HITACHI

PA	No. 0035

31KX41K/CY34
31DX22B/CY32
27AX5BX/C730
27CX0B/C740

R/C CLU-692GR
CLU-681GR

SERVICE MANUAL

NTSC | M1CLXU CHASSIS

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

This television receiver will display television closed captioning (CC or ☐) in accordance with paragraph 15.119 of the FCC rules.

TABLE OF CONTENTS

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

SOLID STATE COLOR TELEVISION

JUNE 1994 **HHEA - MANUFACTURING DIVISION**

TECHNICAL SPECIFICATIONS

POWER RATINGS

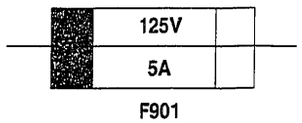
31KX41K/CY34	155W
31DX22B/CY32	155W
27AX5BX/C730	145W
27CX0B/C740	145W

PICTURE TUBE

31KX41K/CY34	A78LCU30X
31DX22B/CY32	A78LCU30X
27AX5BX/C730	A68KSA60X
27CX0B/C740	A68KSA60X

CAUTION

The following symbol near the fuse indicates fast operating fuse to be replaced. Fuse ratings appear within the symbol. Example:

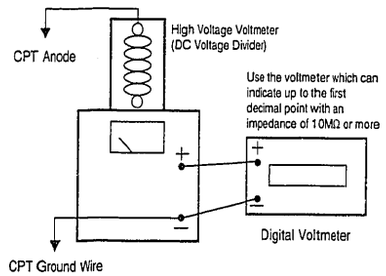


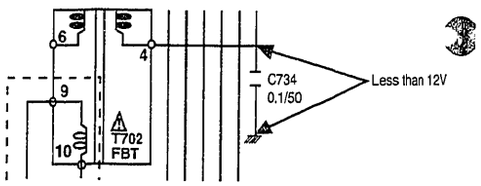
The rating of fuse F901 is 5.0A-125V.
Replace with the same type fuse for continued protection against fire.

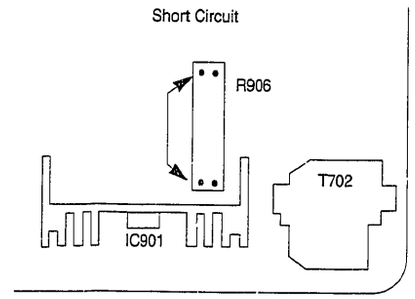
TECHNICAL CAUTIONS

High voltage limiter circuit operation check

1. Connect the high voltage voltmeter between the CPT anode terminal (anode cap) and ground as shown in the diagram.
2. Set the AC input voltage to 120 ± 3V.
3. Receive the Broadcast signal and set the PICTURE LEVEL and the BLACK LEVEL to maximum. Adjust the SCREEN VR and SUB BRIGHTNESS VR so that beam current is 1.50 ± 0.1 mA. (The voltage at ABL terminal of FBT between both ends of C734 - should be 12V or less at this time.)
4. Check that the constant high voltage is 27.5 ± 1kV for 27AX5BX/27CX0B and 29.2 ± 1kV for 31DX22B/31KX41K at this time.
5. Set the AC input voltage to 100 ± 5V and then short circuit both ends of R906.
6. Leave the setting of the PICTURE, BLACK LEVEL and SCREEN VRs as in item (3) and gradually increase the AC input voltage. Check that the picture disappears when the high voltage is 32.5kV ± 1.2kV for 31DX22B/31KX41K and 31.3kV ± 1.2kV for 27AX5BX/27CX0B.
7. Turn the switch of the set OFF immediately after checking that the picture disappears.







ADJUSTMENT SPECIFICATIONS

REFER TO CHASSIS SERVICE MANUAL
PA NO. 0030 AND PA NO. 0036 FOR ADDITIONAL TECHNICAL INFORMATION.

NOTE:

1. MAIN CHASSIS ADJUSTMENT is done with precision equipment. Readjustment is only recommended if the service technician replaced a defective component related to the circuit.
2. COMMON SERVICE ADJUSTMENT is recommended for the service technician after final troubleshooting and repair is done. Quick check and fine tuning is advisable to verify that the problem is eliminated.

1. MAIN CHASSIS ADJUSTMENT

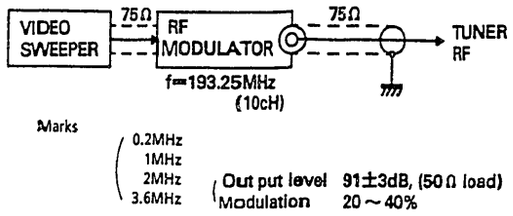
1-1. IF ADJUSTMENT

1-1-1. IF waveform adjustment

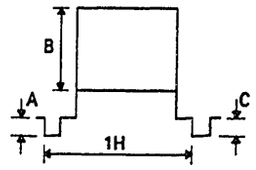
Set AGC adjustment VR (R202) to mechanical center.

Adjustment Preparation

(a) Connect Signal as follows:



(b) Connect Oscilloscope to TP-12. Check the signal at TP-12 as follows:

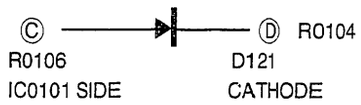


A. Set Up Level
B. Sweep Signal Level
C. Sync. Level

(c) Add Following Voltage.

1. IC201 pin ⑭ ; +B (9V)
2. IC0101 pin ㊵ ; +B (5V)
3. TUNER V_T POINT Ⓐ ; 42V

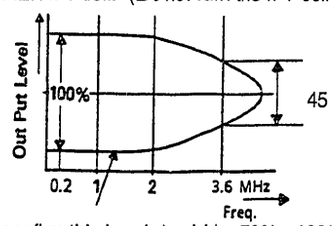
4. Connect Diode (1S2076 or 1S270TA) to Ⓒ - Ⓓ



5. Press memory Initialize Key with Remo-Con Jig.
6. Receive Color Bar signal.

Adjustment Procedure

(a) Adjust 3.6MHz level as follows to turn the TUNER IFT coil. (Do not turn the IFT coil more than 1 turn.)



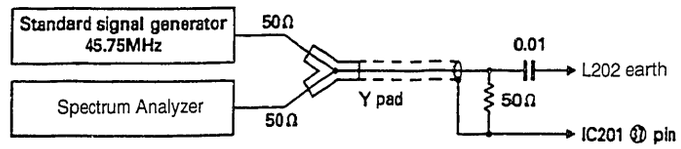
45 - 50% (-6.5 ± 0.5dB)

For 1MHz - 2MHz, confirm this level should be 70% - 100%

1-1-2. VCO Adjustment (L202)

Adjustment Preparation

(1) Apply 9.0 ± 0.1V to IC201 pin ⑭.
(2) Connect IC201 pin ② to GND.
(3) Connect the following jig and pick up VCO oscillation leakage voltage.



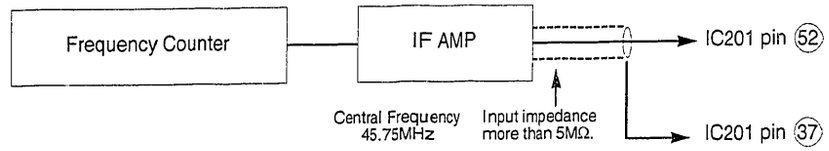
Adjustment Procedure

(1) Adjust L202 so that VCO frequency detected by Spectrum Analyzer is 45.75MHz +0/-50 kHz. (Match the output level of standard Signal Generator to the level of VCO oscillation leakage voltage. And adjust L202 to take 0 beat.)
NOTE: Perform this adjustment after VCO frequency is stabilized.

VCO Adjustment (L202) (Another method)

Adjustment Preparation

(1) Apply 9.0 ± 0.1V to IC201 pin ⑭.
(2) Connect IC201 pin ② to GND.
(3) Connect the following jig and pick up VCO oscillation leakage voltage.



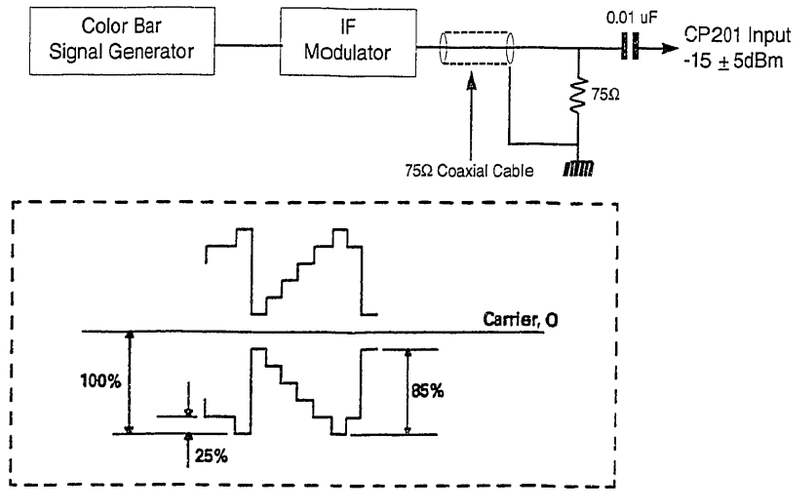
Adjustment Procedure

(1) Adjust L202 so that the reading of Frequency Counter is 45.75MHz +0/-50 kHz.
NOTE: Perform this adjustment after VCO frequency is stabilized.

1-1-3. AFS Discrimination Adjustment (L203)

Adjustment Preparation

(1) Input signal: Between CP201 input and earth (R107 both ends).



(2) Apply 9.0 ± 0.1V to IC201 pin (14).

(3) Connect a DC Voltmeter (internal impedance 1M ohm or more) to AFS output terminal (IC201 pin (47)).

Adjustment Procedure

(1) Turn L203 and check that the DC Voltmeter connected as above varies from under 0.5V to over 8.5V.

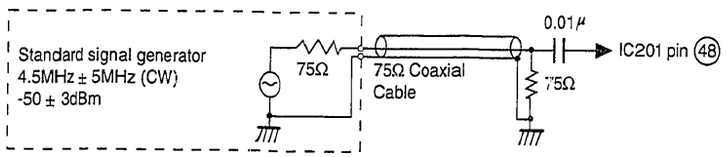
(2) Adjust L203 so that the DC Voltmeter is 6.0 - 7.0V at the intermediate point of the core which is changing voltage rapidly in (1) above.

NOTE: After this adjustment is finished, perform item 1-1-2. VCO adjustment (check). If it is deviated, adjust to regular adjusting point and check again the subsequent adjustments.

1-1-4. Sound Discrimination Adjustment (L243)

Adjustment Preparation

(1) Input signal: Apply the following signal to IC201 pin (48).



(2) Apply DC Voltage 9.0 ± 0.1V to IC201 pin (14).

(3) Connect a DC Voltmeter between Q241 emitter and earth.

Adjustment Procedure

(1) Adjust L243 so that the reading of the DC Voltmeter is 3.5 ± 0.3V.

1-2. COMB FILTER

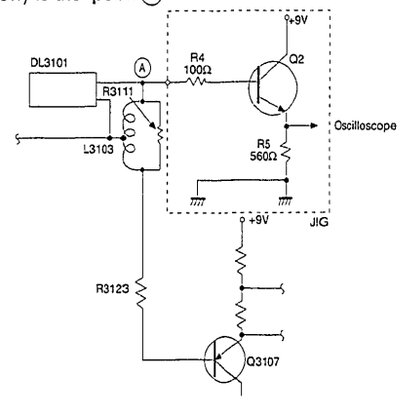
1-2-1. Comb Filter Adjustment (I)

Adjustment Preparation

(1) Adjust the VR (R3110, R3117, R3119) to center position.

(2) Receive a Color Bar signal or a Green Single Color.

(2) Connect the jig (shown below) to the point (A).

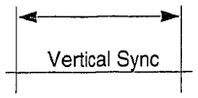


Adjustment Procedure

(1) Turn VR (R3110) so that the sub-carrier component becomes min..

(2) Then turn L3103 so that the sub-carrier component becomes min..

NOTE: Sub-carrier component wave form shows below point.



(3) When Residual Chroma Level is not less than 20mVp-p repeat items (1) and (2).

Remarks:

(1) Use the Oscilloscope probe of 10:1.

(2) Adjust the range of Oscilloscope to 20mV/div.

(3) Residual Chroma Level should be less than 20mVp-p.

(4) Connect the jig and P.W.B. by lead wire of minimum length, to prevent a defective oscillation.

(5) Adjustment should be done 2 minutes after applying power.

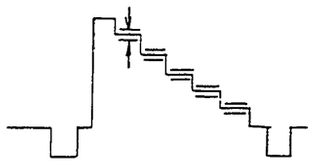
1.2.2. Comb Filter Adjustment (II)

Adjustment Preparation

(1) Connect an Oscilloscope between Q3105 emitter and earth.

Adjustment Procedure

(1) Turn VR (R3117) so that the sub-carrier component becomes min..
(2) Then turn VR (R3119) so that sub-carrier component becomes min..
(3) When item (2) is finished, turn VR (R3117) again so that the sub-carrier component becomes min.
(4) If Residual Chroma Level is not less than 15mVp-p, repeat items (1) and (2).

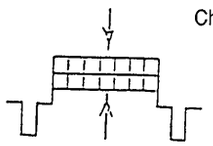


Color Bar Signal

Remarks

(1) Adjust the range of Oscilloscope to 50mV/div.
(2) Residual Chroma Signal Level should be less than 15mVp-p.
NOTE: Chroma Signal Level shows below point.

Chroma Signal Level



Green Single Signal

1.3. Deflection Circuit Picture Adjustment Operation Check

I. Vertical Size Adjustment VR (R627)

Adjustment Preparation

(1) Receive Circle Pattern signal.
(2) Set "PICTURE" to max and "BLACK LEVEL" to the center.

Adjustment Procedure

(1) Adjust V. size Adjustment VR (R627) so that the inner circle of Circle Pattern becomes in contact with the top and bottom of the screen.

II. Side Pin Distortion Coarse Adjustment VR (R752)

Adjustment Preparation

(1) Receive Circle Pattern signal.
(2) Set "PICTURE" to max and "BLACK LEVEL" to the center.

Adjustment Procedure

(1) Vary VR (R752) so that the right and left vertical lines are straight.

III. Horizontal Size Adjustment VR (R755) and Horizontal Center Adjustment VR (R713)

Adjustment Preparation

(1) Receive Circle Pattern signal.
(2) Set "PICTURE" to max and "BLACK LEVEL" to the center.

Adjustment Procedure

(1) Vary VR (R755) so that the horizontal size markers at the right and left end are 1.5 - 1.5 on the average.
(2) Vary VR (R713) so that the difference of the horizontal size markers at the right and left end are within 1.5.

1.3.1 High Voltage Limiter Operation Check and Overvoltage Protection Circuit Operation Check.

Adjustment Preparation

(1.) Connect a high voltage voltmeter between the CPT anode terminal (anode cap) and ground (TP702).
(2.) Set the AC input voltage to 120 ± 3V.
(3.) Receive Circle Pattern and set the "BLACK LEVEL" and "PICTURE" to max. Adjust SCREEN VR and SUB-BRIGHT VR (R306) so that beam current is IB ± 0.1mA. (The voltage of ABL terminal C734 both ends should be 12V or less.)

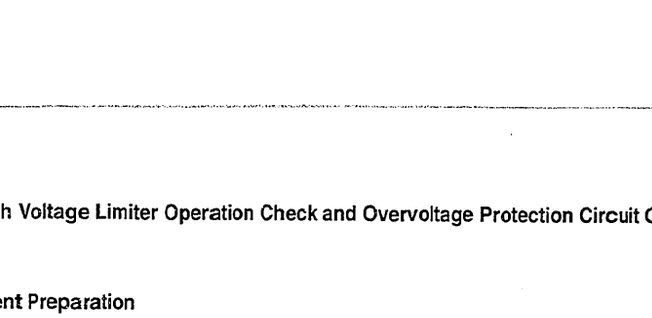
Adjustment Procedure

(1.) Check that the normal high voltage is E_{HT} ± 1kV.

CHASSIS	E_{HT}	I_B	E_1
CY32/CY34	29.2kV	1.5mA	32.5 ± 1.2kV (I_B = 2.0mA)
C730/C740	27.5kV	1.2mA	31.3 ± 1.2kV

Adjustment Preparation

(4.) Set the AC input voltage to 100 ± 5V and then short circuit both ends of R906.



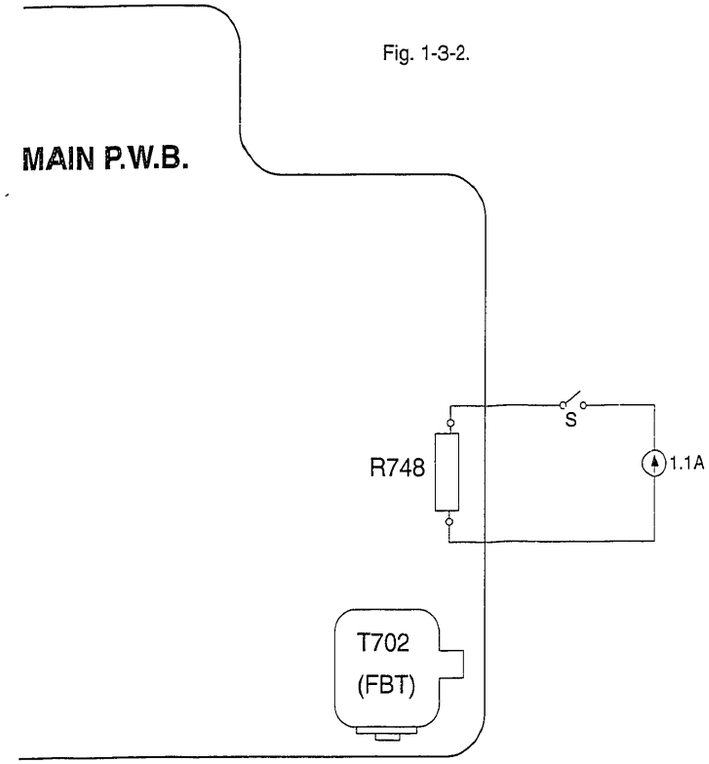
Adjustment Procedure

(2) Keep PICTURE, BLACK LEVEL, and SCREEN VR as in item (3). Increase AC input voltage gradually, and check that the picture disappears when high voltage is E1. Immediately after checking that it disappears, turn OFF the set switch. Remove adjustment jig and High Voltage Voltmeter. When connecting or removing High Voltage Voltmeter to or from anode cap, be sure to turn OFF the switch of the set. Also, be sure to perform it after the chassis discharge of residual high voltage, because the high voltage of CPT anode may be left.

1-3-2. FBT Protection Circuit Operation Check

(1) Set PICTURE to max, BLACK LEVEL to center.
(2) After turning ON the switch of the set, turn ON the switch (S) of the jig as shown below. (Operating current limiter circuit.) Check that the picture disappears.
(3) Immediately after checking, turn OFF the switch of the set.

Fig. 1-3-2.



1-3-3. Check 16V short protection circuit.

Adjustment Preparation

(1) PICTURE to max, BLACK LEVEL to center.

Adjustment Procedure

(1) Connect a 10kΩ resistor between Q906 Base and GND, and check that the picture disappears.
(2) Disconnect resistor immediately.

1-4. MTS DEMODULATING CIRCUIT ADJUSTMENT

1-4-1. Stereo VCO Adjustment VR (R0410)

Adjustment Preparation

(1) Set VR (R0403) fully counterclockwise. Set Q241 EMITTER to GND through 100 uF/16V capacitor as shown below in figure 1-4-1A.

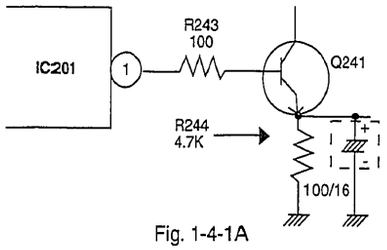


Fig. 1-4-1A

(2) Connect IC0401 pin (23) to pin (24) through resistor 470 KΩ as shown below in figure 1-4-1B.

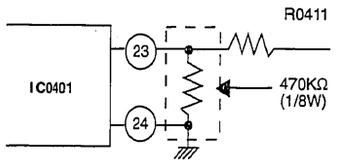


Fig. 1-4-1B

(3) Connect a Frequency Counter at IC0401 pin (41) . Use a probe of 1:1. Probe standard Ri ≧ 1Mohm, Ci ≦ 15pF.

(4) IC0401 pin (39) input is no signal.

(5) Apply +9 ± 0.1V to the point in the figure 1-4-1C shown below. (IC0401 +B)

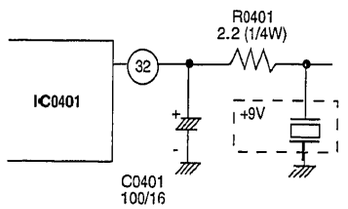


Fig. 1-4-1C

Adjustment Procedure

(1) Turn VR (R0410) to set to 15.73 ± 0.01 KHz.

(2) After the adjustment, remove the 470 K Ω (between pin (23) and (24)).

1-4-2. Filter Adjustment VR (R0414)

Adjustment Preparation

(1) Set VR (R0403) fully counterclockwise.

(2) Set Q241 EMITTER to GND through 100uf/16V capacitor as shown in figure 1-4-2A below.

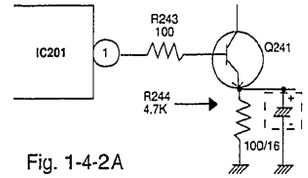


Fig. 1-4-2A

(3) Apply the signal to IC0401 pin (39) with the jig shown as follows in figure 1-4-2B.

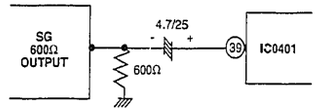


Fig. 1-4-2B

Signal Generator (SG)

(A) SG Output Specifications

(1) f = 15.73KHz (sine wave) (fh)

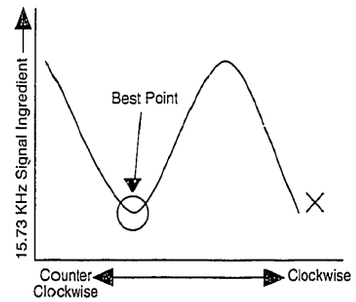
(2) Signal Level

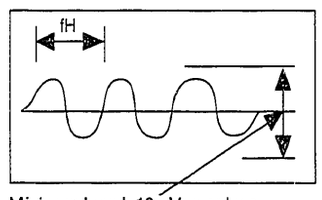
V = 100mVrms

(4) Connect an Oscilloscope to IC0401 pin (35) (L - R out).

Adjustment Procedure

(1) Input signal (A) and adjust it by turning VR (R0414) so that the waveform of pin (35) (15.73KHz included) is minimum as shown below.



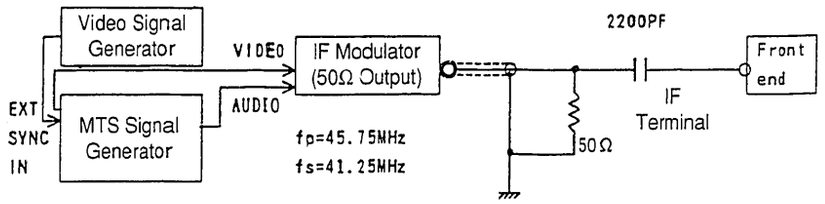


1-4-3. Input Level Adjustment VR (R0403)

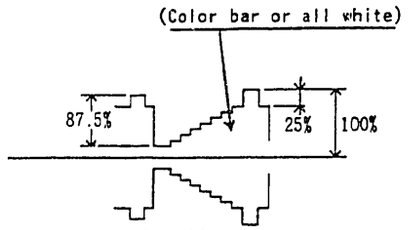
Adjustment Preparation

(1) Apply the signal to TUNER (U101) IF output terminals of MAIN PWB using the jig shown below.

*Video Signal and Audio Signal should be synchronized.



IF Modulator Output Signal Waveform



IF Modulator Output Level and P/S
P= 106dBu (50 ohm termination)
S Level: -3dB to P Level
At this time, S/N ratio of F/E video output is 45dB or less.

Sound Modulator Condition:

- Noise Reduction Encoder: ON
- Stereo Signal: ① R = 0, L only = 300Hz, 30% modulation (Note 2)*
  ② R = 0, L only = 3kHz, 30% modulation (Note 2)*
- Monaural Signal: ③ Monaural, 400Hz 100% modulation (PRE-EN OFF)
- SAP Signal: ④ SAP, 300Hz 30% modulation (Note 2)*

(2) Connect AC voltmeter V_0 to IC0401 pin ㊴ through the jig given below. Use the AC voltmeter of Matsushita made, model VP950C or equivalent.

(3) Same as item 1.4.1 (5) (Apply +B to IC0401).

*refer to next page

Adjustment Procedure

(1) Select sound input signal ③ and adjust VR (R0403) to V_0 = 150mVrms ± 5mVrms.

1-4-4. Separation Adjustment VR (R0417, R0418)

(Adjustment of items 1.4.1 - 1.4.3. should have been finished.)

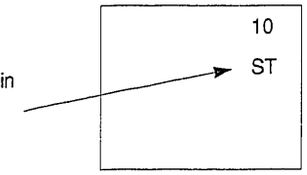
Adjustment Preparation

(1) Connect the same jig as the input level adjustment. But, be sure to remove AC Voltmeter connected to IC0401.
(2) Connect an Oscilloscope to IC0401 pin ④.
(3) Same as in items 1.4.3 (3) and (4).
(4) Set MTS MODE to STEREO.

Remarks

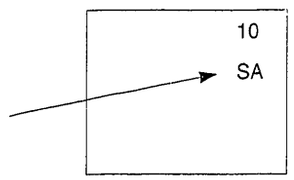
Pay attention that the separation adjustment point may be deviated if input level is not regularly adjusted.

Check that "ST" is indicated in red under CH indication by pressing RECALL key of Remo-Con check jig.



NOTE 1: Use a Sound Modulator with a frequency characteristic within ± 1% during 50Hz - 100kHz.
NOTE 2: Turn OFF the Noise Reduction Encoder (NR) and set the modulation degree to 30% and then turn ON the NR. Set the modulation degree ST to the output of low frequency Signal Generator. Leave the Sound Modulator VR of the IF Modulator as it is.

(SAP Receiving Check)
Check that SA is indicated in red under CH indication by pressing RECALL key of Remo-Con check jig.



Adjustment Procedure

(1) Select sound input signal ① and adjust VR (R0418) so that 300Hz level is min.
(2) Select sound input signal ② and adjust VR (R0417) so that 3KHz level is min.
(3) Repeat (1) and (2).
Adjustment precision: within + 1 dB from the min. point.

1.4.5. SAP Receiving Check

Adjustment Preparation

(1) Same as in items 1.4.4 (1) - (4)
(2) Set to MTS MODE to SA.

Adjustment Procedure

(1) Select sound input signal ① and designate the output level as V ST.
(2) Then select sound input signal ④ and check that the output level is almost the same as V ST.

2. COMMON SERVICE ADJUSTMENTS

2-1. PURITY CONVERGENCE ADJUSTMENT

NOTE: For A68KSA60X (HITACHI 27V Tint) and A78LCU30X (HITACHI 31V DarkTint) apply item 2.1.1 - 2.1.2 (8).

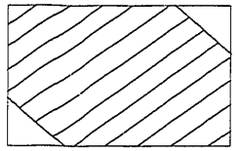
2-1-1. Preparation of Adjustment

(1) Keep the DY fully into CPT funnel.
(2) Turn ON the switch of the set and receive Crosshatch signal or Circle Pattern signal.
Adjust the Static Convergence coarsely according to item 2-1-4.
(3) Receive Circle Pattern signal and adjust the White Balance according to item 2-4.
(4) Set BLACK LEVEL control and PICTURE control to max.,and apply heat-run to set with Circle Pattern signal received for 40 minutes or more.
(5) Turn ON the power of the Purity Adjustment jig. (When the Purity Adjustment jig is used.)

2-1-2. Purity Adjustment

THIS ADJUSTMENT METHOD APPLIES TO THE PURITY ADJUSTMENT BY USING MICROSCOPE

(1) Adjust coarsely White Balance, Static Convergence (center) and Focus.
(2) Receive Circle Pattern and heat-run more than 40 minutes with PICTURE and BLACK LEVEL max. Do not delete the raster nor vary the current before fixing the position of DY. Heat-run should be done with perfect raster. (DY and tilt should have been coarsely adjusted.)



Rasters Wane NG

Table 1.

CPT	Time
A68KSA60X (Hitachi)	40 min.
A78LCU30X (Hitachi)	40 min.

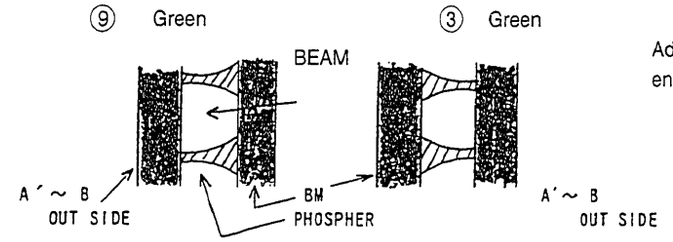
(3) The magnetic field should face as table 2.

Table 2. Direction for Adjustment

A68KSA60X (Hitachi)	North
A78LCU30X (Hitachi)	North

(4) Adjust the position of Purity magnet and DY, keep the landing balance of ③ and ⑨, and adjust so that the landing of ③ and ⑨ is as follows while observing with a microscope.

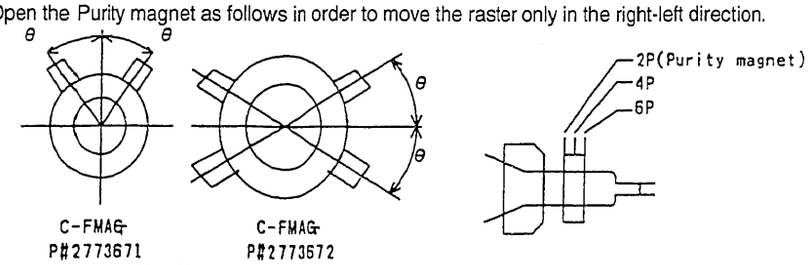
CPT
A68KSA60X
(Hitachi)



Adjusting Point
end of ③ and ⑨

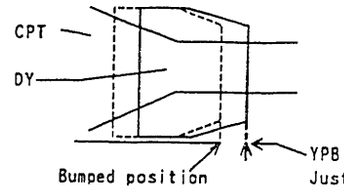
A78LCU60X
(Hitachi)
Adjusting Point ③/⑨ A' OUT SIDE

(A) Open the Purity magnet as follows in order to move the raster only in the right-left direction.



Keep the balance of ③/⑨DY landing

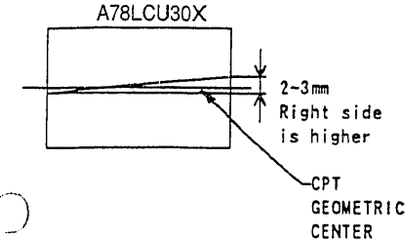
(B) YPB (Yoke Pull-Back) should be as follows.
(Distance between the bumped position of DY toward the funnel and the just-landing position of ③ and ⑨).



CPT	YPB (Design Center)
A68KSA60X (Hitachi)	2.4 mm
A78LCU30X (Hitachi)	2.2 mm

(C) DY Tilt should be as follows:
Face: North

A68KSA60X/
A78LCU30X



(D) A78LCU30X
Landing at ③ and ⑨ : Swing the beam right and left using the jig and adjust the position of DY so that green becomes just - landing at the position 30 mm away from the end.

The following two parts of miss landing should be the same. One is the miss landing on the right side of the phosphor when turning ON the jig sw forward to move the beam toward left. - - - - - - CASE A. The other is the miss landing on the left side of the phosphor when turning ON the jig sw backward move the beam toward right. - - - - - - CASE B.

GREEN PHOSPHOR

Adjust DY - position as LA - RA

Landing of ③/⑨

LA : Miss Landing at case A.

RA : Miss-Landing at CASE B.

Reference
Beam-shape of grade A' level is as follows.

A78LCU30X
③ O'Clock $-10 \leq \frac{LA-RA}{2} \leq 10u$

⑨ O'Clock $-10 \leq \frac{RA-LA}{2} \leq 10u$

(5) Fix DY with fixing torque of 14kg•cm. Control the torque by an electric driver.
(6) If any miss landing occurs, correct with magnets.
If any wane of 10u or so, judge by white unevenness. At this time, if the white unevenness is all right, any magnet is not needed.
(7) After peripheral convergence is adjusted, check the position of DY and tighten the DY again. (14kg•cm)
(8) Purity Check
The set should face as follows. Check these items visually and with a microscope.

(A) No problem in white unevenness.
(B) Each single color must not hit any other colors.
(C) If white or each single color is defective, apply a magnet (S) on CPT for correction. if any magnet is applied, check it after degaussing.

CPT	Check Face
A68KSA60X/ A78LCU30X	South, North

2-1-3. Purity Adjustment (For A68KSA60X, A78LCU30X)

(This adjustment method applies to the hand-operated Purity Adjustment.)

(1) Adjust Focus coarsely according to item 2-2.
(2) Adjust Convergence coarsely according to item 2-1-4.
(3) Receive a TV Broadcast signal and check that the PICTURE and BRIGHT LEVEL are max..
(4) Receive the Magenta signal when the Magenta signal is not available, short-circuit between the base and emitter of Q855 to set to Magenta.
(5) Press DY fully against CPT funnel and turn the Purity magnet so that the vertical Magenta band comes to the center of the picture. (Fig. 2-1-3A)
Check that color unevenness of both sides are approximately equal at this time. The openings of the Purity magnet should be symmetric. (Fig. 2-1-3B)
(6) Receive the Single Red signal.
When the Single Red signal is not available, short circuit between the base and emitter of Q854 and between the base and emitter of Q857 to set to Single Red.
(7) Pull back DY gradually and when the color unevenness of both sides of the picture disappears mark the rear edge position of DY on the tape wound around CPT neck as shown in Fig. 2-1-3C. Pull back DY further and just before the color unevenness starts to appear on both sides of the picture, mark the rear edge position of DY on the tape by the same way. At this time, pull back DY so that the center axis of DY and CPT axis match.

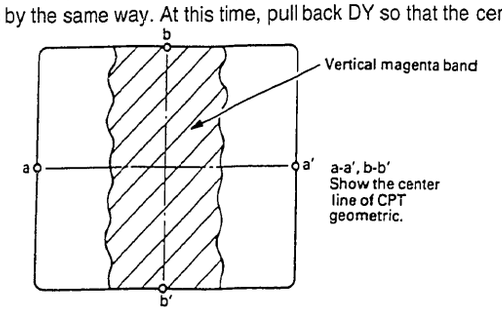


Fig. 2-1-3A

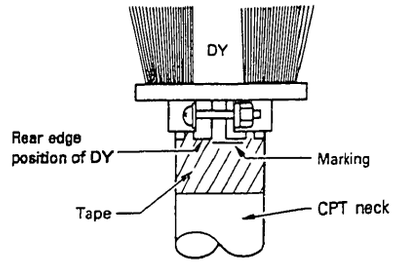
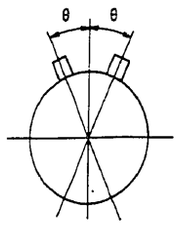
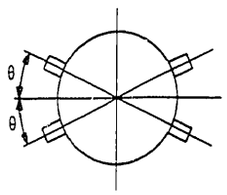


Fig. 2-1-3C



(P#2773671)

The operation of the Purity magnet are symmetric on the right and left sides (P#2773671)

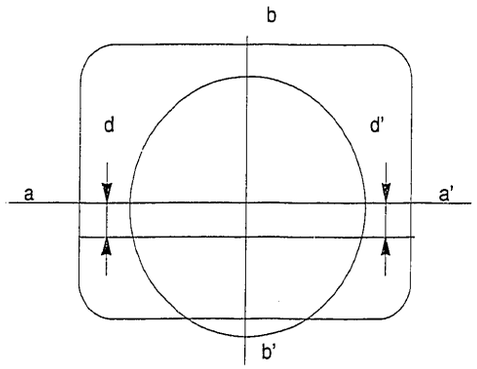


(P#273672)

The operation of the Purity magnet are symmetric on the upper and lower sides (P#273672)

Fig. 2-1-3B

(8) Move DY so that the rear edge position of DY comes to the center of the two marked lines and fasten DY as d=d'. (Figure 2-1-3D)
Further insert the rubber wedge between DY and CPT funnel from the top and raise DY backwards.



a - a'
b - b'
Geometric Center
Line of CPT

Fig. 2-1-3D

(9) Check the Purity in each color of R, G, and B visually. Then, turn the screen to white and check the landing at the screen position shown in Fig. 2-1-3E with a microscope.

Criteria with microscope
There should be no miss landing at positions 2, 4, 8 and 10. (Refer to miss landing criteria) Green beam should be at the center of the green phosphor at position C.

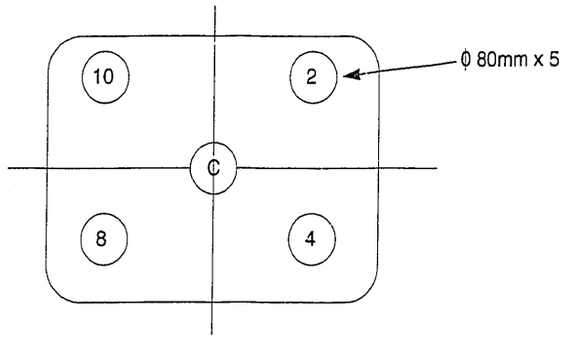


Fig. 2-1-3E

2-1-4. Static Convergence Adjustment (Screen Center Part)

(1) Receive the Crosshatch signal and set BRIGHTNESS to center, PICTURE to min.

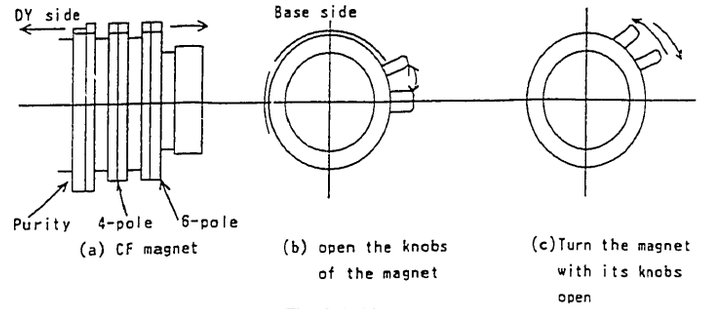


Fig. 2-1-4A

(2) Open the knobs of 4-pole magnet (2 sheets) (Fig. 2-1-4-A(b) and match the blue/red vertical lines at the center of the screen as shown in Fig. 2-1-4B(a))
(3) Turn the 4-pole magnet with its knobs open (Fig. 2-1-4-A(c)) and match the blue/red horizontal lines as shown in Fig. 2-1-4B(b).

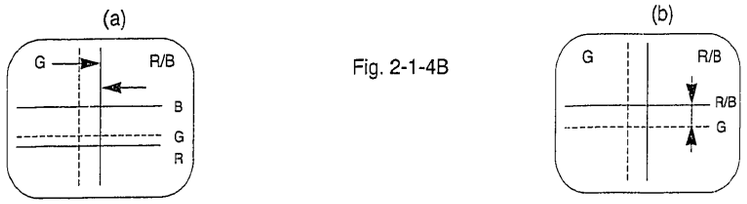


Fig. 2-1-4B

(4) Open the knobs of 6-pole magnet (2 sheets) and match the green vertical line at the center of the screen to the blue/red vertical lines as shown in Fig. 2-1-4B(c).

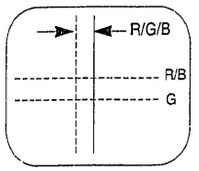


Fig. 2-1-4B(c)

(5) Turn the 6-pole magnet with its knobs open and match the green horizontal line at the center of the screen to the blue/red horizontal lines as shown in Fig. 2-1-4B(d).

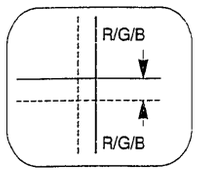


Fig. 2-1-4B(d)

(6) After the adjustment of items (1) - (4), if red/blue/green (3 colors) do not match, repeat the adjustment of (1) - (4).
(7) After checking that the Purity and Static Convergence are adjusted to the best condition, fix C-F magnet with white paint.

2-1-5. Dynamic Convergence Adjustment

(1) Insert adjustment wedge (temporary) between the top of DY opening and CPT funnel as shown in Fig. 2-1-5A. By inserting the wedge gradually, match the red and blue vertical lines at the top and bottom of the screen and also match the red and blue horizontal lines of both sides of the screen as shown in Fig. 2-1-5B(a).
(2) Adjust and swing in the right/left directions of DY while observing 6 and 12 horizontal lines of the screen and match the red and blue horizontal lines. As shown in Fig. 2-1-5B(b) when the blue is outside from the red on CPT screen, insert the DY fixing wedge between the right side DY viewed from the rear of CPT and CPT funnel.
(3) As shown in Fig. 2-1-5B(c), when the blue is inside from the red on CPT screen, insert the wedge between the left-side DY and CPT funnel.
(4) Insert two DY fixing wedges with approx. 120° to the DY fixing wedge inserted in the items (2) or (3) and remove the adjustment wedge (temporary). Use the DY fixing wedge after peeling off the tape. After the location, press and adhere it to the funnel.

HITACHI CPT A68KSA60X/A78LCU30X

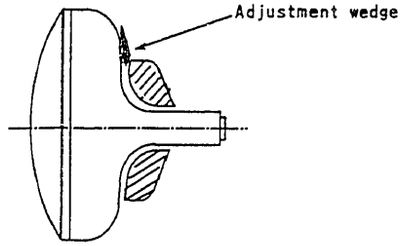
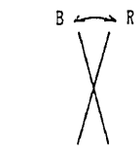
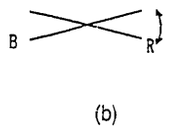


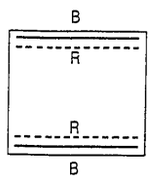
Fig. 2-1-5A



(a)

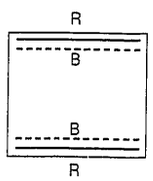


(b)



(b)

Fig. 2-1-5B



(c)

2.2. FOCUS ADJUSTMENT

(1) **Applicable CPT**
HITACHI: A68KSA60X

Condition
Receive the Crosshatch Signal.
Contrast: Maximum
Sharpness: Center
Brightness: Center

Focus VR Setting Position
Turn the Focus VR gradually clockwise from the full counterclockwise.
The set it to the point where the focus of **center vertical line** becomes best.

(2) **Applicable CPT**
HITACHI: A78LCU30X

Condition
Receive the Crosshatch Signal.
Contrast: Maximum
Sharpness: Center
Brightness: Center

Focus VR Setting Position
Turn the Focus VR gradually clockwise from the full counterclockwise.
Then set it to the point where the focus of **center vertical line** becomes best.

2.3. DEFLECTION CIRCUIT PICTURE ADJUSTMENT

2.3.1. Horizontal Center Adjustment VR (R713)

Adjustment Preparation

(1) Receive Circle Pattern signal.
(2) Set PICTURE to max. and BLACK LEVEL to center.

Adjustment Procedure

(1) Adjust H. size marker by turning VR (R713) to adjust difference of right and left horizontal size, marker is within 1.5.

2-3-2. Vertical Size Adjustment VR (R627)

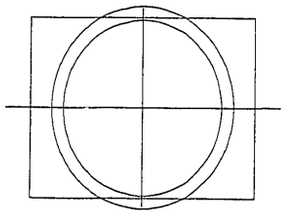
Adjustment Preparation

(1) The set should face the North or South.
(2) Receive Circle Pattern signal, and set PICTURE to max. and BLACK LEVEL to center.

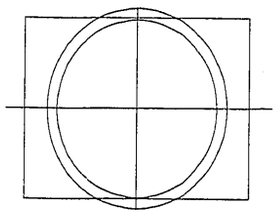
Adjustment Procedure

(1) Adjust V. size VR (R627) so that the outer circle of the Circle Pattern is like the figure below.
NOTE: Perform this adjustment more than 5 minutes after applying the power ON.

(i) When the picture center is below CPT center.
Adjust so that 1/2 of the width of the outer circle comes to the top of the screen.

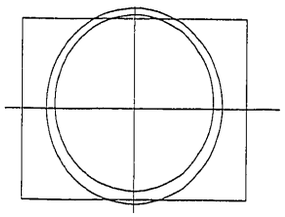


(ii) Standard condition
Adjust so that the inner circle comes in contact with the top and bottom of the screen.



(iii) When the picture center is above CPT center
(1) When the picture center is 0-2 mm above CPT center, adjust so that the bottom of the inner circle comes in contact with the bottom of the screen.

(2) Except for the above, adjust so that 1/2 of the width of the outer circle comes to the bottom of the screen.



2.3.3. Side Pin Distortion Adjustment VR (R752)

Adjustment Preparation

(1) Receive Crosshatch signal and set PICTURE to max. and BLACK LEVEL to the point where the background is set.

Adjustment Procedure

(1) Adjust VR (R752) so that the line of the right and left is straight.

2-3-4. Horizontal Size Adjustment VR (R755)

Adjustment Preparation

(1) Receive Circle Pattern signal.
(2) Set PICTURE to max. and BLACK LEVEL to center.

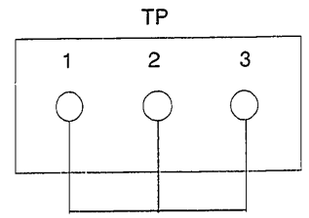
Adjustment Procedure

(1) Adjust Horizontal size so that the average reading of right and left is 1.5.

2-4 WHITE BALANCE ADJUSTMENT

Adjustment Preparation

(1) Apply heat-run 10 min. or more after the power is turned ON.
(2) Check that the Purity Adjustment has been completed.
(3) Set the vertical incident illumination on the CPT surface to 20 lux or less.
(4) Receive White Raster signal.
(5) Set Drive adjusting VRs (R806, R816) to the mechanical center.
(6) Turn Low Brightness White Balance adjusting VRs (R807, R814, R818) fully counterclockwise.
(7) Set the Color Temperature Control (White Control) to STD.
(8) Turn the screen adjusting VR fully counterclockwise.
(9) Short circuit TP connector pin 1-3.



Adjustment Procedure

(1) Turn the screen adjusting VR clockwise and set it to the position where the bright colored line starts appearing on CPT screen. Do not turn thereafter the Low Brightness White VR (this is called VR-A) corresponding to the color first appearing. When a bright colored line does not appear, set the screen VR fully clockwise.
(2) Turn fully clockwise the Low Brightness White Balance VRs except VR-A and adjust so that the red, green and blue bright colored lines appear on the screen equally.
(3) Remove the jig which has shorted TP connector.

(4) Set PICTURE and BLACK LEVEL control to min. and turn SUB-BLACK LEVEL VR (R306) to set at the position where the white raster is just slightly seen.
(5) Set the White Balance meter at the center of the screen. (White Balance meter should be calibrated as specified by HITACHI Design Department.)
(6) Adjust Picture control so that the indication of the Brightness meter is 80% of the full scale. Then, turn the Drive adjusting VRs (R806, R816) and adjust the High-Brightness White Balance.
(7) Adjust Picture control to min. and check that the Low-Brightness White Balance is obtained by directly observing the CPT surface, without using a mirror.
(8) When the Low Brightness White Balance is not obtained, adjust other Low-Brightness White Balance VRs except VR-A and return to item (6).

White Balance Color Temperature Setting 7200° K.

(9) Set White Control (Color Temperature Control) to COOL, and check that Color Temperature is approx. 9300° K.

2.5. SUB-BLACK LEVEL ADJUSTMENT VR (R306)

Adjustment Preparation

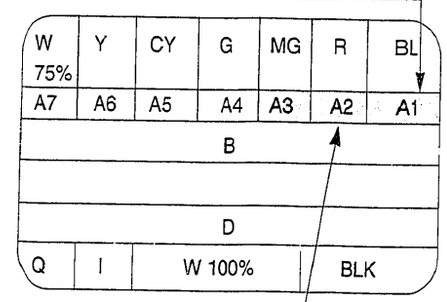
(1) Apply heat-run for 10 min. or more after the power is turned ON.
(2) Receive Color Bar signal.
(3) Set PICTURE and COLOR controls to min.
(4) Set the vertical incident illumination on the CPT surface to 20 lux or less.
(5) Set BLACK LEVEL control to the center position.
(6) Set White Control to STD.

Adjustment Procedure

(1) Turn SUB-BLACK LEVEL Adjustment VR (R306) as follows:
SUB-BLACK LEVEL adjustment the background of A1 is set to black and A2 is set lighter black.
(2) Check by directly observing the CPT surface, without using a mirror.

The background is set to black.

Perform the adjustment without observing the boundary parts.



The background is set to lighter black.

2.6. AGC ADJUSTMENT VR (R202)

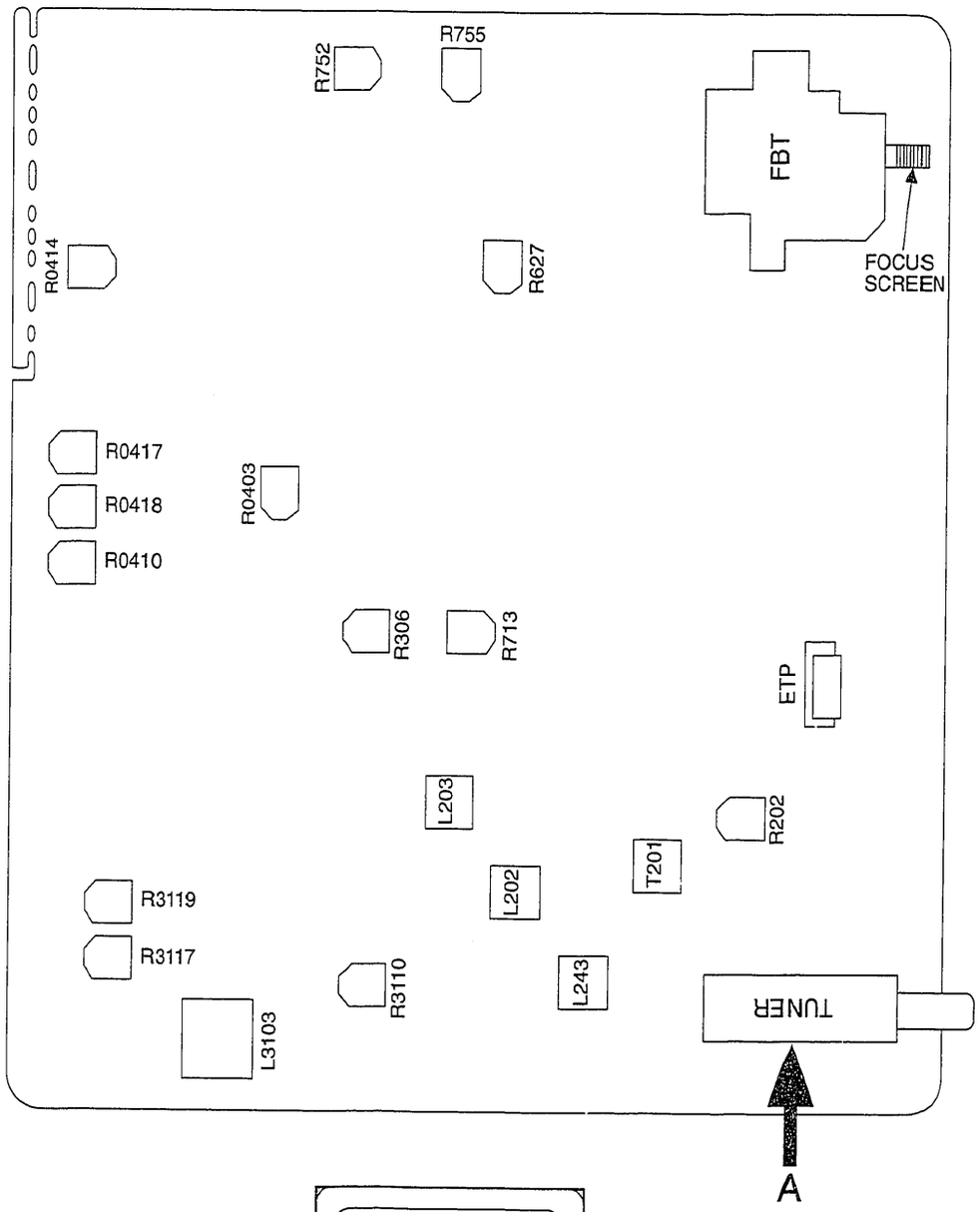
Adjustment Preparation

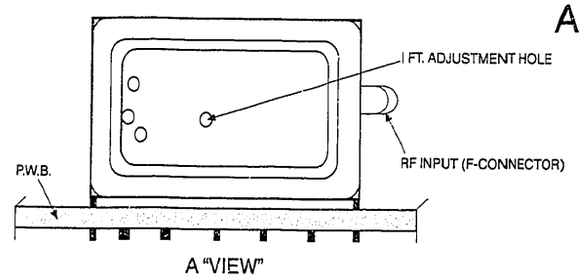
(1) After all the adjustments are finished, heat - run 5 min. or more in signal receiving condition.
(2) Receive Circle Pattern signal.
(3) Set PICTURE to max. and BLACK LEVEL to On Screen Display center.
(4) Antenna input power: -53 dBm $^{+1}_{-0}$ (-53dBm - -52dBm)
(5) Connect DC Voltmeter of internal resistance 1MΩ or more to TP15.

Adjustment Procedure

(1) Adjust AGC adjustment VR (R202) until the indication of the DC Voltmeter does not change any more at the maximum point. The reading of the DC Voltmeter is named V1. Adjust AGC adjustment VR (R202) so that the reading of the DC Voltmeter is {V1 - (0.5 + 0.2) } V.

3. ADJUSTMENT POINT



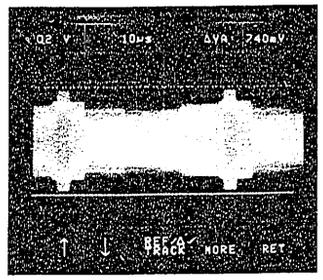


A "VIEW"

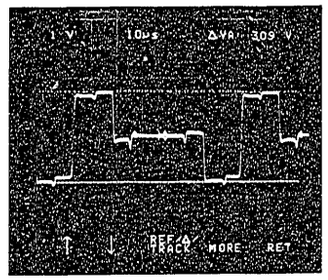
WAVEFORMS AT EACH SECTION

Numbers inside circles correspond to locations shown in the circuit diagram.

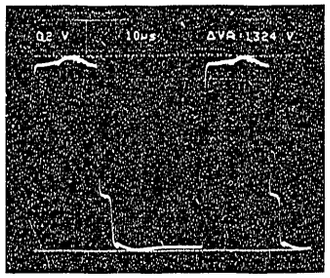
(1) U101 pin 7



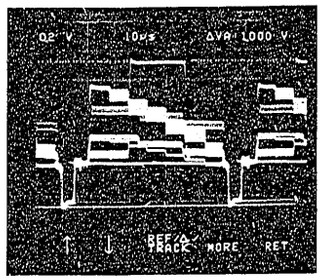
(5) IC 201 pin 18



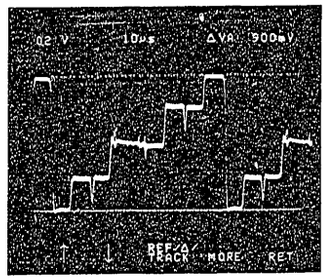
(9) IC201 pin 23



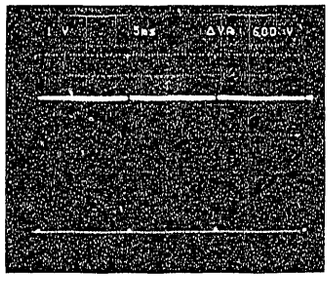
(2) IC201 pin 38



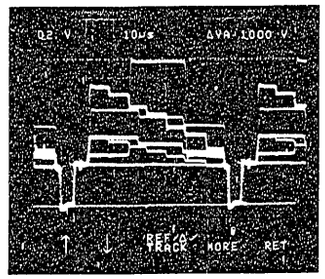
(6) IC201 pin 19



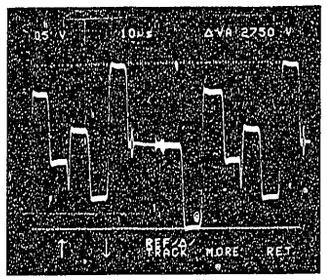
(10) IC201 pin 28



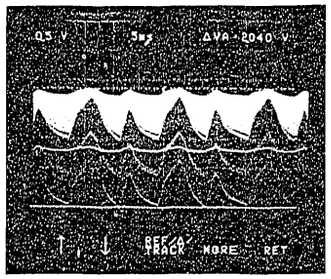
(3) Q3106 emitter



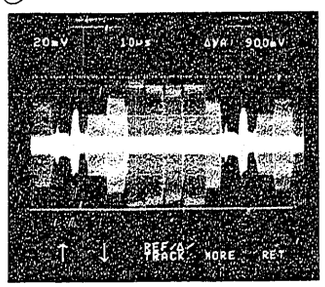
(7) IC201 pin 20



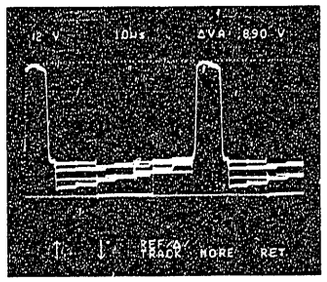
(11) IC651 pin 6



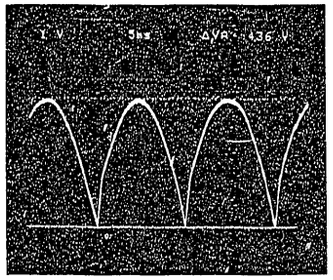
(4) Q3107 emitter



(8) IC201 pin 21



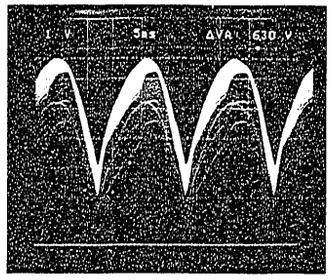
(12) Between R669 and R651



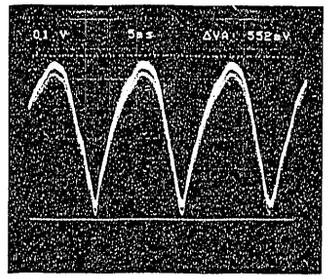
WAVEFORMS AT EACH SECTION

Numbers inside circles correspond to locations shown in the circuit diagram.

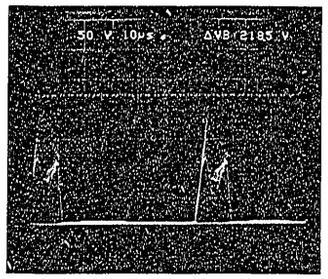
(13) Q651 emitter



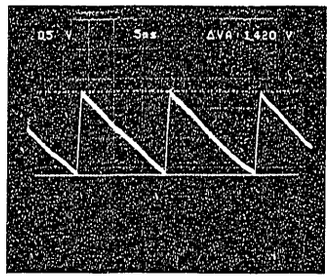
(17) Q750 base



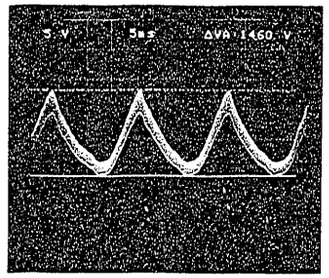
(21) Between C726 and L711



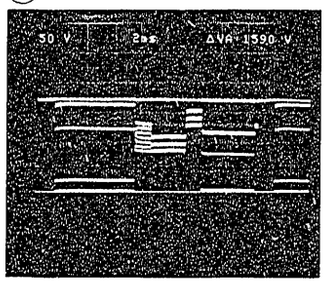
(14) Between R650 and R627



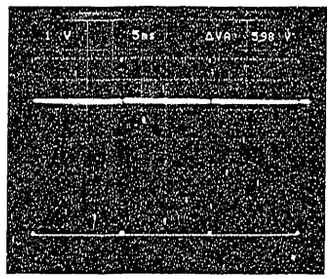
(18) Q752 collector



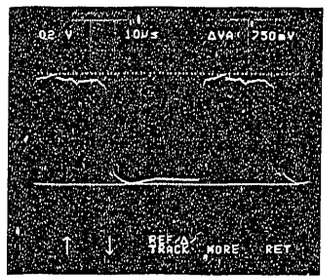
(22) Q854 collector



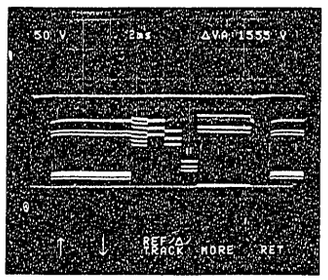
(15) IC625 pin 2



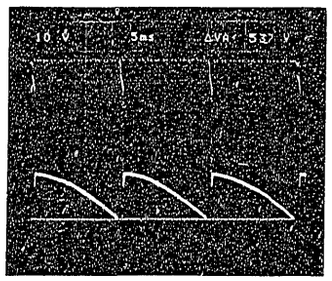
(19) Q710 base



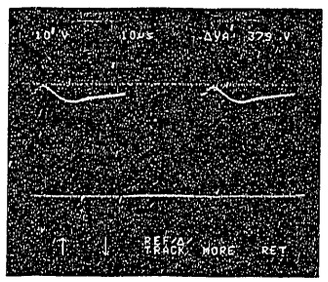
(23) Q855 collector



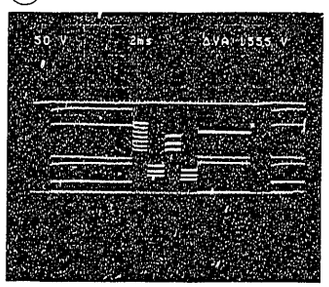
(16) IC625 pin 12



(20) Q710 collector



(24) Q856 collector



DC VOLTAGE TABLES

CIRCUIT NO.	PIN NO.	VOLTAGE (V DC)
IC402	11	4.4
	12	0.3
	13	0.3
	14	8.7
IC471	1	1.3
	2	0.1
	3	17.6
	4	0
	5	0.1
	6	1.3
	7	7.9
	8	16.8
	9	0
	10	17.8
	11	14.8
	12	9
IC625	1	8.1
	2	4.4
	3	4.1
	4	4.1
	5	0
	6	4
	7	3.9
	8	25.9
	9	2.4
	10	1.4
	11	0
	12	13.6
	13	26.5
IC651	1	5.1
	2	5.1
	3	5.1
	4	0
	5	5.7
	6	5.7
	7	6.1
	8	10.7
IC701	1	10.7
	2	9.5
	3	0
	4	3.9
	5	32.8
	6	4
IC702	1	0
	2	0
	3	0
	4	15.8
IC901	1	0
	2	130.5
	3	160
	4	130.5
	5	0

CIRCUIT NO.	PIN NO.	VOLTAGE (V DC)
Q0101	B	0
	C	5.1
	E	0
Q0102	B	4.5
	C	5.1
	E	5.1
Q0105	B	0.7
	C	0.1
	E	0
Q0106	B	0
	C	4.4
	E	0
Q0107	B	0
	C	4.9
	E	0
Q0108	B	2.3
	C	5.1
	E	1.6
Q0109	B	0.8
	C	0.1
	E	0
Q0110	B	0.6
	C	2.5
	E	0.3
Q0111	B	0.3
	C	2.5
	E	0.3
Q101	B	2.3
	C	7.2
	E	1.6
Q201	B	3.2
	C	0
	E	3.9
Q202	B	2.1
	C	8.8
	E	1.5
Q241	B	2.9
	C	8.8
	E	2.3
Q301	B	9
	C	9
	E	8.3
Q302	B	4
	C	0
	E	3.8
Q303	B	4.6
	C	3.8
	E	3.8
Q3101	B	5.1
	C	0
	E	5.7
Q3102	B	4.1
	C	7.1
	E	3.5
Q3103	B	3
	C	6.6
	E	2.3
Q3104	B	2.3
	C	6.1
	E	1.6
Q3105	B	3.4
	C	8.3
	E	2.8
Q3106	B	6.1
	C	8.9
	E	5.4
Q3107	B	3.5
	C	0
	E	4.1
Q3108	B	4.4
	C	8.9
	E	3.7
Q3109	B	0.8
	C	0
	E	0

CIRCUIT NO.	PIN NO.	VOLTAGE (V DC)
Q3110	B	6.2
	C	0.7
	E	6.8
Q3111	B	0.7
	C	5.3
	E	0
Q3112	B	1.1
	C	8.8
	E	0.5
Q3113	B	8.3
	C	5
	E	8.9
Q3114	B	5.3
	C	8.8
	E	4.6
Q3115	B	0
	C	0
	E	0
Q401	B	0.2
	C	8.8
	E	0
Q402	B	1.2
	C	2.1
	E	0.5
Q403	B	2.7
	C	6.4
	E	2.1
Q404	B	2.7
	C	6.4
	E	2.1
Q405	B	6.4
	C	8.7
	E	5.7
Q406	B	6.4
	C	8.8
	E	5.7
Q407	B	1.8
	C	8.1
	E	1.2
Q408	B	8.1
	C	5.8
	E	8.7
Q409	B	1.8
	C	8.1
	E	1.2
Q410	B	8.1
	C	5.7
	E	8.7
Q411	B	0
	C	0
	E	0
Q412	B	0
	C	0
	E	0
Q471	B	0
	C	17.6
	E	0
Q551	B	0.7
	C	0.1
	E	0
Q601	B	5.1
	C	8.8
	E	4.4
Q602	B	0.6
	C	4.1
	E	0
Q651	B	601
	C	9.6
	E	5.3
Q706	B	9.6
	C	17.7
	E	9
Q710	B	.04
	C	19.4
	E	0

CIRCUIT NO.	PIN NO.	VOLTAGE (V DC)
Q711	B	-58.8
	C	35.1
	E	-58.8
Q712	B	0
	C	17.7
	E	0
Q741	B	6.4
	C	7.3
	E	5.7
Q750	B	-57.9
	C	-49
	E	-58.3
Q751	B	-41.8
	C	-58.3
	E	-41.7
Q752	B	-58.3
	C	-45.5
	E	-58.8
Q851	B	5.1
	C	7.8
	E	4.4
Q852	B	5.2
	C	7.8
	E	4.5
Q853	B	5.3
	C	7.8
	E	4.6
Q854	B	8.9
	C	150.4
	E	8.3
Q855	B	8.9
	C	146
	E	8.3
Q856	B	8.9
	C	146.9
	E	8.3
Q863	B	1.4
	C	4.4
	E	3.8
Q864	B	3.2
	C	3.9
	E	3.9
Q904	B	13.1
	C	17.7
	E	12.5
Q906	B	17.7
	C	0
	E	17.9
Q921	B	-59.3
	C	35
	E	-59.5
Q951	B	0
	C	15.2
	E	8.8
Q952	B	5.8
	C	15.2
	E	5.2
Q953	B	36.9
	C	22.3
	E	38
Q954	B	0
	C	36.9
	E	0
Q981	B	41.9
	C	55.6
	E	35.5
Q982	B	57.7
	C	57.7
	E	58.4

DC VOLTAGE TABLES

CIRCUIT NO.	PIN NO.	VOLTAGE (V DC)
IC0101	1	5
	2	5
	3	5
	4	5
	5	0
	6	0
	7	0
	8	0
	9	5
	11	2.3
	12	2.5
	13	5
	14	5
	15	5
	16	5
	17	2.8
	18	5
	19	5
	20	5
	21	0
	22	0
	23	0
	24	0
	25	4.35
	26	5
	27	2.5
	28	0
	29	0
	31	7
	32	3.5
	33	2.3
	34	5
	35	3.6
	36	1.5
	37	5
	38	5
	39	0
	40	5
	41	0.7
	42	0.1
	43	2.5
	44	5
	45	5
	46	5
	47	0.35
	48	0
	49	0
	50	0.18
	51	5
	52	5
IC0102	1	5
	2	5
	3	0
	4	5

CIRCUIT NO.	PIN NO.	VOLTAGE (V DC)
IC0102	5	5
	6	5
	7	5
	8	5
IC0103	1	0.35
	2	5
	3	0
	4	5
	5	0
	6	0
	7	7.5
	8	0
	9	0
	10	0
	11	0
	12	3.78
	14	0
	15	3.6
	16	4.5
	17	0
	18	5
IC0104	1	0.8
	2	1
	3	0
	4	0
	5	0
	6	2.3
	7	2.1
	8	4.2
	9	4.6
	10	4.1
	11	3.7
	12	3.5
	13	2.9
	14	3.5
	15	3.3
	16	5.2
	17	2.8
	18	2.9
	19	2.6
	20	1.3
	21	0.7
	22	0
IC201	1	5
	2	6.9
	3	5.6
	4	5.7
	5	4.3
	6	4
	7	0
	8	4.5
	9	4.6
	10	4.8
	11	8.7

CIRCUIT NO.	PIN NO.	VOLTAGE (V DC)
IC201	12	5.6
	13	5.2
	14	8.7
	15	0
	16	0
	17	0
	18	5
	19	5
	20	5
	21	4.1
	22	0.1
	23	0.6
	24	0
	25	5.3
	26	5.6
	27	7.7
	28	4.4
	29	6.8
	30	7.9
	31	4.2
	32	2.7
	33	5.7
	34	4.2
	35	4
	36	4.3
	37	0
	38	3.4
	39	7
	40	4.7
	41	3.8
	42	4.7
	43	8.3
	44	3.2
	45	3.1
	46	3
	47	5.2
	48	0
	49	3.3
	50	7.8
	51	7.8
	52	4.9
IC3001	1	0
	2	8.9
	3	4.3
	4	0
	5	5
	6	0.2
	7	5
	8	0.1
IC3002	1	2.7
	2	5.3
	3	2.6
	4	0.4
	5	1.9
	6	1.9
	7	0.4

CIRCUIT NO.	PIN NO.	VOLTAGE (V DC)
IC3002	8	2.6
	9	0.1
	10	2.7
IC401	1	1.3
	2	1.3
	3	4.6
	4	4.5
	5	4.5
	6	0
	7	4.6
	8	3.5
	9	0.1
	10	4.3
	11	4.5
	12	4.5
	13	1.3
	14	4.6
	15	0.4
	16	4.6
	17	0.8
	18	7.3
	19	4.6
	20	7.3
	21	4.7
	22	0
	23	6.4
	24	0
	25	0
	26	7.6
	27	4.5
	28	4.6
	29	3.2
	30	3
	31	0.1
	32	8.7
	33	0.1
	34	4.1
	35	4.4
	36	0.7
	37	3.9
	38	3.9
	39	4.5
	40	3.8
	41	1.8
	42	4.5
IC402	1	4.4
	2	4.3
	3	4.3
	4	4.3
	5	8.7
	6	8.7
	7	0

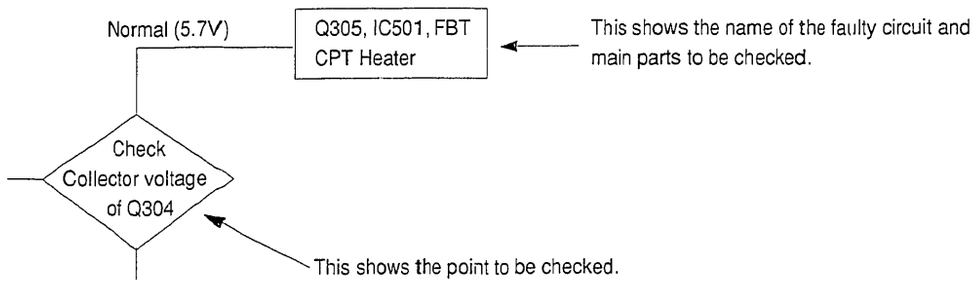
TROUBLESHOOTING FLOWCHARTS

PRODUCT SAFETY NOTE

The shaded and ⚠ marked components have special characteristics important to safety.
Read carefully the product safety notice of each service manual. Don't degrade the safety of the receiver through improper servicing when replacing any of this components.

How to use the flow chart

(1) The flow chart shows the following:

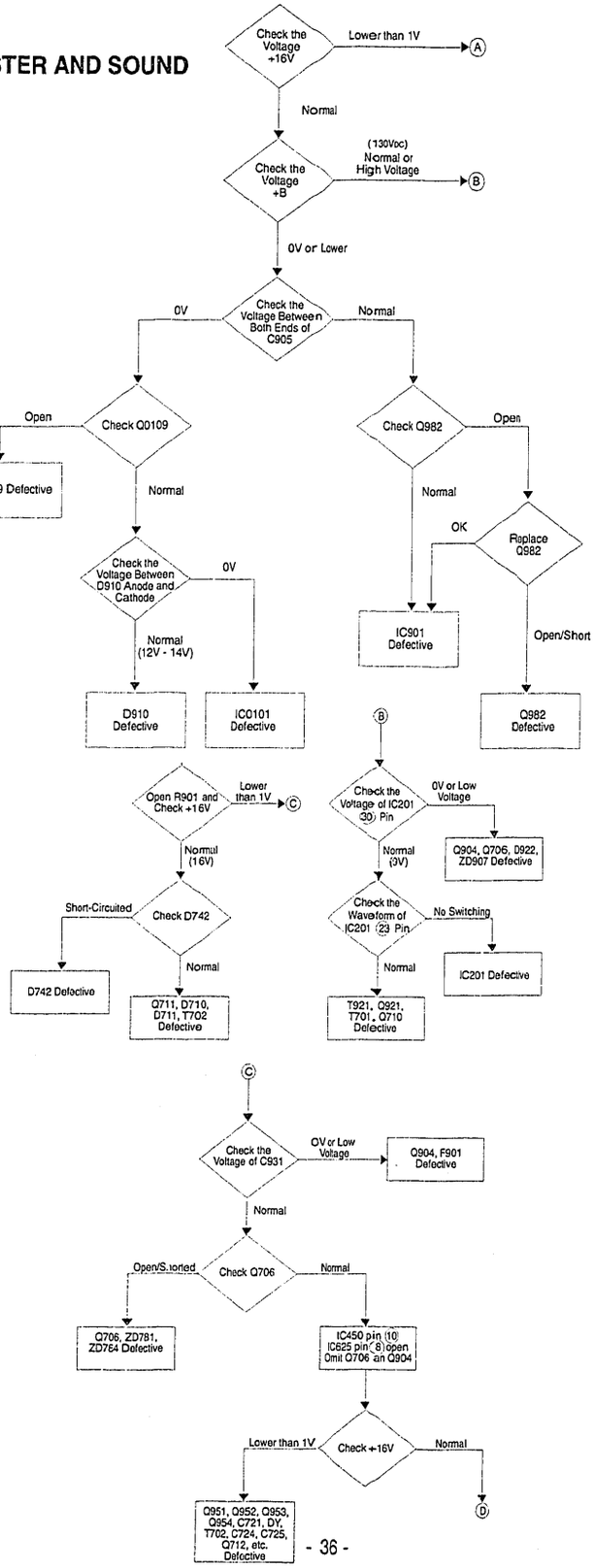


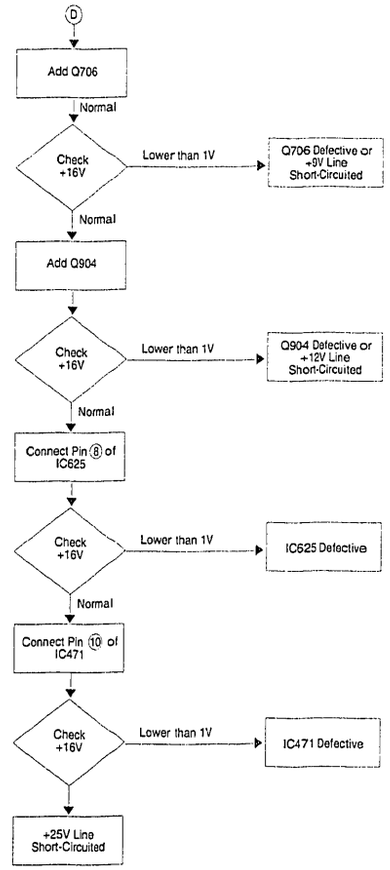
(2) The voltage shown in the chart may differ to some extent depending on the condition of the set and tester.

Precaution on Making Measurements and on Handling

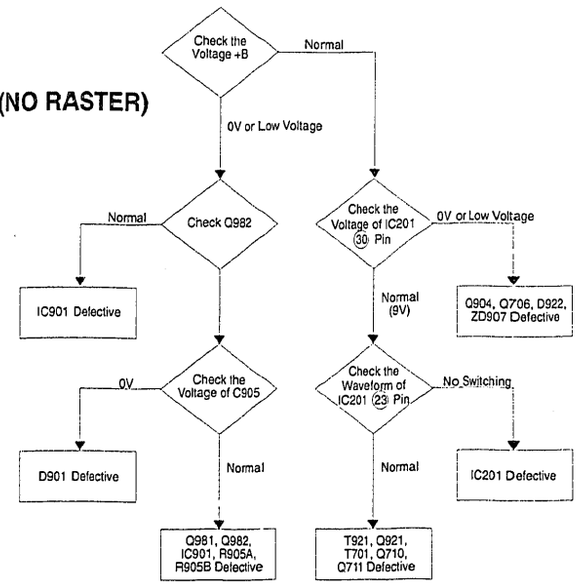
(1) When any part becomes abnormally hot or there is a smell of burning, CUT OFF the power immediately.
(2) Do not make shorts between circuits or across terminals except for those specified.
(3) When applying a signal for checking purposes, make connection in the alternate current system for any not specified.
(4) When measuring the voltages of ICs and TRs, be careful to see that the lead bar of the tester does not touch any other terminal.
(5) Measure the voltage correctly.
(6) Measure the resistance over a small range.
(7) Be sure to switch OFF the power when replacing parts.
(8) Do not apply a soldering iron for a long time when replacing parts. (Use a solder-wick)
(9) Use an isolation transformer when troubleshooting.

1. NO RASTER AND SOUND



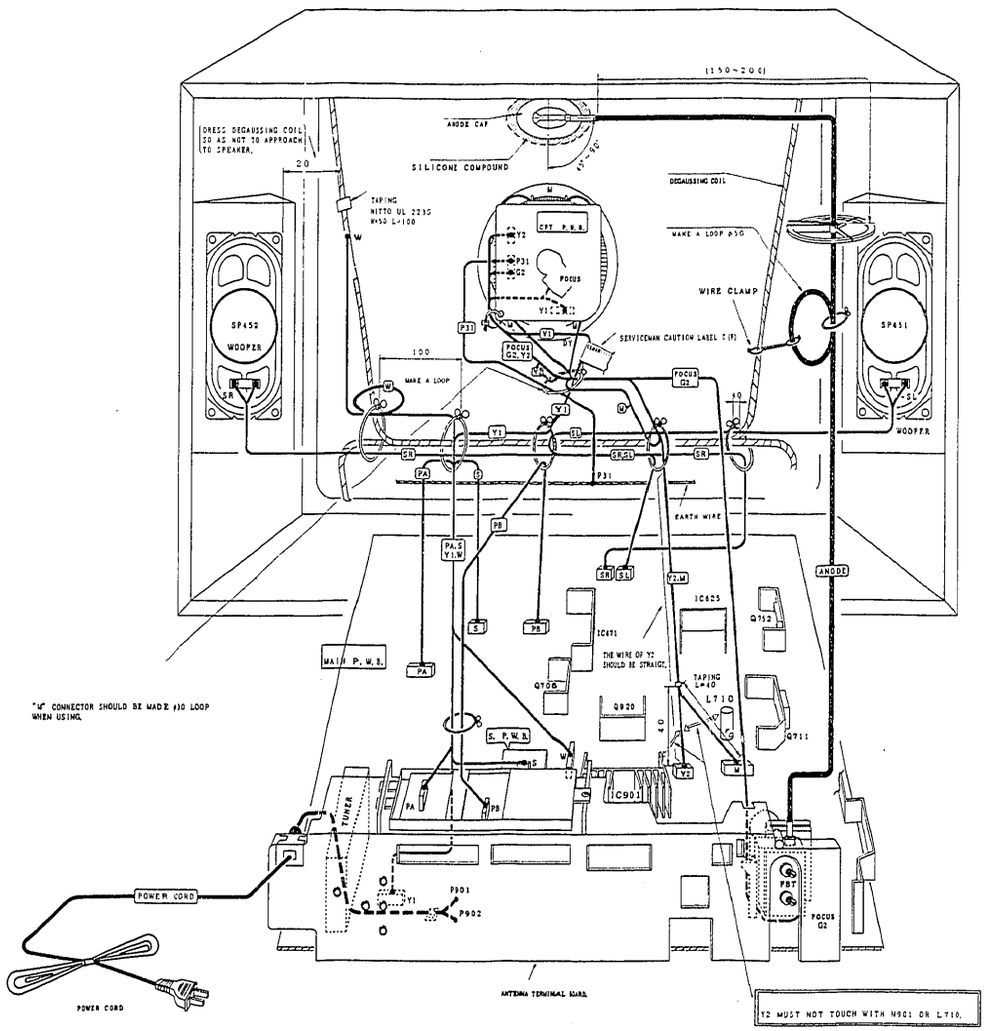


2. ONLY SOUND (NO RASTER)



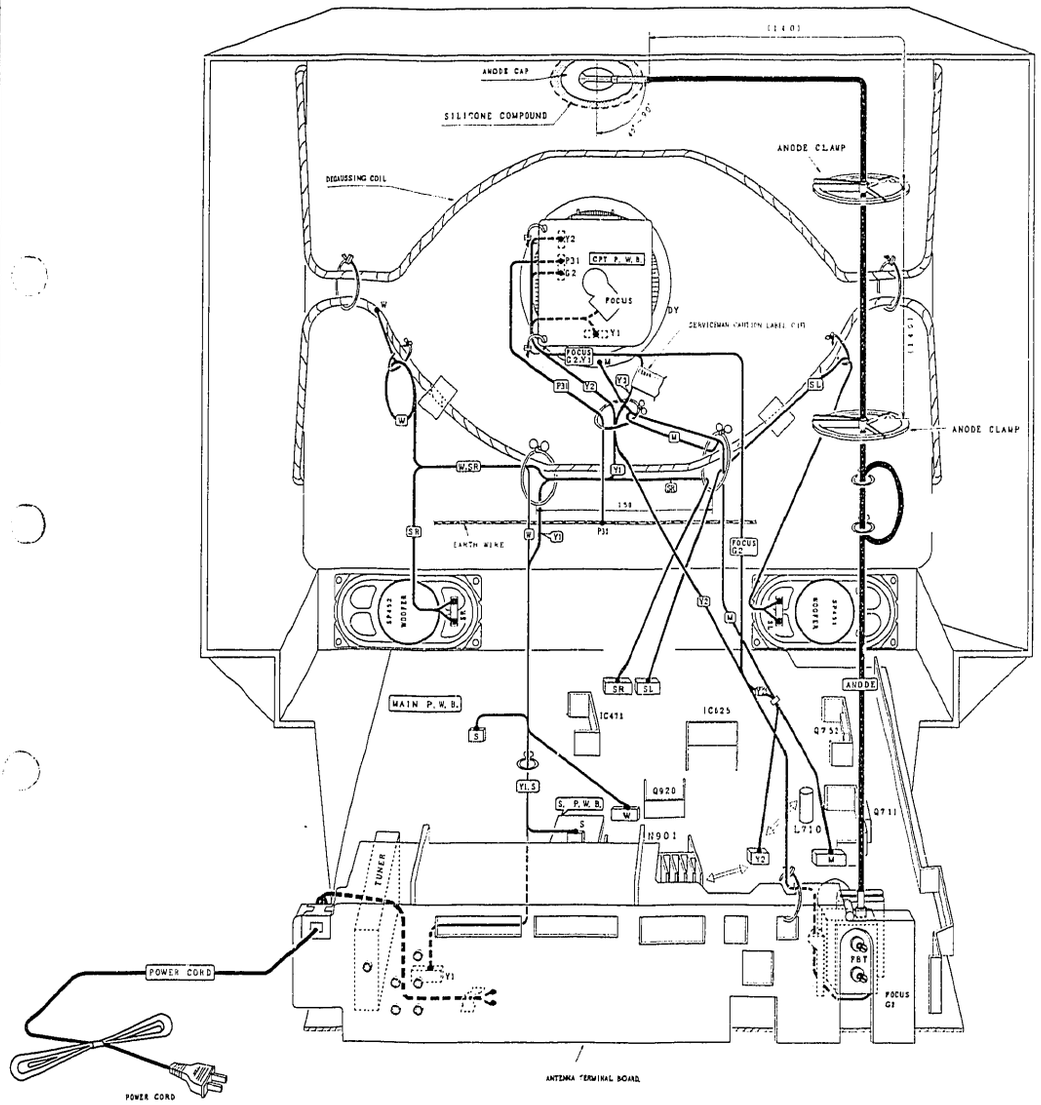
WIRING DIAGRAM

Wiring Drawing of 27AX5BX/C730, 27CX0B/C740
Final Assembly



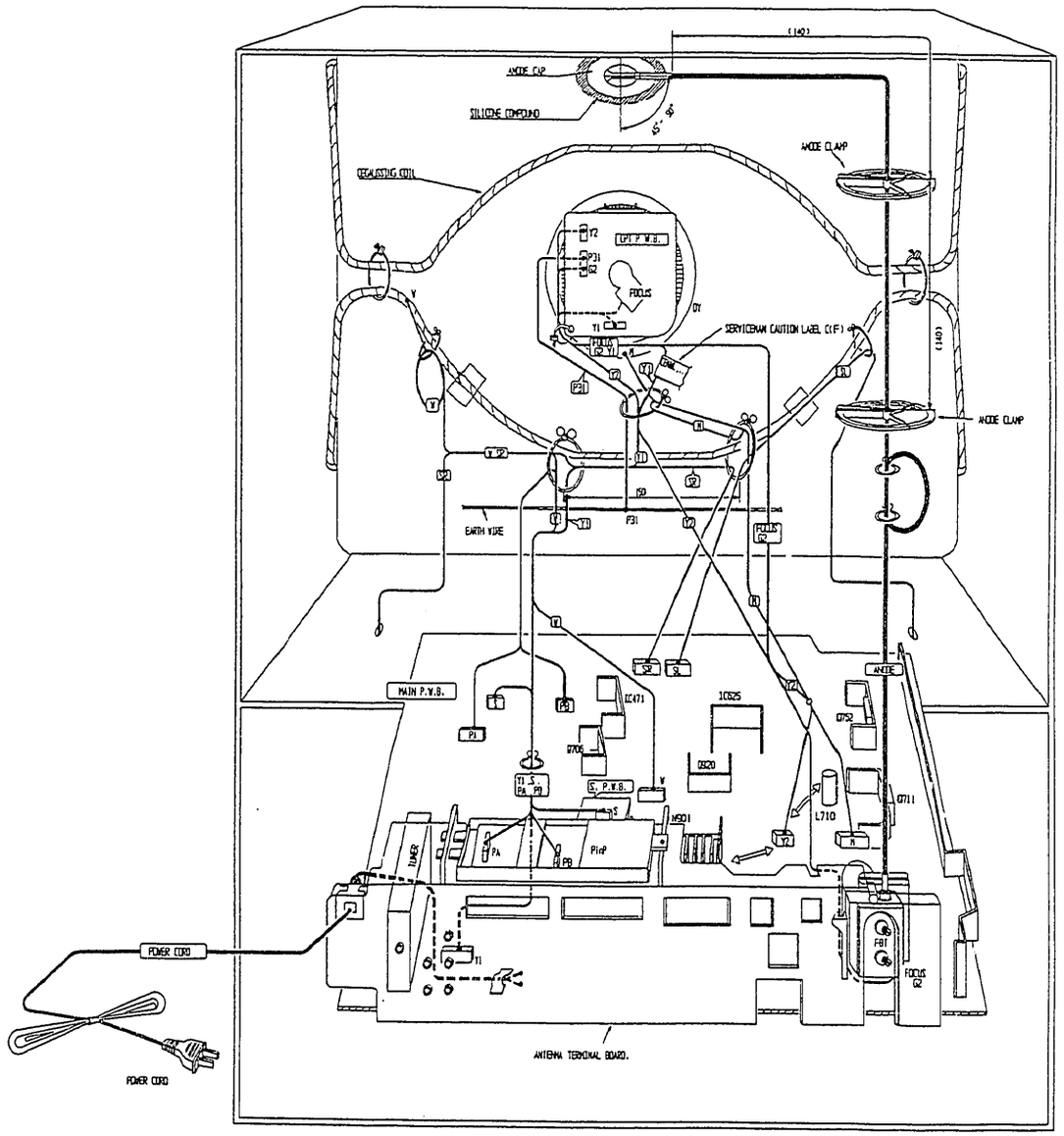
WIRING DIAGRAM

Wiring Drawing of 31DX22B/CY32
Final Assembly



WIRING DIAGRAM

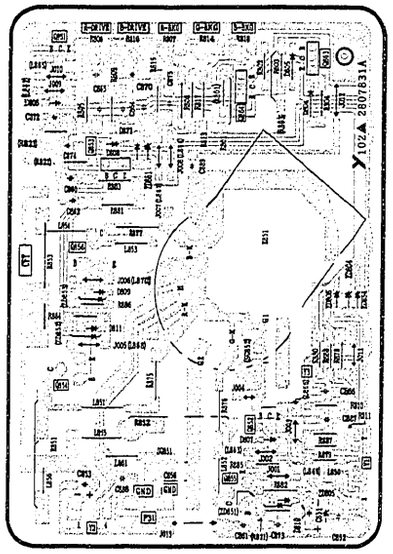
Wiring Drawing of 31KX41K/CY34
Final Assembly



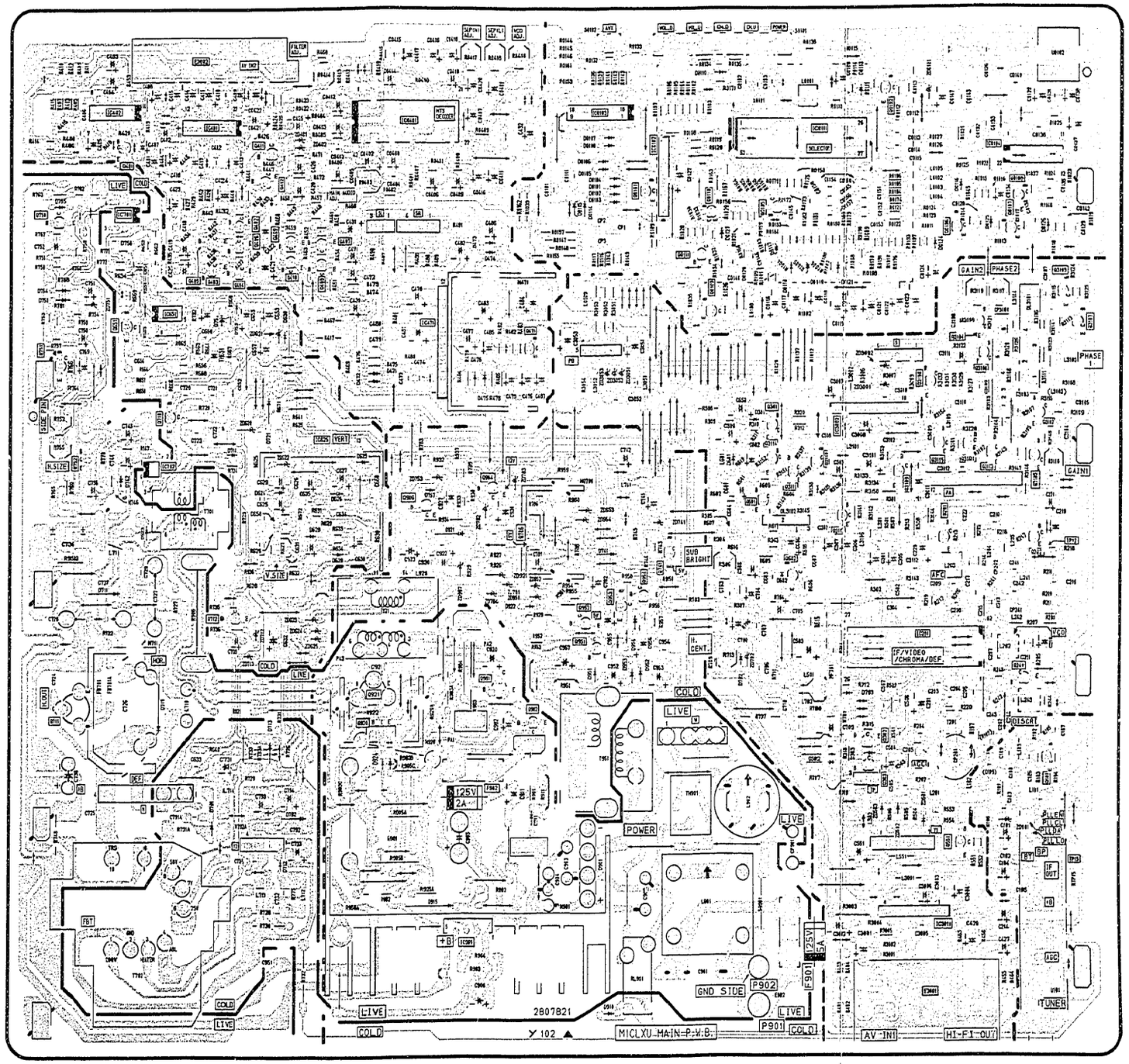
PRINTED WIRING BOARD
FOIL PATTERN

27AX5BX/C730
31DX22B/CY32
31KX41K/CY34

C.P.T. P.W.B.

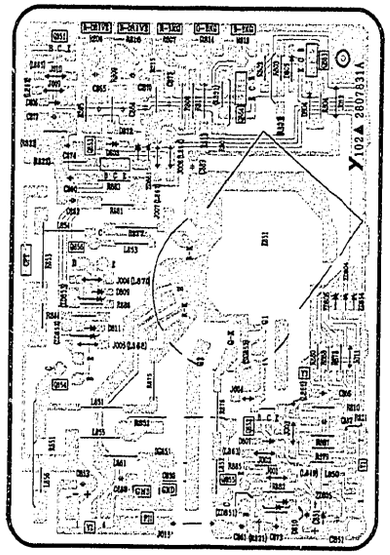


MAIN P.W.B.

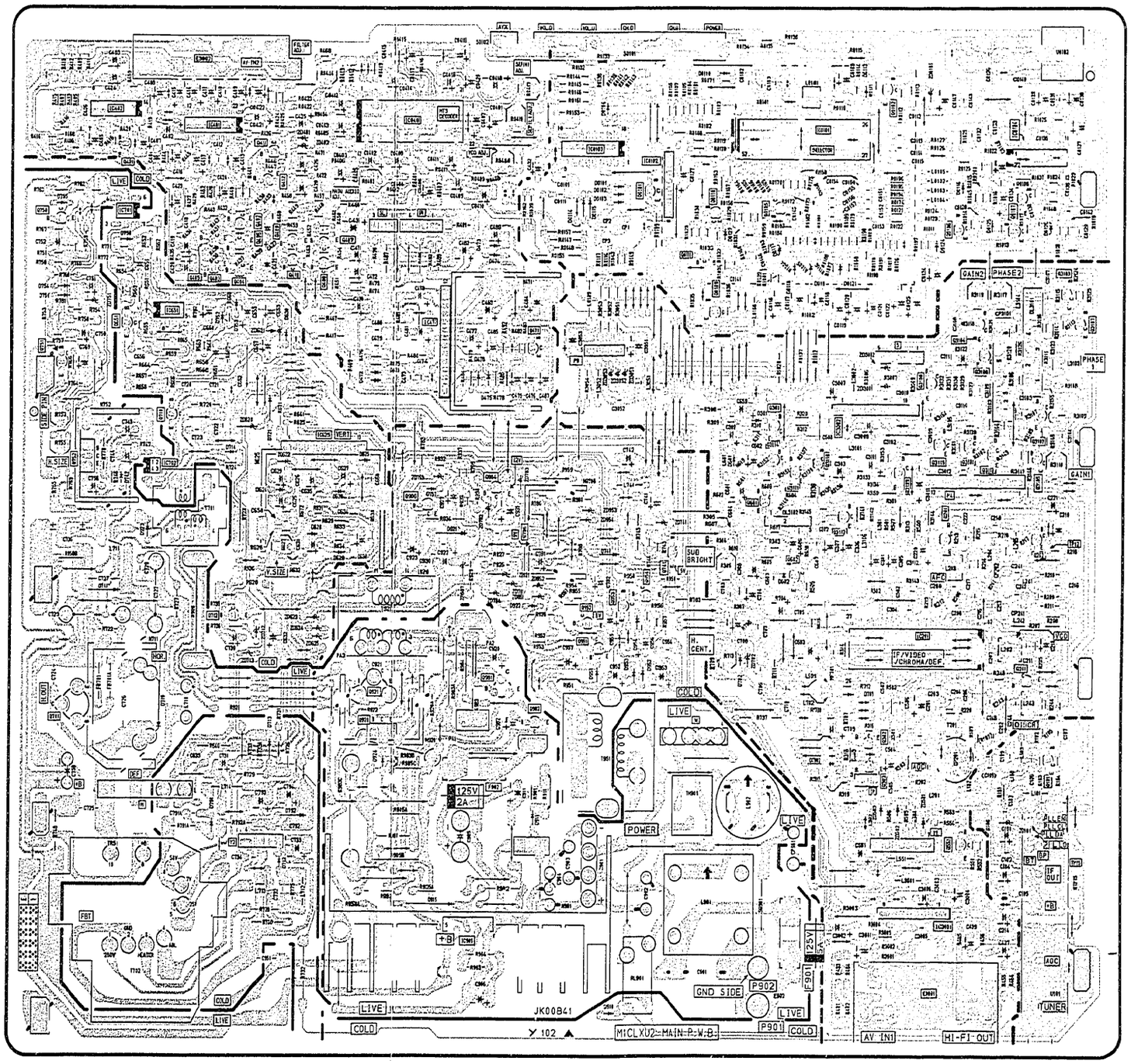


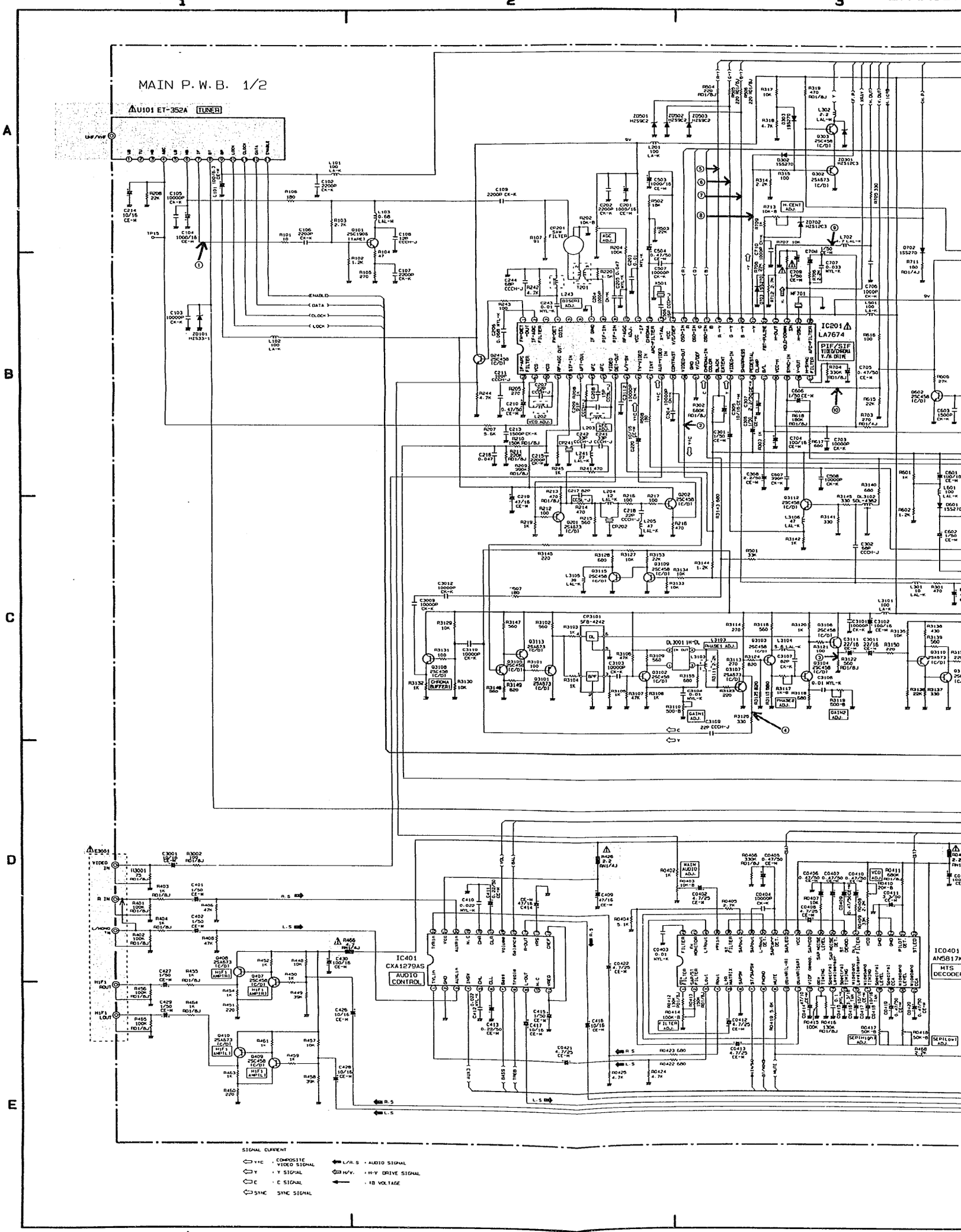
PRINTED WIRING BOARD

C.P.T. P.W.B.



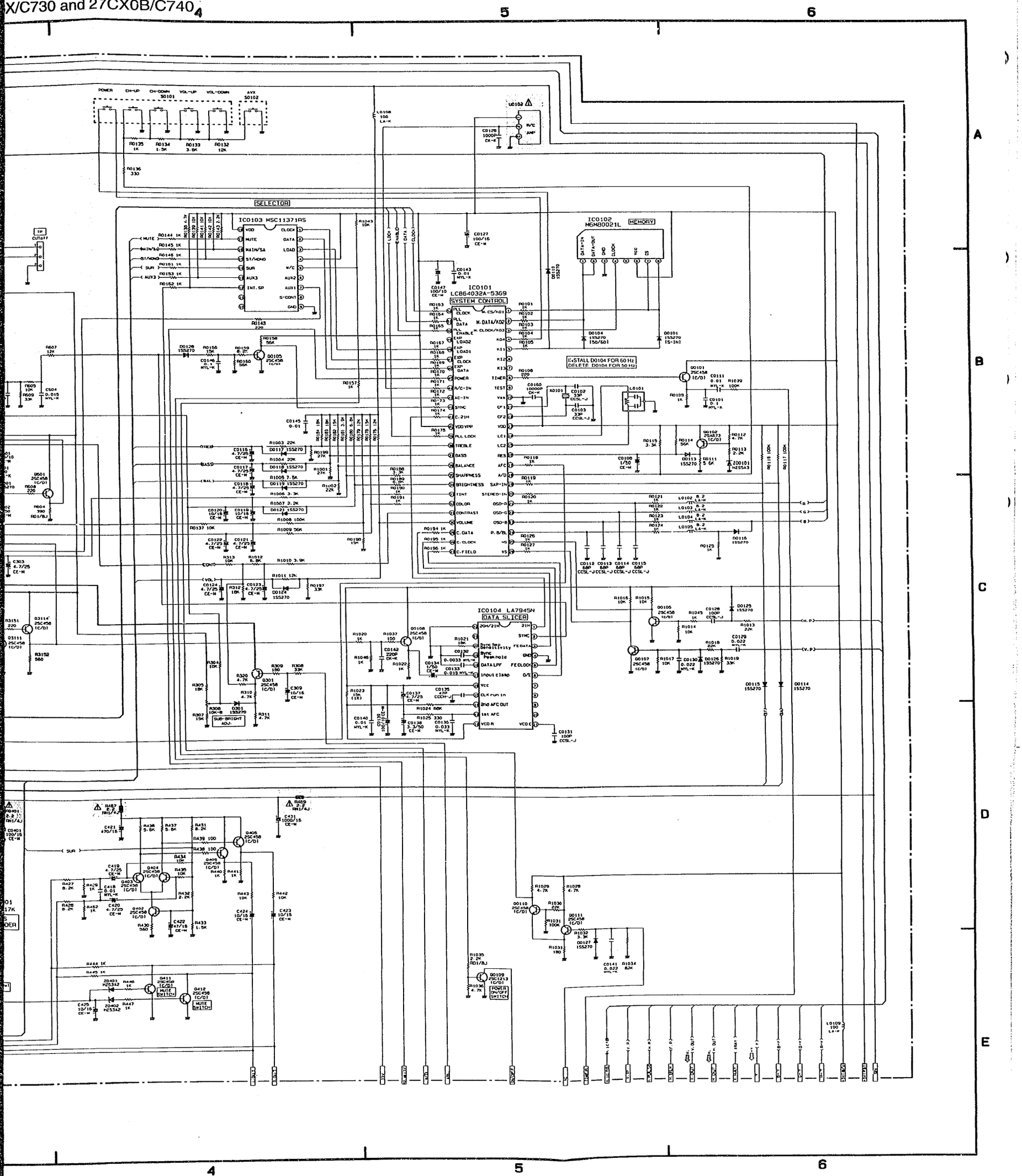
MAIN P.W.B.




MAIN P.W.B. 1/2
U101 ET-352A TUNER
IC201 LA7674
PIF/SIF TIBE/CHROMA Y/H DRIVE
IC401 CXA1279AS AUDIO CONTROL
IC0401 AN5817K MTS DECODER
SIGNAL CURRENT
COMPOSITE VIDEO SIGNAL
Y SIGNAL
C SIGNAL
SYNC SYNC SIGNAL
AUDIO SIGNAL
H-V DRIVE SIGNAL
+B VOLTAGE

IC CIRCUIT DIAGRAM
X/C730 and 27CX0B/C740

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



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

BASIC CIRCUIT DIAGR
27AX5BX/C730 and 27CX

SIGNAL CURRENT
⇦Y : Y SIGNAL ⇦H/V. : H·V DRIVE SIGNAL
⇦L/R.S : AUDIO SIGNAL ⟵ : +B VOLTAGE

MAIN P.W.B. 2/2

IC471 AN7178 AUDIO OUT

TO SP NET

SP452 SP451 ESR ESL

TIMER L.S R.S L.OUT R.OUT SP.MUTE ON/OFF 12V 5V(FBT) 5V(B/U) AC

R472 2.2K R475 3.3K R471 2.2K R476 3.3K R479 330 R473 1K R474 1K R478 330 R462 10K R492 10K R483 47K R484 100K RD1/8J R487 1K RD1/4J R485 1K RD1/4J R488 3.3K RD1/8J R489 3.3K RD1/8J R491 680K RD1/8J R490 680K RD1/8J

C472 0.47/50 CE-H C471 0.47/50 CE-N C476 100/6.3 CE-N C473 2200P CK-K C474 2200P CK-K C484 220/25 CE-H C485 10/25 CE-H C475 100/6.3 CE-H C479 0.1 MYL-K C480 0.1 MYL-K C483 470/25 CE-H C477 220/16 CE-H C476 220/16 CE-H C492 470/16 CE-H C491 470/16 CE-H C486 47/16 CE-H

D471 1SS270 D472 1SS270 D474 1SS270 D473 1SS270

R481 2.2 RN1/4J R480 2.2 RN1/4J

Q471 2SC1213 (C/D) MUTE SWITCH

16V 9V

Q705 2SD2012 +9V REG. Q904 2SC1213 (C/D) +12V REG.

R728 47 RD1/8J R927 680 RD1/8J R930 47 RD1/8J R928A 33 RD1/8J R928 150 RD1/2J R929 1.6K RD1/4J

D922 1SS270 ZD761 HZS5B2 ZD784 HZS5C1 ZD947 HZS12B3

C931 22/16 CE-H C932 100/16 CE-H

Q906 2SA673 (C/D) PROTECTOR R934 0.33 RN1J R933 1.0K C927 330/6.3 CE-H R937 1K ZD783 HZS11A2 R786 10K D741 1SS270

R932 10K ZD822 HZS9A1L C625 47/16 CE-H R825 4.7K R641 390

R950 100K

RL901 D910 AM01Z D951 AM01Z D952 AM01Z D953 AM01Z C957 1000/25 CE-M C953 330/50 CE-M C952 470/25 CE-M T951 COLD LIVE

Q951 2SD789 (D/E) RELEY REG. R952 1K RD1/8J R953 100 C954 0.01 MYL-K ZD951 HZS9C1 C955 100/6.3 CE-M ZD952 HZS6B1 C956 10/25 CE-M D954 AM01Z R956 33K R957 56K Q954 2SC1213A (C) POWER SWITCH R958 33K Q953 2SA673A (R/C) POWER SWITCH R951 470 RS1J Q952 2SC1213 (C/D) 5V(B/U) REG.

R960 330 RD1/2J ZD953 HZS6C2 ZD954 HZS5C2 R959 100 RS1J R789 470 ZD785A HZS9C1L ZD785B HZS6B1 R726 2.2K RD1/2J R731 680 RS1J R730 220 Q712 2SC1213 (C/D) PROTECTOR R936 2.2K

5V L741 100 L.A-K C742 22/16 CE-H C923 470/35 CE-H L920

TH901 L905 F901 5A P901 P902 E902 GND SIDE C901 0.1/AC125V or 0.22 L901 S6901

C902 4700P/AC250V C903 4700P/AC250V D931 D3SBA60-4103 C951 4700P/AC125V CP901 D911 DFM1SA4 C911 4.7/250 CE-M R952 33 RW2J

POWER REG. IC901 STR30130 Error Amp Power Reg IC702 PS2501-1 PROTECTOR

R908 220 RW1SJ R950A 680K RD1/8J R905A 10 RS2J R905B 10 RS2J R905C 10 RS2J N901 R931 2.2 RW1SJ C904 2200P/500 CK-K R902 12K RS1J C905 470/200 R903 91K RD1/8J R904 55 RN1/4J C906 22/160 CE-M

D742 AM01Z D915 AM01Z R747 8.2K C743 330/6.3 CE-M R746 56 RN1/4J C744 1/50 CE-K R748 1.1 RS1J C720 33P/500 CCSL-J Q710 2SD789 (D) H.DRIVE

Q902 2SA1207 L/K SWITCH C902 0.47/50 CE-M R881 150 RS1J R883 220 RW1SJ R883B 1.2K RS3J R883C 1.2K RS3J R882 150 RS1J R304 4.7K RS2J Q981 2SC3116 SWITCH +B

- 47 -

GRAM
CX0B/C740

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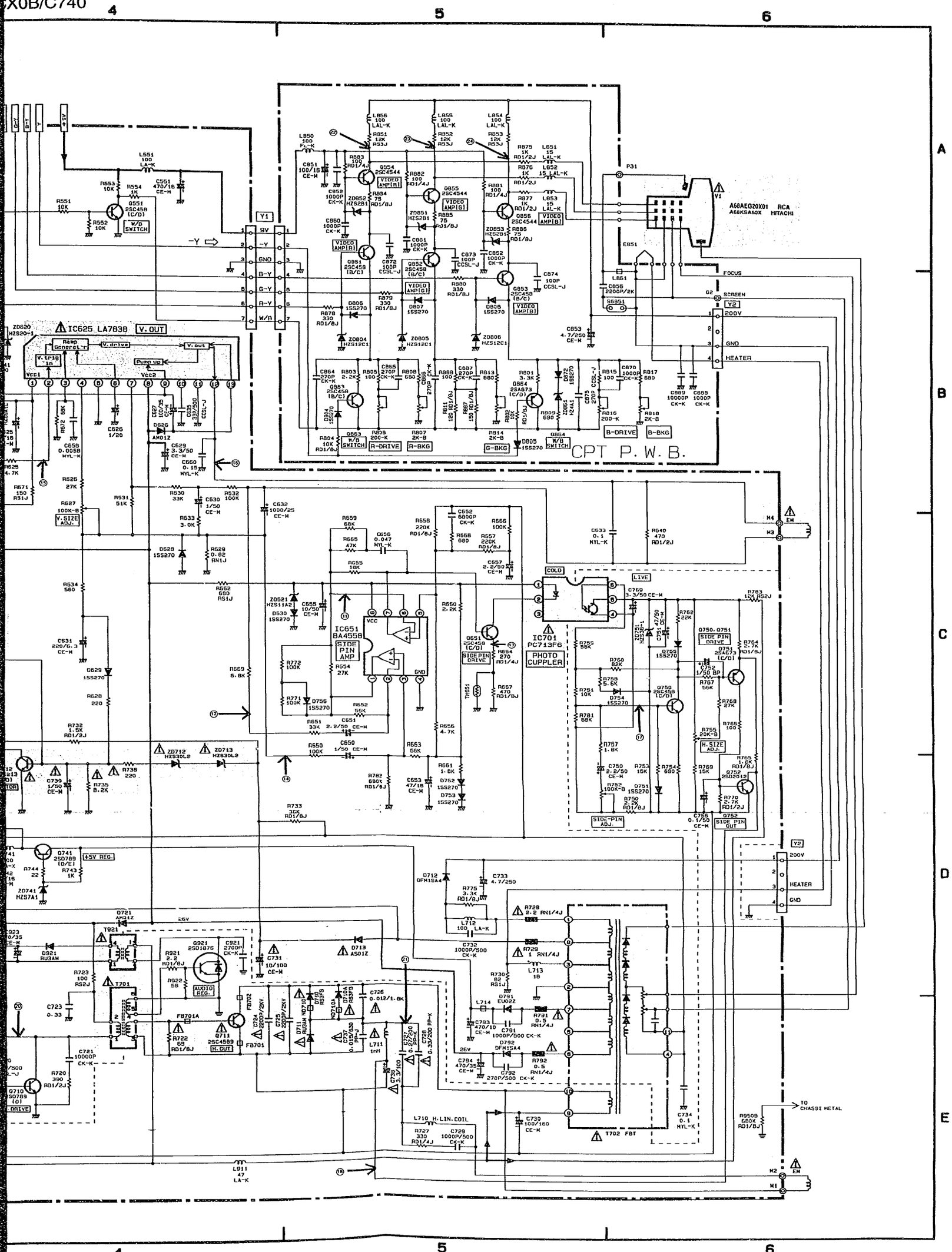

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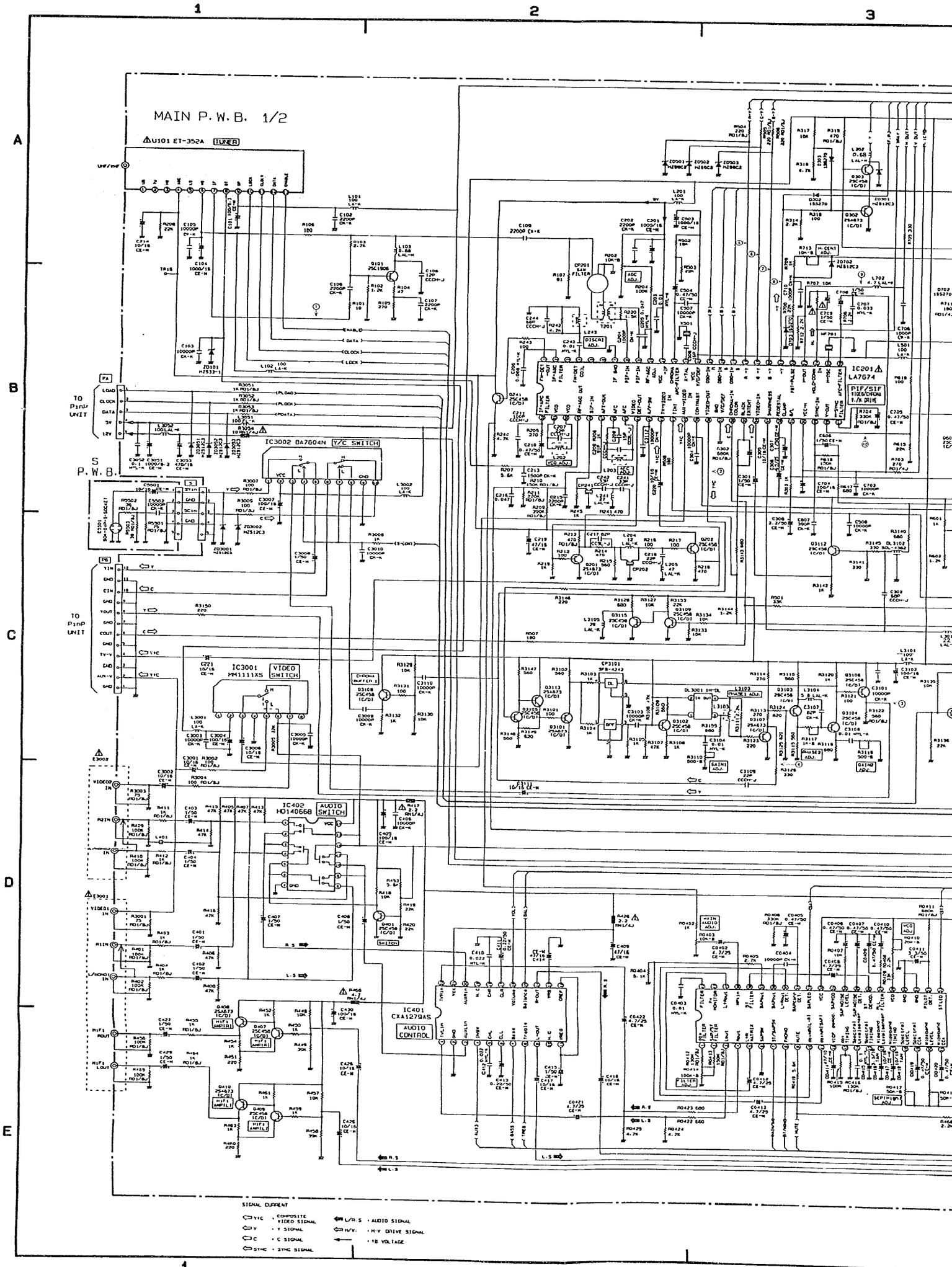
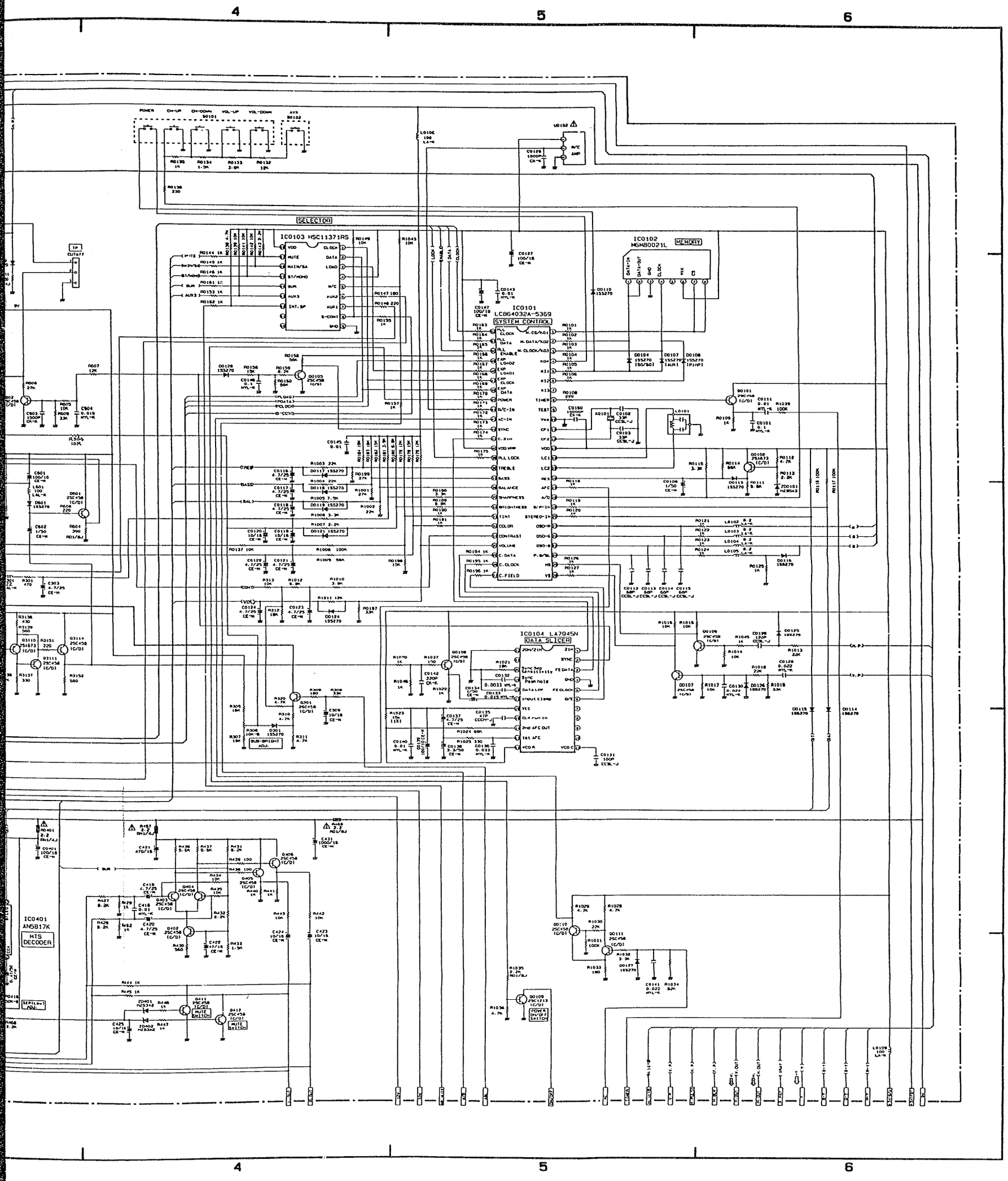

MAIN P.W.B. 1/2
U101 ET-352A TUNER
IC3002 BA7604N Y/C SWITCH
S P.W.B.
TO PinP UNIT
IC3001 MM1111XS VIDEO SWITCH
IC402 HD140568 AUDIO SWITCH
IC401 CXA1279AS AUDIO CONTROL
IC201 LA7674
P1F/SIF HIGH/CHROMA F/K PRIME
SIGNAL CURRENT
YIC : COMPOSITE VIDEO SIGNAL
Y : Y SIGNAL
C : C SIGNAL
SYNC : SYNC SIGNAL
L/R.S : AUDIO SIGNAL
H/V : H·V DRIVE SIGNAL
+B VOLTAGE

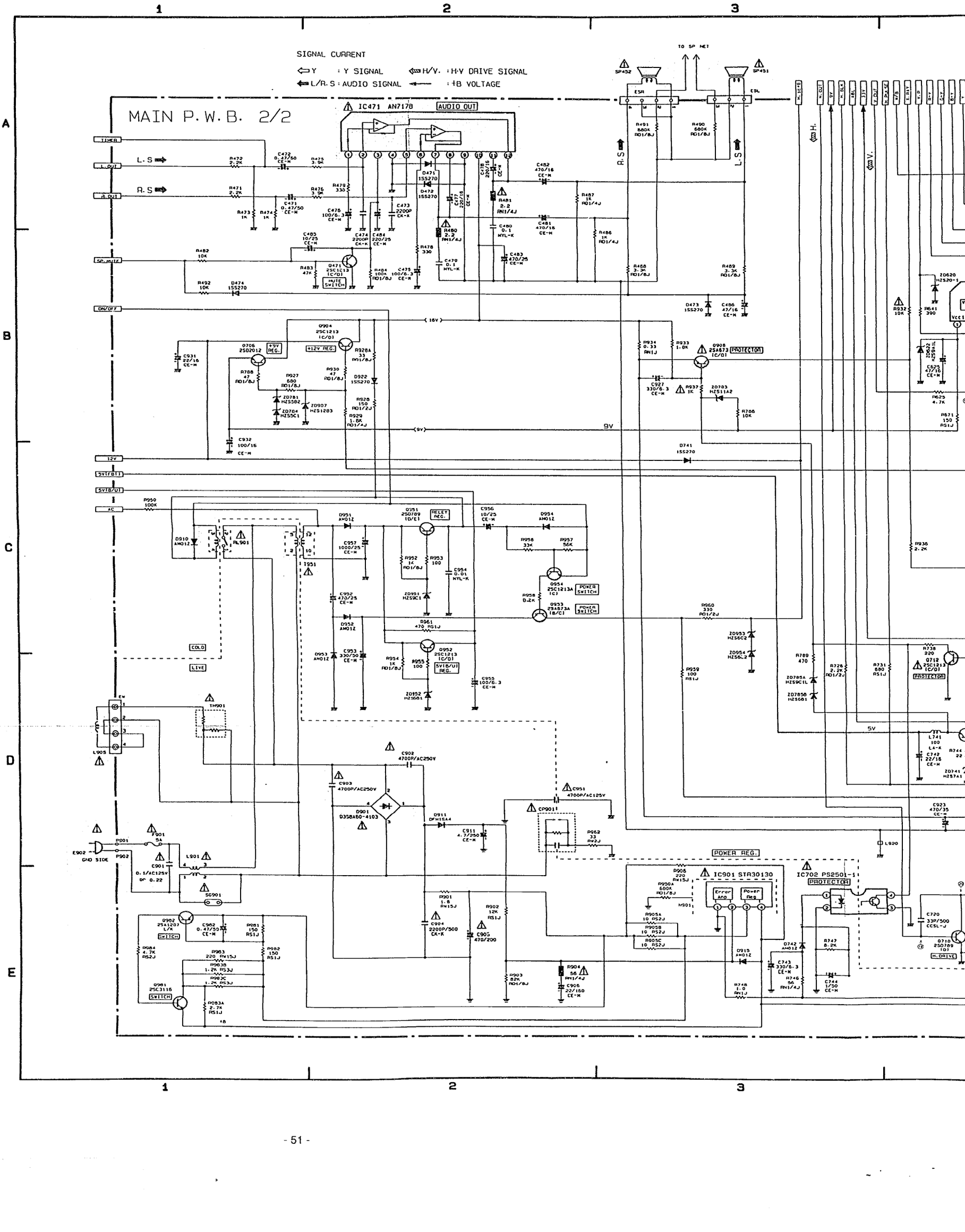
CUIT DIAGRAM 31DX22B/CY32

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



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

BASIC CIRCUIT DIAGRAM 31DX2



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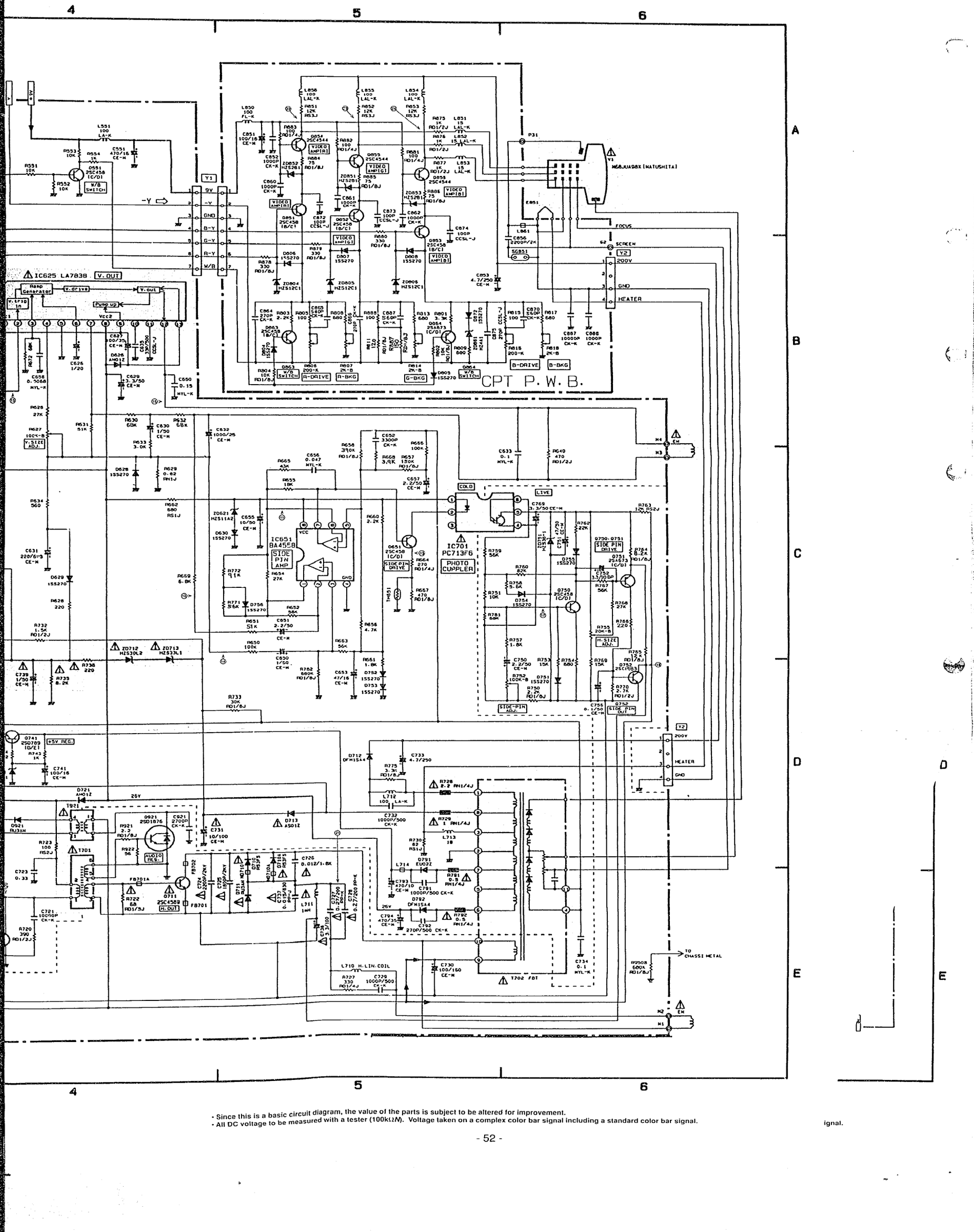
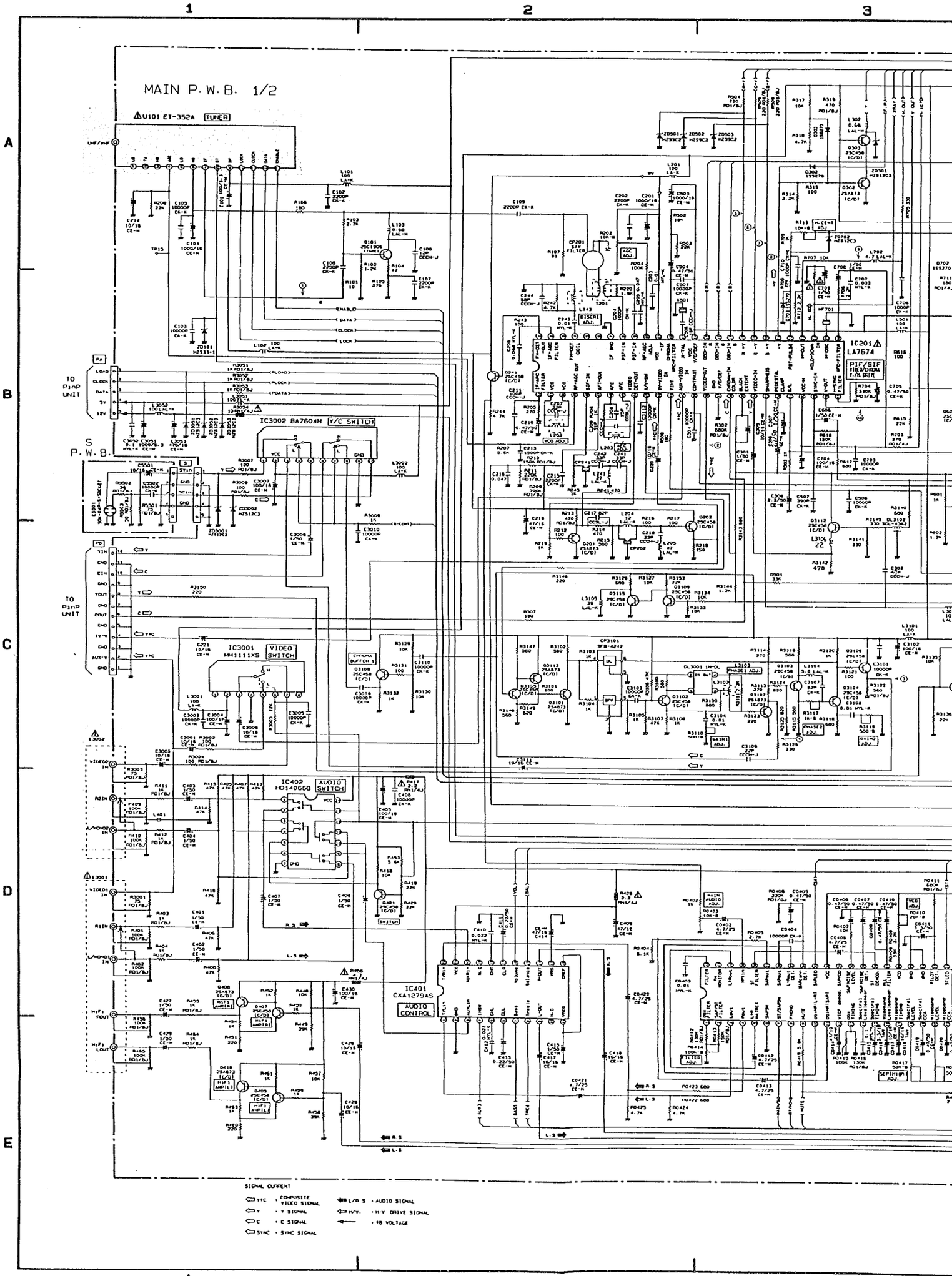
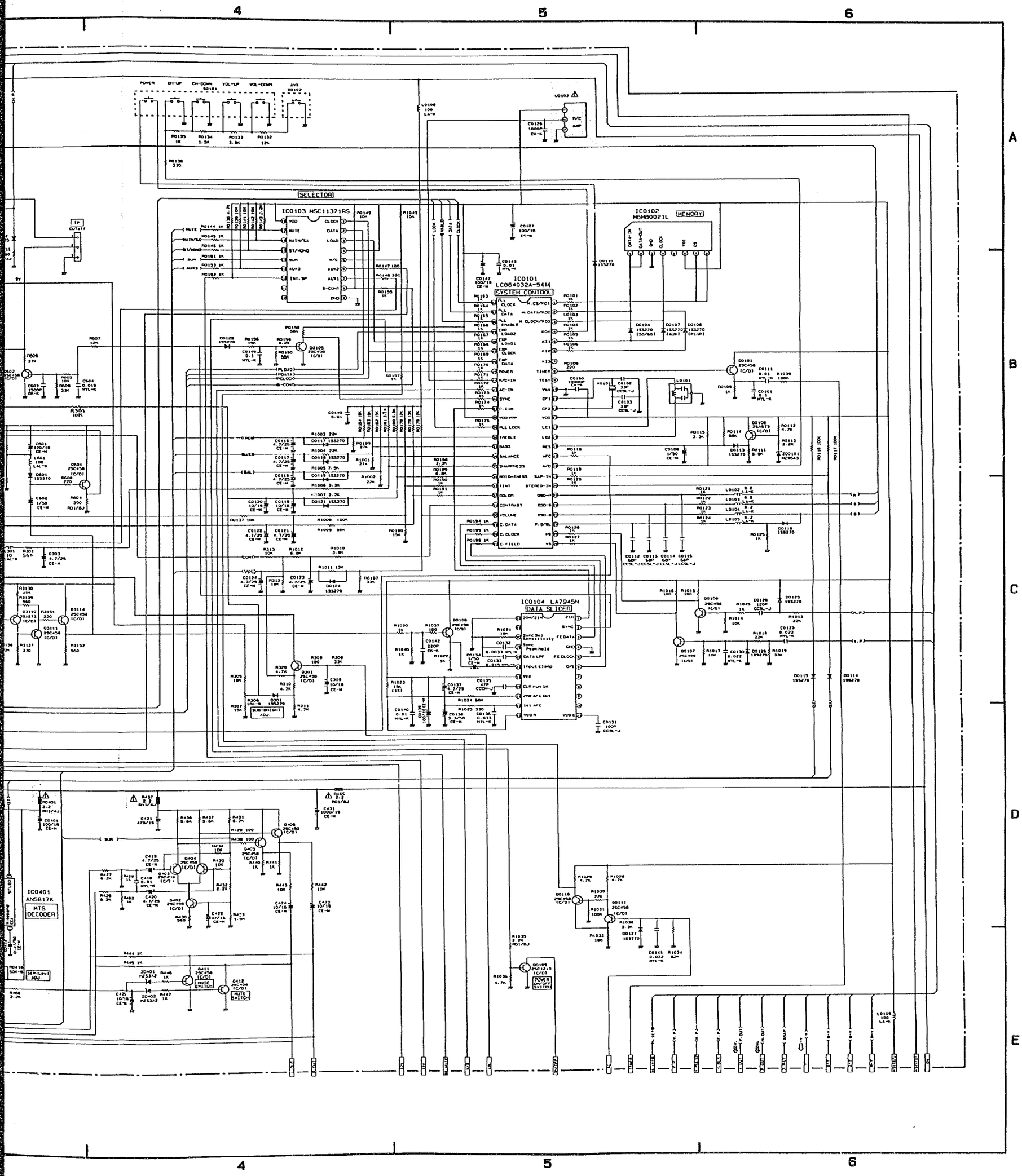


- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.


MAIN P.W.B. 1/2
U101 ET-352A TUNER
IC3002 BA7604N Y/C SWITCH
S P.W.B.
IC3001 MM1111XS VIDEO SWITCH
IC402 MD140668 AUDIO SWITCH
IC401 CXA1279AS AUDIO CONTROL
IC201 LA7674 PIF/SIF VIDEO/CHROMA Y/N BRIM
TO P.inP UNIT
TO P.inP UNIT
SIGNAL CURRENT
COMPOSITE VIDEO SIGNAL
Y SIGNAL
C SIGNAL
SYNC SIGNAL
L/R.S : AUDIO SIGNAL
H/V. : H/V DRIVE SIGNAL
+B VOLTAGE

RCUIT DIAGRAM 31KX41K / CY34

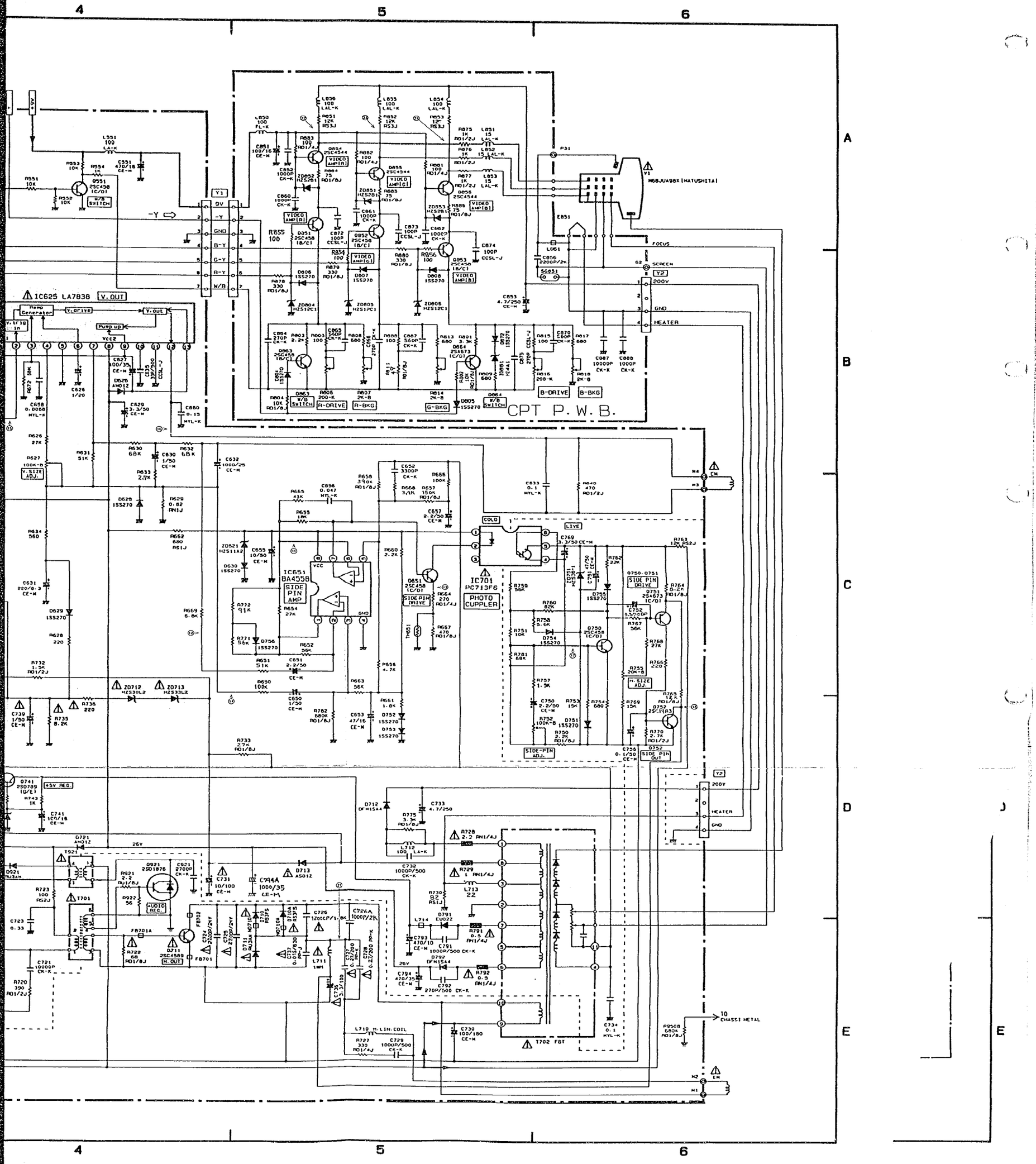
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



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

BASIC CIRCUIT DIAGRAM 31KX4

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



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

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

ABBREVIATION

Capacitors _ _ _ _ CD: Ceramic Disc, PF: Polyester Film, EL: Electrolytic, PP: Polypropylene, PR: Paper, TA:Tantalum, TM: Trimmer

Resistors _ _ _ _ _ CF: Carbon Film, CC: Carbon Composition, MF: Metal Oxide Film, VR: Variable Resistor, WW: Wire Wound, FR: Fuse Resistor, MG: Metal Glazed

Semiconductors _ _TR: Transistor, DI: Diode, ZD: Zener Diode, VA: Varistor, TH: Thermisor, IC: Integrated Circuit

SYMBOL NO.	PART NO.	PART DESCRIPTION
		CAPACITORS
C0101	0880057	CAPACITOR POLYESTER FILM 0.1MF +-10% 50V
C0102	0890067	CAPACITOR CERAMIC DISCAL 33PF +-5% 50V
C0103	0890067	CAPACITOR CERAMIC DISCAL 33PF +-5% 50V
C0108	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C0111	0244171	CD 0.01MF +80-20% 50V
C0112	0890072	CAPACITOR,CERAMIC DISCAL 68PF +-5% 50V
C0113	0890072	CAPACITOR,CERAMIC DISCAL 68PF +-5% 50V
C0114	0890072	CAPACITOR,CERAMIC DISCAL 68PF +-5% 50V
C0115	0890072	CAPACITOR,CERAMIC DISCAL 68PF +-5% 50V
C0116	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0117	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0118	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0119	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C0120	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C0121	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0122	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0123	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0124	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0126	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V
C0127	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V
C0128	0890075	CAPACITOR CERAMIC DISCAL 120PF +-5% 50V
C0129	0880048	CAPACITOR POLYESTER FILM 0.022MF +-10% 50V
C0130	0880048	CAPACITOR POLYESTER FILM 0.022MF +-10% 50V
C0131	0890074	CAPACITOR CERAMIC DISCAL 100PF +-5% 50V
C0132	0244107	CD 3300PF +-10% 50V
C0133	0880046	CAPACITOR POLYESTER FILM 0.015MF +-10% 50V
C0134	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C0135	0890069	CAPACITOR,CERAMIC DISCAL 47PF +-5% 50V
C0136	0880051	CAPACITOR POLYESTER FILM 0.033MF +-10% 50V
C0137	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0138	0800007	CAPACITOR,ELECTROLYTIC 3.3MF 50V
C0139	0800048	CAPACITOR ELECTROLYTIC 100MF 10V
C0140	0244171	CD 0.01MF +80-20% 50V
C0141	0880048	CAPACITOR POLYESTER FILM 0.022MF +-10% 50V
C0142	089007R	CAPACITOR CERAMIC DISCAL 220PF +-10% 50V
C0143	088004	CAPACITOR POLYESTER FILM 0.01MF +-10% 50V
C0145	088004	CAPACITOR POLYESTER FILM 0.01MF +-10% 50V
C0146	0880057	CAPACITOR POLYESTER FILM 0.1MF +-10% 50V
C0147	0800048	CAPACITOR ELECTROLYTIC 100MF 10V
C0160	0244171	CD 0.01MF +80-20% 50V
C0401	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V
C0402	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0403	0880044	CAPACITOR POLYESTER FILM 0.01MF +-10% 50V
C0404	0244171	CD 0.01MF +80-20% 50V
C0405	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C0406	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C0407	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C0408	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0409	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C0410	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C0411	0800007	CAPACITOR,ELECTROLYTIC 3.3MF 50V
C0412	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0413	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0414	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0415	0880057	CAPACITOR POLYESTER FILM 0.1MF +-10% 50V
C0416	029271F	TA 3.3MF 16V
C0417	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C0418	029271F	TA 10MF +-10% 16V
C0419	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C0420	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C0421	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C0422	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C101	080007	CAPACITOR ELECTROLYTIC 100MF 6.3V
C102	024415	CD 2200PF +-10% 50V
C103	0244171	CD 0.01MF +80-20% 50V
C104	080009	CAPACITOR,ELECTROLYTIC 100MF 16V
C105	0244171	CD 0.01MF +80-20% 50V
C106	024415	CD 2200PF +-10% 50V
C107	024415	CD 2200PF +-10% 50V
C108	0890115	CAPACITOR CERAMIC DISCAL 12PF +-5% 50V
C109	024415	CD 2200PF +-10% 50V
C201	0800082	CAPACITOR ELECTROLYTIC 1000MF 16V
C202	024415	CD 2200PF +-10% 50V
C203	088004	CAPACITOR POLYESTER FILM 0.01MF +-10% 50V
C204	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V
C205	0880053	CAPACITOR POLYESTER FILM 0.047MF +-10% 50V
C206	0880055	CAPACITOR POLYESTER FILM 0.068MF +-10% 50V
C207	024648	CD 22PF +-5% 50V
C208	0890116	CAPACITOR CERAMIC DISCAL 15PF +-5% 50V
C209	024643	CD 91PF +-5% 50V
C210	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C211	024644	CD 100PF +-5% 50V
C213	0890089	CAPACITOR CERAMIC DISCAL 1500PF +-10% 50V
C214	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C215	024415	CD 2200PF +-10% 50V

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SYMBOL NO.	PART NO.	PART DESCRIPTION
C216	0880053	CAPACITOR POLYESTER FILM 0.047MF +-10% 50V(31V)
C217	0890073	CAPACITOR CERAMIC DISCAL 82PF +-5% 50V
C218	024648	CD 22PF +-5% 50V
C219	0800041	CAPACITOR ELECTROLYTIC 47MF 16V (31V)
C220	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C221	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V(31V)
C241	0890121	CAPACITOR CERAMIC DISCAL 33PF +-5% 50V
C242	0890121	CAPACITOR CERAMIC DISCAL 33PF +-5% 50V
C243	0244171	CD 0.01MF +80-20% 50V
C244	024640	CD 68PF +-5% 50V
C3001	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C3002	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V (31V)
C3003	0244171	CD 0.01MF +80-20% 50V (31V)
C3004	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V(31V)
C3005	0244171	CD 0.01MF +80-20% 50V (31V)
C3006	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V(31V)
C3007	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V(31V)
C3008	0800003	CAPACITOR ELECTROLYTIC 1MF 50V (31V)
C3009	0244171	CD 0.01MF +80-20% 50V
C301	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C3010	0244171	CD 0.01MF +80-20% 50V (31V)
C3011	0800023	CAPACITOR ELECTROLYTIC 22MF 16V (27V/31DX22B)
C3012	0244171	CD 0.01MF +80-20% 50V (27V/31DX22B)
C302	024640	CD 68PF +-5% 50V
C303	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C304	0244171	CD 0.01MF +80-20% 50V
C305	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C3051	0800079	CAPACITOR ELECTROLYTIC 1000MF 6.3V(27V/31KX41K)
C3052	0880057	CAPACITOR POLYESTER FILM 0.1MF +-10% 50V(27V/31KX41K)
C3053	0800074	CAPACITOR ELECTROLYTIC 470MF 16V(27V/31KX41K)
C306	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C307	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C308	0800005	CAPACITOR,ELECTROLYTIC 2.2MF 50V
C309	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C3101	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V
C3102	0244171	CD 0.01MF +80-20% 50V
C3103	0244171	CD 0.01MF +80-20% 50V
C3104	0244171	CD 0.01MF +80-20% 50V
C3107	0890073	CAPACITOR CERAMIC DISCAL 82PF +-5% 50V
C3108	0244171	CD 0.01MF +80-20% 50V
C3109	0890065	CAPACITOR CERAMIC DISCAL 22PF +-5% 50V
C3110	0244171	CD 0.01MF +80-20% 50V
C3111	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C3112	0244171	CD 0.01MF +80-20% 50V
C401	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C402	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C403	0800003	CAPACITOR ELECTROLYTIC 1MF 50V(31V)
C404	0800003	CAPACITOR ELECTROLYTIC 1MF 50V (31V)
C405	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V(31V)
C406	0244171	CD 0.01MF +80-20% 50V (31V)
C407	0800003	CAPACITOR ELECTROLYTIC 1MF 50V(31V)
C408	0800003	CAPACITOR ELECTROLYTIC 1MF 50V (31V)
C409	0800041	CAPACITOR ELECTROLYTIC 47MF 16V
C410	0880048	CAPACITOR POLYESTER FILM 0.022MF +-10% 50V
C411	0253942	EL 0.22MF 50V (31V)
C412	088008	CAPACITOR POLYESTER FILM 0.022MF +- 10% 50V
C413	025392	EL 0.22MF 50V
C414	0800041	CAPACITOR ELECTROLYTIC 47MF 16V
C415	0800003	CAPACITOR ELECTROLYTIC 1MF 50V (31V)
C416	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C417	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C418	088004	CAPACITOR POLYESTER FILM 0.01MF +-10% 50V
C419	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C420	0800009	CAPACITOR ELECTROLYTIC 4.7MF 25V
C421	080004	CAPACITOR ELECTROLYTIC 470MF 16V
C422	0800041	CAPACITOR ELECTROLYTIC 47MF 16V
C423	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C424	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C425	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C426	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C427	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C428	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V
C429	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C430	080009	CAPACITOR,ELECTROLYTIC 100MF 16V
C431	0800082	CAPACITOR ELECTROLYTIC 1000MF 16V
C471	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C472	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V(31V)
C473	024415	CD 2200PF +-10% 50V
C474	024415	CD 2200PF +-10% 50V
C475	080007	CAPACITOR ELECTROLYTIC 100MF 6.3V
C476	080007	CAPACITOR ELECTROLYTIC 100MF 6.3V
C477	0800058	CAPACITOR ELECTROLYTIC 220MF 16V
C478	0800058	CAPACITOR ELECTROLYTIC 220MF 16V
C479	0880057	CAPACITOR POLYESTER FILM 0.1MF +-10% 50V
C480	0880057	CAPACITOR POLYESTER FILM 0.1MF +-10% 50V
C481	080004	CAPACITOR ELECTROLYTIC 470MF 16V
C482	080004	CAPACITOR ELECTROLYTIC 470MF 16V
C483	0800075	CAPACITOR ELECTROLYTIC 470MF 25V
C484	0800059	CAPACITOR ELECTROLYTIC 220MF 25V
C485	0800016	CAPACITOR ELECTROLYTIC 10MF 25V
C486	0800041	CAPACITOR ELECTROLYTIC 47MF 16V
C503	0800082	CAPACITOR ELECTROLYTIC 1000MF 16V
C504	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C506	024645	CD 16PF +-5% 50V
C507	0244171	CD 0.01MF +80-20% 50V
C508	0244171	CD 0.01MF +80-20% 50V
C5501	0800015	CAPACITOR,ELECTROLYTIC 10MF 16V(31V)
C5502	0244171	CD 0.01MF +80-20% 50V(31V)
C551	080004	CAPACITOR ELECTROLYTIC 470MF 16V
C601	080008	CAPACITOR ELECTROLYTIC 100MF 10V
C602	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C603	0890089	CAPACITOR CERAMIC DISCAL 1500PF +-10% 50V
C604	088006	CAPACITOR POLYESTER FILM 0.015MF +-10% 50V
C606	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C607	089008R	CAPACITOR CERAMIC DISCAL 39CPF +-10% 50V
C625	0800041	CAPACITOR ELECTROLYTIC 47MF 16V
C626	0292716	TA 1MF+-10% 20V
C627	0800052	CAPACITOR ELECTROLYTIC 100MF 35V
C629	0800007	CAPACITOR,ELECTROLYTIC 3.3MF 50V
C630	0800003	CAPACITOR ELECTROLYTIC 1MF 50V

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SYMBOL NO.	PART NO.	PART DESCRIPTION
C631	0800056	CAPACITOR,ELECTROLYTIC 220MF 6.3V
C632	0800083	CAPACITOR ELECTROLYTIC 1000MF 25V
C633	0880057	CAPACITOR POLYESTER FILM 0.1MF +-10% 50V
C635	024782	CD 33PF +-5% 500V(31V)
C650	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C651	0800005	CAPACITOR,ELECTROLYTIC 2.2MF 50V
C652	0244107	CD 3300PF +-10% 50V
C653	0800041	CAPACITOR ELECTROLYTIC 47MF 16V
C655	0800018	CAPACITOR ELECTROLYTIC 10MF 50V
C656	0880053	CAPACITOR POLYESTER FILM 0.047MF +-10% 50V
C657	0800005	CAPACITOR,ELECTROLYTIC 2.2MF 50V
C658	0880042	CAPACITOR POLYESTER FILM 6800PF +-10% 50V
C660	0880059	CAPACITOR POLYESTER FILM 0.15MF 50V
C703	0244171	CD 0.01MF +80-20% 50V
C704	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V
C705	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
C706	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V
C707	0880051	CAPACITOR POLYESTER FILM 0.033MF +-10% 50V
C708	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
⚠ C709	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C710	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V
C720	024782	CD 33PF +-5% 500V
C721	0244141	CD 0.01MF +-10% 50V
C723	0880019	CAPACITOR POLYESTER FILM 0.33MF +-10% 50V
⚠ C724	0244215	CD 2200PF +-10% 2KV
⚠ C725	024424	CD 1800PF +-10% 2KV
⚠ C726	026242F	PP 0.012MF +-5% 1800V
⚠ C726A	0244211	CD 1000PF +-10% 2KV(31V)
⚠ C727	0299931	PP 0.27MF +-10% 200V
⚠ C728	0299931	PP 0.27MF +-10% 200V
C729	0244501	CD 1000PF +-10% 500V
C730	0254823	EL 100MF 160V
⚠ C731	0800021	CAPACITOR ELECTROLYTIC 10MF 100V
C732	0244501	CD 1000PF +-10% 500V
C733	0259171	EL 4.7MF 250V
C734	0880057	CAPACITOR POLYESTER FILM 0.1MF +-10% 50V
⚠ C736	0263001	EL 3.3MF 100V
⚠ C737	0299707	PP 0.015MF +-10% 630V
⚠ C739	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C741	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V (31KX41K)
C742	0800023	CAPACITOR ELECTROLYTIC 22MF 16V
C743	0800064	CAPACITOR ELECTROLYTIC 330MF 6.3V
C744	0800003	CAPACITOR ELECTROLYTIC 1MF 50V
C750	0800005	CAPACITOR,ELECTROLYTIC 2.2MF 50V
C751	080004	CAPACITOR ELECTROLYTIC 47MF 50V
C752	028462R	EL 3.3MF 50V
C756	0253942	EL 0.22MF 50V
C769	0800007	CAPACITOR,ELECTROLYTIC 3.3MF 50V
C782	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V
C791	0244501	CD 1000PF +-10% 500V
C792	0243506	CD 270PF +-10% 500V
C793	0800073	CAPACITOR ELECTROLYTIC 470MF 10V
C794	0800076	CAPACITOR ELECTROLYTIC 470MF 35V
C851	0800049	CAPACITOR,ELECTROLYTIC 100MF 16V
C852	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V
C853	025750	EL 4.7MF 250V (31V)
C856	024479F	CD 2200PF +-10% 2KV
C860	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V
C861	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V(31V)
C862	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V
C864	089007R	CAPACITOR,CERAMIC DISCAL 270PF +-10% 50V
C865	089004	CAPACITOR CERAMIC DISCAL 560PF +-10% 50V
C866	089007R	CAPACITOR,CERAMIC DISCAL 270PF +-10% 50V
C870	089004	CAPACITOR CERAMIC DISCAL 560PF +-10% 50V
C872	089004	CAPACITOR CERAMIC DISCAL 100PF +-5% 50V
C873	089004	CAPACITOR CERAMIC DISCAL 100PF +-5% 50V
C874	089004	CAPACITOR CERAMIC DISCAL 100PF +-5% 50V
C875	089007R	CAPACITOR,CERAMIC DISCAL 270PF +-10% 50V
C887	089004	CAPACITOR CERAMIC DISCAL 560PF +-10% 50V
C888	0890087	CAPACITOR CERAMIC DISCAL 1000PF +-10% 50V
C889	0244171	CD 0.01MF +80-20% 50V
⚠ C901	0279718	PF 0.1MF +-10% 125V
⚠ C902	024853F	CD 4700PF +80-20% 250V
⚠ C903	024853F	CD 4700PF +80-20% 250V
⚠ C904	024453	CD 2200PF +100-0% 500V
⚠ C905	0253891	EL 470MF 200V
C906	0253957	EL 22MF 160V
C911	0259171	EL 4.7MF 250V
C921	024426	CD 2700PF 2000V +-10%
C923	0800076	CAPACITOR ELECTROLYTIC 470MF 35V
C927	080004	CAPACITOR ELECTROLYTIC 330MF 6.3V
C931	0800023	CAPACITOR ELECTROLYTIC 22MF 16V
⚠ C951	024934	CD 4700PF +-20%
C952	0800075	CAPACITOR ELECTROLYTIC 470MF 25V
C953	0800069	CAPACITOR,ELECTROLYTIC 330MF 50V
C954	0244171	CD 0.01MF +80-20% 50V
C955	080007	CAPACITOR ELECTROLYTIC 100MF 6.3V
C956	0800016	CAPACITOR ELECTROLYTIC 10MF 25V
C957	0800083	CAPACITOR ELECTROLYTIC 1000MF 25V
C982	0800001	CAPACITOR ELECTROLYTIC 0.47MF 50V
		RESISTORS
RTP15	0110125	MF 150 OHM +-5% 1W
R0101	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0102	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0103	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0104	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0105	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0106	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0107	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0108	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R0109	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0111	0700051	RESISTOR,CARBON FILM 5.6K OHM +-5%1/16W
R0112	070009	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R0113	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R0114	070004	RESISTOR,CARBON FILM 56K OHM +-5%1/16W
R0115	070007	RESISTOR,CARBON FILM 3.3K OHM +-5%1/16W
R0116	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W
R0117	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W (31V)

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R0118	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0183	0700057	RESISTOR,CARBON FILM 18K OHM +-5%1/16W
R0119	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W(31V)	R0184	0700057	RESISTOR,CARBON FILM 18K OHM +-5%1/16W
R0120	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W(31V)	R0188	070007	RESISTOR,CARBON FILM 3.3K OHM +-5%1/16W(31V)
R0121	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W(31V)	R0189	0700052	RESISTOR,CARBON FILM 6.8K OHM +-5%1/16W
R0122	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0190	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0123	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W(31V)	R0191	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W (31V)
R0124	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0194	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0125	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0195	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0126	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0196	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0127	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0197	0700061	RESISTOR,CARBON FILM 33K OHM +-5%1/16W
R0132	0700055	RESISTOR,CARBON FILM 12K OHM +-5%1/16W	R0198	0700056	RESISTOR,CARBON FILM 15K OHM +-5%1/16W
R0133	0187078	CF 3.6K OHM +-5% 1/16W	R0199	0700059	RESISTOR CARBON FILM 27K OHM +-5%1/16W
R0134	0700043	RESISTOR,CARBON FILM 1.5K OHM +-5%1/16W	⚠ R0401	0119501	FR 2.2 OHM +-5% 1/4W
R0135	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0402	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R0136	0700034	RESISTOR,CARBON FILM 330 OHM +-5%1/16W	R0403	0150287	VR 10K OHM-B
R0137	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W	R0404	0187082	CF 5.1K OHM +-5% 1/16W
R0138	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W	R0405	070006	RESISTOR,CARBON FILM 2.7K OHM +-5%1/16W
R0139	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W	R0406	0100125	CF 330K OHM +-5% 1/8W
R0141	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W	R0407	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R0142	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W	R0408	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R0143	0700045	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W	R0409	0700061	RESISTOR,CARBON FILM 33K OHM +-5%1/16W
R0144	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0410	0150157	VR 200K OHM-B RV-6
R0145	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0411	0100133	CF 680K OHM +-5% 1/8W
R0146	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0412	0100116	CF 130K OHM +-5% 1/8W
R0147	0700031	RESISTOR,CARBON FILM 180 OHM +-5%1/16W (31V)	R0413	0100117	CF 150K OHM +-5% 1/8W
R0148	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W(31V)	R0414	0150160	VR 10K OHM-B +-30%
R0149	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W(31V)	R0415	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W
R0153	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W(31V)	R0416	0100116	CF 130K OHM +-5% 1/8W
R0155	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W(31V)	R0417	0150290	VR 50K OHM (B)
R0156	0700056	RESISTOR,CARBON FILM 15K OHM +-5%1/16W	R0418	0150290	VR 50K OHM (B)
R0157	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0419	0700051	RESISTOR,CARBON FILM 5.6K OHM +-5%1/16W
R0158	0700064	RESISTOR,CARBON FILM 56K OHM +-5%1/16W	R0422	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R0159	0700053	RESISTOR,CARBON FILM 8.2K OHM +-5%1/16W	R0423	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R0160	0700064	RESISTOR,CARBON FILM 56K OHM +-5%1/16W	R0424	070009	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R0161	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R0425	070009	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R0162	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1001	0700059	RESISTOR CARBON FILM 27K OHM +-5%1/16W
R0163	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1002	0700061	RESISTOR,CARBON FILM 33K OHM +-5%1/16W
R0164	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1003	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W
R0165	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1004	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W
R0166	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W(31KX41K)	R1005	0187086	CF 7.5K OHM +-5% 1/16W
R0167	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1006	070007	RESISTOR,CARBON FILM 3.3K OHM +-5%1/16W
R0168	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1007	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R0169	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1008	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W
R0170	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1009	0700056	RESISTOR,CARBON FILM 15K OHM +-5%1/16W
R0171	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R101	0700014	RESISTOR,CARBON FILM 10 OHM +-5% 1/16W
R0172	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1010	070006	RESISTOR,CARBON FILM 2.7K OHM +-5%1/16W
R0173	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1011	0700055	RESISTOR,CARBON FILM 12K OHM +-5%1/16W
R0174	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1012	0700052	RESISTOR,CARBON FILM 6.8K OHM +-5%1/16W
R0175	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R1013	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W
R0176	0700055	RESISTOR,CARBON FILM 12K OHM +-5%1/16W	R1014	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R0178	0700053	RESISTOR,CARBON FILM 8.2K OHM +-5%1/16W	R1015	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R0179	0700055	RESISTOR,CARBON FILM 12K OHM +-5%1/16W	R1016	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R0180	0700052	RESISTOR,CARBON FILM 6.8K OHM +-5%1/16W	R1017	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R0181	0700048	RESISTOR,CARBON FILM 3.9K OHM +-5%1/16W	R1018	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W
R0182	0700056	RESISTOR,CARBON FILM 15K OHM +-5%1/16W	R1019	0700061	RESISTOR,CARBON FILM 33K OHM +-5%1/16W

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R102	0700042	RESISTOR,CARBON FILM 1.2K OHM +-5%1/16W	R3007	0100041	CF 100 OHM +-5% 1/8W(31V)
R1020	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R3009	0100041	CF 100 OHM +-5% 1/8W (31V)
R1021	0700057	RESISTOR,CARBON FILM 18K OHM +-5%1/16W(31V)	R301	0700036	RESISTOR,CARBON FILM 470 OHM +-5%1/16W(31V)
R1022	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R302	0100133	CF 680K OHM +-5% 1/8W
R1023	0119635	MF 15K OHM +-1% 1/8W	R303	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R1024	0700065	RESISTOR CARBON FILM 68K OHM +-5%1/16W(31V)	R304	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W(31V)
R1025	0700034	RESISTOR,CARBON FILM 330 OHM +-5%1/16W	R305	0700057	RESISTOR,CARBON FILM 18K OHM +-5%1/16W
R1028	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W	R3051	0100065	CF 1K OHM +-5% 1/8W (31KX41K)
R1029	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W	R3052	0100065	CF 1K OHM +-5% 1/8W (31KX41K)
R103	0700046	RESISTOR,CARBON FILM 2.7K OHM +-5%1/16W	R3053	0100065	CF 1K OHM +-5% 1/8W (31KX41K)
R1030	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W	⚠ R3054	0119514	FR 10 OHM +-5% 1/4W (31KX41K)
R1031	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W	R306	0150287	VR 10K OHM-B
R1032	0700047	RESISTOR,CARBON FILM 3.3K OHM +-5%1/16W	R307	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R1033	0700031	RESISTOR,CARBON FILM 180 OHM +-5%1/16W	R308	0700061	RESISTOR,CARBON FILM 33K OHM +-5%1/16W
R1034	0700066	RESISTOR,CARBON FILM 82K OHM +-5%1/16W	R309	0700031	RESISTOR,CARBON FILM 180 OHM +-5%1/16W
R1035	0100073	CF 2.2K OHM +-5% 1/8W	R310	070009	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R1036	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W	R3101	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W
R1037	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W	R3102	0700037	RESISTOR,CARBON FILM 560 OHM +-5%1/16W
R1039	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W	R3103	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R104	0700023	RESISTOR,CARBON FILM 47 OHM +-5%1/16W	R3104	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R1043	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W	R3105	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R1045	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R3106	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W
R1046	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R3107	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W
R105	0700033	RESISTOR,CARBON FILM 270 OHM +-5%1/16W	R3108	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R106	0700031	RESISTOR,CARBON FILM 180 OHM +-5%1/16W	R3109	0700037	RESISTOR,CARBON FILM 560 OHM +-5%1/16W
R107	0187040	CF 91 OHM +-5% 1/16W	R311	070009	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R202	0150287	VR 10K OHM-B	R3110	0150282	VR 500 OHM(B)
R204	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W	R3111	070005	RESISTOR,CARBON FILM 2.2K OHM +-5% 1/16W
R205	0700033	RESISTOR,CARBON FILM 270 OHM +-5%1/16W	R3113	0700033	RESISTOR,CARBON FILM 270 OHM +-5% 1/16W
R206	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R3114	0700033	RESISTOR,CARBON FILM 270 OHM +-5% 1/16W
R207	0700051	RESISTOR,CARBON FILM 5.6K OHM +-5%1/16W	R3115	0700037	RESISTOR,CARBON FILM 560 OHM +-5% 1/16W
R208	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W	R3116	0700037	RESISTOR,CARBON FILM 560 OHM +-5% 1/16W
R209	0100127	CF 390K OHM +-5% 1/8W	R3117	0150283	VR 1K OHM-B
R210	0100117	CF 150K OHM +-5% 1/8W	R3118	0700038	RESISTOR,CARBON FILM 680 OHM +-5% 1/16W
R211	0100121	CF 220K OHM +-5% 1/8W	R3119	0150282	VR 500 OHM(B)
R212	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W	R312	0700057	RESISTOR,CARBON FILM 18K OHM +-5% 1/16W
R213	0100057	CF 470 OHM +-5% 1/8W	R3120	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W
R214	0700036	RESISTOR,CARBON FILM 470 OHM +-5%1/16W	R3121	0700027	RESISTOR,CARBON FILM 100 OHM +-5% 1/16W
R215	0700037	RESISTOR,CARBON FILM 560 OHM +-5%1/16W	R3122	0100059	CF 560 OHM +-5% 1/8W
R216	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W	R3123	0700032	RESISTOR,CARBON FILM 220 OHM +-5% 1/16W
R217	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W	R3124	0700039	RESISTOR,CARBON FILM 820 OHM +-5% 1/16W
R218	0700036	RESISTOR,CARBON FILM 470 OHM +-5%1/16W	R3125	0700039	RESISTOR,CARBON FILM 820 OHM +-5% 1/16W
R219	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R3126	070004	RESISTOR,CARBON FILM 330 OHM +-5% 1/16W
R220	0700043	RESISTOR,CARBON FILM 1.5K OHM +-5%1/16W	R3127	070004	RESISTOR,CARBON FILM 10K OHM +-5% 1/16W
R241	0700036	RESISTOR,CARBON FILM 470 OHM +-5%1/16W	R3128	0700038	RESISTOR,CARBON FILM 680 OHM +-5% 1/16W
R242	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W	R3129	070004	RESISTOR,CARBON FILM 10K OHM +-5% 1/16W
R243	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W	R313	070004	RESISTOR,CARBON FILM 10K OHM +-5% 1/16W
R244	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W	R3130	070004	RESISTOR,CARBON FILM 10K OHM +-5% 1/16W
R245	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W	R3131	0700027	RESISTOR,CARBON FILM 100 OHM +-5% 1/16W
R3001	0100038	CF 75 OHM +-5% 1/8W	R3132	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W
R3002	0100041	CF 100 OHM +-5% 1/8W	R3133	070004	RESISTOR,CARBON FILM 10K OHM +-5% 1/16W
R3003	0100038	CF 75 OHM +-5% 1/8W(31V)	R3134	070004	RESISTOR,CARBON FILM 10K OHM +-5% 1/16W
R3004	0100041	CF 100 OHM +-5% 1/8W(31V)	R3135	070004	RESISTOR,CARBON FILM 10K OHM +-5% 1/16W
R3005	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W(31V)	R3136	0700058	RESISTOR,CARBON FILM 22K OHM +-5% 1/16W
R3006	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W(31V)	R3137	070004	RESISTOR,CARBON FILM 330 OHM +-5% 1/16W

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R3138	0187056	CF 430 OHM +-5% 1/16W
R3139	0700037	RESISTOR,CARBON FILM 560 OHM +-5% 1/16W
R314	0700045	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W (31V)
R3140	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R3141	0700034	RESISTOR,CARBON FILM 330 OHM +-5%1/16W
R3142	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W(31V)
R3143	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R3144	0700042	RESISTOR,CARBON FILM 1.2K OHM +-5%1/16W
R3145	0700034	RESISTOR,CARBON FILM 330 OHM +-5%1/16W
R3146	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R3147	0700037	RESISTOR,CARBON FILM 560 OHM +-5%1/16W
R3148	0700037	RESISTOR,CARBON FILM 560 OHM +-5%1/16W
R3149	0187060	CF 620 OHM +-5% 1/16W
R315	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W
R3150	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R3151	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R3152	0700037	RESISTOR,CARBON FILM 560 OHM +-5%1/16W
R3153	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W
R3155	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R317	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R318	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R319	0114147	CF 470 OHM +-5% 1/4W
R320	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R401	0100113	CF 100K OHM +-5% 1/8W
R402	0100113	CF 100K OHM +-5% 1/8W
R403	0100065	CF 1K OHM +-5% 1/8W
R404	0100065	CF 1K OHM +-5% 1/8W
R405	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W(31V)
R406	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W(31V)
R407	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W(31V)
R408	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W(31V)
R409	0100113	CF 100K OHM +-5% 1/8W(31V)
R410	0100113	CF 100K OHM +-5% 1/8W(31V)
R411	0100065	CF 1K OHM +-5% 1/8W(31V)
R412	0100065	CF 1K OHM +-5% 1/8W(31V)
R413	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W (31V)
R414	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W (31V)
R415	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W (31V)
R416	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W(31V)
⚠ R417	0119501	FR 2.2 OHM +-5% 1/4W (31V)
R418	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W (31V)
R419	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W (31V)
R420	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W(31V)
⚠ R426	0119501	FR 2.2 OHM +-5% 1/4W
R427	0700053	RESISTOR,CARBON FILM 8.2K OHM +-5%1/16W
R428	0700053	RESISTOR,CARBON FILM 8.2K OHM +-5%1/16W
R429	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W
R430	0700037	RESISTOR,CARBON FILM 560 OHM +-5%1/16W
R431	0700053	RESISTOR,CARBON FILM 8.2K OHM +-5%1/16W
R432	0700045	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R433	0700043	RESISTOR,CARBON FILM 1.5K OHM +-5%1/16W
R434	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R435	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R436	0700051	RESISTOR,CARBON FILM 5.6K OHM +-5%1/16W
R437	0700051	RESISTOR,CARBON FILM 5.6K OHM +-5%1/16W
R438	0700027	RESISTOR,CARBON FILM 100 OHM +-5% 1/16W
R439	0700027	RESISTOR,CARBON FILM 100 OHM +-5% 1/16W
R440	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W(31V)
R441	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R442	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R443	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W(31V)
R444	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R445	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R446	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R447	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R448	0700062	RESISTOR,CARBON FILM 39K OHM +-5%1/16W
R449	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R450	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R451	0700032	RESISTOR,CARBON FILM 220 OHM +-5% 1/16W
R452	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R453	0700051	RESISTOR,CARBON FILM 5.6K OHM +-5%1/16W(31V)
R454	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R455	0100065	CF 1K OHM +-5% 1/8W
R456	0100113	CF 100K OHM +-5% 1/8W
R457	0700062	RESISTOR,CARBON FILM 39K OHM +-5%1/16W
R458	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R459	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R460	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R461	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R462	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R463	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R464	0100065	CF 1K OHM +-5% 1/8W
R465	0100113	CF 100K OHM +-5% 1/8W
⚠ R466	0119687	FR 4.7 OHM +-5% 1/4W
⚠ R467	0119501	FR 2.2 OHM +-5% 1/4W
R468	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
⚠ R469	0119501	FR 2.2 OHM +-5% 1/4W
R471	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R472	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R473	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R474	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R475	070008	RESISTOR,CARBON FILM 3.9K OHM +-5%1/16W
R476	070008	RESISTOR,CARBON FILM 3.9K OHM +-5%1/16W
R478	070004	RESISTOR,CARBON FILM 330 OHM +-5%1/16W
R479	070004	RESISTOR,CARBON FILM 330 OHM +-5%1/16W
⚠ R480	0119501	FR 2.2 OHM +-5% 1/4W
⚠ R481	0119501	FR 2.2 OHM +-5% 1/4W
R482	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R483	0700063	RESISTOR CARBON FILM 47K OHM +-5%1/16W
R484	0100113	CF 100K OHM +-5% 1/8W
R486	0114161	CF 1K OHM +-5% 1/4W
R487	0114161	CF 1K OHM +-5% 1/4W
R488	0100077	CF 3.3K OHM +-5% 1/8W
R489	0100077	CF 3.3K OHM +-5% 1/8W
R490	0100133	CF 680K OHM +-5% 1/8W
R491	C100133	CF 680K OHM +-5% 1/8W
R492	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R501	0700061	RESISTOR,CARBON FILM 33K OHM +-5%1/16W
R502	0700057	RESISTOR,CARBON FILM 18K OHM +-5%1/16W
R503	0700053	RESISTOR,CARBON FILM 22K OHM +-5%1/16W

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R504	0100049	CF 220 OHM +-5% 1/8W
R505	0100049	CF 220 OHM +-5% 1/8W
R506	0100049	CF 220 OHM +-5% 1/8W (31V)
R507	0700031	RESISTOR,CARBON FILM 180 OHM +-5%1/16W
R508	0700031	RESISTOR,CARBON FILM 180 OHM +-5%1/16W
R5501	0100038	CF 75 OHM +-5% 1/8W(31V)
R5502	010003M	CF 360HM +-5% 1/8W
R5503	0100031	CF 39 OHM +-5% 1/8W
R551	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R552	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R553	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R554	0100065	CF 1K OHM +-5% 1/8W
R601	0700041	RESISTOR,CARBON FILM 1K OHM +-5% 1/16W
R602	0700042	RESISTOR,CARBON FILM 1.2K OHM +-5%1/16W
R604	0100055	CF 390 OHM +-5% 1/8W
R605	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R606	0700059	RESISTOR CARBON FILM 27K OHM +-5%1/16W
R607	0700055	RESISTOR,CARBON FILM 12K OHM +-5%1/16W
R608	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R609	0700061	RESISTOR,CARBON FILM 33K OHM +-5%1/16W
R615	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W
R616	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W
R617	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R618	0100117	CF 150K OHM +-5% 1/8W
R625	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R626	0700059	RESISTOR CARBON FILM 27K OHM +-5%1/16W
R627	0150160	VR 10K OHM-B +-30%
R628	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R629	0119841	MF 0.82 OHM +-5% 1W
R630	0700065	RESISTOR CARBON FILM 68K OHM +-5%1/16W
R631	0187106	CF 51K OHM +-5% 1/16W
R632	0700065	RESISTOR CARBON FILM 68K OHM +-5%1/16W
R633	0187076	CF 3K OHM +-5% 1/16W
R634	0700037	RESISTOR,CARBON FILM 560 OHM +-5%1/16W
R640	0113742	CF 470 OHM +-5% 1/2W
R641	0700035	RESISTOR,CARBON FILM 390 OHM +-5%1/16W
R650	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W
R651	0187106	CF 51K OHM +-5% 1/16W
R652	0700064	RESISTOR,CARBON FILM 56K OHM +-5%1/16W
R654	0700059	RESISTOR CARBON FILM 27K OHM +-5%1/16W
R655	0700057	RESISTOR,CARBON FILM 18K OHM +-5%1/16W
R656	0700049	RESISTOR,CARBON FILM 4.7K OHM +-5%1/16W
R657	0100117	CF 150K OHM +-5% 1/8W
R658	0100127	CF 390K OHM +-5% 1/8W
R659	0700065	RESISTOR,CARBON FILM 68K OHM +-5%1/16W (27V)
R660	0700045	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R661	070004	RESISTOR,CARBON FILM 1.8K OHM +-5%1/16W
R662	0110141	MF 680 OHM +-5% 1W
R663	0700064	RESISTOR,CARBON FILM 56K OHM +-5%1/16W
R664	0114141	CF 270 OHM +-5% 1/4W
R665	0187104	CF 43K OHM +-5% 1/16W
R666	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W
R667	0100057	CF 470 OHM +-5% 1/8W
R668	0700048	RESISTOR,CARBON FILM 3.9K OHM +-5%1/16W
R669	0700052	RESISTOR,CARBON FILM 6.8K OHM +-5%1/16W
R671	0110125	MF 150 OHM +-5% 1W
R672	0700065	RESISTOR CARBON FILM 68K OHM +-5%1/16W
R703	0114141	CF 270 OHM +-5% 1/4W(31V)
R704	0100125	CF 330K OHM +-5% 1/8W
R705	070004	RESISTOR,CARBON FILM 330 OHM +-5%1/16W
R706	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W (31V)
⚠ R707	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R708	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R709	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R711	0100047	CF 180 OHM +-5% 1/8W
R712	0700036	RESISTOR,CARBON FILM 470 OHM +-5%1/16W
R713	0150287	VR 10K OHM-B
R720	0113739	CF 390 OHM +-5% 1/2W
⚠ R722	0100037	CF 68 OHM +-5% 1/8W
R723	0110221	MF 100 OHM +-5% 2W
R726	0113758	CF 2.2K OHM +-5% 1/2W
R727	0114143	CF 330 OHM +-5% 1/4W
⚠ R728	0119501	FR 2.2 OHM +-5% 1/4W
⚠ R729	0119511	FR 1 OHM +-5% 1/4W
R730	0110119	MF 82 OHM +-5% 1W
R731	0110141	MF 680 OHM +-5% 1W
R732	0113754	CF 1.5K OHM +-5% 1/2W
R733	0100100	CF 30K OHM +-5% 1/8W
⚠ R735	0700053	RESISTOR,CARBON FILM 8.2K OHM +-5%1/16W
⚠ R736	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R737	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R738	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R743	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W
R744	0700018	RESISTOR CARBON FILM 22 OHM +-5% 1/16W
R746	0119508	FR 56 OHM +-5% 1/4W
R747	0700053	RESISTOR,CARBON FILM 8.2K OHM +-5%1/16W
R748	0119722	MF 1 OHM +-5% 1W
R750	0100073	CF 2.2K OHM +-5% 1/8W
R751	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R752	0150160	VR 10K OHM-B +-30%
R753	0700056	RESISTOR,CARBON FILM 15K OHM +-5%1/16W
R754	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R755	0150157	VR 200K OHM-B RV-6
R757	070004	RESISTOR,CARBON FILM 1.8K OHM +-5%1/16W
R758	0700051	RESISTOR,CARBON FILM 5.6K OHM +-5%1/16W
R759	070004	RESISTOR,CARBON FILM 56K OHM +-5%1/16W
R760	0700066	RESISTOR,CARBON FILM 82K OHM +-5%1/16W
R762	0700058	RESISTOR,CARBON FILM 22K OHM +-5%1/16W
R763	0110271	MF 12K OHM +-5% 2W
R764	0100087	CF 8.2K OHM +-5% 1/8W
R765	0100091	CF 12K OHM +-5% 1/8W
R766	0700032	RESISTOR,CARBON FILM 220 OHM +-5%1/16W
R767	070004	RESISTOR,CARBON FILM 56K OHM +-5%1/16W
R768	0700059	RESISTOR CARBON FILM 27K OHM +-5%1/16W
R769	0700056	RESISTOR,CARBON FILM 15K OHM +-5%1/16W
R770	0114171	CF 2.7K OHM +-5% 1/4W
R771	070004	RESISTOR,CARBON FILM 56K OHM +-5%1/16W
R772	0187112	CF 91K OHM +-5% 1/16W
R775	0100077	CF 3.3K OHM +-5% 1/8W
R781	0700065	RESISTOR CARBON FILM 68K OHM +-5%1/16W

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R782	0100133	CF 680K OHM +-5% 1/8W
R786	0700054	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R788	0100033	CF 47 OHM +-5% 1/8W(31V)
R789	0700036	RESISTOR,CARBON FILM 470 OHM +-5%1/16W
⚠ R791	0119838	FR 0.5 OHM +-5% 1/4W
R792	0119838	FR 0.5 OHM +-5% 1/4W
R793	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W(31V)
R801	0700047	RESISTOR,CARBON FILM 3.3K OHM +-5%1/16W
R802	0100089	CF 10K OHM +-5% 1/8W
R803	0700045	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R804	0100089	CF 10K OHM +-5% 1/8W
R805	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W
R806	0150109	VR 200 OHM-B RS-6
R807	0150112	VR 2K OHM-B
R808	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R809	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R811	0100033	CF 47 OHM +-5% 1/8W
R813	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R814	0150112	VR 2K OHM-B
R815	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W
R816	0150109	VR 200 OHM-B RS-6
R817	0700038	RESISTOR,CARBON FILM 680 OHM +-5%1/16W
R818	0150112	VR 2K OHM-B
R851	0110271	MF 12K OHM +-5% 2W
R852	0110271	MF 12K OHM +-5% 2W
R853	0110271	MF 12K OHM +-5% 2W
R855	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W(31V)
R856	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W (31V)
R875	0113750	CF 1K OHM +-5% 1/2W
R876	0113750	CF 1K OHM +-5% 1/2W
R877	0113750	CF 1K OHM +-5% 1/2W
R878	0100053	CF 330 OHM +-5% 1/8W
R879	0100053	CF 330 OHM +-5% 1/8W
R880	0100053	CF 330 OHM +-5% 1/8W
R881	0114131	CF 100 OHM +-5% 1/4W
R882	0114131	CF 100 OHM +-5% 1/4W
R883	0114131	CF 100 OHM +-5% 1/4W
R884	0100038	CF 75 OHM +-5% 1/8W
R885	0100038	CF 75 OHM +-5% 1/8W
R886	0100038	CF 75 OHM +-5% 1/8W
R887	0100045	CF 150 OHM +-5% 1/8W (31V)
R888	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W
R901	0147813	WW 1.8 OHM +-10% 15W
R902	0110171	MF 12K OHM +-5% 1W
R903	0100111	CF 82K OHM +-5% 1/8W
⚠ R904	0119508	FR 56 OHM +-5% 1/4W
R905A	0110197	MF 10 OHM +-5% 2W
R905B	0110197	MF 10 OHM +-5% 2W
R905C	0110197	MF 10 OHM +-5% 2W
R906	0141161	WW 220 OHM +-5% 15W
R921	0100001	CF 2.2 OHM +-5% 1/8W
R922	0700024	RESISTOR,CARBON FILM 56 OHM +-5% 1/16W
R927	0100061	CF 680 OHM +-5% 1/8W
R928	0113729	CF 150 OHM +-5% 1/2W
R928A	0100029	CF 33 OHM +-5% 1/8W
R929	0114167	CF 1.8K OHM +-5% 1/4W
R930	0100033	CF 47 OHM +-5% 1/8W
⚠ R932	070004	RESISTOR,CARBON FILM 10K OHM +-5%1/16W
R933	070004	RESISTOR,CARBON FILM 1.8K OHM +-5%1/16W
R934	0119691	MG 0.33OHM +-5% 1W
⚠ R936	070005	RESISTOR,CARBON FILM 2.2K OHM +-5%1/16W
R937	0700041	RESISTOR,CARBON FILM 1K OHM +-5%1/16W (31V)
R950	0700067	RESISTOR,CARBON FILM 100K OHM +-5%1/16W
R950A	0100133	CF 680K OHM +-5% 1/8W
R950B	0100133	CF 680K OHM +-5% 1/8W(31V)
R952	0100065	CF 1K OHM +-5% 1/8W
R953	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W
R954	0100065	CF 1K OHM +-5% 1/8W
R955	0700027	RESISTOR,CARBON FILM 100 OHM +-5%1/16W
R956	0700061	RESISTOR,CARBON FILM 33K OHM +-5%1/16W
R957	070004	RESISTOR,CARBON FILM 56K OHM +-5%1/16W
R958	0700053	RESISTOR,CARBON FILM 8.2K OHM +-5%1/16W
R959	0110121	MF 100 OHM +-5% 1W
R960	0113737	CF 330 OHM +-5% 1/2W
R961	0110137	MF 470 OHM +-5% 1W
R962	0147060	WW 33 OHM +-5% 2W
R981	0110125	MF 150 OHM +-5% 1W
R982	0110125	MF 150 OHM +-5% 1W
R983	0141161	WW 220 OHM +-5% 15W
R983A	0110155	MF 2.7K OHM +-5% 1W
R983B	0110347	MF 1.2K OHM +-5% 3W
R983C	0110347	MF 1.2K OHM +-5% 3W
R984	0110261	MF 4.7K OHM +-5% 2W

ICs

IC0101	2001871	IC LC864032A-5369(27V)
IC0101	2001872	IC LC864032A-5414(31V)
⚠ IC0102	2381111	IC M6M80021L
IC0103	2917391	IC MSC11371RS
IC0104	200492	IC LA7945N
IC0401	200452	IC AN5817K
IC201	2004133	IC LA7674
IC3001	2020341	IC MM1111XS(31V)
IC3002	2003981	IC BA7604N (LINEAR)(31V)
IC401	200432	IC CXA1279AS
IC402	2363191	IC HD14066BP(31V)
⚠ IC471	200431	IC AN7178 (LINEAR)
⚠ IC625	2003541	IC LA7838 (LINEAR)
IC651	2362605	IC BA4558
⚠ IC701	2000521	IC PC713F6 (LINEAR)
⚠ IC702	200045	IC PS2501-1 (KD/LD) (PHOTO COUPLER)
⚠ IC901	2912177	IC STR30130

TRANSISTORS

Q0101	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q0102	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q0105	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q0106	2320596	TR 2SC458C/D SI 230MHZ 200MW

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SYMBOL NO.	PART NO.	PART DESCRIPTION
Q0107	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q0108	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q0109	2320643	TR 2SC1213C SI 80MHZ 400MW
Q0110	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q0111	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q101	2320144	TR 2SC1906
Q201	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q202	2320596	TR 2SC458C/D SI 230MHZ 200MW(31V)
Q241	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q301	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q302	2320637	TR 2SA673C/D SI 80MHZ 400MW(31V)
Q303	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3101	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q3102	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3103	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3104	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3105	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3106	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3107	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q3108	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3109	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3110	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q3111	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3112	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3113	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q3114	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3115	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q401	2320596	TR 2SC458C/D SI 230MHZ 200MW(31V)
Q402	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q403	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q404	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q405	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q406	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q407	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q408	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q409	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q410	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q411	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q412	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q471	2320643	TR 2SC1213C SI 80MHZ 400MW
Q551	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q601	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q602	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q651	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q706	2315411	TRANSISTOR 2SD2012
Q710	2323523	TRANSISTOR 2SD789 (D)
⚠ Q711	2315272	TRANSISTOR 2SC4589-03
⚠ Q712	2320643	TR 2SC1213C SI 80MHZ 400MW
Q741	2323526	TRANSISTOR 2SD789 D/E
Q750	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q751	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q752	2323431	TR 2SC1983 SI
Q851	2320591	TR 2SC458B/C SI 230MHZ 200MW
Q852	2320591	TR 2SC458B/C SI 230MHZ 200MW
Q853	2320591	TR 2SC458B/C SI 230MHZ 200MW
Q854	2315491	TRANSISTOR 2SC4544
Q855	2315491	TRANSISTOR 2SC4544
Q856	2315491	TRANSISTOR 2SC4544
Q863	2320591	TR 2SC458B/C SI 230MHZ 200MW
Q864	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q904	232063	TR 2SC1213C SI 80MHZ 400MW
⚠ Q906	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q921	2327501	TR 2SD1876(31V)
Q951	2323526	TRANSISTOR 2SD789 D/E
Q952	232063	TR 2SC1213C SI 80MHZ 400MW
Q953	2320681	TR 2SA673A B/C SI 80MHZ 400MW(31V)
Q954	2320663	TR 2SC1213AC SI 80MHZ 400MW
Q981	2326216	TR 2SC3116 S/T
Q982	2327883	TR 2SA1207

DIODES

D0101	2338321	DI 1SS270(27V)
D0104	2338321	DI 1SS270
D0107	2338321	DI 1SS270(31V)
D0108	2338321	DI 1SS270 (31KX41K)
D0110	2338321	DI 1SS270
D0113	2338321	DI 1SS270
D0114	2338321	DI 1SS270
D0115	2338321	DI 1SS270
D0116	2338321	DI 1SS270
D0117	2338321	DI 1SS270
D0118	2338321	DI 1SS270
D0119	2338321	DI 1SS270
D0121	2338321	DI 1SS270
D0124	2338321	DI 1SS270
D0125	2338321	DI 1SS270
D0126	2338321	DI 1SS270
D0127	2338321	DI 1SS270
D0128	233831	DI 1SS270
D301	2338321	DI 1SS270
D302	2338321	DI 1SS270
D303	2338321	DI 1SS270
D471	2338321	DI 1SS270
D472	2338321	DI 1SS270
D473	2338321	DI 1SS270
D474	2338321	DI 1SS270
D601	2338321	DI 1SS270
D626	2339491	DI AM01Z
D628	2338321	DI 1SS270
D629	2338321	DI 1SS270
D630	2338321	DI 1SS270
D702	2338321	DI 1SS270
D703	2338321	DI 1SS270
⚠ D710	2348511	DIODE RS3FS
⚠ D711	2336612	DI RU3AM
D712	2338902	DI DFM1SA4
⚠ D713	2339481	DI AS01Z
D721	2339481	DI AS01Z
D741	2338321	DI 1SS270

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SYMBOL NC.	PART NO.	PART DESCRIPTION
D742	2339491	DI AM01Z
D751	2338321	DI 1SS270
D752	2338321	DI 1SS270
D753	2338321	DI 1SS270
D754	2338321	DI 1SS270
D755	2338321	DI 1SS270
D756	2338321	DI 1SS270
D791	2338451	DI EU02Z(31V)
D792	2338902	DI DFM1SA4
D804	2338321	DI 1SS270
D805	2338321	DI 1SS270(31V)
D806	2338321	DI 1SS270
D807	2338321	DI 1SS270
D808	2338321	DI 1SS270
D872	2338321	DI 1SS270
⚠ D901	2342062	DIODE D3SBA60-4103
D910	2339491	DI AM01Z
D911	2338902	DI DFM1SA4
D915	2339491	DI AM01Z
D921	2336612	DI RU3AM
D922	2338321	DI 1SS270
D951	2339491	DI AM01Z
D952	2339491	DI AM01Z
D953	2339491	DI AM01Z
D954	2339491	DI AM01Z
ZD0101	233983M	DIODE-ZENER HZS5A3
ZD101	233997M	DIODE-ZENER HZS33-2
ZD3001	2339889	ZD HZS12C3(31V)
ZD3002	2339889	ZD HZS12C3(31V)
ZD301	2339889	ZD HZS12C3
ZD3051	2339889	ZD HZS12C3 (27V/31KX41K)
ZD3052	2339889	ZD HZS12C3 (31KX41K)
ZD3053	2339889	ZD HZS12C3 (31KX41K)
ZD401	233981M	DIODE-ZENER HZS3A2
ZD402	233981M	DIODE-ZENER HZS3A2
ZD501	233986M	ZD HZS9C2
ZD502	233986M	ZD HZS9C2
ZD503	233986M	ZD HZS9C2
ZD620	233992M	DIODE-ZENER HZS20-1
ZD621	233987M	DIODE-ZENER HZS11A2
ZD622	233986M	ZD HZS9A2
ZD702	2339889	ZD HZS12C3
⚠ ZD712	2339232	ZD HZS30-2L
⚠ ZD713	2339241	DI HZS331L
ZD741	2339851	DIODE-ZENER HZS7A1
ZD751	2339981	DIODE-ZENER HZS36-1
ZD781	233983M	ZD HZS5B2TA
ZD783	233987M	DIODE-ZENER HZS11A2
ZD784	2339837	ZD HZS-5C1
ZD785A	233909M	ZD HZS9C1L TA
ZD785B	233984	ZD HZS6B1
ZD804	2339887	DIODE-ZENER HZS12C1
ZD805	2339887	DIODE-ZENER HZS12C1
ZD806	2339887	DIODE-ZENER HZS12C1
ZD851	2339801	ZD HZS2B1

SYMBOL NO.	PART NO.	PART DESCRIPTION
ZD852	2339801	ZD HZS2B1
ZD853	2339801	ZD HZS2B1
ZD861	2331781	ZD HZ4 (A1)
ZD907	233988M	DIODE-ZENER HZS12B3
ZD951	2339867	DIODE-ZENER HZS9C1
ZD952	233984	ZD HZS6B1
ZD953	233988	ZD HZS-6-C2
ZD954	233988	ZD HZS-6-C2(31V)
		TRANSFORMERS
T201	2145961	IF COIL
⚠ T701	2260163	HORIZONTAL DRIVE TRANSFORMER
⚠ T702	243672	FLYBACK TRANSFORMER C87LLI (HHEA MD)
⚠ T921	2216141	POWER TRANSFORMER
⚠ T951	2215911	POWER TRANSFORMER
		FUSE
⚠ F901	2721053	UL FUSE 5A
		COMPOUND COMPONENTS
CP201	230047	SAW FILTER HW2267
CP202	2167201	CERAMIC TRAP 4.5MHZ
CP241	2167311	CERAMIC FILTER 4.5MHZ
CP3101	2151041	DELAY LINE AND B.P.F
⚠ CP901	2793313	COMPOUND COMPONENT
MF701	2167241	CERAMIC OSC 0.5MHZ
		COILS
L0101	2146091	COIL-OSC
L0102	2122942	LA AXIAL COIL 8.2 MICRO H +-10%
L0103	2122942	LA AXIAL COIL 8.2 MICRO H +-10%
L0104	2122942	LA AXIAL COIL 8.2 MICRO H +-10%
L0105	2122942	LA AXIAL COIL 8.2 MICRO H +-10%
L0108	2122253	LA AXIAL COIL 100 MICRO H
L0109	2122253	LA AXIAL COIL 100 MICRO H
L101	2122253	LA AXIAL COIL 100 MICRO H
L102	2122253	LA AXIAL COIL 100 MICRO H
L103	2122927	LA AXIAL COIL 0.68 MICRO H
L201	2122253	LA AXIAL COIL 100 MICRO H
L202	2145971	IF COIL
L203	214245	CARRIER FILTER AFS COIL
L204	212294	LA AXIAL COIL 12 MICRO H
L205	2122952	LAL AXALCOIL
L241	2122948	LA AXIAL COIL 27 MICRO H +-10%
L243	2145981	DISCRIMINATOR COIL
L3001	2122253	LA AXIAL COIL 100 MICRO H (31V)
L3002	2122253	LA AXIAL COIL 100 MICRO H(31V)
L301	2122947	LA AXIAL COIL 22 MICRO H +-10%
L302	2122927	LA AXIAL COIL 0.68 MICRO H
L3051	2120482	FILTER COIL 100 MICRO H +-10%(31KX41K)
L3052	2122253	LA AXIAL COIL 100 MICRO H (31KX41K)

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SYMBOL NO.	PART NO.	PART DESCRIPTION
L3101	2122253	LA AXIAL COIL 100 MICRO H
L3103	2141148	1H DL COIL
L3104	2122939	LA AXIAL COIL 5.6 MICRO H
L3105	2122951	LA AXIAL COIL 39 MICRO H +-10%
L3106	2122947	LA AXIAL COIL 22 MICRO H +-10% (27V)
L401	2122652	FERRITE CORE(31V)
L501	2122253	LA AXIAL COIL 100 MICRO H
L551	2122253	LA AXIAL COIL 100 MICRO H(31V)
L601	2122956	LA AXIAL COIL 100 MICRO H +-10%
L702	2122938	LA AXIAL COIL 4.7 MICRO H
L710	2124513	LINEARITY COIL(31V)
⚠ L711	2275381	CHOKING COIL
L712	2122253	LA AXIAL COIL 100 MICRO H
L713	2122094	FIXED COIL
L714	2122653	FERRITE BEADS CORE
L741	2122253	LA AXIAL COIL 100 MICRO H
L850	2120482	FILTER COIL 100 MICRO H +-10%
L851	2122945	LA AXIAL COIL 15 MICRO H +-10%
L852	2122945	LA AXIAL COIL 15 MICRO H +-10%
L853	2122945	LA AXIAL COIL 15 MICRO H +-10%
L854	2122956	LA AXIAL COIL 100 MICRO H +-10%
L855	2122956	LA AXIAL COIL 100 MICRO H +-10%
L856	2122956	LA AXIAL COIL 100 MICRO H +-10%
L861	2122653	FERRITE BEADS CORE
⚠ L901	2272293	LINE FILTER LL (T)
L905	2229022	DEGAUSSING COIL (HHEA MD) (HSCC MD)(31V)
L920	2122653	FERRITE BEADS CORE
L995	2165747	DEGAUSSING COIL (HHEA MD) (HSCC MD)(27V)
		SWITCH
S0101	2633171	5 KEY TACT SWITCH 5P
S0101	2632851	TACT SWITCH(27CX0B)
S0102	2632923	TACT SWITCH
S0102	2632901	TACT SWITCH(27CX0B)
		COLOR PICTURE TUBE
⚠ V1	DE00061	COLOR PICTURE TUBE A78LCU60X (HHEAMD) 31DX22B/31KX41K
⚠ V1	2471291	COLOR PICTURE TUBE A68KSA60X (HHEAMD) 27AX5BX/27CX0B
		MISCELLANEOUS
A014	340474	PWB ASS'Y MAIN CHASSIS (HHEA MD)(31KX41K)
A015	340475	PWB ASS'Y MAIN CHASSIS (HHEA MD) HSCCMD) (27V)
A016	340476	PWB ASS'Y MAIN CHASSIS (HHEA MD)(31DX22B)
A022	2892373	PWB ASS'Y CPT (HHEA MD) (31V)
A023	2892372	PWB ASS'Y CPT (HHEA MD) (27V)
DL3101	2794401	DELAY LINE
DL3102	2793281	DELAY LINE
⚠ EF901	2720221	FUSE HOLDER
⚠ EM	2665272	4P PLUG PIN WITH BASE
ESR	2902263	4P SUB MINI PLUG PIN

SYMBOL NO.	PART NO.	PART DESCRIPTION
EW	2661753	PIN PLUG WITH BASE
⚠ E3001	2983099	5P PIN JACK
⚠ E3002	2673602	3P PIN JACK(31V)
E301	2573756	REMOTE CONTROL TRANSMITTER CLU-681GR (27V31DX22B)
E301	2573922	REMOTE CONTROL TRANSMITTER CLU-692GR (31KX41K)
E5501	2983122	S-SOCKET (HHEA MD) (31V)
⚠ E601	244423	DEFLECTION YOKE (HHEA MD) (27V)
E602	2994511	CPT EARTH READ(31V)
E603	2771461	MAGNET PEACE(27V)
E603A	2771461	MAGNET PEACE
E604	2773671	CF MAGNET (27V)
E851	295334	CPT SOCKET
⚠ E901	2972521	POWER CORD
⚠ E902	3772201	AC CORD HOLDER
E903	2787531	MICA PLATE
FB701	2122653	FERRITE BEADS CORE
FB701A	2122653	FERRITE BEADS CORE
FB702	2771893	FERRITE BEADS CORE
JPA	2976661	12P SUB MINI CONNECTOR (HHEA MD) (31KX41K)
JPB	295492	5P MICRO CONNECTOR (31KX41K)
NC901	278432	CONDENSER COVER
NQ706A	4520881	M3X8 SCREW WITH WASHER
NT703A	8821114	NUT 3
NT704	424345	G51 INSULATOR
NT705	451872	M2.3X12 SCREW WITH WASHER
NT705A	8711412	3X12 PAN HEAD SCREW
N106	3737101	PURSE LOCK 15 (27V/31DX22B)
N106A	3737101	PURSE LOCK 15 (31KX41K)
N108	2788841	ANODE CLAMP
N109	3763751	SK BINDER (31V)
N130	370032	WIRE CLAMP(27V)
N201	3763751	SK BINDER
N201	488082	INSTRUCTION MANUAL (HHEA MD)(27CX0B)
N201	488083	INSTRUCTION MANUAL (HHEAMD)(27AX5BX)SPANISH I/B
N201	488092	INSTRUCTION MANUAL (HHEAMD)(31DX22B/31KX41K)
N471A	4520881	M3X8 SCREW WITH WASHER
N471B	8821234	3 NUT(31V)
N601	4615641	WEDGE (27V)
N606	3330941	EARTH SPRING
N609	3763751	SK BINDER
N610A	2772981	FERRITE SHEET
N611	3763751	SK BINDER(31V)
N611	2772981	FERRITE SHEET (27V)
N611A	2772981	FERRITE SHEET (27V)
N612	3763752	SK BINDER(31V)
N613	2772211	MAGNET PIECE (27V)
N625A	4520881	M3X8 SCREW WITH WASHER
N625B	8821234	3 NUT
N711B	8821234	3 NUT
N711C	8813124	WASHER
N711E	4159411	3X8 KNURL TAPPING SCREW (31V)
N752A	4520881	M3X8 SCREW WITH WASHER
N801	8815126	LOCKING WASHER 4
N901A	452083	M3X12 SCREW WITH WASHER
N901B	8781642	4X12 TAPPING SCREW

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SYMBOL NO.	PART NO.	PART DESCRIPTION
N901C	4137974	4X12 TAPPING SCREW WITH WASHER
PY1	2902266	7P SUB MINI PLUG PIN
PY2	2902263	4P SUB MINI PLUG PIN
⚠ RL901	2641221	POWER RELAY
SG851	2340037	SPARK GAP
⚠ SG901	2340741	SPARK GAP
⚠ SP451	2412647	SPEAKER (HHEA MD) (6X12)
⚠ SP451	GK00061	SPEAKER (HHEA MD) (5X9)(27CX0B)
⚠ SP452	2412647	SPEAKER (HHEA MD) (6X12)
⚠ SP452	2412647	SPEAKER (HHEA MD) (5X9)(27CX0B)
TH651	2340371	THERMISTOR 112301-9
⚠ TH901	2341281	THERMISTOR PTH451C460BG3R0Q
⚠ U0102	2381126	REMOTE CONTROL RECEIVER SPS-409-1F
U0501	2575453	P IN P UNIT (HHEA MD) (31KX41K)
⚠ U101	2428681	TUNER ET-352A (HHEA MD)
X0101	2168831	CRYSTAL
X501	2791505	CRYSTAL
#	2892365	MAIN PWB ASSY.(27AX5BX)
#	2892368	MAIN PWB ASSY.(27CX0B)
#	2807821	MAIN PWB (27AX5BX)
#	JK00841	MAIN PWB(27CX0B)
#011	3105304	FRAME ASS'Y (HHEA MD) (FOR 31KX41K)
#012	3105304	FRAME ASS'Y (HHEA MD) (FOR 31DX22B)
#012	3105376	FRAME ASS'Y (HHEA MD) (27AX5BX)
#012	QD00912	FRAME ASS'Y (HHEA MD) (27CX0B)
#013	3104391	FRAME (27AX5BX)
#013	QD0022	FRAME (27CX0B)
#105	3872878	ANTENNA TERMINAL BOARD (HHEA MD)(31V)
#106	8781646	4X16 TAPPING SCREW (27V)
#11	3552525	CARTON BOX (HHEA MD)(31DX22B)
#160	3739671	CORD HOLDER(31V)
#202	4519503	3X12 TAPPING SCREW
#203	4519503	3X12 TAPPING SCREW(31V)
#21	3620361	TOP CUSHION (HHEA MD)(31DX22B)
#210	4159427	3X10 TAPPING SCREW WITH WASHER
#22	3620371	BOTTOM CUSHION (HHEA MD)(31DX22B)
#225	3875771	LATCH
#250	4520232	4X16 DT SCREW
#251	4520232	4X16 DT SCREW (31DX22B)
#309	3204181	R/C LENS (HHEA MD) (31V)
#410	8781642	4X12 TAPPING SCREW
#500	3164183	BACK COVER ASS'Y (HHEA MD)(31V)
#500	3164111	BACK COVER ASS'Y (HHEA MD) (27V)
#501	3163508	BACK COVER (HHEA MD) (27CX0B)
#601	3727972	HOLDER-AC LINE CORD
#805	4528351	SCREW 6X30(27V)
#860	4520771	4X18 TAPPING SCREW WITH WASHER
#895	8781646	4X16 TAPPING SCREW
#898	8781646	4X16 TAPPING SCREW(31DX22B)
#900	8781642	4X12 TAPPING SCREW
	4963533	ANTENNA TERMINAL LABEL (HHEA MD)
#907	496354	ANTENNA TERMINAL LABEL (HHEA MD) (27V)
#950	8781646	4X16 TAPPING SCREW (27V)
#951	4159411	3X8 KNURL TAPPING SCREW(31V)
#970	8815126	LOCKING WASHER 4 (31V)

SYMBOL NO.	PART NO.	PART DESCRIPTION
		31KX41K CABINET ASSEMBLY
#	3123463	31KX41K CABINET ASSEMBLY
#011	H512052	CABINET 31KX41K
#020	H420211	SWIVEL (712 FLAT 47 TOP PLATE)
#022	H920181	VELCRO
#024	H920182	VELCRO
#026	H42021	INSERT NUT
#028	H82002	1/4-20X1 SCREW
#030	H830011	SAE 1/4 PLAIN WASHER
#032	H840011	GLIDE PIN
#105	3106801	31KX41K FRONT FRAME ASSEMBLY
#111	3820678	DOOR
#112	3820675	DOOR 3195 PMMA
#114	378503	D40 PUSHLOCK A PC
#116	3825763	INDOOR PLATE 3195 PVC
#118	3209161	R/C PANEL ASSEMBLY 3190 PMMA
#118A	3209061	R/C PANEL 3190
#118B	3826141	LED LENS 3190
#119	3209162	R/C PANEL ASSEMBLY 31KX41K
#119A	3209062	R/C PANEL 31KX41K
#119B	3826142	LED LENS 31KX41K
#120	3209101	FRONT PANEL 3196 (R) PMMA
#122	3209102	FRONT PANEL 3196 (L) PMMA
#124	3487251	HITACHI BADGE 7.5 PS
#126	944957	NITTO TAPE N0.5 W9 (BLACK)
#128	3103042	FRONT FRAME 3195
#128	3103043	FRONT FRAME 31KX41K PS
#130	H42031	MAGENTIC LATCH PLATE 31"
#131	8125104	#5X3/4" FLAT HEAD BLK OX.
#140	H42031	MAG. CATCH PLATE
#145	H45001	#5 X 1/2" FLAT HEAD SCREW
#150	H810081	#5 X 1/2" PAN HEAD PHIL A BLACK ZINK
#202	3871591	CPT BRACKET 3190 (A) NORYL
#204	3871592	CPT BRACKET 3190 (B) NORYL
#206	8781650	SCREW 4X20 TAPPING
#208	8781650	SCREW 4X20 TAPPING
#210	4517791	M6 INSERT BOLT SWMC
#211	3850263	CHASSIS RAIL 31KX41K
#211A	3850261	CHASSIS RAIL 27500-A PS
#212	3850262	CHASSIS RAIL 27500-A(CONSOLE) PS
#214	3850272	CHASSIS RAIL 27500-B(CONSOLE) PS
#216	9542130	STAPLE STEEL
#218	H930013	LOCTITE THREAD LOCKER 242
#220	3428891	DOLBY RAIL METAL (CT3195) SECC
#221	342882	UPPER DOLBY METAL
#222	8751416	3.1*16 ROUND WOOD SCREW
#80	H42031	SLIDER ASSEMBLY C113-12
#90	H420161	BUTT HINGE

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SYMBOL NO.	PART NO.	PART DESCRIPTION
		31KX41K EXCLUSIVE PARTS
C302	089006R	CCL-470J500SL0FT-D3
C3104	088004R	CQM-103K500HFT-MF
C3108	088004R	CQM-103K500HFT-MF
C725	0244215	CD45R3D222K
C726A	0244211	CK45R3D222K
C794A	0800084	CEL-102M350WML-SME
C905	0253890	CE04W2D821HR
L301	212294M	LAL AXIAL COIL 100KB
L3106	212294M	LAL AXIAL COIL 220KB
L713	2122094	FL11Z220K
NT703	4518753	M2.3 NUT
NT703A	8821114	NUT HEX 3
NT705	4518742	M2.3X12 PAN HEAD SCREW
NT705A	8711412	SCRW M 3*12 PAN
R301	070037M	RDL-561J1-16LT
R3142	0700036M	RDL-471J1-16LT
R665	0700064M	RDL-563J1-16LT
R726	011041S	RS08B3A681JS
R733	010009M	RD14S2B283JB
R748	011972M	RN14-3A1R0JB
R771	070006M	RDL-104J1-16LT
R772	07000M	RDL-823J1-16LT
R793	070003M	RDL-681J1-16LT
R811	010003M	RD14S2B470JB
R903	010011M	RD14S2B114JB
R906	0141159	RW99JRC181JF2
R907	011022S	RS08B3D101JS
R983	0141159	RW99JRC181JF2
T702	2437191	FBT-C87LUI
ZD713	233924M	HZS33-2L TA
		31DX22B EXCLUSIVE PARTS
C3012	088004R	CQM-103K500HFT-MF
C302	0890066R	CCL-470J500SL0FT-D3
C3104	088004R	CQM-103K500HFT-MF
C3108	088004R	CQM-103K500HFT-MF
C725	0244215	CK45R3D222K
C726A	0244211	CK45R3D102K
C741	080004R	CEL-102M160WMLT-SME
C794A	0800084	CEL-102M350WML-SME
C905	0253890	CE04W2D821HR
L301	212294M	LAL AXIAL COIL 100KB
L3106	212294M	LAL AXIAL COIL 220KB
L713	2122094	FL11Z220K
NT703	4518753	M2.3 NUT
NT703A	8821114	NUT HEX 3
NT705	4518742	M2.3X12 PAN HEAD SCREW
NT705A	8711412	SCRW M 3*12 PAN
R301	070037M	RDL-561J1-16LT
R3142	070003M	RDL-471J1-16LT
R665	070006M	RDL-563J1-16LT
R726	011041S	RS08B3A681JS
R733	010009M	RD14S2B283JB
R748	011972M	RN14-3A1R0JB
R771	070006M	RDL-104J1-16LT
R772	070006M	RDL-823J1-16LT
R793	070003M	RDL-681J1-16LT
R811	010003M	RD14S2B470JB
R903	010011M	RD14S2B114JB
R906	0141159	RW99JRC181JF2
R907	011022S	RS08B3D101JS
R983	0141159	RW99JRC181JF2
T702	2437191	FBT-C87LUI
ZD713	233924M	HZS33-2L TA

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