP. CH 6pF/50V or CHIP CERAMIC CAP. CH 6pF/50V | CHE1JJ8CH6R0 12CH6R0C |
| C 406 | CHIP CERAMIC CAP. CH 20pF/50V or CHIP CERAMIC CAP. CH 20pF/50V | CHE1JJ8CH200 12CH200C |
| C 407 | MYLAR CAP. K 0.056μF/50V or MYLAR CAP. K 0.056μF/50V | 1250563S 2250563S |
| C 408 | CHIP CERAMIC CAP. F 0.01μF/50V or CHIP CERAMIC CAP. F 0.01μF/50V | CHE1JJ80F103 12F3103C |
| C 409 | CHIP CERAMIC CAP. F 0.01μF/50V or CHIP CERAMIC CAP. F 0.01μF/50V | CHE1JJ80F103 12F3103C |
| C 410 | CHIP CERAMIC CAP. SL 27pF/50V or CHIP CERAMIC CAP. SL 27pF/50V | CHE1JJ8SL270 1270270C |
| C 412 | CHIP CERAMIC CAP. F 0.01μF/50V or CHIP CERAMIC CAP. F 0.01μF/50V | CHE1JJ80F103 12F3103C |
| C 501 | CHIP CERAMIC CAP. B 0.001μF or CHIP CERAMIC CAP. B 0.001μF | 12B3102C CHE1JJ80B102 |
| C 502 | ELE CAP. 2.2μF/50V (L.L.) or ELE CAP. 2.2μF/50V (L.L.) | CE1JMAULL2R2 CE1JMASLL2R2 |
| C 503 | MYLAR CAP. K 0.033μF/50V or MYLAR CAP. K 0.033μF/50V | 1250333S 2250333S |
| C 504 | CHIP CERAMIC CAP. B 470pF/50V or CHIP CERAMIC CAP. B 470pF/50V | CHE1JK80B471 12B3471C |
| C 506 | TF CAP. J 0.1μF or TF CAP. J 0.1μF | 125U104S 122Z309S |
| C 507 | ELE CAP. 470μF/35V or ELE CAP. 470μF/35V or ELE CAP. 470μF/35V | CE1GMZNEH471 CE1GMZNDL471 CE1GMZPDL471 |
| C 508 | MYLAR CAP. K 0.056μF/50V or MYLAR CAP. K 0.056μF/50V | 1250563S 2250563S |
| C 509 | ELE CAP. 2200μF/16V or ELE CAP. 2200μF/16V or ELE CAP. 2200μF/16V | CE1CMZNEH222 CE1CMZNDL222 CE1CMZPDL222 |
| C 510 | ELE CAP. 2200μF/16V or ELE CAP. 2200μF/16V or ELE CAP. 2200μF/16V | CE1CMZNEH222 CE1CMZNDL222 CE1CMZPDL222 |
| C 511 | ELE CAP. 2.2μF/50V (L.L.) or ELE CAP. 2.2μF/50V (L.L.) | CE1JMAULL2R2 CE1JMASLL2R2 |
| C 512 | ELE CAP. 2.2μF/50V (L.L.) or ELE CAP. 2.2μF/50V (L.L.) | CE1JMAULL2R2 CE1JMASLL2R2 |
| C 513 | ELECTROLYTIC CAP. 100μF/35V | 126E107S |
| C 551 | CHIP CERAMIC CAP. B 330pF/50V or CHIP CERAMIC CAP. B 330pF/50V | CHE1JK80B331 12B3331C |
| C 552 | CERAMIC CAP. 330pF/500V | CCD2JKD0B331 |
| C 553 | CERAMIC CAP. 1000pF 1KV or CERAMIC CAP. 1000pF 1KV | CCD3AKP0B102 6220574 |
| C 555 | P.P. CAP. 0.0022μF 1.6KV or P.P. CAP. 0.0022μF 1.6KV or P.P. CAP. 0.0022μF 1.6KV | CBH3CJD00222 1220492 CA3C222DT007 |
| C 556 | P.P. CAP. 0.01μF 1.6KV or P.P. CAP. 0.01μF 1.6KV | CBH3CJD00103 1220500 |
| C 557 | P.P. CAP. 0.027μF 200V | 122Z592 |

| Ref. No. | Description | Part No. |
|----------|---|--|
| C 558 | P.P. CAP. 0.47μF 200V or P.P. CAP. 0.47μF 200V | 122Z256 1220511 |
| C 559 | CERAMIC CAP. 220pF 1KV or CERAMIC CAP. 220pF 1KV | CCD3AKP0B221 6220486 |
| C 560 | CERAMIC CAP. 390pF 2KV (BN) | CCD3DKA0B391 |
| C 571 | MYLAR CAP. K 0.068μF/50V or MYLAR CAP. K 0.068μF/50V | 1250683S 2250683S |
| C 572 | ELECTROLYTIC CAP. 47μF/35V | 126E476S |
| C 573 | ELECTROLYTIC CAP. 470μF/6.3V | 126A477S |
| C 574 | MYLAR CAP. K 0.068μF/50V or MYLAR CAP. K 0.068μF/50V | 1250683S 2250683S |
| C 575 | ELE CAP. NP 4.7μF/63V | 126Y475S |
| C 576 | ELECTROLYTIC CAP. 47μF/35V | 126E476S |
| C 577 | ELECTROLYTIC CAP. 4.7μF/100V | 126H475S |
| C 601 | CERAMIC CAP. 820pF/2KV | CCD3DKP0B821 |
| C 603 | TF CAP. J 0.1μF or TF CAP. J 0.1μF | 125U104S 122Z309S |
| C 604 | TF CAP. J 0.1μF or TF CAP. J 0.1μF | 125U104S 122Z309S |
| C 608 | TF CAP. J 0.12μF or TF CAP. J 0.12μF | 125U124S 122Z310S |
| C 609 | ELE CAP. 330μF/400V or ELE CAP. 330μF/400V | CA2H331SM001 CA2H331NC029 |
| C 610 | ELECTROLYTIC CAP. 47μF/16V | 126C476S |
| C 611 | MYLAR CAP. K 0.001μF/50V or MYLAR CAP. K 0.001μF/50V | 1250102S 2250102S |
| C 612 | MYLAR CAP. K 0.0033μF/50V or MYLAR CAP. K 0.0033μF/50V | 1250332S 2250332S |
| C 614 | CERAMIC CAP. 470pF/2KV or CERAMIC CAP. 470pF/2KV | CCD3DKP0B471 6220583 |
| C 615 | LINE ACROSS CAP. 0.1μF/250V or LINE ACROSS CAP. 0.1μF/250V or LINE ACROSS CAP. 0.1μF/250V | CA2E104MS010 CT2E104DT001 122Z181 |
| C 616 | CERAMIC CAP. 0.01μF AC250V or CERAMIC CAP. 0.01μF AC250V | CA2E104MS005 CCH2E2A0F103 |
| C 617 | CERAMIC CAP. 0.01μF AC250V or CERAMIC CAP. 0.01μF AC250V | CCD2E2A0F103 CCH2E2A0F103 |
| C 618 | CERAMIC CAP. 0.01μF AC250V or CERAMIC CAP. 0.01μF AC250V | CCD2E2A0F103 CCH2E2A0F103 |
| C 619 | CERAMIC CAP. 0.01μF AC250V or CERAMIC CAP. 0.01μF AC250V | CCD2E2A0F103 CCH2E2A0F103 |
| C 620 | CERAMIC CAP. 220pF/2KV or CERAMIC CAP. 220pF/2KV | CCD3DKP0B221 6220581 |
| C 621 | ELE CAP. 100μF/160V (105C) | CE2CMZNA0101 |
| C 622 | ELE CAP. 100μF/160V (105C) or ELE CAP. 100μF/160V (105C) | CA2C101NC009 CE2CMZDEH101 |
| C 624 | ELE CAP. 1000μF/35V or ELE CAP. 1000μF/35V or ELE CAP. 1000μF/35V | CE1GMZNEH102 CE1GMZNDL102 CE1GMZPDL102 |
| C 625 | ELECTROLYTIC CAP. 33μF/16V | 126C336S |
| C 627 | ELE CAP. 1000μF/25V or ELE CAP. 1000μF/25V or ELE CAP. 1000μF/25V | CE1EMZNEH102 CE1EMZNDL102 CE1EMZPDL102 |
| C 630 | CERAMIC CAP. 0.0033μF AC400V or CERAMIC CAP. 0.0033μF AC400V | CCN2HMP0E332 122Z012 |
| C 633 | CERAMIC CAP. B 470pF/500V | CCD2JKS0B471 |
| C 634 | ELE CAP. 2200μF/16V or ELE CAP. 2200μF/16V or ELE CAP. 2200μF/16V | CE1CMZNEH222 CE1CMZNDL222 CE1CMZPDL222 |
| C 635 | ELECTROLYTIC CAP. 470μF/16V | CE1CMASTL471 |
| C 661 | LINE ACROSS CAP. 0.1μF/250V or LINE ACROSS CAP. 0.1μF/250V or LINE ACROSS CAP. 0.1μF/250V | CA2E104MS010 CT2E104DT001 122Z181 |
| C 662 | LINE ACROSS CAP. 0.047μF/250V or | CA2E104MS005 CA2E473MS010 |

| Ref. No. | Description | Part No. |
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| C 672 | LINE ACROSS CAP. 0.047μF/250V or LINE ACROSS CAP. 0.047μF/250V | CT2E473DT001 122Z271 |
| C 673 | CERAMIC CAP. B 0.0047μF 500V | CCD2JKD0B472 |
| C 674 | ELE CAP. 1000μF/35V | CE1GMZNTL102 |
| C 675 | ELE CAP. 33μF/250V | CE2EMZNDL330 |
| C 680 | CERAMIC CAP. 100pF/500V | CCD2JKD0B101 |
| C 701 | ELE CAP. 0.47μF/160V | CE2CMZNDLR47 |
| C 703 | ELECTROLYTIC CAP. 47μF/16V | 126C476S |
| C 704 | SEMICON CAP. K 0.068μF/25V or SEMICON CAP. K 0.068μF/25V | CDA1EKS0X683 12Y2683S |
| C 721 | ELECTROLYTIC CAP. 47μF/16V | 126C476S |
| C 723 | ELECTROLYTIC CAP. 470μF/10V | 126B477S |
| C 724 | ELECTROLYTIC CAP. 4.7μF/50V | 126F475S |
| C 725 | ELECTROLYTIC CAP. 1μF/50V | 126F105S |
| C 801 | ELECTROLYTIC CAP. 100μF/6.3V | 126A107S |
| C 802 | ELE CAP. 470μF/16V or ELE CAP. 470μF/16V or ELE CAP. 470μF/16V | CE1CMZNEH471 CE1CMZNDL471 CE1CMZPDL471 |
| C 803 | ELECTROLYTIC CAP. 100μF/6.3V | 126A107S |
| C 804 | TF CAP. J 0.1μF or TF CAP. J 0.1μF | 125U104S 122Z309S |
| C 807 | TF CAP. J 0.1μF or TF CAP. J 0.1μF | 125U104S 122Z309S |
| C 809 | ELECTROLYTIC CAP. 4.7μF/50V | 126F475S |
| C 810 | ELECTROLYTIC CAP. 47μF/16V | 126C476S |
| C 811 | ELECTROLYTIC CAP. 4.7μF/50V | 126F475S |
| C 812 | ELECTROLYTIC CAP. 4.7μF/50V | 126F475S |
| C 813 | ELECTROLYTIC CAP. 4.7μF/50V | 126F475S |
| C 814 | ELECTROLYTIC CAP. 100μF/25V | 126D107S |
| C 816 | ELE CAP. 470μF/16V or ELE CAP. 470μF/16V or ELE CAP. 470μF/16V | CE1CMZNEH471 CE1CMZNDL471 CE1CMZPDL471 |
| C 817 | ELECTROLYTIC CAP. 4.7μF/50V | 126F475S |
| C 818 | ELE CAP. 2200μF/25V | CE1EMZNTL222 |
| C 819 | CHIP CERAMIC CAP. F 0.01μF/50V or CHIP CERAMIC CAP. F 0.01μF/50V | CHE1JJ80F103 12F3103C |
| C 822 | CHIP CERAMIC CAP. B 0.0068μF/50V or CHIP CERAMIC CAP. B 0.0068μF/50V | CHE1JK80B682 12B3682C |
| C 823 | CHIP CERAMIC CAP. B 0.0068μF/50V or CHIP CERAMIC CAP. B 0.0068μF/50V | CHE1JK80B682 12B3682C |
| C 824 | SEMICON CAP. K 0.022μF 25V or SEMICON CAP. K 0.022μF 25V | CDA1EKS0X223 12Y2223S |
| C 825 | SEMICON CAP. K 0.022μF 25V or SEMICON CAP. K 0.022μF 25V | CDA1EKS0X223 12Y2223S |
| C 951 | CHIP CERAMIC CAP. SL 220pF/50V or CHIP CERAMIC CAP. SL 220pF/50V | CHE1JJ8SL221 1270221 |
| CONNECTORS | | |
| CN501 | CONNECTOR BASE 5P or CONNECTOR BASE 5P or CONNECTOR BASE 5P or | J3RTC05JG001 1780168 1730812 |
| CN601 | CONNECTOR BASE 2P or CONNECTOR BASE 2P or CONNECTOR BASE 2P or | J3RTC05MY002 J3RTC02JG001 1780165 |
| CN602 | CONNECTOR BASE 2P or CONNECTOR BASE 2P | 1780276 J3RTC02MY002 |
| CN801 | CONNECTOR BASE 2P or CONNECTOR BASE 2P | 1740799 J383C02UG002 |
| CN802 | CONNECTOR BASE 2P or CONNECTOR BASE 2P | 1770258 J383C02UG002 |
| DIODES | | |
| D 1 | ZENER DIODE L5631 | L5631 |
| D 2 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |

| Ref. No. | Description | Part No. |
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| D 3 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 4 | ZENER DIODE UZ-7.5BS (B) or ZENER DIODE MTZJ7.5 (B) | QDSB0UZ7R5BS QDSB0MTZJ7R5 |
| D 5 | ZENER DIODE UZ-7.5BS (B) or ZENER DIODE MTZJ7.5 (B) | QDSB0UZ7R5BS QDSB0MTZJ7R5 |
| D 101 | ZENER DIODE UZ-5.6BS (B) or ZENER DIODE MTZJ5.6 (B) | QDSB0UZ5R6BS QDSB0MTZJ5R6 |
| D 102 | ZENER DIODE UZ-4.3BS (B) or ZENER DIODE MTZJ4.3 (B) | QDSB0UZ4R3BS QDSB0MTZJ4R3 |
| D 111 | LED GL5ED5 | QPQZ00GL5ED5 |
| D 171 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 173 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 174 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 190 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 191 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 201 | ZENER DIODE UZ-5.1BS (B) or ZENER DIODE MTZJ5.1 (B) | QDSB0UZ5R1BS QDSB0MTZJ5R1 |
| D 251 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 252 | ZENER DIODE UZ-11BS (B) or ZENER DIODE MTZJ11 (B) | QDSB00UZ11BS QDSB00MTZJ11 |
| D 253 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 254 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 255 | ZENER DIODE UZ-6.8BS (B) or ZENER DIODE MTZJ6.8 (B) | QDSB0UZ6R2BS QDSB0MTZJ6R2 |
| D 256 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 257 | ZENER DIODE UZ-24BS (B) or ZENER DIODE MTZJ24 (B) | QDSB00UZ24BS QDSB00MTZJ24 |
| D 301 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 331 | ZENER DIODE UZ-9.1BS (C) or ZENER DIODE MTZJ9.1 (C) | QDSC0UZ9R1BS QDSC0MTZJ9R1 |
| D 351 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 501 | ZENER DIODE UZ-7.5BS (B) or ZENER DIODE MTZJ7.5 (B) | QDSB0UZ7R5BS QDSB0MTZJ7R5 |
| D 502 | DIODE ERA15-02KFRB | QDNZ0ERA1502 |
| D 551 | DIODE ERD07-15L | QD4ZERD0715L |
| D 552 | DIODE ERD28-04L | QCPZERD2804L |
| D 571 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 572 | ZENER DIODE UZ-15BS (B) or ZENER DIODE MTZJ15 | QDSB00UZ15BS QDSB00MTZJ15 |
| D 573 | ZENER DIODE UZ-6.8BS (B) or | QDSB0UZ6R2BS |

| Ref. No. | Description | Part No. |
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| D 574 | ZENER DIODE MTZJ6.8 (B) DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSB0MTZJ6R2 QDSZ01N4148M 1SS176S 1SS133S |
| D 575 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 601 | ZENER DIODE UZ-15BS (B) or ZENER DIODE MTZJ15 | QDSB00UZ15BS QDSB00MTZJ15 |
| D 602 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 605 | ZENER DIODE UZ-7.5BS (B) or ZENER DIODE MTZJ7.5 (B) | QDSB0UZ7R5BS QDSB0MTZJ7R5 |
| D 606 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 607 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 611 | DIODE ERC01-10L22 | AERC0110L220 |
| D 612 | DIODE ERC01-10L22 | AERC0110L220 |
| D 613 | DIODE ERC01-10L22 | AERC0110L220 |
| D 614 | DIODE ERC01-10L22 | AERC0110L220 |
| D 615 | DIODE ESAC39M-06C | QD4ZAC39M06C |
| D 616 | DIODE 1Z150 (LC6) | QD4Z0001Z150 |
| D 619 | DIOE ERC30-02L38 | AERC3002L300 |
| D 620 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 622 | DIODE ERB44-04L3 | QDQZ0ERB4404 |
| D 623 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 624 | ZENER DIODE UZ-4.3BS (B) or ZENER DIODE MTZJ4.3 (B) | QDSB0UZ4R3BS QDSB0MTZJ4R3 |
| D 625 | DIODE GMB01U | GMB01U |
| D 626 | DIODE GMB01U | GMB01U |
| D 627 | ZENER DIODE UZ-6.8BS (B) or ZENER DIODE MTZJ6.8 (B) | QDSB0UZ6R2BS QDSB0MTZJ6R2 |
| D 628 | DIODE ERB44-04L3 | QDQZ0ERB4404 |
| D 629 | ZENER DIODE UZ-12BS (B) or ZENER DIODE MTZJ12 (B) | QDSB00UZ12BS QDSB00MTZJ12 |
| D 630 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 631 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 671 | DIODE ERB44-04L3 | QDQZ0ERB4404 |
| D 672 | ZENER DIODE UZ-20BS (B) or ZENER DIODE MTZJ20 (B) | QDSB00UZ20BS QDSB00MTZJ20 |
| D 673 | ZENER DIODE UZ-20BS (C) or ZENER DIODE MTZJ20 (C) | QDSC00UZ20BS QDSC00MTZJ20 |
| D 674 | DIODE ERB44-04L3 | QDQZ0ERB4404 |
| D 680 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 682 | ZENER DIODE UZ-15BS (B) or ZENER DIODE MTZJ15 | QDSB00UZ15BS QDSB00MTZJ15 |
| D 684 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 701 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |

| Ref. No. | Description | Part No. |
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| D 702 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 703 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 704 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| D 705 | ZENER DIODE UZ-12BS (B) or ZENER DIODE MTZJ12 (B) | QDSB00UZ12BS QDSB00MTZJ12 |
| D 706 | ZENER DIODE UZ-12BS (B) or ZENER DIODE MTZJ12 (B) | QDSB00UZ12BS QDSB00MTZJ12 |
| D 731 | ZENER DIODE UZ-12BS (B) or ZENER DIODE MTZJ12 (B) | QDSB00UZ12BS QDSB00MTZJ12 |
| D 801 | DIODE 1N4148M or DIODE 1SS176 or DIODE 1SS133 | QDSZ01N4148M 1SS176S 1SS133S |
| ICS | | |
| IC101 | IC TMP47C634AN-R584 | QSMQA0ZTS045 |
| IC102 | IC AT24C01A-10PC or IC 24LC01B/P or IC X24C01AP or IC ST24C01B1 | NSMMA0ZAZ003 NSMMA0SMH002 NSMMA0SXC002 NSMMA0ZSS002 |
| IC201 | IC M52313SP | QSBLa0SMB011 |
| IC301 | IC TA8759BN | QSBLa0ZTS042 |
| IC501 | IC AN5521 | 14LN468 |
| IC601 | PHOTO COUPLER PC120 | QPEZ00PC120F |
| IC701 | IC TC4053BP or IC MC14053BCP or IC NJU4053BD | 14DW168 14D0168 14D0436 |
| IC801 | IC uPC1406HA | 14LV233 |
| IC802 | IC LA4261 | 14L0046 |
| COILS | | |
| L 171 | MICRO INDUCTOR 39μH J or MICRO INDUCTOR 39μH J | LLAXJDSKA390 2164390S |
| L 201 | MICRO INDUCTOR 1.0μH K or MICRO INDUCTOR 1.0μH K | LLAXKDSKA1R0 2165109S |
| L 202 | MICRO INDUCTOR 2.2μH K or MICRO INDUCTOR 2.2μH K | LLAXKDSKA2R2 2165229S |
| L 212 | MICRO INDUCTOR 10μH K or MICRO INDUCTOR 10μH K | LLAXKDSKA100 2165100S |
| L 213 | MICRO INDUCTOR 8.2μH K or MICRO INDUCTOR 8.2μH K | LLAXKDSKA8R2 2165829S |
| L 301 | MICRO INDUCTOR 8.2μH K or MICRO INDUCTOR 8.2μH K | LLAXKDSKA8R2 2165829S |
| L 351 | MICRO INDUCTOR 68μH K or MICRO INDUCTOR 68μH K | LLAXKDSKA680 2165680S |
| L 352 | MICRO INDUCTOR 33μH K or MICRO INDUCTOR 33μH K | LLAXKDSKA330 2165330S |
| L 353 | MICRO INDUCTOR 68μH K or MICRO INDUCTOR 68μH K | LLAXKDSKA680 2165680S |
| L 381 | MICRO INDUCTOR 15μH K or MICRO INDUCTOR 15μH K | LLAXKDSKA150 2165150S |
| L 382 | MICRO INDUCTOR 22μH K or MICRO INDUCTOR 22μH K | LLAXKDSKA220 2165220S |
| L 501 | CHOKE COIL | 117N696 |
| L 552 | LINEARITY COIL | LLBD00ZMS002 |
| L 601 | LINE FILTER | LLBG00ZMS012 |
| L 602 | POT TYPE COIL 47μH or POT TYPE COIL 47μH | LLARZGZSF470 LLBD**DMM001 |
| T 211 | CASING COIL | LFA07V0MM041 |
| T 212 | CASING COIL or CASING COIL | LFA07V0MM044 LFA07V0SF099 |
| T 213 | CASING COIL or CASING COIL | LFA07V0MM043 LFA07V0SF098 |

| Ref. No. | Description | Part No. |
|-------------|---|--|
| T 214 | CASING COIL or CASING COIL | LFA07V0MM042 LFA07V0SF096 |
| T 301 | CASING COIL or CASING COIL | LFA07V0MM029 LFA07V0SF100 |
| T 401 | CASING COIL or CASING COIL or CASING COIL | LFA07V0MM031 LFA07V0SF103 LFA07V0SF108 |
| T 402 | CASING COIL or CASING COIL or CASING COIL | LFA07V0MM031 LFA07V0SF103 LFA07V0SF108 |
| T 403 | CASING COIL or CASING COIL or CASING COIL | LFA07V0MM030 LFA07V0SF102 LFA07V0SF107 |
| T 404 | CASING COIL or CASING COIL or CASING COIL | LFA07V0MM032 LFA07V0SF101 LFA07V0SF106 |
| TRANSISTORS | | |
| Q 1 | TRANSISTOR KTC3198 (GR) or TRANSISTOR KTC3199 (GR) or TRANSISTOR 2SC3331 (T) or TRANSISTOR 2SC3331 (U) or TRANSISTOR 2SC1815 (GR) | NQS10KTC3198 NQS10KTC3199 QSC3331TNPAA QSC3331UNPAA QQS102SC1815 |
| Q 2 | TRANSISTOR KTA1266 (GR) or TRANSISTOR KTA1267 (GR) or TRANSISTOR 2SA1318 (T) or TRANSISTOR 2SA1318 (U) or TRANSISTOR 2SA1015 (GR) | NQS40KTA1266 NQS10KTA1267 2SA1318TZ 2SA1318UZ QQS102SA1015 |
| Q 3 | TRANSISTOR 2SA1318 (T) or TRANSISTOR 2SA1318 (U) or TRANSISTOR 2SA1015 (GR) | 2SA1318TZ 2SA1318UZ QQS102SA1015 |
| Q 4 | TRANSISTOR 2SA1318 (T) or TRANSISTOR 2SA1318 (U) or TRANSISTOR 2SA1015 (GR) | 2SA1318TZ 2SA1318UZ QQS102SA1015 |
| Q 101 | TRANSISTOR KTC3198 (GR) or TRANSISTOR KTC3199 (GR) or TRANSISTOR 2SC3331 (T) or TRANSISTOR 2SC3331 (U) or TRANSISTOR 2SC1815 (GR) | NQS10KTC3198 NQS10KTC3199 QSC3331TNPAA QSC3331UNPAA QQS102SC1815 |
| Q 102 | TRANSISTOR KTA1266 (GR) or TRANSISTOR KTA1267 (GR) or TRANSISTOR 2SA1318 (T) or TRANSISTOR 2SA1318 (U) or TRANSISTOR 2SA1015 (GR) | NQS40KTA1266 NQS10KTA1267 2SA1318TZ 2SA1318UZ QQS102SA1015 |
| Q 103 | TRANSISTOR KTC3198 (GR) or TRANSISTOR KTC3199 (GR) or TRANSISTOR 2SC3331 (T) or TRANSISTOR 2SC3331 (U) or TRANSISTOR 2SC1815 (GR) | NQS10KTC3198 NQS10KTC3199 QSC3331TNPAA QSC3331UNPAA QQS102SC1815 |
| Q 104 | TRANSISTOR KTA1266 (GR) or TRANSISTOR KTA1267 (GR) or TRANSISTOR 2SA1318 (T) or TRANSISTOR 2SA1318 (U) or TRANSISTOR 2SA1015 (GR) | NQS40KTA1266 NQS10KTA1267 2SA1318TZ 2SA1318UZ QQS102SA1015 |
| Q 105 | TRANSISTOR KTC3198 (GR) or TRANSISTOR KTC3199 (GR) or TRANSISTOR 2SC3331 (T) or TRANSISTOR 2SC3331 (U) or TRANSISTOR 2SC1815 (GR) | NQS10KTC3198 NQS10KTC3199 QSC3331TNPAA QSC3331UNPAA QQS102SC1815 |
| Q 106 | TRANSISTOR KTA1266 (GR) or TRANSISTOR KTA1267 (GR) or TRANSISTOR 2SA1318 (T) or TRANSISTOR 2SA1318 (U) or TRANSISTOR 2SA1015 (GR) | NQS40KTA1266 NQS10KTA1267 2SA1318TZ 2SA1318UZ QQS102SA1015 |
| Q 121 | TRANSISTOR KTC3198 (GR) or TRANSISTOR KTC3199 (GR) or TRANSISTOR 2SC3331 (T) or | NQS10KTC3198 NQS10KTC3199 QSC3331TNPAA |

| Ref. No. | Description | Part No. |
|----------|----------------------------|--------------|
| Q 122 | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| Q 123 | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| Q 125 | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| Q 201 | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| Q 223 | TRANSISTOR 2SC3000 (D) or | 2SC3000DZ |
| | TRANSISTOR 2SC3000 (E) | 2SC3000EZ |
| Q 224 | TRANSISTOR KTA1266 (GR) or | NQS40KTA1266 |
| | TRANSISTOR KTA1267 (GR) or | NQS10KTA1267 |
| | TRANSISTOR 2SA1318 (T) or | 2SA1318TZ |
| Q 251 | TRANSISTOR 2SA1318 (U) or | 2SA1318UZ |
| | TRANSISTOR 2SA1015 (GR) | QQS102SA1015 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| Q 301 | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| Q 391 | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| Q 392 | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| Q 393 | TRANSISTOR KTA1266 (GR) or | NQS40KTA1266 |
| | TRANSISTOR KTA1267 (GR) or | NQS10KTA1267 |
| | TRANSISTOR 2SA1318 (T) or | 2SA1318TZ |
| Q 394 | TRANSISTOR 2SA1318 (U) or | 2SA1318UZ |
| | TRANSISTOR 2SA1015 (GR) | QQS102SA1015 |
| | TRANSISTOR KTA1266 (GR) or | NQS40KTA1266 |
| Q 395 | TRANSISTOR KTA1267 (GR) or | NQS10KTA1267 |
| | TRANSISTOR 2SA1318 (T) or | 2SA1318TZ |
| | TRANSISTOR 2SA1318 (U) or | 2SA1318UZ |
| Q 396 | TRANSISTOR 2SA1015 (GR) | QQS102SA1015 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |

| Ref. No. | Description | Part No. |
|----------|----------------------------|--------------|
| Q 397 | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| Q 551 | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| Q 552 | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| | TRANSISTOR 2SC2271 (D) or | 2SC2271DZ |
| Q 571 | TRANSISTOR 2SC2271 (E) or | 2SC2271EZ |
| | TRANSISTOR 2SC2482 | QQSZ02SC2482 |
| | TRANSISTOR 2SD1886CA | Q2SD1886CA** |
| Q 572 | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| Q 573 | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| | TRANSISTOR KTA1266 (GR) or | NQS40KTA1266 |
| Q 601 | TRANSISTOR KTA1267 (GR) or | NQS10KTA1267 |
| | TRANSISTOR 2SA1318 (T) or | 2SA1318TZ |
| | TRANSISTOR 2SA1318 (U) or | 2SA1318UZ |
| Q 602 | TRANSISTOR 2SA1015 (GR) | QQS102SA1015 |
| | TRANSISTOR 2SD1407 (O) or | QQQ002SD1407 |
| | TRANSISTOR 2SD1407 (Y) | QQQ002SD1407 |
| Q 603 | FET 2SK1464 | QF4Z02SK1464 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| Q 604 | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| Q 607 | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| Q 608 | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| | TRANSISTOR 2SC2271 (D) or | 2SC2271DZ |
| Q 609 | TRANSISTOR 2SC2271 (E) or | 2SC2271EZ |
| | TRANSISTOR 2SC2482 | QQSZ02SC2482 |
| | TRANSISTOR 2SB1274 (R) or | Q2SB1274R000 |
| Q 610 | TRANSISTOR 2SB1274 (S) | Q2SB1274S000 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| Q 611 | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| Q 612 | TRANSISTOR 2SD1682 (S) or | QQ3S02SD1682 |
| | TRANSISTOR 2SD1682 (T) | QQ3T02SD1682 |
| Q 702 | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| Q 703 | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |

| Ref. No. | Description | Part No. |
|-----------|----------------------------------|--------------|
| Q 705 | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| Q 721 | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| | TRANSISTOR KTA1266 (GR) or | NQS40KTA1266 |
| Q 802 | TRANSISTOR KTA1267 (GR) or | NQS10KTA1267 |
| | TRANSISTOR 2SA1318 (T) or | 2SA1318TZ |
| | TRANSISTOR 2SA1318 (U) or | 2SA1318UZ |
| Q 804 | TRANSISTOR 2SA1015 (GR) | QQS102SA1015 |
| | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| RESISTORS | | |
| R 1 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| R 2 | CHIP RES. 1/10W 10K Ω | 134F103C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 3 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 15K Ω or | RRXAJR8Z0153 |
| R 4 | CHIP RES. 1/10W 15K Ω | 134F153C |
| | CHIP RES. 1/10W 15K Ω or | RRXAJR8Z0153 |
| | CHIP RES. 1/10W 15K Ω | 134F153C |
| R 5 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| R 6 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 7 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| R 8 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 9 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| R 10 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 11 | CHIP RES. 1/10W 3.3K Ω or | RRXAJR8Z0332 |
| | CHIP RES. 1/10W 3.3K Ω | 134F332C |
| | CHIP RES. 1/10W 3.3K Ω or | RRXAJR8Z0332 |
| R 12 | CHIP RES. 1/10W 3.3K Ω | 134F332C |
| | CHIP RES. 1/10W 5.6K Ω or | RRXAJR8Z0562 |
| | CHIP RES. 1/10W 5.6K Ω | 134F562C |
| R 13 | CHIP RES. 1/10W 5.6K Ω or | RRXAJR8Z0562 |
| | CHIP RES. 1/10W 5.6K Ω | 134F562C |
| | CHIP RES. 1/10W 5.6K Ω or | RRXAJR8Z0562 |
| R 14 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| R 15 | CHIP RES. 1/10W 10K Ω | 134F103C |
| | CHIP RES. 1/10W 4.7 Ω or | RRXAJR8Z04R7 |
| | CHIP RES. 1/10W 4.7 Ω | 134F479C |
| R 16 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| | CARBON RES. 1/4W 10 Ω | RCX4JASZ0100 |
| R 17 | CARBON RES. 1/4W 330 Ω | RCX4JASZ0331 |
| | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| R 18 | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| R 101 | CHIP RES. 1/10W 1K Ω | 134F102C |
| | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| R 102 | CHIP RES. 1/10W 8.2K Ω or | RRXAJR8Z0822 |
| | CHIP RES. 1/10W 8.2K Ω | 134F822C |
| | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |

| Ref. No. | Description | Part No. |
|----------|----------------------------------|--------------|
| R 107 | CHIP RES. 1/10W 8.2K Ω | 134F822C |
| | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 108 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| | CHIP RES. 1/10W 4.7K Ω or | RRXAJR8Z0472 |
| R 109 | CHIP RES. 1/10W 4.7K Ω | 134F472C |
| | CARBON RES. 1/4W 1K Ω | RCX4JASZ0102 |
| R 110 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| R 111 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 220 Ω or | RRXAJR8Z0221 |
| | CHIP RES. 1/10W 220 Ω | 134F221C |
| R 112 | CHIP RES. 1/10W 220 Ω or | RRXAJR8Z0221 |
| | CHIP RES. 1/10W 220 Ω | 134F221C |
| | CHIP RES. 1/10W 100K Ω or | RRXAJR8Z0104 |
| R 113 | CHIP RES. 1/10W 100K Ω | 134F104C |
| | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 114 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 4.7K Ω or | RRXAJR8Z0472 |
| R 115 | CHIP RES. 1/10W 4.7K Ω | 134F472C |
| | CARBON RES. 1/4W 10K Ω | RCX4JASZ0103 |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| R 116 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 117 | CHIP RES. 1/10W 4.7K Ω or | RRXAJR8Z0472 |
| | CHIP RES. 1/10W 4.7K Ω | 134F472C |
| | CARBON RES. 1/4W 10K Ω | RCX4JASZ0103 |
| R 118 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| R 119 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 120 | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| | CHIP RES. 1/10W 47K Ω or | RRXAJR8Z0473 |
| R 121 | CHIP RES. 1/10W 47K Ω | 134F473C |
| | CHIP RES. 1/10W 47K Ω or | RRXAJR8Z0473 |
| | CHIP RES. 1/10W 47K Ω | 134F473C |
| R 122 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| R 123 | CHIP RES. 1/10W 1K Ω | 134F102C |
| | CHIP RES. 1/10W 47K Ω or | RRXAJR8Z0473 |
| | CHIP RES. 1/10W 47K Ω | 134F473C |
| R 124 | CHIP RES. 1/10W 47K Ω or | RRXAJR8Z0473 |
| | CHIP RES. 1/10W 47K Ω | 134F473C |
| | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| R 125 | CHIP RES. 1/10W 10K Ω | 134F103C |
| | CHIP RES. 1/10W 100 Ω or | RRXAJR8Z0101 |
| | CHIP RES. 1/10W 100 Ω | 134F101C |
| R 126 | CHIP RES. 1/10W 82K Ω or | RRXAJR8Z0823 |
| | CHIP RES. 1/10W 82K Ω | 134F823C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| R 127 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 2.2K Ω or | RRXAJR8Z0222 |
| | CHIP RES. 1/10W 2.2K Ω | 134F222C |
| R 128 | CHIP RES. 1/10W 2.2K Ω or | RRXAJR8Z0222 |
| | CHIP RES. 1/10W 2.2K Ω | 134F222C |
| | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| R 129 | CHIP RES. 1/10W 10K Ω | 134F103C |
| | CHIP RES. 1/10W 220 Ω or | RRXAJR8Z0221 |
| | CHIP RES. 1/10W 220 Ω | 134F221C |
| R 130 | CHIP RES. 1/10W 220 Ω or | RRXAJR8Z0221 |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 131 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| R 132 | CHIP RES. 1/10W 1K Ω | 134F102C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 133 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 134 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 135 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 136 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 137 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 138 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 139 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 140 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 141 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 142 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 143 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 144 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 145 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 146 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 147 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 148 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 149 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 150 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 151 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 152 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 153 | CHIP RES. 1/10W 22K Ω | 134F223C |
| | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |

| Ref. No. | Description | Part No. |
|----------|---------------------------|--------------|
| R 523 | CARBON RES. 1/2W 560 Ω | RCX2561KA004 |
| R 524 | CARBON RES. 1/4W 1.5K Ω | RCX4JASZ0152 |
| R 544 | CARBON RES. 1/4W 1.5K Ω | RCX4JASZ0152 |
| | METAL RES. 1W 15K Ω or | RN01JZDZ0153 |
| | METAL RES. 1W 15K Ω or | RN01153KE004 |
| | METAL RES. 1W 15K Ω | RN01153PY001 |
| R 552 | CARBON RES. 1/4W 5.6K Ω | RCX4JASZ0562 |
| R 553 | CEMENT RES. 5W 1.5K Ω or | RW05152PG004 |
| | CEMENT RES. 5W 1.5K Ω or | RW05152UB004 |
| | CEMENT RES. 5W 1.5K Ω | RW05152KA004 |
| R 554 | METAL RES. 1W 1K Ω or | RN01JZDZ0102 |
| | METAL RES. 1W 1K Ω or | RN01102KE004 |
| | METAL RES. 1W 1K Ω | RN01102PY001 |
| R 557 | CHIP RES. 1/10W 330 Ω or | RRXAJR8Z0331 |
| | CHIP RES. 1/10W 330 Ω | 134F331C |
| R 571 | CHIP RES. 1/10W 180K Ω or | RRXAJR8Z0184 |
| | CHIP RES. 1/10W 180K Ω | 134F184C |
| R 572 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 573 | CHIP RES. 1/10W 270K Ω or | RRXAJR8Z0274 |
| | CHIP RES. 1/10W 270K Ω | 134F274C |
| R 574 | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| R 575 | CHIP RES. 1/10W 39K Ω or | RRXAJR8Z0393 |
| | CHIP RES. 1/10W 39K Ω | 134F393C |
| R 576 | CHIP RES. 1/10W 18K Ω or | RRXAJR8Z0183 |
| | CHIP RES. 1/10W 18K Ω | 134F183C |
| R 577 | CARBON RES. 1/4W 220 Ω | RCX4JASZ0221 |
| R 578 | CHIP RES. 1/10W 68K Ω or | RRXAJR8Z0683 |
| | CHIP RES. 1/10W 68K Ω | 134F683C |
| R 579 | CHIP RES. 1/10W 1.5K Ω or | RRXAJR8Z0152 |
| | CHIP RES. 1/10W 1.5K Ω | 134F152C |
| R 580 | CHIP RES. 1/10W 3.9K Ω or | RRXAJR8Z0392 |
| | CHIP RES. 1/10W 3.9K Ω | 134F392C |
| R 581 | CHIP RES. 1/10W 4.7K Ω or | RRXAJR8Z0472 |
| | CHIP RES. 1/10W 4.7K Ω | 134F472C |
| R 582 | CHIP RES. 1/10W 2.7K Ω or | RRXAJR8Z0272 |
| | CHIP RES. 1/10W 2.7K Ω | 134F272C |
| R 583 | METAL RES. 2W 10 Ω or | RN02JZDZ0100 |
| | METAL RES. 2W 10 Ω or | 534B100 |
| | METAL RES. 2W 10 Ω | RN02100PY001 |
| R 584 | CARBON RES. 1/4W 10K Ω | RCX4JASZ0103 |
| R 585 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 586 | CARBON RES. 1/4W 2.2K Ω | RCX4JASZ0222 |
| R 589 | CHIP RES. 1/10W 220 Ω or | RRXAJR8Z0221 |
| | CHIP RES. 1/10W 220 Ω | 134F221C |
| R 603 | CEMENT RES. 5W 82 Ω or | RW05820PG004 |
| | CEMENT RES. 5W 82 Ω | RW05820UB004 |
| R 606 | CARBON RES. 1/4W 2.2M Ω | RCX4JZPZ0225 |
| R 607 | CHIP RES. 1/10W 220 Ω or | RRXAJR8Z0221 |
| | CHIP RES. 1/10W 220 Ω | 134F221C |
| R 608 | CEMENT RES. 3W 0.22 Ω or | RW03R22PG007 |
| | CEMENT RES. 3W 0.22 Ω | RW03R22UB001 |
| R 609 | CHIP RES. 1/10W 220 Ω or | RRXAJR8Z0221 |
| | CHIP RES. 1/10W 220 Ω | 134F221C |
| R 610 | CARBON RES. 1/4W 1.2K Ω | RCX4JASZ0122 |
| R 611 | CHIP RES. 1/10W 100 Ω or | RRXAJR8Z0101 |
| | CHIP RES. 1/10W 100 Ω | 134F101C |
| R 612 | CHIP RES. 1/10W 560 Ω or | RRXAJR8Z0561 |
| | CHIP RES. 1/10W 560 Ω | 134F561C |
| R 613 | CARBON RES. 1/4W 270 Ω | RCX4JASZ0271 |
| R 614 | CHIP RES. 1/10W 1.5K Ω or | RRXAJR8Z0152 |
| | CHIP RES. 1/10W 1.5K Ω | 134F152C |
| R 615 | CARBON RES. 1/4W 560K Ω | RCX4JASZ0564 |
| R 616 | CARBON RES. 1/4W 2.2M Ω | RCX4JZPZ0225 |

| Ref. No. | Description | Part No. |
|----------|---------------------------|--------------|
| R 617 | CHIP RES. 1/10W 33K Ω or | RRXAJR8Z0333 |
| | CHIP RES. 1/10W 33K Ω | 134F333C |
| R 618 | CHIP RES. 1/10W 220K Ω or | RRXAJR8Z0224 |
| | CHIP RES. 1/10W 220K Ω | 134F224C |
| R 619 | CHIP RES. 1/10W 220K Ω or | RRXAJR8Z0224 |
| | CHIP RES. 1/10W 220K Ω | 134F224C |
| R 624 | CEMENT RES. 5W 0.56 Ω or | RW05R56PG001 |
| | CEMENT RES. 5W 0.56 Ω or | RW05R56UB001 |
| | CEMENT RES. 5W 0.56 Ω | RW05R56KA006 |
| R 626 | CARBON RES. 1/4W 10M Ω | RCX4JZPZ0106 |
| R 628 | CARBON RES. 1/4W 2.7K Ω | RCX4JASZ0272 |
| R 630 | CARBON RES. 1/4W 1.2K Ω | RCX4JASZ0122 |
| R 633 | CARBON RES. 1/4W 6.8K Ω | RCX4JASZ0682 |
| R 635 | CARBON RES. 1/4W 22K Ω | RCX4JASZ0223 |
| R 636 | CARBON RES. 1/4W 15K Ω | RCX4JASZ0153 |
| R 637 | CARBON RES. 1/4W 6.8K Ω | RCX4JASZ0682 |
| R 638 | CARBON RES. 1/4W 12K Ω | RCX4JASZ0123 |
| R 639 | CARBON RES. 1/4W 15K Ω | RCX4JASZ0153 |
| R 640 | CARBON RES. 1/4W 33K Ω | RCX4JASZ0333 |
| R 641 | CARBON RES. 1/4W 33K Ω | RCX4JASZ0333 |
| R 642 | CARBON RES. 1/4W 120K Ω | RCX4JASZ0124 |
| R 643 | CHIP RES. 1/10W 47K Ω or | RRXAJR8Z0473 |
| | CHIP RES. 1/10W 47K Ω | 134F473C |
| R 644 | CHIP RES. 1/10W 15K Ω or | RRXAJR8Z0153 |
| | CHIP RES. 1/10W 15K Ω | 134F153C |
| R 647 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 648 | CARBON RES. 1/2W 1K Ω or | RCX2JZSZ0102 |
| | CARBON RES. 1/2W 1K Ω | RCX2102KA004 |
| R 650 | CHIP RES. 1/10W 18K Ω or | RRXAJR8Z0183 |
| | CHIP RES. 1/10W 18K Ω | 134F183C |
| R 652 | METAL RES. 2W 3.3 Ω or | RN02JZDZ03R3 |
| | METAL RES. 2W 3.3 Ω | RN023R3PY001 |
| R 653 | CARBON RES. 1/4W 100 Ω | RCX4JASZ0101 |
| R 654 | CARBON RES. 1/4W 560 Ω | RCX4JASZ0561 |
| R 655 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| R 656 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| R 657 | CARBON RES. 1/2W 1 Ω | RCX21R0KA004 |
| R 672 | FUSE RES. 1/4W 1.2 Ω or | RFX41R2QJ001 |
| | FUSE RES. 1/4W 1.2 Ω | RFX41R2KA007 |
| R 673 | CARBON RES. 1/4W 4.7K Ω | RCX4JASZ0472 |
| R 674 | CARBON RES. 1/4W 220K Ω | RCX4JASZ0224 |
| R 675 | CARBON RES. 1/4W 22K Ω | RCX4JASZ0223 |
| R 676 | FUSE RES. 2W 1.8 Ω or | RF02189UB001 |
| | FUSE RES. 2W 1.8 Ω | RF02189KA009 |
| R 677 | FUSE RES. 1W 4.7 Ω or | RF014R7QJ001 |
| | FUSE RES. 1W 4.7 Ω | RF014R7KA008 |
| R 678 | CARBON RES. 1/2W 1.2 Ω | RCX21R2KA004 |
| R 680 | CARBON RES. 1/4W 1K Ω | RCX4JASZ0102 |
| R 681 | CARBON RES. 1/4W 150K Ω | RCX4JASZ0154 |
| R 685 | CHIP RES. 1/10W 820 Ω or | RRXAJR8Z0821 |
| | CHIP RES. 1/10W 820 Ω | 134F821C |
| R 686 | CARBON RES. 1/4W 1.5K Ω | RCX4JASZ0152 |
| R 701 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 702 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 703 | CHIP RES. 1/10W 3.3K Ω or | RRXAJR8Z0332 |
| | CHIP RES. 1/10W 3.3K Ω | 134F332C |
| R 704 | CHIP RES. 1/10W 2.2K Ω or | RRXAJR8Z0222 |
| | CHIP RES. 1/10W 2.2K Ω | 134F222C |
| R 705 | CHIP RES. 1/10W 330 Ω or | RRXAJR8Z0331 |
| | CHIP RES. 1/10W 330 Ω | 134F331C |
| R 709 | CHIP RES. 1/10W 2.7K Ω or | RRXAJR8Z0272 |

| Ref. No. | Description | Part No. |
|----------|---------------------------|--------------|
| | CHIP RES. 1/10W 2.7K Ω | 134F272C |
| R 710 | CHIP RES. 1/10W 27K Ω or | RRXAJR8Z0273 |
| | CHIP RES. 1/10W 27K Ω | 134F273C |
| R 711 | CHIP RES. 1/10W 2.7K Ω or | RRXAJR8Z0272 |
| | CHIP RES. 1/10W 2.7K Ω | 134F272C |
| R 712 | CHIP RES. 1/10W 27K Ω or | RRXAJR8Z0273 |
| | CHIP RES. 1/10W 27K Ω | 134F273C |
| R 713 | CHIP RES. 1/10W 47K Ω or | RRXAJR8Z0473 |
| | CHIP RES. 1/10W 47K Ω | 134F473C |
| R 715 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 716 | CHIP RES. 1/10W 1.5K Ω or | RRXAJR8Z0152 |
| | CHIP RES. 1/10W 1.5K Ω | 134F152C |
| R 720 | CHIP RES. 1/10W 3.3K Ω or | RRXAJR8Z0332 |
| | CHIP RES. 1/10W 3.3K Ω | 134F332C |
| R 721 | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| R 722 | CHIP RES. 1/10W 68 Ω or | RRXAJR8Z0680 |
| | CHIP RES. 1/10W 68 Ω | 134F680C |
| R 723 | CHIP RES. 1/10W 100K Ω or | RRXAJR8Z0104 |
| | CHIP RES. 1/10W 100K Ω | 134F104C |
| R 724 | CHIP RES. 1/10W 100K Ω or | RRXAJR8Z0104 |
| | CHIP RES. 1/10W 100K Ω | 134F104C |
| R 725 | CHIP RES. 1/10W 1.5K Ω or | RRXAJR8Z0152 |
| | CHIP RES. 1/10W 1.5K Ω | 134F152C |
| R 726 | CHIP RES. 1/10W 150K Ω or | RRXAJR8Z0154 |
| | CHIP RES. 1/10W 150K Ω | 134F154C |
| R 727 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 728 | CHIP RES. 1/10W 1.5K Ω or | RRXAJR8Z0152 |
| | CHIP RES. 1/10W 1.5K Ω | 134F152C |
| R 729 | CHIP RES. 1/10W 150K Ω or | RRXAJR8Z0154 |
| | CHIP RES. 1/10W 150K Ω | 134F154C |
| R 730 | CHIP RES. 1/10W 22K Ω or | RRXAJR8Z0223 |
| | CHIP RES. 1/10W 22K Ω | 134F223C |
| R 731 | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| R 733 | CHIP RES. 1/10W 15K Ω or | RRXAJR8Z0153 |
| | CHIP RES. 1/10W 15K Ω | 134F153C |
| R 734 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 735 | CHIP RES. 1/10W 1K Ω or | RRXAJR8Z0102 |
| | CHIP RES. 1/10W 1K Ω | 134F102C |
| R 801 | CHIP RES. 1/10W 5.6K Ω or | RRXAJR8Z0562 |
| | CHIP RES. 1/10W 5.6K Ω | 134F562C |
| R 802 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 803 | CHIP RES. 1/10W 12K Ω or | RRXAJR8Z0123 |
| | CHIP RES. 1/10W 12K Ω | 134F123C |
| R 804 | CARBON RES. 1/4W 47K Ω | RCX4JASZ0473 |
| R 806 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 807 | CARBON RES. 1/4W 100 Ω | RCX4JASZ0101 |
| R 808 | CHIP RES. 1/10W 8.2K Ω or | RRXAJR8Z0822 |
| | CHIP RES. 1/10W 8.2K Ω | 134F822C |
| R 810 | CHIP RES. 1/10W 1.5K Ω or | RRXAJR8Z0152 |
| | CHIP RES. 1/10W 1.5K Ω | 134F152C |
| R 811 | CHIP RES. 1/10W 3.3K Ω or | RRXAJR8Z0332 |
| | CHIP RES. 1/10W 3.3K Ω | 134F332C |
| R 812 | CHIP RES. 1/10W 3.3K Ω or | RRXAJR8Z0332 |
| | CHIP RES. 1/10W 3.3K Ω | 134F332C |
| R 813 | CHIP RES. 1/10W 1.5K Ω or | RRXAJR8Z0152 |
| | CHIP RES. 1/10W 1.5K Ω | 134F152C |
| R 814 | CARBON RES. 1/4W 180 Ω | RCX4JASZ0181 |
| R 815 | CARBON RES. 1/4W 22K Ω | RCX4JASZ0223 |
| R 816 | CARBON RES. 1/4W 22K Ω | RCX4JASZ0223 |

| Ref. No. | Description | Part No. |
|--------------------|---|--------------------|
| R 818 | CARBON RES. 1/4W 180 Ω | RCX4JASZ0181 |
| R 819 | CARBON RES. 1/4W 3.3 Ω | RCX4JASZ03R2 |
| R 821 | CARBON RES. 1/4W 3.3 Ω | RCX4JASZ03R2 |
| R 824 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 825 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 826 | CARBON RES. 1/4W 120 Ω | RCX4JASZ0121 |
| R 827 | METAL RES. 2W 2.7 Ω or | RN02JZDZ02R7 |
| | METAL RES. 2W 2.7 Ω | RN022R7PY001 |
| R 828 | METAL RES. 1W 1.2 Ω or | RN01JZDZ01R2 |
| | METAL RES. 1W 1.2 Ω | RN011R2PY001 |
| R 954 | CHIP RES. 1/10W 10K Ω or | RRXAJR8Z0103 |
| | CHIP RES. 1/10W 10K Ω | 134F103C |
| R 955 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 2 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 3 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 4 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 5 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 6 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 7 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 8 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 9 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 10 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 11 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 13 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 15 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 16 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 18 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 22 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 36 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| JC 37 | CHIP RES. 1/10W 0 Ω or | RRXAJR8Z0000 |
| | CHIP RES. 1/10W 0 Ω | 134F000C |
| SWITCHES | | |
| SW102 | TACT SWITCH (V-TYPE) | SST0101AL032 |
| SW103 | TACT SWITCH (V-TYPE) | SST0101AL032 |
| SW104 | TACT SWITCH (V-TYPE) | SST0101AL032 |
| SW105 | TACT SWITCH (V-TYPE) | SST0101AL032 |
| SW107 | TACT SWITCH | 5622102 |
| SW108 | TACT SWITCH | 5622102 |
| SW109 | TACT SWITCH | 5622102 |
| SW110 | TACT SWITCH | 5622102 |
| SW601 | MAIN SWITCH | SPP0AAZMS001 |
| TRANSFORMERS | | |
| T 551 | H. DRIVE TRANS | 115N841 |
| T 601 | POWER TRANS | LTT00EPMS017 |
| VARIABLE RESISTORS | | |
| VR211 | SEMIFIXED RES. 10KB or SEMIFIXED RES. 10KB | 138J781 638A103 |

| Ref. No. | Description | Part No. |
|---------------------|-------------------------------|--------------|
| VR301 | SEMIFIXED RES. 1KB or | 138J777 |
| | SEMIFIXED RES. 1KB | 638A102 |
| VR331 | SEMIFIXED RES. 200B or | 238J113 |
| | SEMIFIXED RES. 200B | 638A221 |
| VR351 | SEMIFIXED RES. 10KB or | 138J781 |
| | SEMIFIXED RES. 10KB | 638A103 |
| VR501 | SEMIFIXED RES. 50KB or | 138J784 |
| | SEMIFIXED RES. 50KB | 638A473 |
| VR503 | SEMIFIXED RES. 10KB or | 138J781 |
| | SEMIFIXED RES. 10KB | 638A103 |
| VR571 | SEMIFIXED RES. 20KB or | 138J782 |
| | SEMIFIXED RES. 20KB | 638A223 |
| VR572 | SEMIFIXED RES. 5KB or | 138J780 |
| | SEMIFIXED RES. 5KB | 638A472 |
| VR601 | SEMIFIXED RES. 20KB or | 138J782 |
| | SEMIFIXED RES. 20KB | 638A223 |
| CRYSTAL OSCILLATORS | | |
| X 101 | CERAMIC RESONATOR 4.19MHz or | FY0415LMS002 |
| | CERAMIC RESONATOR 4.19MHz or | 1813682 |
| | CERAMIC RESONATOR 4.19MHz | 1812885 |
| X 301 | CRYSTAL OSCILLATOR 4.43MHz | 1811387 |
| X 302 | CRYSTAL OSCILLATOR 3.58MHz | 1811291 |
| X 331 | CERAMIC RESONATOR CSB503F30 | 1813527 |
| MISCELLANEOUS | | |
| B 6 | LED HOLDER | 0EM402341 |
| B 7 | SENSOR HOLDER | 0EM402360 |
| BC552 | BEADS CORE | 1190038 |
| BC553 | BEADS CORE | 1190038 |
| BC603 | BEADS CORE | 1190038 |
| BC604 | BEADS CORE | 1190038 |
| BC605 | BEADS CORE | 1190038 |
| BC606 | BEADS CORE | 1190038 |
| BC607 | BEADS CORE | 1190038 |
| CF211 | CERAMIC TRAP 5.5MHz+6.5MHz or | FBE655PMS002 |
| | CERAMIC TRAP 5.5MHz+6.5MHz | FBE655PMR002 |
| CF212 | CERAMIC FILTER 5.5MHz or | 1812018 |
| | CERAMIC FILTER 5.5MHz | FBB555PMS001 |
| CF213 | CERAMIC FILTER 6.5MHz or | 1813595 |
| | CERAMIC FILTER 6.5MHz | FBB655PMS001 |
| CL451A | CABLE HOLDER 5P or | XW01D05NF001 |
| | CABLE HOLDER 5P | XW01B05NF001 |
| CL452A | CABLE HOLDER 4P or | XW01D04NF001 |
| | CABLE HOLDER 4P | XW01B04NF001 |
| DL301 | DELAY LINE | 113N852 |
| DL311 | GLASS DELAY or | FD0445PXX001 |
| | GLASS DELAY | 1812056 |
| HS 1 | HEAT SINK PBC ASSEMBLY | 0EM300845 |
| HS 2 | HEAT SINK PBD ASSEMBLY | 0EM402679 |
| HS 3 | HEAT SINK PBE | 0EM402593 |
| HS 4 | HEAT SINK PBI ASSEMBLY | 0EM402680 |
| HS 5 | HEAT SINK PBM | 0EM402812 |
| JK701 | RCA JACK (4 PIN) or | JXRL040JD012 |
| | RCA JACK (4 PIN) or | JXRL040MY001 |
| | RCA JACK (4 PIN) | JXRL040JC001 |
| JK702 | RCA JACK (1 PIN) | JYRL010JC002 |
| JK731 | 21PIN JACK or | JXGL210XZ001 |
| | 21PIN JACK or | JSZZ000HD001 |
| | 21PIN JACK or | JXGL210NF001 |
| | 21PIN JACK or | 1780187 |
| | 21PIN JACK | 1780260 |
| LD451 | RIBBON WIRE 4P | WX1L8750-002 |
| LD452 | RIBBON WIRE 5P | WX1L8750-001 |
| PS601 | THERMISTER (POSISTER) | QNSZ66BL200D |
| RS101 | REMOCON RECEIVING UNIT | USESJRSKK011 |
| SF201 | SAW FILTER | FBB386PKC001 |
| T 671 | F.B.T. | LTF00EPSM007 |

| Ref. No. | Description | Part No. |
|----------|------------------|--------------|
| TP 1 | TEST PIN or | 1700093 |
| | TEST PIN or | XU0C000ER001 |
| | TEST PIN | 1740354 |
| TP 2 | TEST PIN or | 1700093 |
| | TEST PIN or | XU0C000ER001 |
| | TEST PIN | 1740354 |
| TP 5 | TEST PIN or | 1700093 |
| | TEST PIN or | XU0C000ER001 |
| | TEST PIN | 1740354 |
| TP 6 | TEST PIN or | 1700093 |
| | TEST PIN or | XU0C000ER001 |
| | TEST PIN | 1740354 |
| TP 7 | TEST PIN or | 1700093 |
| | TEST PIN or | XU0C000ER001 |
| | TEST PIN | 1740354 |
| TP 8 | TEST PIN or | 1700093 |
| | TEST PIN or | XU0C000ER001 |
| | TEST PIN | 1740354 |
| TP 9 | TEST PIN or | 1700093 |
| | TEST PIN or | XU0C000ER001 |
| | TEST PIN | 1740354 |
| TU 1 | TUNER TEKE4-134A | UTUNPSDAL009 |
| A-A' | LEAD WIRE | WX3501A6FF23 |

CRT PCB

| Ref. No. | Description | Part No. |
|------------|--------------------------------|--------------|
| | CRT PCB | |
| | Consists of the following: | |
| CAPACITORS | | |
| C 451 | CERAMIC CAP. B 390pF/50V | 3B42391S |
| C 452 | CERAMIC CAP. B 390pF/50V | 3B42391S |
| C 453 | CERAMIC CAP. B 470pF/50V | 3B42471S |
| C 456 | ELECTROLYTIC CAP. 100µF/16V | 126C107S |
| C 458 | CERAMIC CAP. 0.01µF 2KV or | CCD3DKP0E103 |
| | CERAMIC CAP. 0.01µF 2KV | 6220602 |
| C 459 | CERAMIC CAP. B 100pF/50V | 3B42101S |
| CONNECTORS | | |
| CN454 | CONNECTOR PIN 1P or | 1700576 |
| | CONNECTOR PIN 1P or | 1730688 |
| | CONNECTOR PIN 1P | JTEA000LC001 |
| DIODES | | |
| D 451 | DIODE 1N4148M or | QDSZ01N4148M |
| | DIODE 1SS176 or | 1SS176S |
| | DIODE 1SS133 | 1SS133S |
| D 452 | DIODE 1N4148M or | QDSZ01N4148M |
| | DIODE 1SS176 or | 1SS176S |
| | DIODE 1SS133 | 1SS133S |
| D 453 | DIODE 1N4148M or | QDSZ01N4148M |
| | DIODE 1SS176 or | 1SS176S |
| | DIODE 1SS133 | 1SS133S |
| COILS | | |
| L 451 | MICRO INDUCTOR (RD) 100µH K or | LLARKCSTU101 |
| | MICRO INDUCTOR (RD) 100µH K or | 2162101S |
| | MICRO INDUCTOR (RD) 100µH K | LLARKDSKA101 |
| L 452 | MICRO INDUCTOR (RD) 100µH K or | LLARKCSTU101 |
| | MICRO INDUCTOR (RD) 100µH K or | 2162101S |
| | MICRO INDUCTOR (RD) 100µH K | LLARKDSKA101 |
| L 453 | MICRO INDUCTOR (RD) 100µH K or | LLARKCSTU101 |
| | MICRO INDUCTOR (RD) 100µH K or | 2162101S |
| | MICRO INDUCTOR (RD) 100µH K | LLARKDSKA101 |
| L 454 | MICRO INDUCTOR 47µH K or | LLAXKDSKA470 |
| | MICRO INDUCTOR 47µH K | 2165470S |
| L 455 | MICRO INDUCTOR 47µH K or | LLAXKDSKA470 |
| | MICRO INDUCTOR 47µH K | 2165470S |
| L 456 | MICRO INDUCTOR 47µH K or | LLAXKDSKA470 |

| Ref. No. | Description | Part No. |
|-------------|----------------------------|--------------|
| | MICRO INDUCTOR 47µH K | 2165470S |
| TRANSISTORS | | |
| Q 451 | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| Q 452 | TRANSISTOR 2SC2621 (D) or | 2SC2621D |
| | TRANSISTOR 2SC2621 (E) | 2SC2621E |
| Q 453 | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| Q 454 | TRANSISTOR 2SC2621 (D) or | 2SC2621D |
| | TRANSISTOR 2SC2621 (E) | 2SC2621E |
| Q 455 | TRANSISTOR KTC3198 (GR) or | NQS10KTC3198 |
| | TRANSISTOR KTC3199 (GR) or | NQS10KTC3199 |
| | TRANSISTOR 2SC3331 (T) or | QSC3331TNPAA |
| | TRANSISTOR 2SC3331 (U) or | QSC3331UNPAA |
| | TRANSISTOR 2SC1815 (GR) | QQS102SC1815 |
| Q 456 | TRANSISTOR 2SC2621 (D) or | 2SC2621D |
| | TRANSISTOR 2SC2621 (E) | 2SC2621E |
| RESISTORS | | |
| R 451 | METAL RES. 2W 27K Ω or | RN02JZDZ0273 |
| | METAL RES. 2W 27K Ω or | 534B273 |
| | METAL RES. 2W 27K Ω | RN02273PY001 |
| R 452 | METAL RES. 2W 27K Ω or | RN02JZDZ0273 |
| | METAL RES. 2W 27K Ω or | 534B273 |
| | METAL RES. 2W 27K Ω | RN02273PY001 |
| R 453 | METAL RES. 2W 27K Ω or | RN02JZDZ0273 |
| | METAL RES. 2W 27K Ω or | 534B273 |
| | METAL RES. 2W 27K Ω | RN02273PY001 |
| R 454 | METAL RES. 2W 27K Ω or | RN02JZDZ0273 |
| | METAL RES. 2W 27K Ω or | 534B273 |
| | METAL RES. 2W 27K Ω | RN02273PY001 |
| R 455 | METAL RES. 2W 27K Ω or | RN02JZDZ0273 |
| | METAL RES. 2W 27K Ω or | 534B273 |
| | METAL RES. 2W 27K Ω | RN02273PY001 |
| R 456 | METAL RES. 2W 27K Ω or | RN02JZDZ0273 |
| | METAL RES. 2W 27K Ω or | 534B273 |
| | METAL RES. 2W 27K Ω | RN02273PY001 |
| R 460 | CARBON RES. 1/4W 1.5K Ω | RCX4JASZ0152 |
| R 461 | CARBON RES. 1/4W 1.5K Ω | RCX4JASZ0152 |
| R 462 | CARBON RES. 1/4W 1.5K Ω | RCX4JASZ0152 |
| R 463 | CARBON RES. 1/4W 680 Ω | RCX4JASZ0681 |
| R 464 | CARBON RES. 1/4W 680 Ω | RCX4JASZ0681 |
| R 465 | CARBON RES. 1/4W 680 Ω | RCX4JASZ0681 |
| R 466 | CARBON RES. 1/4W 120 Ω | RCX4JASZ0121 |
| R 467 | CARBON RES. 1/4W 120 Ω | RCX4JASZ0121 |
| R 468 | CARBON RES. 1/4W 120 Ω | RCX4JASZ0121 |
| R 469 | CARBON RES. 1/4W 1K Ω | RCX4JASZ0102 |
| R 470 | CARBON RES. 1/4W 1K Ω | RCX4JASZ0102 |
| R 471 | CARBON RES. 1/4W 1K Ω | RCX4JASZ0102 |
| R 472 | CARBON RES. 1/4W 270 Ω | RCX4JASZ0271 |
| R 473 | CARBON RES. 1/4W 270 Ω | RCX4JASZ0271 |
| R 474 | CARBON RES. 1/4W 270 Ω | RCX4JASZ0271 |
| R 475 | CARBON RES. 1/4W 560 Ω | RCX4JASZ0561 |
| R 480 | CARBON RES. 1/4W 150K Ω | RCX4JASZ0154 |
| R 481 | CARBON RES. 1/4W 3.3K Ω | RCX4JASZ0332 |
| R 482 | CARBON RES. 1/4W 3.3K Ω | RCX4JASZ0332 |
| R 483 | CARBON RES. 1/4W 150K Ω | RCX4JASZ0154 |
| R 484 | CARBON RES. 1/4W 3.3K Ω | RCX4JASZ0332 |
| R 485 | CARBON RES. 1/4W 3.3K Ω | RCX4JASZ0332 |

| Ref. No. | Description | Part No. |
|--------------------|---------------------------|--------------|
| R 486 | CARBON RES. 1/4W 150K Ω | RCX4JASZ0154 |
| R 487 | CARBON RES. 1/4W 3.3K Ω | RCX4JASZ0332 |
| R 489 | CARBON RES. 1/4W 3.3K Ω | RCX4JASZ0332 |
| R 490 | CARBON RES. 1/4W 150 Ω | RCX4JASZ0151 |
| R 491 | CARBON RES. 1/4W 150 Ω | RCX4JASZ0151 |
| R 492 | CARBON RES. 1/4W 150 Ω | RCX4JASZ0151 |
| VARIABLE RESISTORS | | |
| VR451 | SEMIFIXED RES. (V) 5KB or | 138J916 |
| | SEMIFIXED RES. (V) 5KB | 138A957 |
| VR452 | SEMIFIXED RES. (V) 5KB or | 138J916 |
| | SEMIFIXED RES. (V) 5KB | 138A957 |
| VR453 | SEMIFIXED RES. (V) 5KB or | 138J916 |
| | SEMIFIXED RES. (V) 5KB | 138A957 |
| VR454 | SEMIFIXED RES. (V) 1KB or | 138J913 |
| | SEMIFIXED RES. (V) 1KB | 138A953 |
| VR455 | SEMIFIXED RES. (V) 1KB or | 138J913 |
| | SEMIFIXED RES. (V) 1KB | 138A953 |
| MISCELLANEOUS | | |
| CL451B | CABLE HOLDER 5P or | XW01D05NF001 |
| | CABLE HOLDER 5P | XW01B05NF001 |
| CL452B | CABLE HOLDER 4P or | XW01D04NF001 |
| | CABLE HOLDER 4P | XW01B04NF001 |
| CN453 | CRT SOCKET | JSCC290HD001 |

Filter PCB

| Ref. No. | Description | Part No. |
|---------------|----------------------------------|--------------|
| | Filter PCB | |
| | Consists of the following: | |
| CAPACITORS | | |
| C 661 | LINE ACROSS CAP. 0.1µF/250V or | CA2E104MS010 |
| | LINE ACROSS CAP. 0.1µF/250V or | CT2E104DT001 |
| | LINE ACROSS CAP. 0.1µF/250V or | 122Z181 |
| | LINE ACROSS CAP. 0.1µF/250V | CA2E104MS005 |
| C 662 | LINE ACROSS CAP. 0.047µF 250V or | CT2E473DT001 |
| | LINE ACROSS CAP. 0.047µF 250V or | CA2E473MS010 |
| | LINE ACROSS CAP. 0.047µF 250V | 122Z271 |
| RESISTOR | | |
| R 661 | SOLID RES. 1/2W 1M Ω | RSX2105KE002 |
| MISCELLANEOUS | | |
| CL661 | WIRE ASSEMBLY 2P | WX1L8750-004 |
| F 661 | FUSE T4.0AH 250V | PAGC20BAG402 |
| FH661 | FUSE HOLDER or | XH01Z00DK001 |
| | FUSE HOLDER or | 1790424 |
| | FUSE HOLDER | 1790848 |
| FH662 | FUSE HOLDER or | XH01Z00DK001 |
| | FUSE HOLDER or | 1790424 |
| | FUSE HOLDER | 1790848 |
| L 661 | LINE FILTER | LLBG00ZMS012 |
| W 661 | AC CORD | 5750112 |

Chassis Electrical Parts

| Ref. No. | Description | Part No. |
|----------|-----------------|--------------|
| V 451 | CRT A59KPR84X01 | TCRT190SM006 |
| CL451 | WIRE ASSEMBLY | WX1L8750-005 |
| CL801 | WIRE ASSEMBLY | WX1L8750-006 |
| CL802 | WIRE ASSEMBLY | WX1L8700-002 |
| L 602 | DEGAUSSING COIL | LLBH00ZTZ015 |
| SP801 | SPEAKER | DSD0809MS001 |
| SP802 | SPEAKER | DSD0809MS001 |
| | CABLE TIE or | 1790256 |
| | CABLE TIE | 1790356 |

CRT Schematic Diagram

F

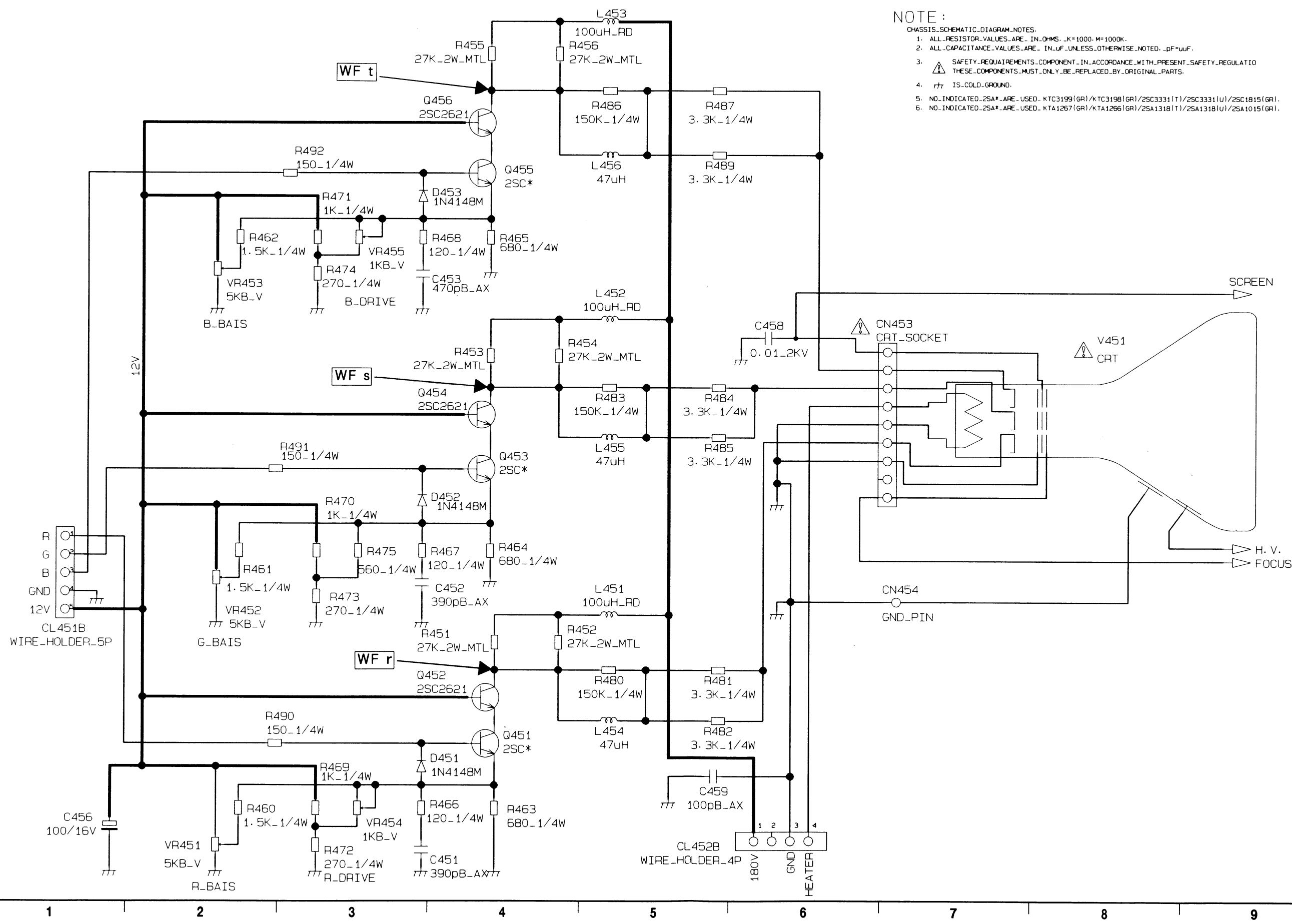
E

D

C

B

A



NOTE :

CHASSIS SCHEMATIC DIAGRAM NOTES:

1. ALL RESISTOR VALUES ARE IN OHMS. K=1000, M=1000K.

2. ALL CAPACITANCE VALUES ARE IN UF. UNLESS OTHERWISE NOTED. PF=UF.

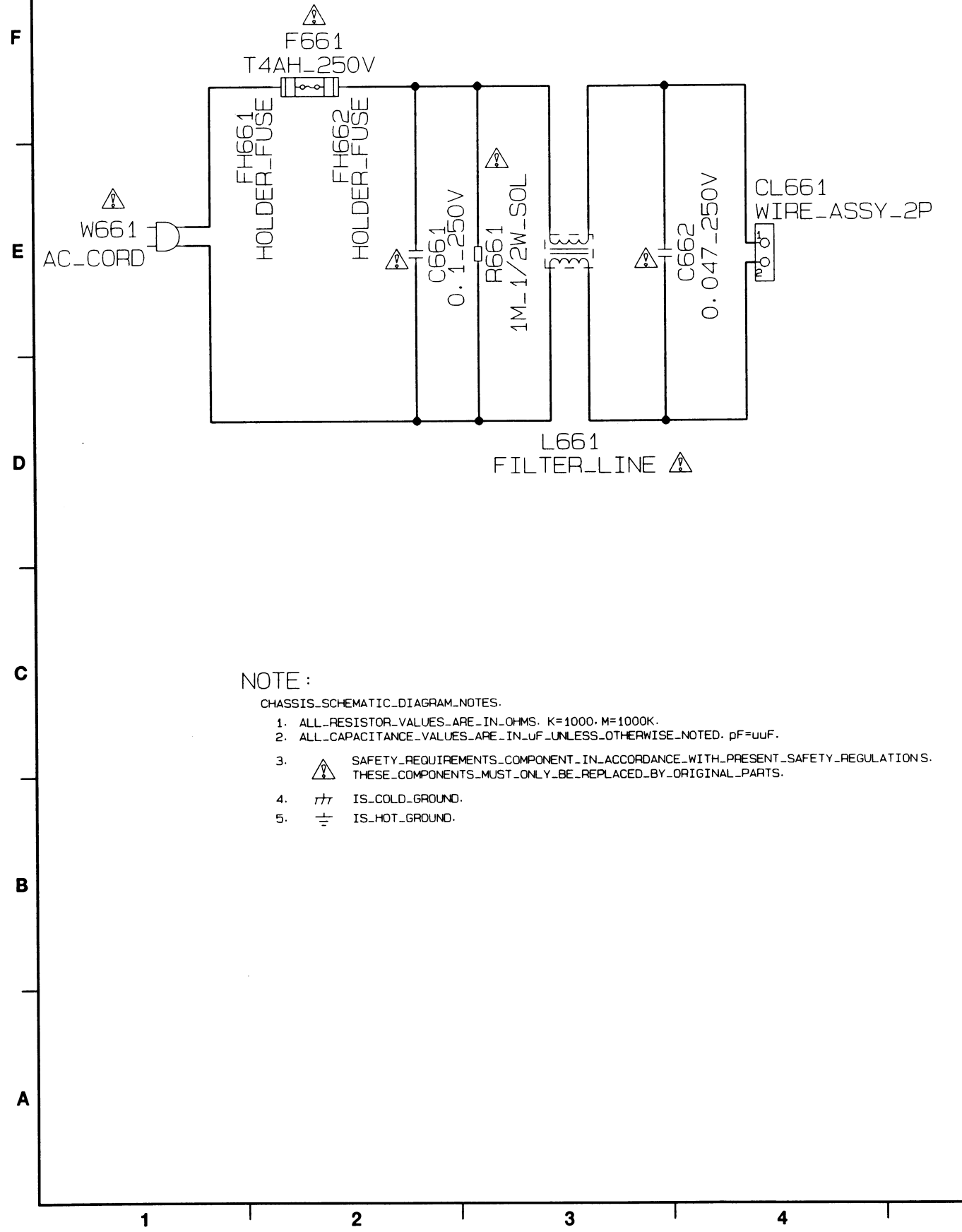
3. SAFETY REQUIREMENTS COMPONENT IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS. THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.

4. IS COLD GROUND.

5. NO INDICATED 2SA* ARE USED. KTC3199(GR)/KTC3198(GR)/2SC3331(T)/2SC3331(U)/2SC1815(GR).

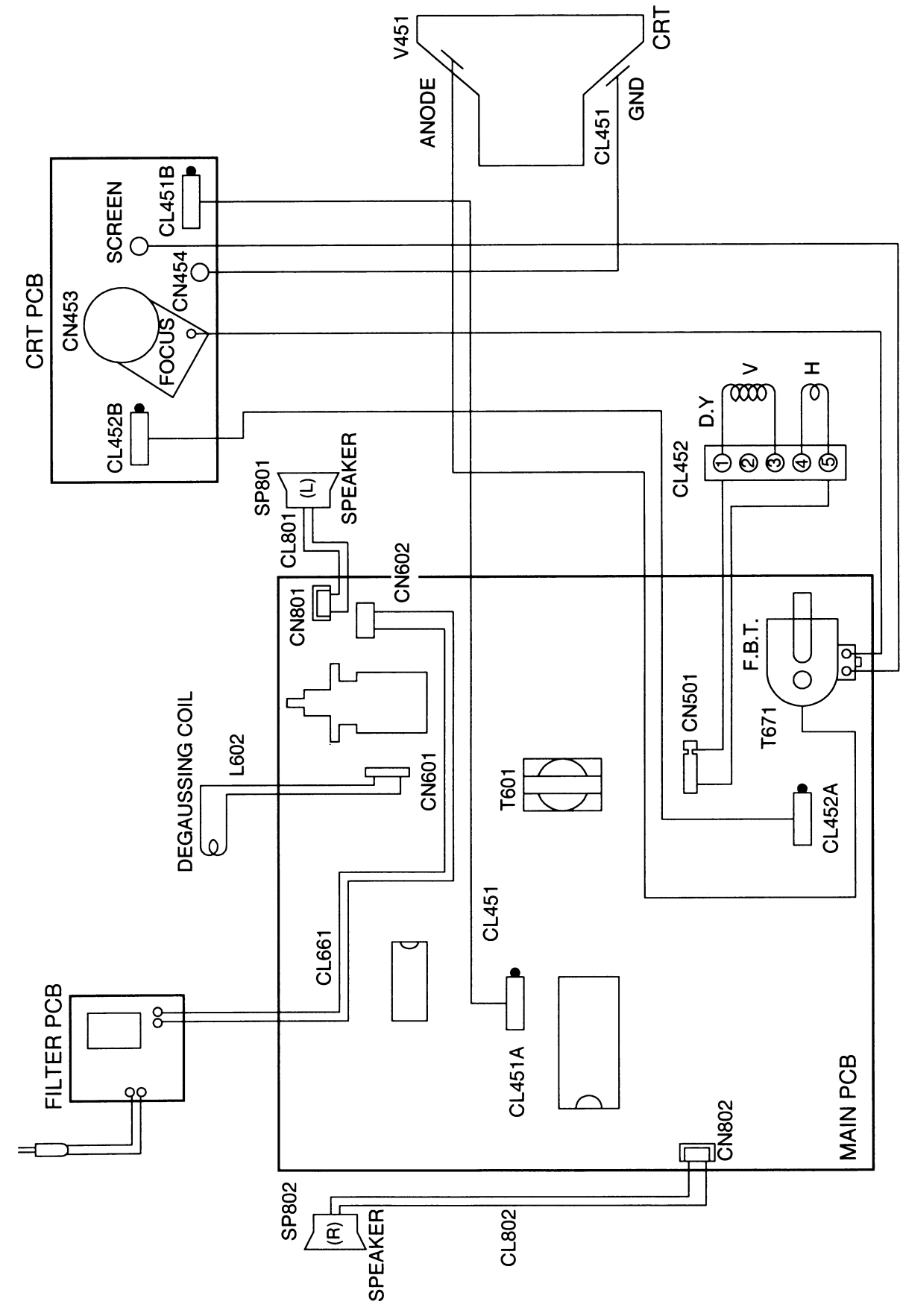
6. NO INDICATED 2SA* ARE USED. KTA1267(GR)/KTA1266(GR)/2SA1318(T)/2SA1318(U)/2SA1015(GR).

Filter Schematic Diagram



NOTE :
CHASSIS_SCHEMATIC_DIAGRAM_NOTES.
1. ALL_RESISTOR_VALUES_ARE_IN_OHMS. K=1000. M=1000K.
2. ALL_CAPACITANCE_VALUES_ARE_IN_UF_UNLESS_OTHERWISE_NOTED. pF=uuF.
3. SAFETY_REQUIREMENTS_COMPONENT_IN_ACCORDANCE_WITH_PRESENT_SAFETY_REGULATIONS. THESE_COMPONENTS_MUST_ONLY_BE_REPLACED_BY_ORIGINAL_PARTS.
4. IS_COLD_GROUND.
5. IS_HOT_GROUND.

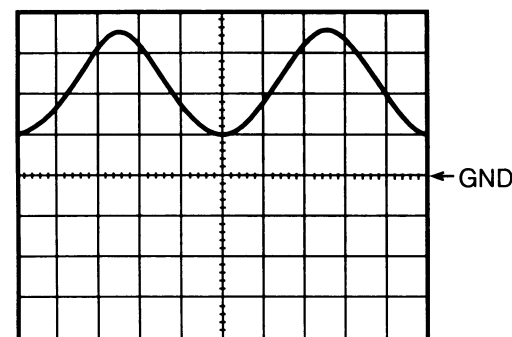
WIRING DIAGRAM



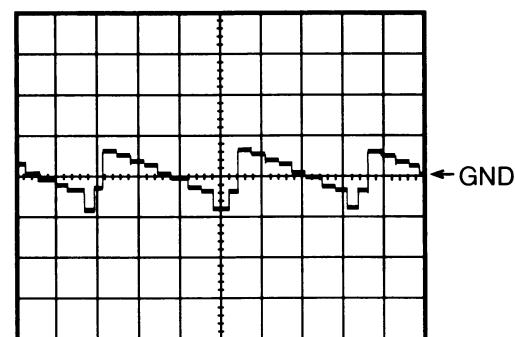
WAVEFORMS

WFa ~ WFt = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

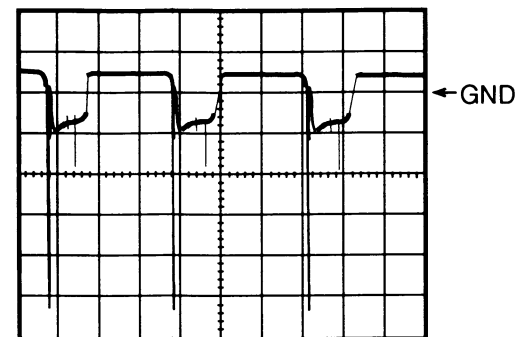
Input: PAL Color Bar Signal (with 1KHz Audio Signal)
Receiving Ch.: E2 ch (48.25MHz)
Preset Mode: Press Picture Select button on the remote control unit,
then press the number "1" button.
(Brightness---Center Color---Center Contrast---Approx 70%)



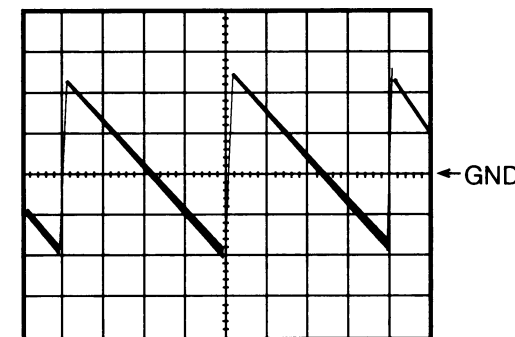
WFa 1DIV: 1V 200μsec



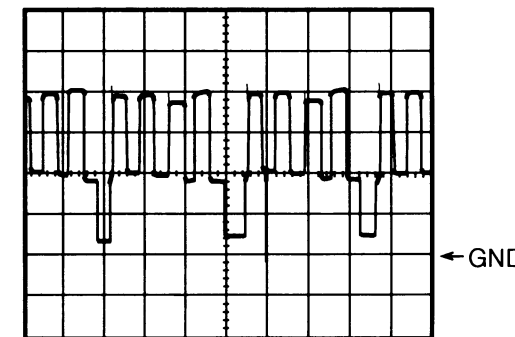
WFe 1DIV: 0.5V 10μsec



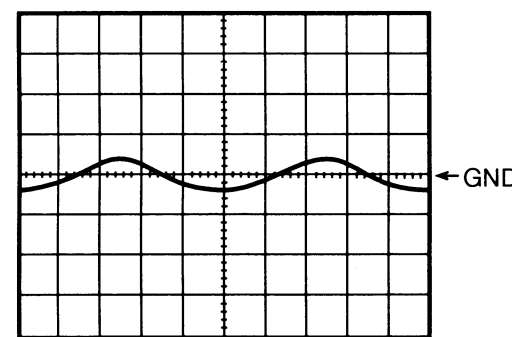
WFi 1DIV: 2V 10μsec



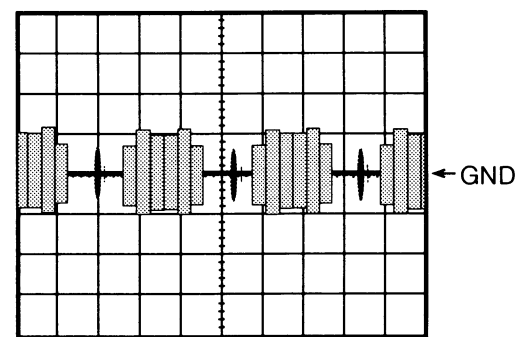
WFm 1DIV: 0.5V 5msec



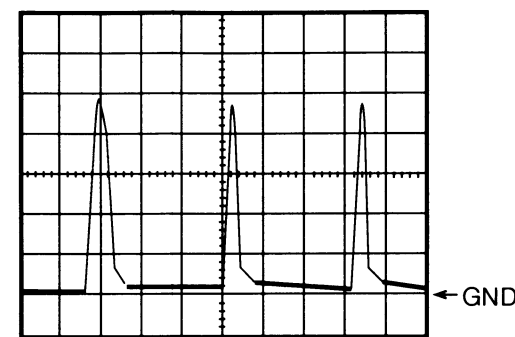
WFq 1DIV: 1V 10μsec



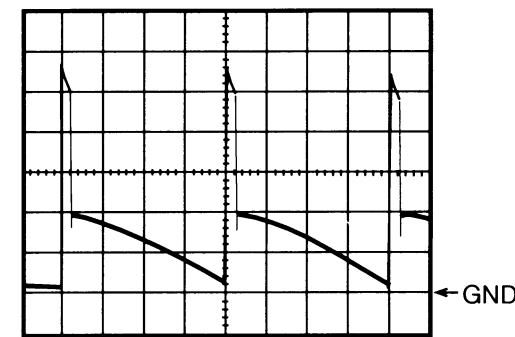
Wfb 1DIV: 1V 200μsec
Set volume maximum



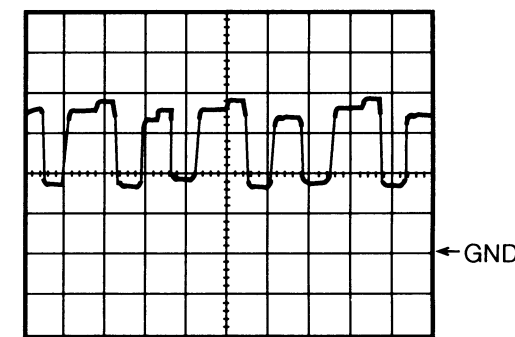
WFf 1DIV: 0.2V 10μsec



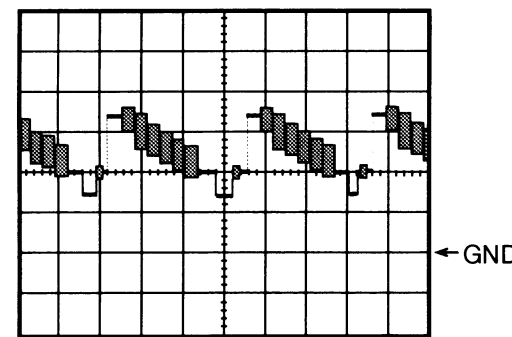
WFj 1DIV: 250V 10μsec



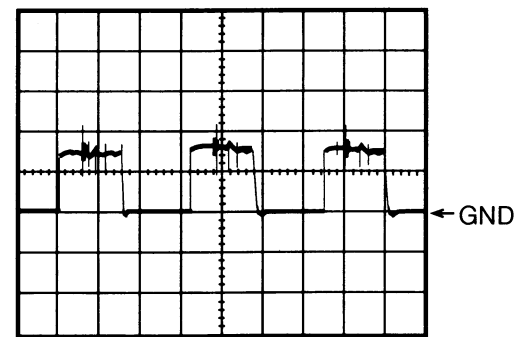
WFn 1DIV: 10V 2msec



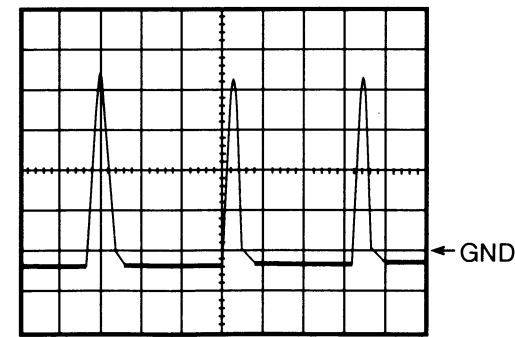
Wfr 1DIV: 50V 10μsec



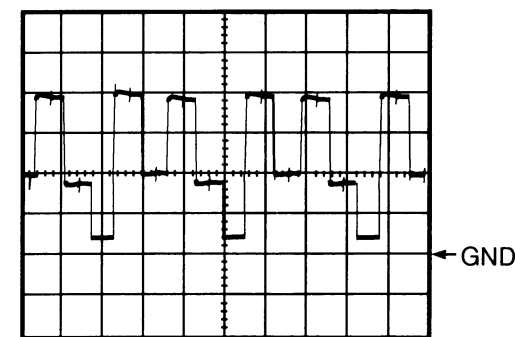
Wfc 1DIV: 1V 10μsec



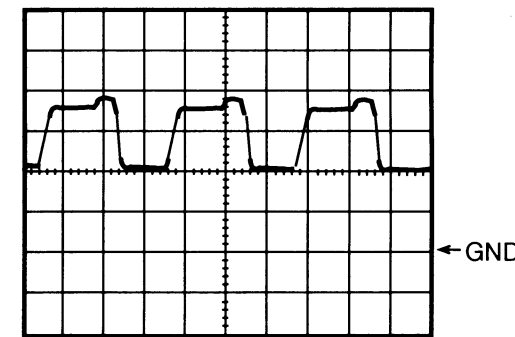
WFg 1DIV: 0.5V 10μsec



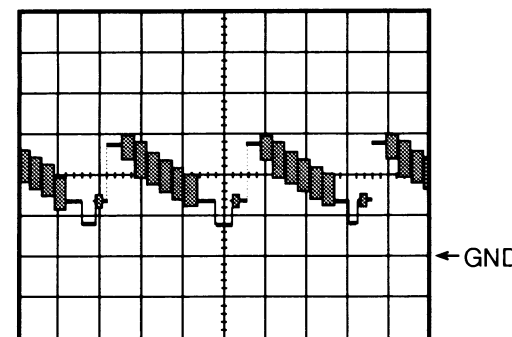
Wfk 1DIV: 5V 10μsec



Wfo 1DIV: 1V 10μsec



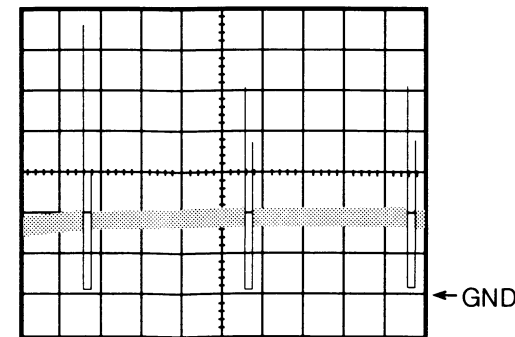
Wfs 1DIV: 50V 10μsec



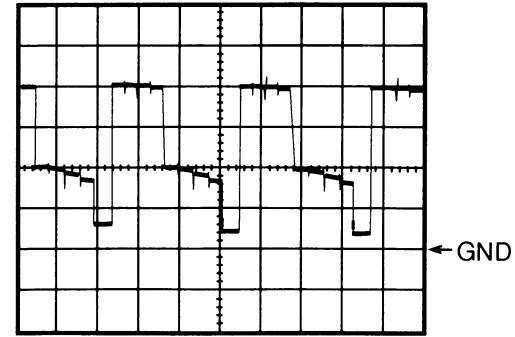
Wfd 1DIV: 1V 10μsec



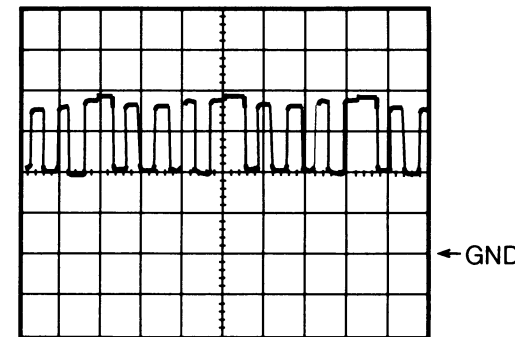
WFh 1DIV: 50V 10μsec



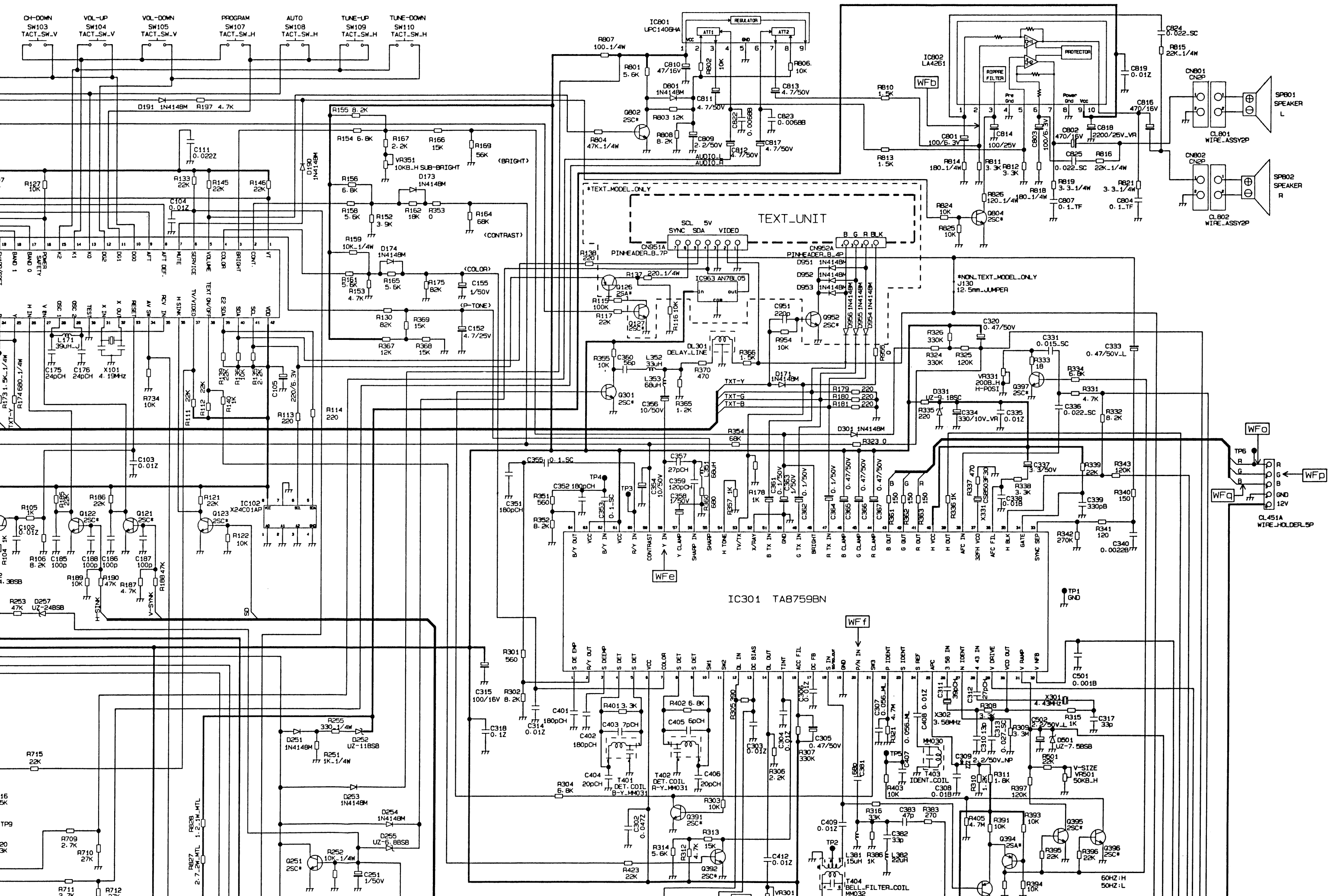
Wfi 1DIV: 0.5V 5msec



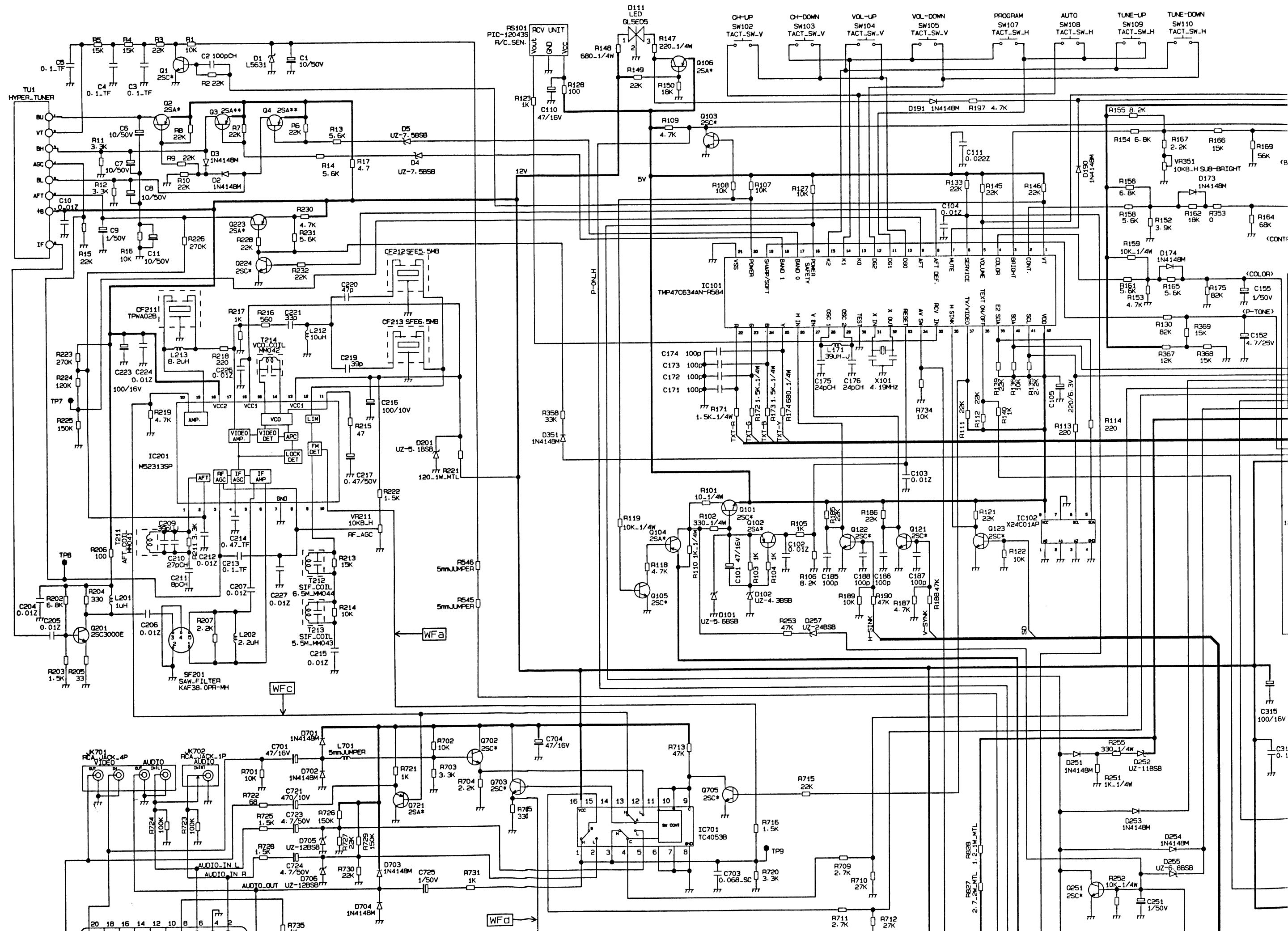
Wfp 1DIV: 1V 10μsec

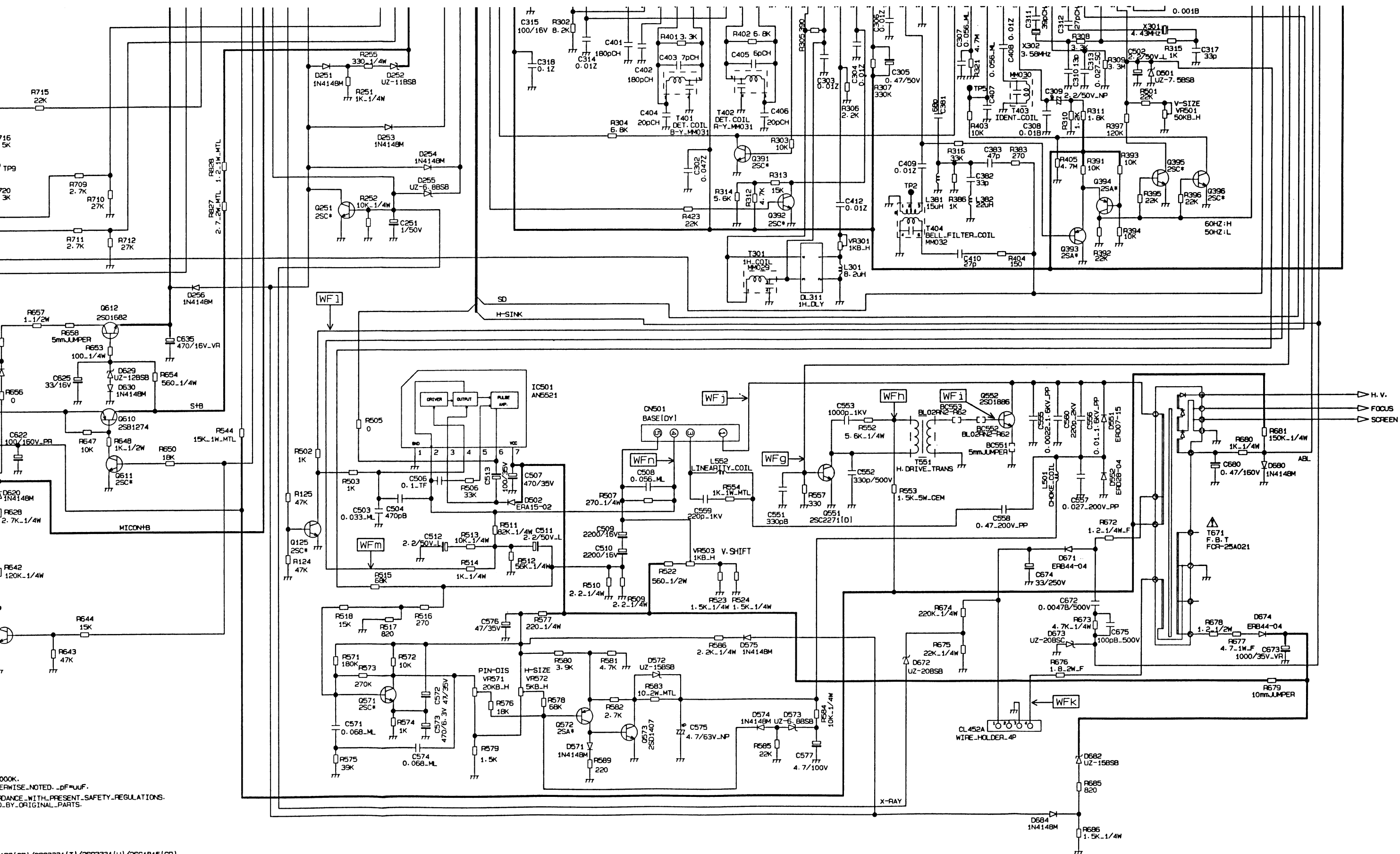


Wft 1DIV: 50V 10μsec



D





198(GR)/25C3331(TI)/25C3331(U)/25C1815(GR).
266(GR)/25A1318(TI)/25A1318(U)/25A1015(GR).
318(U)/25A1015(GR).

D

C

B

A

