HITACHI

PA	No. 0052

35TX20B/CZ52	31CX5B/CY55
32CX7B/CY57	3503TB/CZ52
31CX6B/CY56	3194TB/CY56

SERVICE MANUAL

NTSC | A3LXU2 CHASSIS

R/C:	CLU-415UI
	CLU-412U
	CLU-411U

CAUTION: Before servicing this chassis, it is important that the service technician read the "Safety Precautions" 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.

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Model 3503TB is the same as the 35TX20B CTV Model. Model 3194TB is the same as the 31CX6B CTV Model. Please refer to Model 35TX20B and 31CX6B schematics, assembly, wiring, test and troubleshooting information when servicing Model 3503TB and 3194TB.

REPLACEMENT PARTS LIST

This parts list only gives parts which are different from the 35TX20B and 3194TB

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
E301	HL00226	REMOTE CONTROL	N201	H461772	INSTRUCTION BOOK

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

SOLID STATE COLOR TELEVISION

AUGUST 1995 **HHEA - MANUFACTURING DIVISION**

SAFETY PRECAUTIONS

NOTICE: Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

WARNING: Since the chassis of this receiver is connected to one side of the AC power supply during operation, whenever the receiver is plugged in, service should not be attempted by anyone unfamiliar with the precautions necessary when working on this type of receiver.

The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away from the picture tube while handling.

2. When service is required, an isolation transformer should be inserted between power line and the receiver before any service is performed on a "HOT" chassis receiver.

3. When replacing a chassis in the receiver, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistors, capacitors, etc.

4. When service is required, observe the original lead dress in the high voltage circuitry area.

5. Always use the manufacturer's replacement components. Critical components as indicated on the circuit diagram should not be replaced by another manufacturer's. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of overheating.

6. Before returning a serviced receiver to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the receiver by the manufacturer has become defective, or inadvertently defeated during servicing.

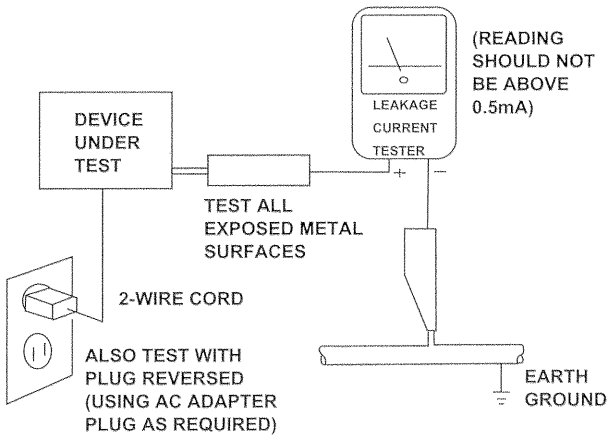
Therefore, the following checks should be performed for the continued protection of the customer and service technician.

Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch ON using an insulation tester (DC500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis should have a minimum resistor reading of 0.24MΩ and a maximum resistor reading of 5.2MΩ . Any resistance value below or above this range indicates an abnormality which requires corrective action. Exposed metal part not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC 120V 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power ON. Using a "leakage Current Tester (Simpson's Model 229 or equivalent)", measure for current from all exposed metal parts of the cabinet (antennas, screwheads, overlays, control shafts, etc.) particularly any exposed metal part having a return path to the chassis or to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.



AC LEAKAGE TEST

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE RECEIVER TO THE CUSTOMER.

High Voltage

This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit is operated correctly.

Serviceman Warning

With minimum BRIGHTNESS and CONTRAST, the operating high voltage in this receiver is lower than 37.0kV. In case any component having influence on the high voltage is replaced, confirm that high voltage with minimum BRIGHTNESS and CONTRAST is lower than 37.0kV. To measure high voltage use a high impedance High Voltage Meter. Connect (-) to chassis earth and (+) to the CPT Anode button (See the following connection diagram).

NOTE: Turn the power switch OFF without fail before the connection to the Anode button is made.

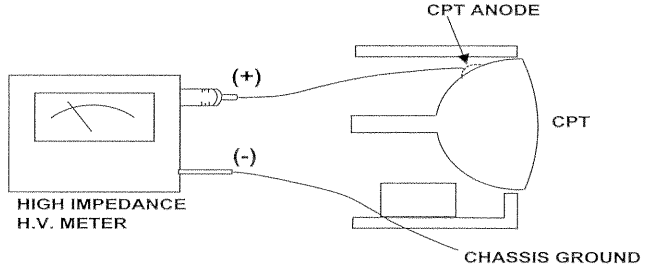
PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in HITACHI television receivers have special safety related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacements parts which have these special safety characteristics are identified in this Model Service Manual.

Electrical components having such features are identified with an ⚠ mark in the schematics and parts list in this Model Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list in this Model Service Manual, may create shock, fire, X-Radiation, or other hazards.

Production Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies of HITACHI Service Manual may be obtained at a nominal charge from HITACHI SALES CORPORATION.



X-Radiation

TUBE: The primary source of X-Radiation in this receiver is the picture tube. The tube utilized in this chassis is specially constructed to limit X-Radiation emission. For continued X-Radiation protection, the replacement tube must be the same type as the original HITACHI approved type.

When troubleshooting and making test measurements in a receiver with an excessive high voltage problem, avoid coming unnecessarily close to the picture tube and the high voltage component.

Do not operate the chassis longer than is necessary to locate the cause of the excessive voltage.

This Service Manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the product and its safety. Consumers should not risk trying to do the necessary repairs and should instead refer to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm
(California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components with lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by ⚠ on the parts list in this Model Service Manual and its supplements and bulletins. Before servicing this, it is important that the service technician read and follow the "Safety Precautions" and the "Product Safety Notices" in this Service Manual.

For continued X-Radiation protection, replace picture tube with original type or Hitachi equivalent type.

POWER SOURCE

This television receiver is designed to operate on 120 Volts/ 60Hz, AC house current. Insert the power cord into a 120 Volts/60Hz outlet.

NEVER CONNECT THE TV TO OTHER THAN THE SPECIFIED VOLTAGE OR TO DIRECT CURRENT.

Use of this TV set in 50 Hz areas will not harm the TV set, However, it will cause the clock display to run slower. Consult service personnel if you move to an area where the power supply frequency is 50 Hz.

CLOCK	60Hz	50Hz
D022	Install	Delete

TECHNICAL SPECIFICATIONS

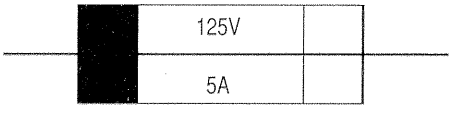
POWER RATINGS

35TX20B/CZ52 ..... 180 watts
32CX7B/CY57 ..... 180 watts
31CX6B/CY56 ..... 180 watts
31CX5B/CY55 ..... 180 watts

COLOR PICTURE TUBE

35TX20B/CZ52 ..... A89AEJ15X01
32CX7B/CY57 ..... A80LJF30X
31CX6B/CY56 ..... A78LCU30X(M)
31CX5B/CY55 ..... A78LCU30X(M)

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



F901

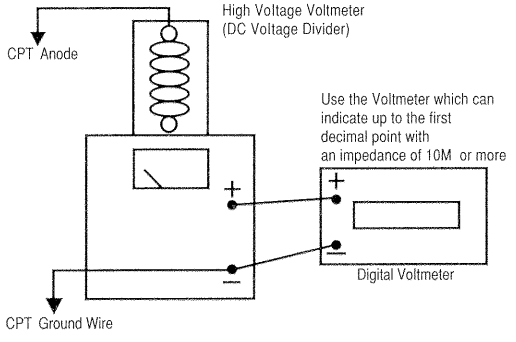
The rating of fuse F901 is 5.0A-125V.
Replace with the same type fuse for continued protection against fire.

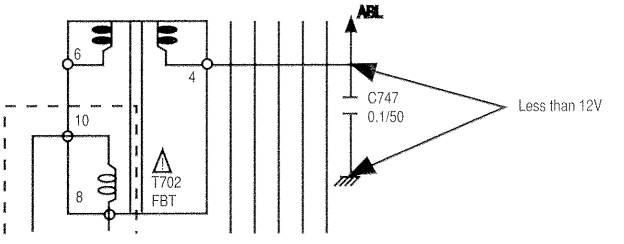
TECHNICAL CAUTIONS

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

Adjustment Preparation

1. Connect a High Voltage Voltmeter between CPT Anode terminal (Anode capside) and Ground. (TP701)
2. Set the AC input voltage to 120 +/- 3V.
3. Receive Circle Pattern or Broadcast Signal and set "BRIGHTNESS" and "CONTRAST" to maximum. Adjust the SCREEN VR and SUB-BRIGHTNESS VR (R340) so that Beam Current is $I_B \pm 0.1$ mA. (The voltage at ABL terminal (C747) should be 12V or less.)





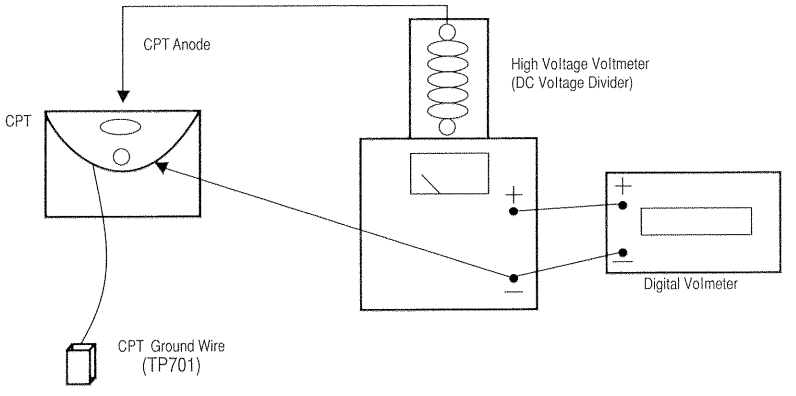
Adjustment Procedure

1. Check that the normal High Voltage is $E_{HT} \pm 1$KV.

CHASSIS	EHT	IB ±0.1mA	E1 (KV)
CZ52	30.2KV	1.8mA	35.5KV
CY57, CY56, CY55	29.2KV	1.65mA	34.0KV

Adjustment Preparation

4. Set AC input voltage to 100 ± 5V. Short circuit both ends of R903.



Adjustment Procedure

Use the voltmeter impedance 10MΩ or more with indication to the first decimal place.

2. Keep CONTRAST, BRIGHTNESS, 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.

ADJUSTMENT SPECIFICATIONS

A3LXU CHASSIS

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Refer to CHASSIS SERVICE MANUAL PA NO. 0053 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. CHASSIS ADJUSTMENT

1-1. IF ADJUSTMENT

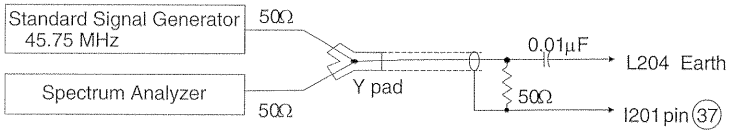
1-1-1. AGC Coarse Adjustment (R202)

Set AGC adjustment VR (R202) to mechanical center.

1-1-2. VCO Adjustment (L204)(First Method)

Adjustment Preparation

(1) Apply 9.0 ± 0.1V to I201 pin (14).
(2) Connect I201 pin (2) to GND.
(3) Connect the following jig and pick up VCO oscillation leakage voltage.



Adjustment Procedure

(1) Adjust L204 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 L204 to take 0 beat.)

Note: Perform this adjustment after VCO frequency is stabilized.

1-1-2. VCO Adjustment (L204) (Second Method)

Adjustment Preparation

(1) Apply 9.0 ± 0.1V to I201 pin (14).
(2) Connect I201 pin (2) to GND.
(3) Connect the following jig and pick up VCO oscillation leakage voltage.

Adjustment Procedure

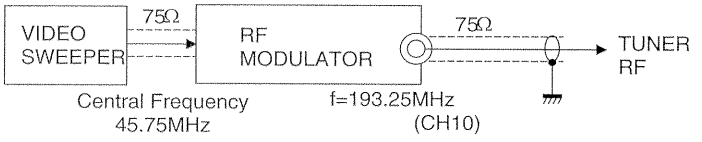
(1) Adjust L204 so that the reading of Frequency Counter is 45.75MHz $^{+0}_{-50}$ KHz.

Note: Perform this adjustment after VCO frequency is stabilized.

1-1-3. IF Overall Waveform Adjustment

Adjustment Preparation

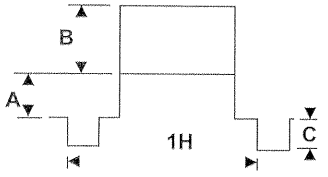
(1) Connect signal as follows:



Marks 0.2 MHz (CH10)
1 MHz
2 MHz
3.6 MHz

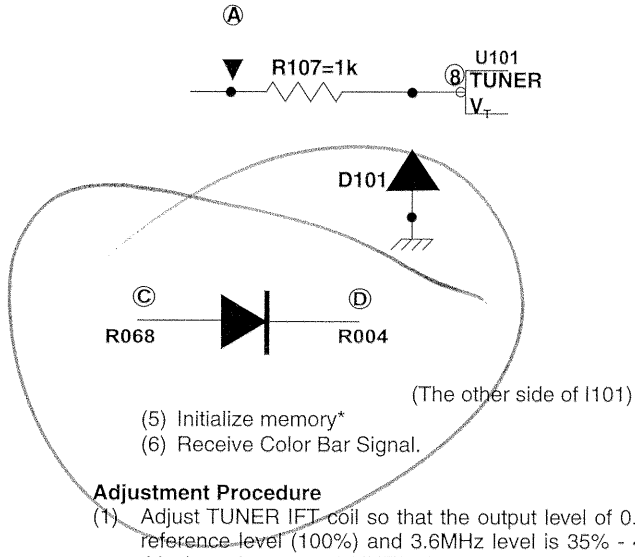
(Output level 91 ± 3 dBμ (50Ω load Modulation 60 - 70%)

(2) Connect Oscilloscope to Q203 (E) Emitter (TP-12).
Check the signal at TP-12 as follows:



A: Set up level
B: Sweep signal level
C: Sync. level

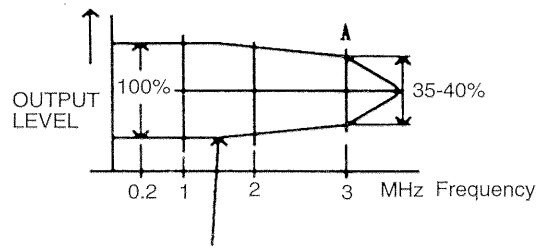
(3) Add the following voltage:
(1) I201 pin (14): +B (9V)
(2) I001 pin (12): +B (5V)
(3) TUNER VTi point (A): 42V
(4) Connect a diode (1S2076, 1SS270TA) to: (C) ~ (D)



(5) Initialize memory*
(6) Receive Color Bar Signal.

Adjustment Procedure

(1) Adjust TUNER IFT coil so that the output level of 0.2MHz is reference level (100%) and 3.6MHz level is 35% - 40%. (At this time, do not turn TUNER IFT coil more than 1 turn.)



Check that 1MHz~2MHz level is 70%~100%.

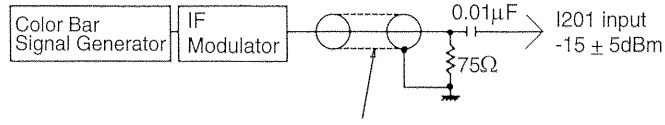
***Note:** Refer to item **1-1-6. Initial Turn ON Procedure.**

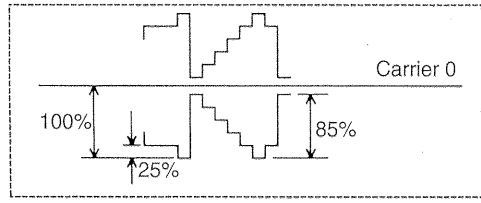
1-1-4. AFS Discrimination Adjustment (L205)

Adjustment Preparation

(1) Input Signal: Between X103 SAW FILTER input and Earth. (R108 both ends)

(2) Apply 9.0 ± 0.1V to I201 pin (14).
(3) Connect a DC Voltmeter (internal impedance 1M ohm or more) to AFS output terminal. (I201 pin (47))





Adjustment Procedure

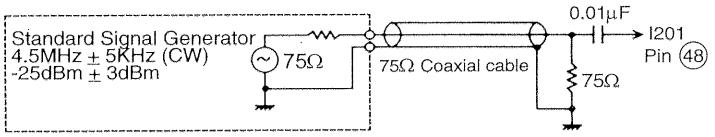
(1) Turn L205 and check that DC Voltmeter connected as above varies from under 0.5 V to over 8.5V.
(2) Adjust L205 so that the DC Voltmeter is 6.5 ± 0.5V at the intermediate point of the core which is changing voltage rapidly in (1) above.

Note: After this adjustment is finished, perform item No. **1-1-2. VCO Adjustment Check**. If it is deviated, adjust to regular adjusting point and check again the subsequent adjustments.

1-1-5. Sound Discrimination Adjustment (L202)

Adjustment Preparation

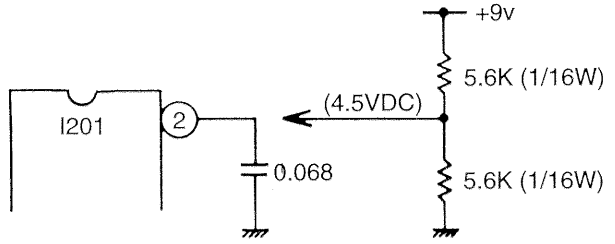
(1) Input Signal: Apply the following signal to I201 pin (48).



(2) Apply DC Voltage 9.0 ± 0.1V to I201 pin (14).

(3) Connect a Voltmeter between Q201 Emitter and Earth.

(4) Apply the following Voltage to I201 pin (2).



(5) Short-Circuit R201 both end (Tuner AGC Terminal to GND).

Adjustment Procedure

(1) Adjust L202 so that the reading of DC Voltmeter is 3.5 ± 0.3V.

(2) After adjusting, release the jig above (4) and (5).

1-1-6. VCO For OSD Adjustment.

This chassis starts in initial turn ON and AUTO demonstration mode before memory initialize. So memory initialize should be done according to next procedure before adjustment start.

Initial Turn ON Procedure

(1) Supply AC power. TV Set is turned ON.

(2) Turn OFF the set using power switch (S00l). Remo-Con not used.

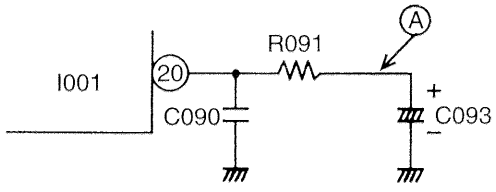
(3) Turn ON the set again.

(4) Memory initialize (see item **1-4. Memory Initialize**) should be done.

Adjustment Preparation

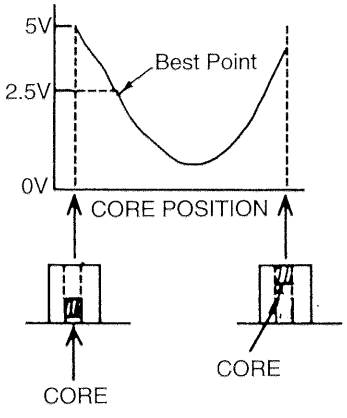
(1) Receive Color Bar or Circle Pattern Signal.

(2) Connect a DC Voltmeter to point (A).



Adjustment Procedure

(1) Adjust L010 so that the Voltmeter is 2.5 ± 0.2V.



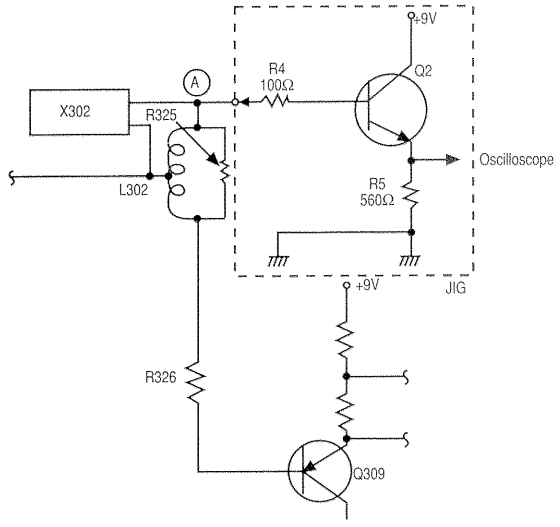
1-2. COMB FILTER ADJUSTMENT (1)

Adjustment Preparation

(1) Adjust the VR(R323, R32E, R333) to center position.

(2) Receive Color Bar Signal or Green Single Color Using below methods (I) and (II).
(I) From Video Input
(II) Ant. Input: the range of signal strength must be 65dBm to 80dBm(75 dBm is standard).

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



Adjustment Procedure

(1) Turn R323 so that the sub-carrier component becomes minimum.

(2) Then turn L302 so that the sub-carrier component becomes minimum.

Note: Sub-carrier component waveform shows below point.

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

Remarks:

(1) Use the 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 after a certain time (more than 10 sec) after power ON.

1-2. COMB FILTER ADJUSTMENT(2)

Adjustment Preparation

(1) Connect an Oscilloscope between Q30C Emitter and Earth.

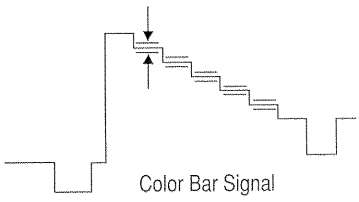
Adjustment Procedure

(1) Turn R32E so that the sub-carrier component becomes minimum.

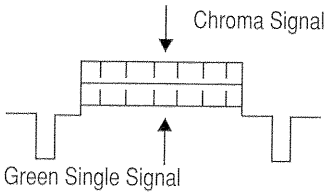
(2) Then turn R333 so that sub-carrier component becomes minimum.

(3) When item (2) is finished, turn R32E again so that the sub-carrier component becomes minimum.

(4) When Residual Chroma Level does not become less than 15mVp-p, repeat items (1) and (2).



Remarks:
(1) Adjust the range of Oscilloscope to 50mV/div.
(2) Residual Chroma Signal Level should be less than15mVp-p.
Note: Chroma Signal Level shows below point.



1-3. DEFLECTION CIRCUIT PICTURE ADJUSTMENT OPERATION CHECK

1-3-1. Vertical Size Adjustment (R62A)

Adjustment Preparation
(1) Receive Circle Pattern Signal.
(2) Set "CONTRAST" to maximum and "BRIGHTNESS" to the center.

Adjustment Procedure
(1) Adjust Vertical Size Adjustment VR (R62A) so that the inner circle of Circle Pattern becomes in contact with the top and bottom of the screen.

1-3-2. Side Pin Distortion Coarse Adjustment (R752)

Adjustment Preparation
(1) Receive Circle Pattern Signal.
(2) Set "CONTRAST" to maximum and "BRIGHTNESS" to the center.

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

1-3-3. Horizontal Size Adjustment (R755), Horizontal Center Adjustment (R704) and Horizontal Size Correction Adjustment (R775)

Adjustment Preparation
(1) Receive Circle Pattern Signal.
(2) Set "CONTRAST" to maximum and "BRIGHTNESS" to the center.

Adjustment Procedure
(1) Set the R775 at the counterclockwise end.
(2) Vary R755 so that the horizontal size markers at the right and left end are 1.0 - 1.0 on the average.
(3) Vary R775 so that the horizontal size markers at right and left are 1.5 -1.5 on the average.
(4) Vary R704 so that the difference of the horizontal size markers at the right and left end are within 1.5.

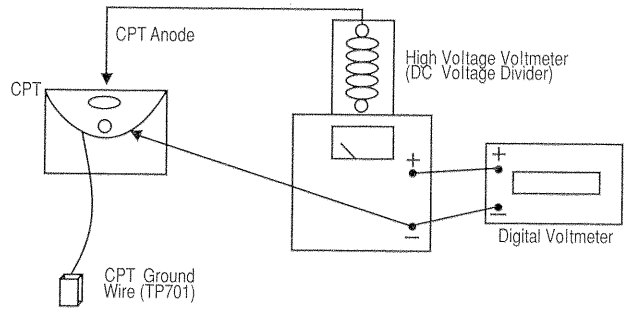
1-3-4. High Voltage Limiter Circuit Operation Check and Overvoltage Protection Circuit Operation Check

Adjustment Preparation
(1) Connect a High Voltage Voltmeter between CPT Anode terminal (Anode cap side) and the Ground (TP701).
(2) Set AC input voltage to 120 ± 3V.
(3) Receive Circle Pattern and set "BRIGHTNESS" and "CONTRAST to maximum. Adjust SCREEN VR and SUB-BRIGHTNESS VR(R340) so that Beam Current is I_B ± 0.1mA.
(The voltage of ABL terminal - C747 both ends should be 12V or less)

Adjustment Procedure
(1) Check that the normal High Voltage is E_{HT} ± 1kv.

CHASSIS	EHT	IB ± 0.1 mA	E1 (KV)
CZ52	30.2KV	1.8mA	35.5KV
CY57, CY56, CY55	29.2KV	1.65mA	34.0KV

Adjustment Preparation
4) Set AC input voltage to 100 ± 5V. Then short-circuit both ends of R903.



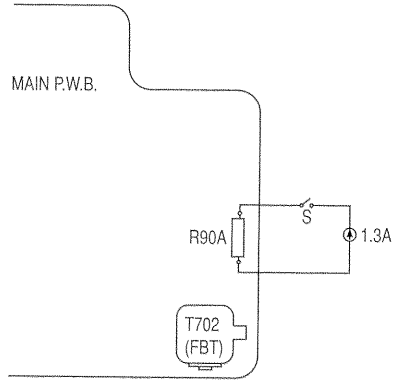
Use a Voltmeter with input impedance 10M ohm or more with indication to the 1st decimal place.

Adjustment Procedure
(2) Keep CONTRAST, BRIGHTNESS, and SCREEN VR as in item (3). Increase AC input voltage gradually, and check that the picture disappears when high voltage is E1. Immediatly 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 residual High Voltage, because the high voltage of CPT Anode may be left.

1-3-5. FBT Protection Circuit Operation Check

Adjustment Procedure
(1) Set "CONTRAST" to maximum, "BRIGHTNESS" 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.



1-3-6. +15V Short Protection Circuit Check.

Adjustment Preparation
(1) Adjust "CONTRAST" to maximum, "BRIGHTNESS" to center.

Adjustment Procedure
(1) Connect 10KΩ resistor between Q703 Base and GND and check that the picture disappears.
(2) Disconnect resistor immediately.

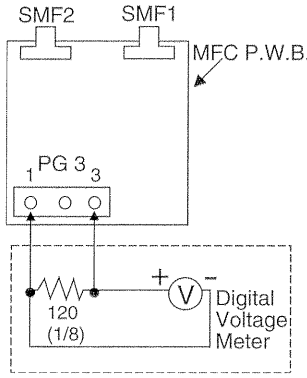
1-3-7 Load Reduction Circuit Operation Check.

Adjustment Procedure
(1) Receive Circle Pattern Signal.
(2) Set "VIDEO" Mode "CONTRAST" to maximum, "BRIGHTNESS" to center.
(3) Connect a DC Voltmeter to both sides of R912.
(4) Check to make sure the potential difference is more than 10V.
(5) Receive Crosshatch Signal.
(6) Set "VIDEO" mode "CONTRAST" to minimum, "BRIGHTNESS" to center.
(7) Check the potential difference is less than 3V.

1-3-8. MFC Circuit Operation Check (35TX20B/CZ52 Only)

Adjustment Preparation

(1) Receive Circle Pattern.
(2) Connect the Jig (shown below) to the PG3 Pin in MFC. P.W.B.



Adjustment Procedure

(1) Then turn SMF1 to "STRONG", turn SMF2 to "NORTH", check that the voltage is V= +2.9 ± 0.5V.
(2) Then turn SMF1 to "WEAK", check that the voltage is V = +1.5 + 0.5V.
(3) Then turn SMF2 to "SOUTH", check that the voltage is V = -2.9 + 0.5V.
(4) Then turn SMF1 to "WEAK", check that the voltage is V = -1.5 ± 0.5V.
(5) Then turn SMF2 to "E/W", check that the voltage is V = 0V.

1-4. MEMORY INITIALIZE

1-4-1. Timer Sound Operation Check

Adjustment Procedure

(1) Press the memory initialize key with the Remo-Con jig.
(2) After 5 sec. operation, check that the set has selected CH 03 and a "beeping" sound comes out from the left side (L-CH).

Note: Do not draw out the outlet within 5 second.
Do not perform any key operation, either.
After this operation, each setting should become to delivery setting automatically.

1-5. AFC OPERATION CHECK

Adjustment Preparation

(1) Connect the jig shown below to the ANT Terminal.

Adjustment Procedure

(1) Receive a Standard Carrier Signal (not offset) with the channel up/down or direct selection buttons.
Check that it is pulled into the standard tuning point.
(2) Receive an Offset Signal of ± 1.5MHZ. Check that it is pulled into the standard tuning point.
(Perform the Channel Selection Operation again.)
(3) Receive an Offset Signal of - 1.5MHZ. Check that it is pulled into the standard tuning point.
(Perform the Channel Selection Operation again.)

Note 1: Modulation signal should be used at the Circle Pattern and the Color Bar Signal.

Checking jig (All channel converter can be used)

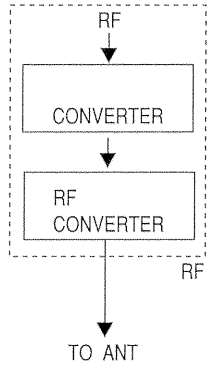


TABLE 1-6

Note: CATV Channels. actual Input Channel Numbers and Indicated Channel Numbers.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	37	31	32	33	34	35	36
MID BAND									SUPER BAND													

W+1	W+2	W+3	W+4	W+5	W+6	W+7	W+8	W+9	W+10	W+11	W+12	W+13	W+14	W+15	W+16	W+17	W+18	W+19	W+20	W+21	W+22	W+23
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
HYPER BAND																						

W+24	W+25	W+26	W+27	W+28	W+29	W+30	W+31	W+32	W+33	W+34	W+35	W+36	W+37	W+38	W+39	W+40	W+41	W+42	W+43	W+44	W+45	W+46
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
HYPER BAND					ULTRA BAND																	

W+47	W+48	W+49	W+50	W+51	W+52	W+53	W+54	W+55	W+56	W+57	W+58	A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	W+62	W+63	W+64
83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
ULTRA BAND												MID BAND					ULTRA BAND					

W+65	W+66	W+67	W+68	W+69	W+70	W+71	W+72	W+73	W+74	W+75	W+76	W+77	W+78	W+79	W+80	W+81	W+82	W+83	W+84
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
ULTRA BAND																			

1-6. CHANNEL SELECTION CIRCUIT OPERATION CHECK

1-6-1. CHANNEL UP/DOWN Selection

Adjustment Preparation

1) Set the TV set so that VHF (CH 11, CH 13), UHF(CH 14, CH 46, CH 63) and CATV(CH A, CH E, CH P, CH W) can be received.
(2) Set AIR/CABLE Mode to AIR.
(Press the MENU key, and select the SETUP and AIR/CABLE Mode using the ENTER Key.)

Adjustment Procedure

(1) Check that VHF are received correctly by pressing CH UP (▲) or DOWN (▼) control button.

Adjustment Preparation

(3) Set AIR/CABLE Mode to CATV 1.

Adjustment Procedure

(2) Perform the same operation as in item (1), and check that VHF and CATV are received correctly.

Adjustment Preparation

(4) Set AIR/CABLE Mode to CATV2.

Adjustment Procedure

(3) Perform the same operation as in item (1), and check that VHF and CATV are received correctly.

1-6-2. CHANNEL UP/DOWN

(Inclusive of AUTOPROGRAM Operation)

Adjustment Preparation

(1) Set the TV set so that VHF (CH 11, CH 13), UHF (CH 14, CH 46, CH 63) and CATV (CH A, CH E, CH P, CH W, CH A-2, CH GG, CH OO, CH WW) can be received.

Adjustment Procedure

(1) Set AIR/CABLE Mode to AIR.
(2) Select AUTOPROGRAM Mode and press (▶) key.
After AUTOPROGRAM operation is completed, by pressing the Channel UP (▲) or DOWN (▼) control button, check that the channels having Broadcast Signal(s) can be received.
(3) Set AIR/CABLE Mode to CATV 1.
(4) Perform the same operation as in item (2) check that CATV can be received correctly.

Adjustment Preparation

(2) Set to PROGRAM LIST Mode.

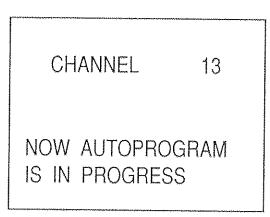
Adjustment Procedure

(5) Check that the SCAN of channels which can be selected is ON.

Note 1: CATV Channels, actual Input Channel Numbers and Indicated Channel Numbers.

A	14
E	18
P	29
W	36
A-2	98
GG(W+7)	43
OO(W+15)	51
WW(W+23)	59

Note 2: Display while AUTOPROGRAM is operating.



(See Table 1-6 on Bottom of Page 11)

1-6-3. VOLUME UP/DOWN

Adjustment Procedure

(1) Check that the Sound Volume Level and Volume Indication is going up or down continuously by pressing Sound Volume UP (▲) or DOWN (▼) control button.

1-6-4. POWER ON/OFF

Adjustment Procedure

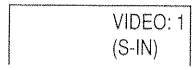
(1) Check that the Power alternates between ON and OFF by alternately pressing the POWER button.

1-6-5. AVX

Adjustment Procedure

(1) Check that the O.S.D. by the every press of the AVX button, such as below.

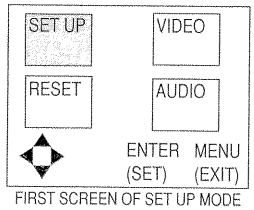
(CZ52/CY57/CY56/CY55)
Receiving CH → VIDEO: 1
→ VIDEO: 1 (S-IN) → VIDEO: 2 → VIDEO: 3
→ Receiving CH



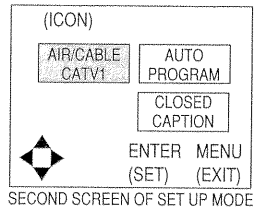
1-6-6. MENU (NOT FOR 35TX20B/CZ52)

Adjustment Procedure

(1) Check that the MENU O.S.D. displays by pressing MENU button on the Front Panel Control.
Note: MENU O.S.D. is displayed below:



FIRST SCREEN OF SET UP MODE



SECOND SCREEN OF SET UP MODE

(2) After MENU O.S.D. is displayed.
Check that the keys function change.

MENU	→	MENU
CH UP	→	▲ Key
CH DOWN	→	▼ Key
VOLUME UP	→	▶ Key
VOLUME DOWN	→	◀ Key
AVX	→	ENTER

1-6-7. MENU Mode (Using Remo-Con Jig)

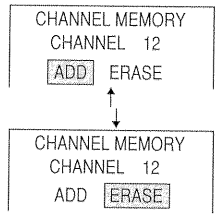
1-6-7-1. SET UP Mode.

Adjustment Preparation

(1)Set to CHANNEL MEMORY Mode.

Adjustment Procedure

(1) Check that the ADD,ERASE is selected by pressing the (▶) or (◀) control button.



Adjustment Preparation

(2) (a) Set the Mode to CLOSED CAPTION.
(b) Receive a Broadcast Signal having a CLOSED CAPTION signal.

Adjustment Procedure

(1) Set DISPLAY setting to ON by pressing (▶) or (◀) control button. At this time, set the other settings as follows:

1. DISPLAY: ON
2. MODE: C.C.
3. CHANNEL: 1

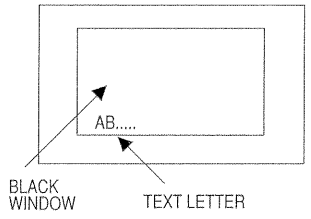
(2) Check that the CAPTION corresponding to the above setting is displayed on the screen.
(3) Set CHANNEL to 2.
(4) Check that the CAPTION of CHANNEL 2 is displayed on the screen.
(5) Set CHANNEL to 1.
(6) Check that the CAPTION of CHANNEL 1 (FIELD 2) is displayed on the screen.
(7) Set the mode to TEXT.

Adjustment Procedure

(8) Check that a black window appears and TEXT letters are displayed at the center of the screen.
(9) Repeat adjustment procedure from (3) to (6) and check that TEXT letters are displayed corresponding to each Mode.
(10) Set the Mode to CAPTION.
(11) The black window should disappear returning to the state of (2).
(12) Set ON/OFF to OFF.
(13) Check to be sure that the CAPTION letters disappear.

Remarks:

Note: Reading error should not occur on every mode.
The contents of error:
1. Wrong letters are displayed.
2. Letter omitting.
3. Other abnormal display.



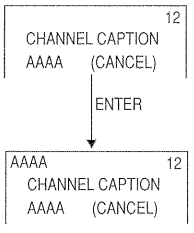
1-6-7-2. PROGRAM Mode.

Adjustment Preparation

(2) Set to CHANNEL CAPTION Mode.

Adjustment Procedure

(1) Select the "A" by pressing the (▲) or (▼) control button, and select the input position by pressing the (▶) or (◀) control button.
(2) After pressing the ENTER button, check that the indication of "AAAA" is the same as CH No. indication.
(3) Select the CHANNEL CAPTION Mode again, select the "CANCEL" by pressing the (▶) or (◀) control button and the ENTER button.
(4) Check that the "AAAA" is deleted when the CH No. is indicated, after pressing the "MENU" button.



Adjustment Preparation

(3) Set to CHILD LOCK Mode.

Adjustment Procedure

(1) Select CHILD LOCK SET by pressing the (▶) or (◀) control button.
(2) Press " 0 " button 3 times. ("000" is input)
(3) Check that the picture becomes pitch-dark, and sound does not come out.
(4) Set to CHILD LOCK Mode again, and select "CHILD LOCK CANCEL" by pressing the (▶) or (◀) control button.
(5) Press " 0 " button 3 times. ("000" is input.)
(6) Check that the picture and sound return to the previous condition.

Adjustment Preparation

(4) Set VOLUME CORRECTION Mode.

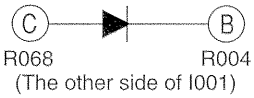
Adjustment Procedure

(1) Select the registration point using the (▲) or (▼) control button and the received Channel No. is memorized by pressing the ENTER button.
(2) Check that Volume Level changes and sets 100%~50% (5% step) using (▶) or (◀) control button.

1-6-7-3. CLOCK Mode (Clock Operation Check)

Adjustment Preparation

(1) Connect a Diode (IS2076, ISS27OTA equivalent) between (C) and (B).

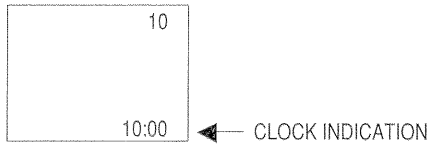


Remarks: The addition of the above diode intends to check the operation with clock counting operation as 60 time mode.

(2) Set to CLOCK SET Mode.

Adjustment Procedure

(1) After clock setting is done and the indication disappears, perform CH indication. Check that clock indication is displayed in addition to the CH indication, and that the clock indication is going by 1 second per minute.



1-6-7-4. PICTURE Mode

Adjustment Preparation

(1) Receive the Color Bar Signal.
(2) Set to CONTRAST Mode.

Adjustment Procedure

(2) Check that CONTRAST is changed by pressing (◀) or (▶) control buttons.

▶ ; BRIGHTER
◀ ; DARKER

Adjustment Preparation

(3) Set to COLOR Mode.

Adjustment Procedure

(3) Check that COLOR is changed by pressing (◀) or (▶) control buttons.

▶ ; MORE GREEN
◀ ; MORE RED

Adjustment Preparation
(4) Set to TINT Mode.

Adjustment Procedure
(4) Check that TINT is changed by pressing (◀) or (▶) control buttons.

▶ ; DEEPER
◀ ; LIGHTER

Adjustment Preparation
(5) Set to BRIGHTNESS Mode.

Adjustment Procedure
(5) Check that BRIGHTNESS is changed by pressing (◀) or (▶) control buttons.

▶ ; BRIGHTER
◀ ; DARKER

Adjustment Preparation
(6) Set to SHARPNESS Mode.

Adjustment Procedure
(6) Check that SHARPNESS is changed by pressing (◀) or (▶) control buttons.

▶ ; CLEARER
◀ ; SOFTER

Adjustment Preparation
(7) Set to WHITE CONTROL Mode.

Adjustment Procedure
(7) Check that WHITE CONTROL is changed by pressing (◀) or (▶) control button.

▶ ; OFF (STD.)
◀ ; ON (COOL)

Adjustment Preparation
(8) Set to RESET Mode.

Adjustment Procedure
(8) Check that all picture setting modes return to delivery settings by pressing the ENTER button.

1-6-7-5. SOUND Mode

Adjustment Preparation
(1) Set to BALANCE Mode.

Adjustment Procedure
(1) Check that BALANCE is changed by pressing control (◀) or (▶) control buttons.

▶ ; RIGHT
◀ ; LEFT

Adjustment Preparation
(2) Set to BASS Mode.

Adjustment Procedure
(2) Check that BASS is changed by pressing control (◀) or (▶) control buttons.

▶ ; STRONG
◀ ; WEAK

Adjustment Preparation
(3) Set to TREBLE Mode.

Adjustment Procedure
(3) Check that TREBLE is changed by pressing control (◀) or (▶) control buttons.

▶ ; STRONG
◀ ; WEAK

Adjustment Procedure
(4) Set to RESET Mode.

Adjustment Procedure
(4) Check that all sound setting modes return to delivery settings by pressing ENTER button.

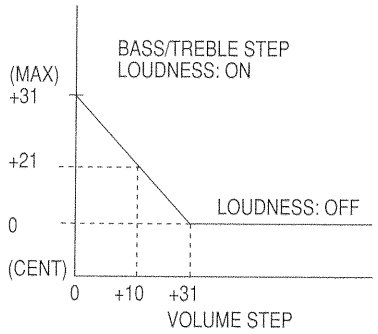
Adjustment Preparation
(5) (a) Set to "VOLUME" step at *10. Set to "BASS" and "TREBLE" at center when "LOUDNESS" is turned OFF. Set to "LOUDNESS" Mode.
(b) Set "LOUDNESS" to OFF, and "BASS/ TREBLE" to center.
(c) Set it to LOUDNESS Mode.

Adjustment Procedure
(5) Check that "BASS" and "TREBLE" are changed as below table when set to "LOUDNESS" is turned ON by pressing (◀) or (▶) control button "LOUDNESS" turn OFF after checked.

LOUDNESS	BASS / TREBLE
OFF	CENTER
ON	+21 STEP

(When VOLUME st 10)

***Note:** According to Volume Setting Level, this function works as shown in below figure.



Adjustment Preparation
(6) (a) Input Stereo Sound Signal to VIDEO:1 terminals, and set " VIDEO:1" by AVX button.
(b) Set to SURROUND Mode.

Adjustment Procedure
(6) Check that sound is change more loudly when set to MUSIC or MOVIE Mode by pressing (◀), (▶), (▲) or (▼) control button.

Adjustment Preparation
(7) (a) Input Monaural Sound Signal to VIDEO:1 " L " terminal and set "VIDEO:1" by AVX button.
(b) Set to SURROUND Mode.

Adjustment Procedure
(7) Check that sound is change more loudly when set to SIMULATE mode by(◀), (▶), (▲) or (▼) control button.

1-6-7-6. RESET Mode.

Adjustment Preparation
(1) Set PICTURE Setting to minimum "CONTRAST" and SOUND setting to "BALANCE" to left.
(See item **1-6-7-4** and **1-6-7-5**.)
(2) Set to RESET Mode.

Adjustment Procedure
(1) Check that Picture and Sound performance return to delivery setting by pressing the ENTER button.
(CONTRAST to maximum, BALANCE to center)

1-6-7-7. FAVORITE CHANNELS Mode.

Adjustment Preparation
(1) Set to FAVORITE CHANNELS Mode by pressing one of (◀), (▶), (▲) or (▼) control buttons.

Adjustment Procedure

(1) Select registration position using (◀) , (▶) , (▲) or (▼) control buttons, and check that the Channel No. selected is registered by pressing the ENTER button.
Note: 16 stations could be registered.

(2) After Normal Mode is set using the MENU button, check that the Registered Channel can be selected by using (◀) , (▶) , (▲) or (▼) control buttons.
Note: The selected channel is received after 0.5 seconds.

1-7. REMO-CON OPERATION CHECK

The Remo-Con check jig should be used for Remo-Con operating range and Remo-Con operation check.

1-7-1. Direct Channel Selection

Adjustment Procedure

(1) Input 2 or 3 digits of Channel Number with the buttons of the Remo-Con check jig "0 - 9" and "100". Check that the input number and the On-Screen Display number are the same.

1-7-2. LST-CH (Last Channel Recall)

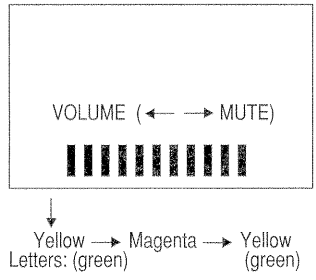
Adjustment Procedure

(1) Check that the set receives alternately between the channel which is being received and the channel which was received just before now by alternately pressing the "LST-CH" button of the Remo-Con check jig.

1-7-3. MUTE

Adjustment Procedure

(1) Check that the sound alternates between Mute and Mute Free by alternately pressing the "MUTE" button of the Remo-Con check jig. At this time, check that the indication color alternates between yellow (letters:green) and magenta.



1-7-4. RECALL

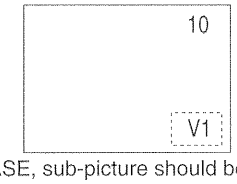
Adjustment Procedure

(1) Check that On-Screen Display Channel No. indication alternates between ON and OFF by alternately pressing the "RECALL" button of the Remo-Con check jig.

1-7-5 . P in P (CZ52, CY57, CY56)

Adjustment Preparation

(1) Connect the signal to ANT and receive it.
(2) Connect the signal to VIDEO: 1.



Note: At this CASE, sub-picture should be V1.

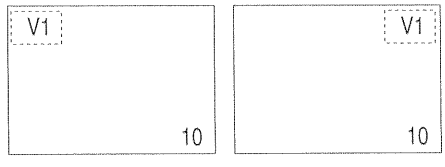
Adjustment Procedure

(1) Check that, by alternately pressing the "P in P" button of Remo-Con check jig, sub-picture alternates between ON and OFF. When sub-picture is ON, check that the Channel No. and "V1" are displayed.

1-7-6. SHIFT

Adjustment Preparation

(1) Press "P in P" button to set to P in P Mode.



Adjustment Procedure

(1) Check that, by alternately pressing the SHIFT button of Remo-Con check jig, sub-picture moves counterclockwise. At this time, check that "V1" of sub-picture also moves as well.

Note: When sub-picture is in the upper of the screen, the Channel No. of main picture comes to the lower right.

1-7-7. EXCHANGE

Adjustment Preparation

(1) Press "P in P" button to set to P in P Mode.

Adjustment Procedure

(1) Check that, by alternately pressing the "EXCHANGE" button, the contents of main picture and sub-picture are exchanged.

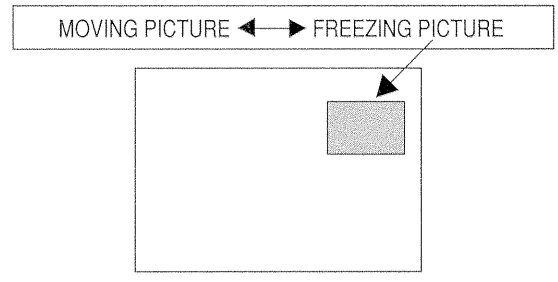
1-7-8. FREEZE

Adjustment Preparation

(1) Connect the signal to ANT and VIDEO: 1.
(One or both of the pictures should be moving picture.)
(2) Press "P in P" button to set to P in P Mode.
(3) Sub-picture should be moving picture by "EXCHANGE" button.

Adjustment Procedure

(1) Check that, by alternately pressing "FREEZE" button, sub-picture alternates between moving picture and freezing picture.



(2) Press "P in P" button to make sub-picture disappear.

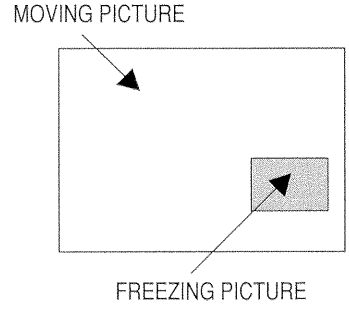
1-7-9. FREEZE (P in P OFF)

Adjustment Preparation

(1) Connect signals to ANT and VIDEO: 1. Both signals should be moving picture.
(2) Set P in P to OFF.

Adjustment Procedure

(1) Check that freezing picture of main screen appears by pressing the FREEZE button of the Remo-Con check jig.
(2) Check it also in the TV and VIDEO: 1 modes.
(3) Check that sub-picture disappears by pressing the FREEZE button at picture freezing.
(4) Check that it turns to normal P in P sub-picture by pressing the P in P button at picture freezing.



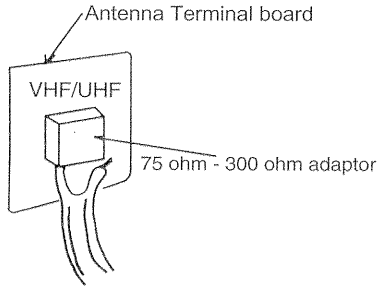
1-8. Weak Electric Field Check

Adjustment Preparation

(1) Connect one side of the 300 ohm feeder to 75 ohm - 300 ohm antenna adaptor. Connect the antenna adaptor to the VHF antenna terminal board as shown.
(2) Turn to No Signal Condition.

Adjustment Procedure

(1) Check that oscillation and abnormal beat etc. does not occur in any of the channel.



1-9. MTS Demodulating Circuit Adjustment

1-9-1. Stereo VCO Adjustment (R423)

Adjustment Preparation

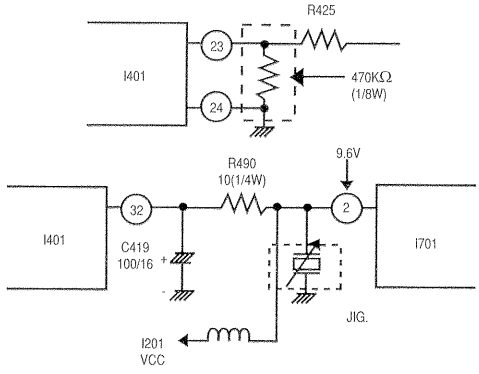
(1) Same as items 1-9-2 (1) and (2).

(2) Connect I401 pin (23) to pin (24) through 470KΩ resistance as shown in the figure.

(3) Connect a Frequency Counter to I401 pin (41). Use the probe of 1 : 1.
(Probe standard Ri ≧ 1 M ohm, Ci ≦ 15pF)

(4) Input of I401 pin (39) is no signal.

(5) Apply +9.6V ± 0.1V to the pin (2) of I701 as shown in the figure. (I401 +B)



Adjustment Procedure

(1) Turn VR(R423) to set to 15.73 ± 0.01KHz.

(2) After the adjustment, remove the 470KΩ
(Between pins (23) - (24) of I401)

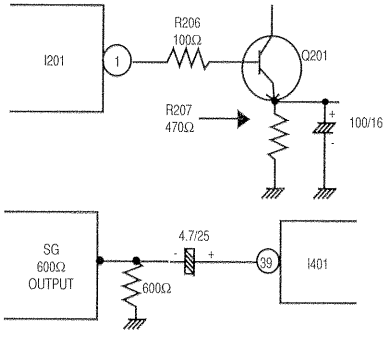
1-9-2. Filter Adjustment VR(R418)

Adjustment Preparation

(1) Set VR(R4IK) fully counterclockwise.

(2) Set Q201 Emitter to GND through capacitor 100uF/16V as shown in the figure.

(3) Apply the signal to I401 pin (39) with the jig shown as follows.



(a) SG Output Signal Specification

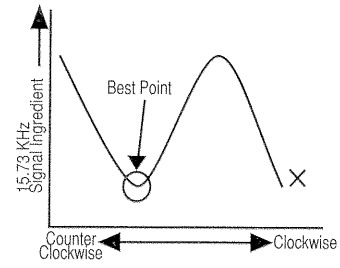
(1) FREQUENCY
f = 15.73 KHz (Sine Wave)

(2) Signal Level
V = 100mVrms

(4) Connect an Oscilloscope to I401 pin (35) (L-R out).

Adjustment Procedure

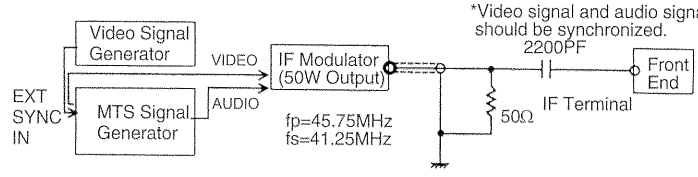
(1) Input signal (a) and adjust VR(R418) so that the waveform of pin (35) (15.73KHz included) is minimum.



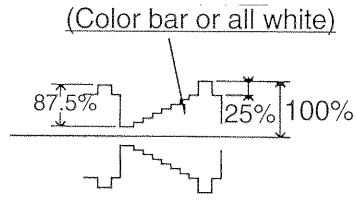
1-9-3. Input Level Adjustment VR(R41K)

Adjustment Preparation

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



IF Modulator output signal waveforms
(Color Bar or All White)



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 Modulation 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 Vo to I401 pin (39).

(3) Same as Item 1-9-1 (5) (Apply +B to I401)
* Refer to next page.

Adjustment Procedure

(1) Select Sound Input Signal (3) and adjust VR(R41K) to Vo = 150m Vrms ± 5m Vrms.

1-9-4. Separation Adjustment VR(R429, R42A)

(The adjustment of items **1-9-1.** thru **1-9-3.** should have been finished.)

Adjustment Preparation

(1) Use the same jig as Input Level Adjustment.
(Be sure to remove the AC Voltmeter connected to I401).

(2) Connect an Oscilloscope to I401 pin (4).

(3) Same as in items 1-9-3 (3) and (4).

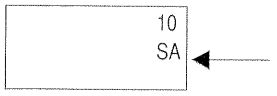
(4) Set "MTS MODE" to "STEREO".

Remarks:
Pay attention that the separation adjusting point may be deviated if the 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 the Sound Modulator the frequency characteristic of which should be 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 at 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(R42A) so that 300 Hz level is minimum.
(2) Select Sound Input Signal (2) and adjust VR(R429) so that 3KHz level is minimum.
(3) Repeat (1) and (2).
Adjustment precision: within + 1dB from minimum point.

1-9-5 SAP Receiving Check

Adjustment Preparation

(1) Same as in items 1-9-4. (1) - (4).
(2) Set to "MTS MODE" to "SA".

Adjustment Procedure

(1) Select Sound Input Signal (1) and designate the Output Level as Vst.
(2) Then select Sound Input Signal (4) and check that the Output level is almost the same as Vst.

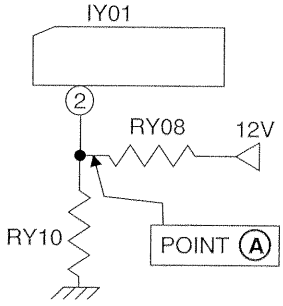
1-10. YNR Operation Check (35TX20B/CZ52)

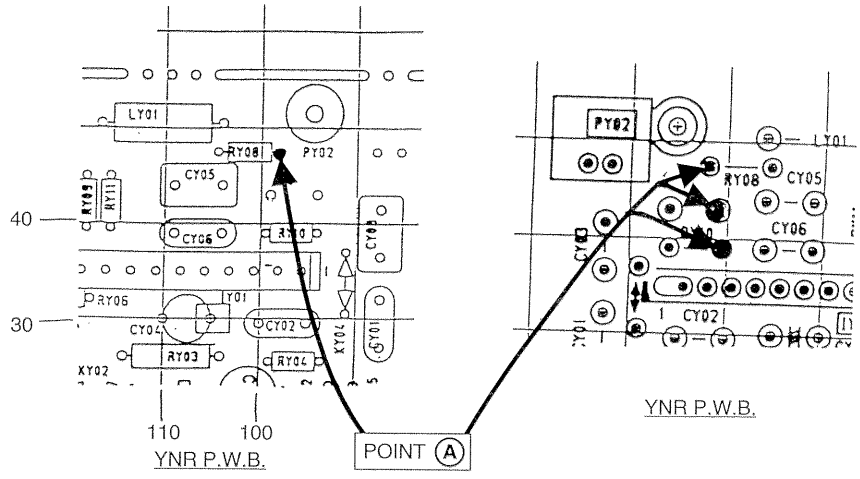
Adjustment Preparation

(1) Receive Circle Pattern

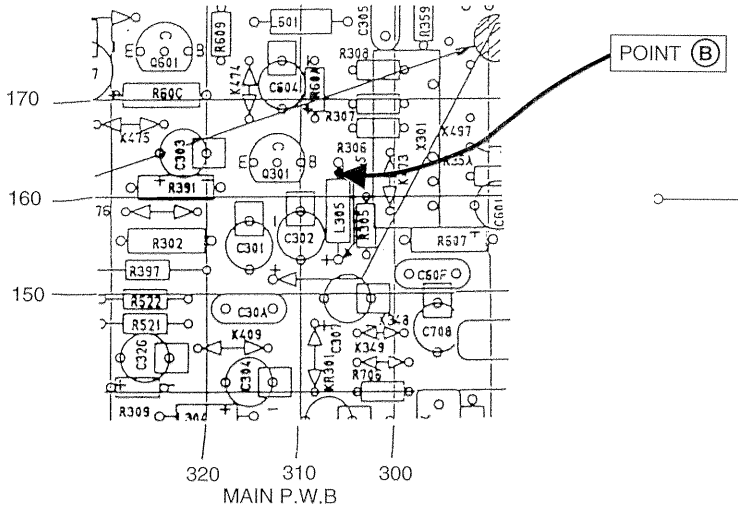
Adjustment Procedure

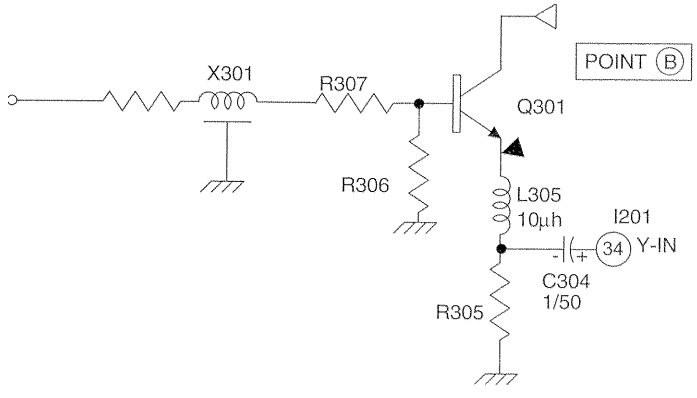
(1) Connect the DC Voltmeter to point (A) of YNR P.W.B. and check that the DC Voltmeter is 9.3V ± 0.3V.





(2) Connect the DC Voltmeter to point (B) of MAIN P.W.B. and check that the DC Voltmeter is 1.15V ± 0.3V.





2. FINAL ADJUSTMENT/COMMON SERVICE ADJUSTMENT

2-1. Purity Convergence Adjustment

Note: For A78LCU30X(M) (HITACHI 31V Dark Tint), A80LJF30X (HITACHI 32V Dark Tint) applies to item 2-1-1(8)
For ITC TYPE A89AEJ15X01 (35V Dark Tint) only applies to item 2-1-1 (8) (PURITY Check).

Preparation of Adjustment

(1) Keep DY attached to CPT funnel.
(2) Turn ON the set and receive Crosshatch Signal (or Circle Pattern Signal). Adjust the Static Convergence coarsely according to item 2-1-3.
(3) Receive Circle Pattern Signal and adjust the White Balance according to item 2-4.
(4) Set BRIGHTNESS control and CONTRAST control to maximum, and heat-run the set with Circle Pattern Signal received for 40 minutes or more.

2-1-1. 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 T minutes with CONTRAST and BRIGHTNESS maximum. 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)

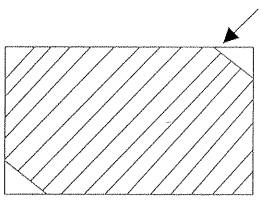


TABLE 1.*

CPT	T
A78LCU30X(M)	45 Min
A80LJF30X	45 Min

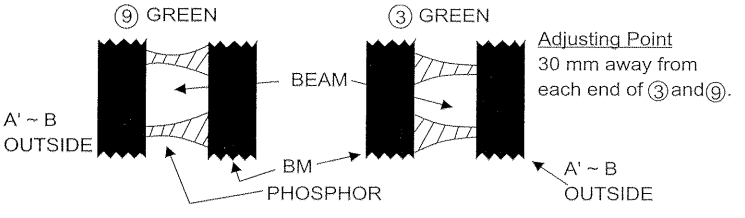
(3) The magneticic field in the artificial magnetic field should follow the table below and the set should face as table 2. Degauss it from the outside.

DESTINATION	VERTICAL FIELD	HORIZONTAL FIELD
USA	0.45 G	0.3 G
CANADA	0.54 G	0.15 G
UNIVERSAL	0.35 G	0.3 G
PANAMA, HAWAII	0.2 G	0.3 G
TAIWAN	0.22 G	0.37 G

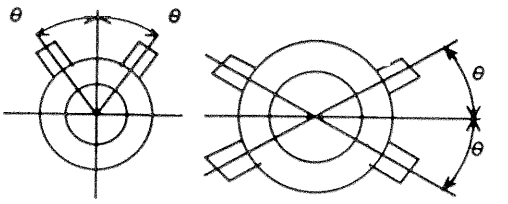
TABLE 2. Directions for adjustment

A78LCU30X(M)	North
A80LJF30X	North

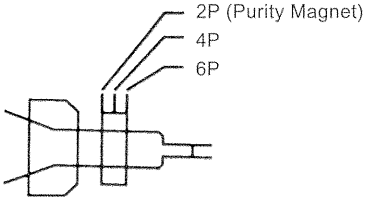
(4) Adjust the position of Purity Magnet and DY, keep the landing balance of ③ and ⑨, and adjust so that the landing of ③ and ⑨ is as follows while observing with a microscope.
A78LCU30X(M)/A80LJF30X



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

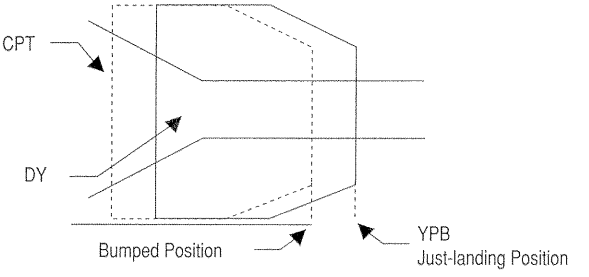


Keep the balance of ③/⑨ DY landing

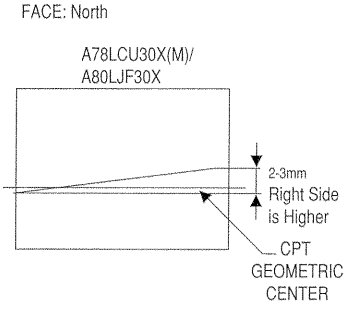


(B) YPB (Yoke Pull-Back) should be as follows.
(Distance between the bumped position of DY toward the funnel and the just-landing position of ③ and ⑨.)

CPT	YPB (DESIGN CENTER)
A78LCU30X(M)	2.2mm
A80LJF30X	2.2mm



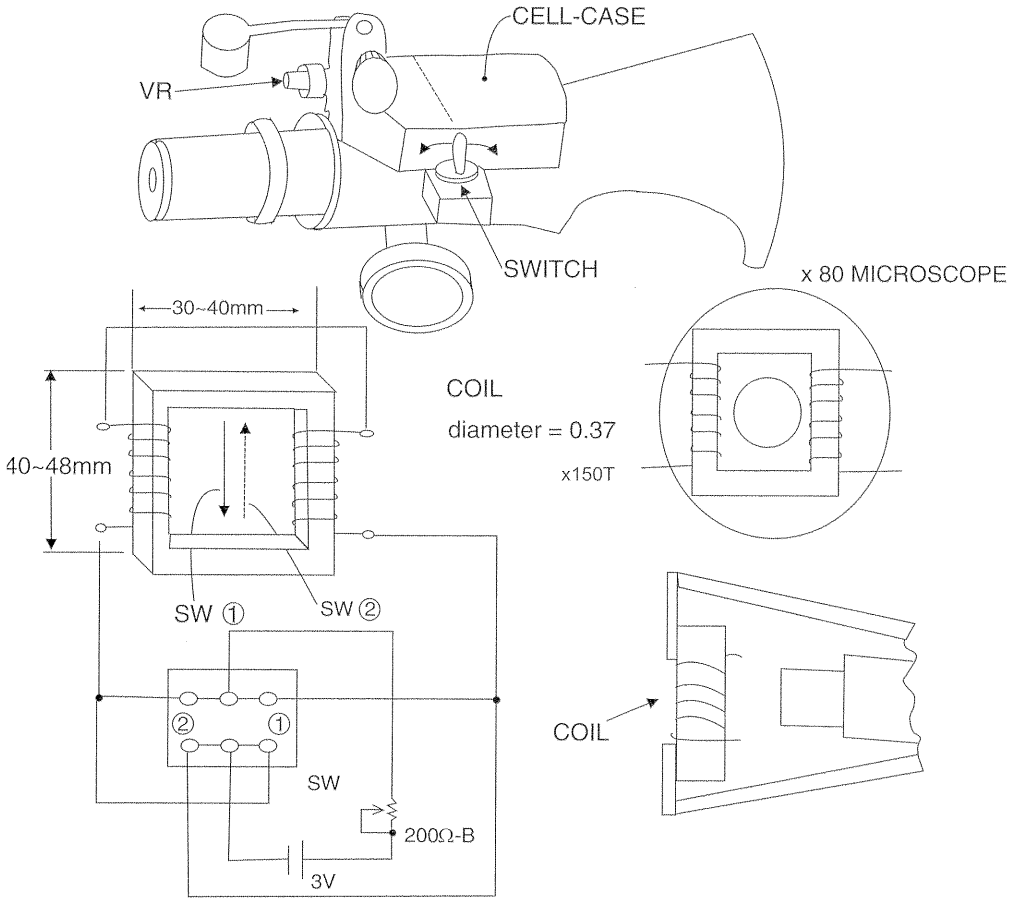
(C) DY Tilt should be as follows:



(5) Fix DY with fixing torque of 14kg.cm
Control the torque by an electrical driver.
(6) If any mislanding occurs, correct with magnets.
At this time, if the white uneveness 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)

Reference

THE JIG



Fix coil to CRT side of microscope. Set it up side down and measure it.. Check that beam moves to the right and left equally in quantity.

(8) Purity Check
The magnetic field in the artificial magnetic field should follow the magnetic field according to the destination, and the set should face as follows. After degaussing in each direction, check these items visually and with a microscope.
(A) No problem in white uneveness.
(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
A78LCU30X(M)	SOUTH, NORTH
A80LJF30X	
A89AEJ15X01	SOUTH, NORTH

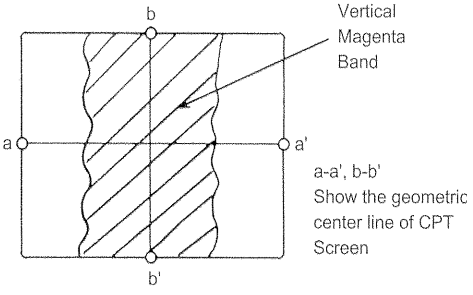
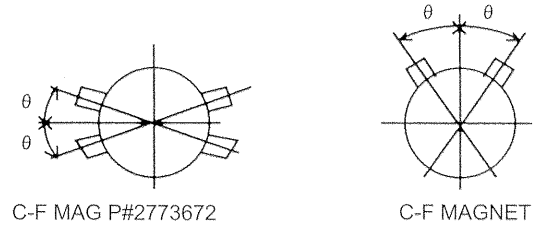


Fig. 2-1-2-1

2-1-2. Purity Adjustment
(THIS ADJUSTMENT METHOD APPLIES TO THE HAND-OPERATED PURITY ADJUSTMENT.)
(1) Use the Earth's magnetic field (Location of the set).
(2) Adjust Focus coarsely according to item 2-2.
(3) Adjust Convergence coarsely according to item 2-1-4.
(4) Receive Circle Pattern Signal and check that CONTRAST and BRIGHTNESS are maximum.
(5) Receive Magenta Signal. When the Magenta Signal is not available, short-circuit between the Base and Emitter of Q855 to set to Magenta.
(6) 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. 2-1-2-1) Check that color uneveness of both sides are approximately equal at this time.
The openings of the Purity magnet should be symmetric. (Fig. 2-1-2-2)



C-F MAG P#2773672
P#2775082 (For VM Models)

C-F MAGNET
P#2773671

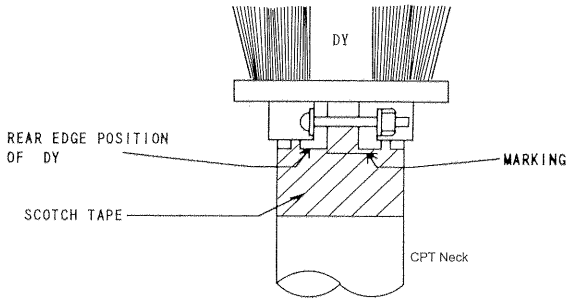
Fig. 2-1-2-2

The openings of purity magnet should be symmetric on the right and left sides (P#2773671) and on the upper and lower sides (P#2773672).

(7) 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 Signal.

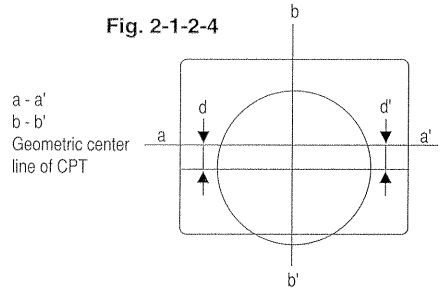
(8) Pull back DY gradually and when the color uneveness of both sides of the picture disappear, mark the rear edge position of DY on the tape wound around CPT neck as shown in Fig. 2-1-2-3. Pull back DY further and just before the color uneveness starts to appear on both sides of the picture, mark the 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. 2-1-2-3



(9) 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'. (Fig 2-1-2-4).
Further insert the rubber wedge between DY and CPT funnel from the top and raise DY backwards.

Fig. 2-1-2-4



(10) Set CPT axis direction magnetic field according to the Earth's magnetic field setting.
(The direction of the magnetic field should be from the CPT screen side to the neck side.)

(11) After degaussing it from outside, 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. 2-1-2-5 with a microscope.

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

(12) Turn over the direction of CPT axis direction magnetic field of the Earth's magnetic field and check it by the same C way as item (11). The positions of mislanding criteria with microscope should be 2, 4, 8 and 10. (Fig. 2.-1-2-5)

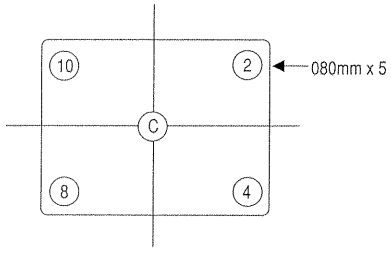


Fig. 2-1-2-5

Mis-Landing Criteria
The following conditions are defined as mislanding. Each color beam shines on the phosphor of the applied color and there are phosphor parts which are not luminous (shaded parts in the Fig. 2-1-2-6) between the luminous part and black matrix or each color beam shines on the phosphor of not applied color.

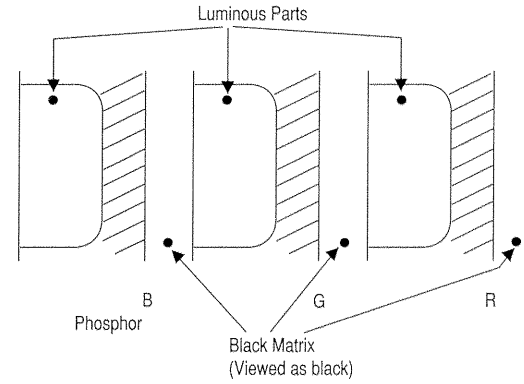


Fig. 2-1-2-6 Enlarged view of screen with microscope

(13) To improve the mislanding mentioned above, it's acceptable to stick the permanent magnet to CPT funnel.
(Fig. 2-1-2-7 and Fig. 2-1-2-8)

Usage
Apply a silicone rubber KE-4O WRTV to the permanent magnet shown in the Figure 2-1-2-8. , adhere it to CPT funnel and then fix it with permaseal tape.

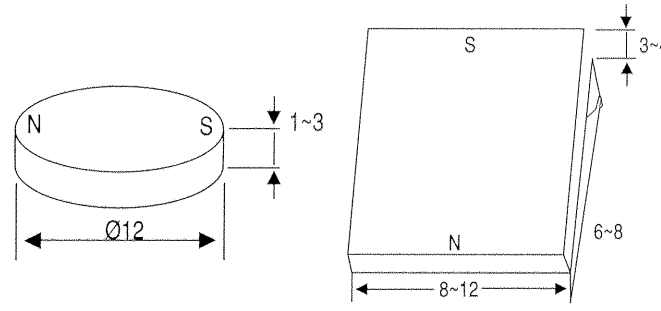


Fig. 2-1-2-7

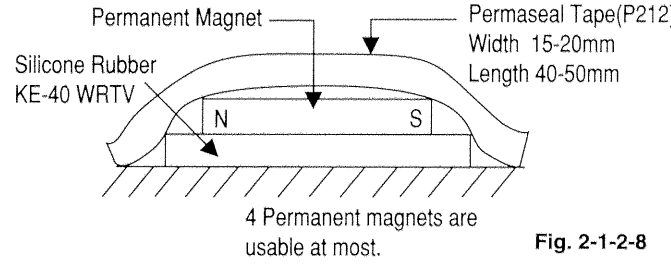
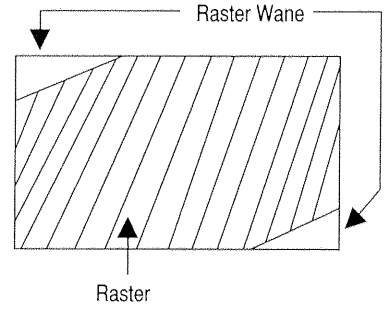


Fig. 2-1-2-8

Notes for pre-heat
Before pre-heating, stick DY to CPT funnel and fix it so that the raster is perfect.



If the raster is imperfect like the figure, CPT neck is in danger of cracking because the beam may hit it.

2-1-3. Static Convergence Adjustment (Screen Center Part) (Except ITC CPT)

(1) Receive the Crosshatch Signal and set BRIGHTNESS to center, CONTRAST to minimum.

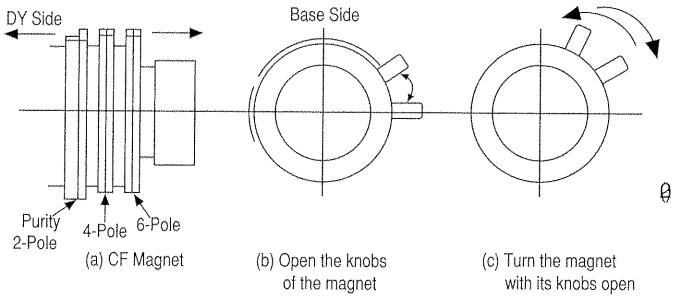
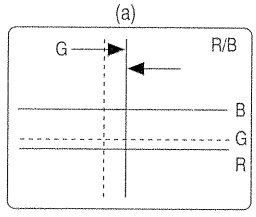


Fig. 2-1-3-1

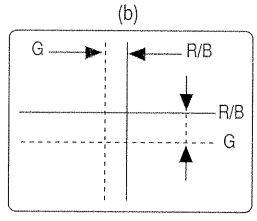
Open the knobs of 4-pole magnet (2 sheets)(Fig.2-1-3-1(b)) and match the blue/red vertical lines at the center of the screen as shown in fig. 2-1-3-2(a).

Fig. 2-1-3-2



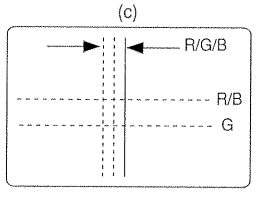
(3) Turn the 4-pole magnet with its knobs open (Fig. 2-1-3-1(c)) and match the blue/red horizontal lines as shown in Fig. 2-1-3-2(b).

Fig. 2-1-3-2



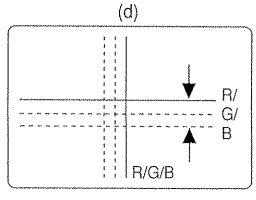
(4) Open the knobs of 6-pole magnet (2 sheets) and match the green vertical line at the center of the screen to the blue/red vertical lines shown in Fig. 2-1-3-2(c).

Fig. 2-1-3-2



(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. 2-1-3-2(d).

Fig. 2-1-3-2



(6) After the adjustment of items (1) - (5), if red/blue/green (3 colors) do not match, repeat the adjustment of (1) - (5).

(7) After checking that Purity and Static Convergence are adjusted to the best condition, fix C-F Magnet with white paint.

2-1-4. Dynamic Convergence Adjustment (Except ITC CPT Type)

(1) Insert an adjustment wedge (temporary) between the top of DY opening and CPT funnel as shown in Fig. 2-1-4-1. 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. 2-1-4-2 (a).

(2) Adjust the swinging 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. 2-1-4-2 (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. 2-1-4-2 (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 A78LCU30X(M), A80LJF30X

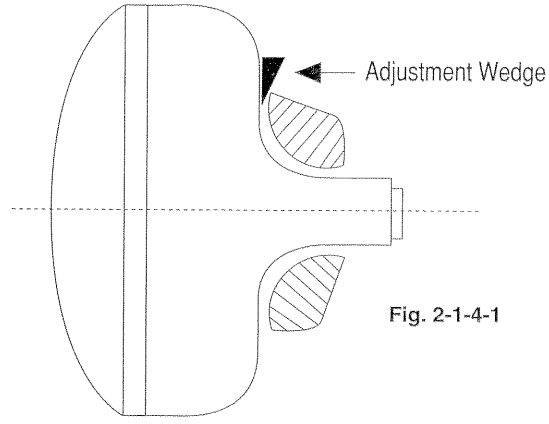


Fig. 2-1-4-1

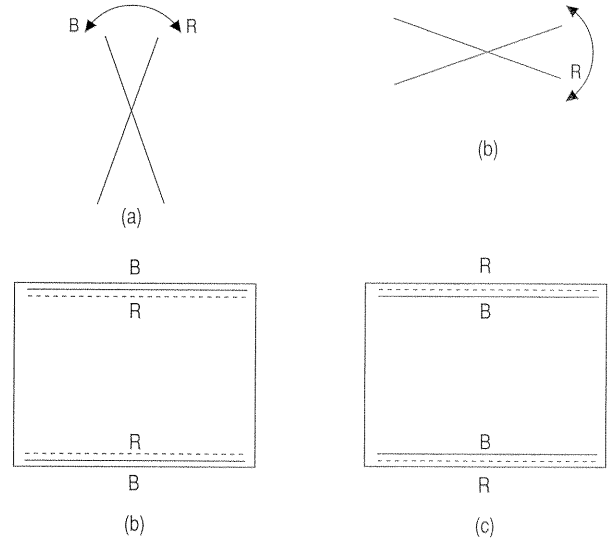


Fig. 2-1-4-2

2-2 Focus Adjustment

NO.	MODEL	CPT	CONDITION	FOCUS VR SETTING POSITION
1	35TX20B CZ52	A89AEJ15X01	• Receive the Crosshatch Signal • Picture Control: Maximum • Sharpness Control: Center • Brightness Control: Where the back ground is set.	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of the 5th vertical line from the screen center becomes best.
2	32CX7B CY57	A80LJF30X	Same as above	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of center vertical line from the screen center becomes best.
3	31CX6B CY56	A78LCU30X(M) (HED-US)	Same as above	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of center vertical line from the screen center becomes best.
4	31CX5B CY55	A78LCU30X(M) (HED-US)	Same as above	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of the 6th vertical line from the screen center becomes best.

2-3. Deflection Circuit Picture Adjustment

2-3-1. Horizontal Center Adjustment VR(R704)

Adjustment Preparation

(1) Receive Circle Pattern Signal. Set CONTRAST to maximum and BRIGHTNESS to center.

Adjustment Procedure

(1) Adjust H. size marker, turn VR(R704) to adjust difference of right and left horizontal size marker is within 0.5.

2-3-2. Vertical Size Adjustment VR(R62A)

Adjustment Preparation

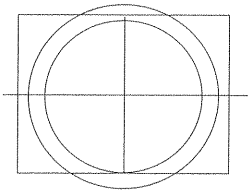
(1) The set should face the North or South.
(2) Receive Circle Pattern Signal, and set CONTRAST to maximum and BRIGHTNESS to center.

Adjustment Procedure

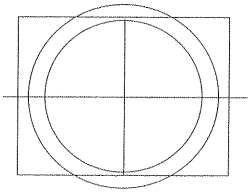
(1) Adjust V. size VR(R62A) so that the outer circle of the Circle Pattern is like the figure.

Note: Wait 5 minutes or more after turning the power ON to perform this adjustment.

(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.

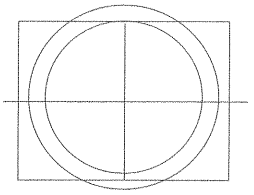


(ii) Standard Condition
Adjust so that the inner circle comes in contact with the top and bottom of the screen.



(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 CONTRAST to maximum and BRIGHTNESS 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, R775)

Adjustment Preparation

(1) Receive Circle Pattern Signal.
(2) Set CONTRAST to maximum and BRIGHTNESS to center.

Adjustment Procedure

(1) Set the VR(R775) at the counterclockwise end.
(2) Vary VR(R755) so that the horizontal size markers at the right and left end are A - A on the average.*
(3) Vary VR(R775) so that the horizontal size markers at right and left are B - B on the average.*
(4) Vary VR(R704)so that the difference of the horizontal size markers at the right and left end are within 1.5.

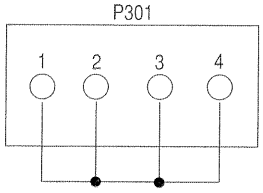
*

CPT SIZE	A	B
35V	0.5	1.0
32V	1.0	1.5
31V	1.0	1.5

2.4. White Balance Adjustment

Adjustment Preparation

(1) Apply heat-run 10 minutes 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 OFF (STD).
(8) Turn the SCREEN Adjusting VR fully counterclockwise.
(9) Short circuit TP connector pin 1~4.



Adjustment Procedure

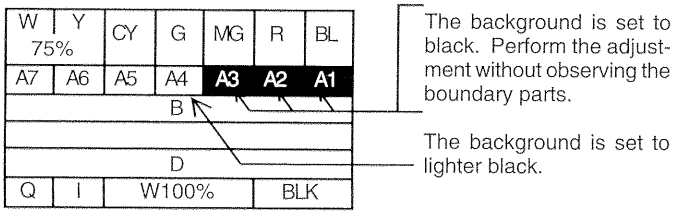
(1) Turn the SCREEN Adjusting VR clockwise and set it to the position where the bright colored line starts appearing on CPT screen. Do not turn thereafter the Low Brightness White Balance VR (This is called VR-A) corresponding to the color first appearing. When a bright colored line does not appear, set the SCREEN VR fully clockwise.
(2) Turn 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 CONTRAST and BRIGHTNESS control to minimum and turn SUB-BLACK LEVEL VR (R340) 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.
(6) Adjust CONTRAST 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 CONTRAST control to minimum 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 7,200K.**
(9) Set White Control (Color Temperature Control) to ON (COOL), and check that Color Temperature is approximately 9,300'K.

2-5. Sub-Black Level Adjustment VR(R340) Adjustment Preparation

(1) Apply heat-run for 10 minutes or more after the power is turned ON.
(2) Receive Color Bar Signal.
(3) Set CONTRAST and COLOR Controls to minimum.
(4) Set the vertical incident illumination on the CPT surface to 20 lux or less.
(5) Set BRIGHTNESS Control to the center position.
(6) Set White Control to OFF (STD).

Adjustment Procedure

(1) Turn SUB-BLACK LEVEL adjustment VR (R340) as follows. SUB-BLACK LEVEL adjustment the background of A1,A2, A3 are set to black and A4 is set lighter black.



(2) Check by directly observing the CPT surface, without using a mirror.

2-6. AGC Adjustment VR(R202)

Adjustment Preparation

(1) After all the adjustments are finished, heat-run 5 minutes or more in signal receiving condition.
(2) Receive Color Bar Signal or High-VHF Channel (CH10).
(3) Set CONTRAST to maximum, and BRIGHTNESS to On-Screen Display center.
(4) Antenna input power: - 53dBm $^{+1}_{-0}$ (-53dBm ~ -52dBm)
(5) Connect DC Voltmeter of internal resistance 1MΩ or more to TPI5.

Adjustment Procedure

(1) Adjust AGC Adjustment VR (R202) until the indication of DC Voltmeter does not change any more at the maximum point. The reading of DC Voltmeter is named V1.
(2) Adjust AGC Adjustment VR (R2O2) so that the indication of DC Voltmeter is {V1-(0.5 ± 0. 2)}V. Verify that there is no video noise visibly seen.

2-7. Channel Selector Operation Check

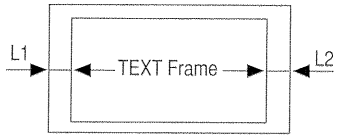
2-7-1. CCD Display Position Adjustment.

Adjustment Preparation

(1) Receive an Encoded Signal of Closed Caption Signal.
(2) Press and hold down the AVX key and press POWER key of MAIN P.W.B. front keys, turn ON the set.

Adjustment Procedure

(1) When the TEXT from the CAPTION appears On Screen. Adjust the size of TEXT and from area satisfies the following specification by using (◀) , (▶) control buttons.



CPT Effective Screen
/ L1- L2 /≦2mm or
less at CPT Center

2) When the adjustment item(1) is finished, turn OFF the set by the POWER key.

2-8. Matching Check With Other Instruments

2-8-1. VIDEO 1 Input Terminal Matching Check

Adjustment Preparation

(1) Input a Video Signal to the VIDEO 1 terminal.
The Video Signal Level should be within 1 ± 0.2 Vp-p (75 ohm terminatlon) with 100% White Signal.
(2) Input an Audio Signal to the AUDIO 1 terminal. The Audio Signal Level should be 400m Vrms ± 2m Vrms at this time. (Connect VCR or TV TUNER)
(3) Connect an Audio AMP to the AUDIO OUT terminals. (Or connect VIDEO and AUDIO terminals of a standard monitor.

Adjustment Procedure

(1) Check that the set receives signal when the AVX1 Mode is selected, by pressing the AVX (FUNCTION) button on the front side of the set.
(2) When an External Input is performed, the Video and Audio should not be abnormal.
The 100% White Signal that RF input receives should be as bright as the Video Signal 1Vp-p (75 ohm termination). As for the sound, when the 100% modulation that RF input receives is 25KHZ, DIV., the Sound Level should be as much as the External Audio Signal (400 Vrms) level.

2-8-2. VIDEO 2 Input Terminal Matching Check.

Adjustment Preparation

(1) Same as 2-8-1.

Adjustment Procedure

(1) Check that the set receives signal at AVX2 Mode.

2-8-3. VIDEO 3 Input Terminal Matching Check

Same as 2-8-2.

2-8-4. S -IN Input terminal Matching check.

Adjustment Preparation

(1) Connect the Video/Chroma Signal to S-IN terminal.
(2) Connect the Sound Signal to AUDIO 1 input terminals.

Adjustment Procedure

(1) Check that the set receives signal at S-IN Mode.

2-8-5. AUDIO Output Level Check

Adjustment Preparation

(1) Input the same Audio Signal as Item 2-8-1 (2) to AUDIO IN terminal(L). At this time, connect nothing to R terminal.
(2) Input the same Audio Signal as Item 2-8-1 (2) to AUDIO IN terminal (R). At this time, connect nothing to L terminal.
(3) Check that the Normal Sound is output from both sides of the speakers when signal in item (1) is input.
(4) Check that the Normal Sound is output from only the right ((R) speaker when signal in Item (2) is input.

Adjustment Procedure

(1) Check that the Audio Output of AUDIO AMP connected to AUDIO Hi-Fi OUT terminals or monitor changes according to the "VOLUME" of the set.
(2) Confirm that the Output Level of item(1) should be 1Vrms (2.8 Vp-p) $\pm$ 20%. (Above level is equivalent to maximum VOLUME,100% Modulated Signal Input.)

2-9. Safety Check

2-9-1. Polarity Check

There should be electricity between AC Power Cord and Chassis Earth.

2-10. MTS Operation Check

2-10-1. STEREO/SAP Broadcast Receiving Check

Adjustment Preparation

(1) Set the set so that a MTS Broadcast (STEREO/SAP) can be received..
(2) Set MTS Mode to STEREO or SAP Mode.
Note: To select between "STEREO/SAP", display sound setting of MTS Mode and select SOUND MENU.
(3) Set BALANCE to the center.

Adjustment Procedure

(1) When one of the MTS Broadcast Stereo or SAP is received, check that "ST" or "SA" is displayed on the screen.

	STEREO	11
or	SAP	ST
		or SA

(2) STEREO Broadcast Receiving Check
(I) Select MTS Mode and press ENTER button to display "STEREO" on the screen.
(II) When only Lch signal is received, Lch sound comes out from the left speaker.
(III) When only Rch signal is received, Rch sound comes out from the right speaker.
(IV) When Monaural Signal is received, Monaural Sound comes out from both of the right and left speakers.
(3) SAP Broadcast Receiving Check
(I) Select MTS Mode and press ENTER button to display "SAP" on the screen.
(II) SAP signal comes out from both of the right and left speakers.
(III) When no SAP signal,the sound on "MAIN" side comes out.
Note: When the Channel selection is performed or RECALL button is operated "ST" or "SA" is shown below the Channel No. (For approximately 8 seconds)

2-10-2. MTS Mode Check

Adjustment Preparation

(1) Set the set so that a MTS Broadcast (STEREO/SAP) can be received.
(2) Set BALANCE to the center.

Adjustment Procedure

(1) When "MTS MODE" Mode is set to "MONO" side, check that STEREO and MONO indication lamps which have been ON are turned OFF and that Monaural Sound comes out from the right and left speakers.
(2) When "MTS MODE" Mode is set to "STEREO" side, check that STEREO and MONO indication lamps which have been OFF are turned ON and that STEREO and SAP sound can be received.

2-10-3. STEREO Separation Check

Adjustment Preparation

(1) Set the set so that a MTS Broadcast (STEREO/SAP) can be received.
(2) Make Surround "OFF".
(3) Set MTS MODE to "STEREO".
(4) Connect AUDIO OUT terminals L and R to an Oscilloscope.

Adjustment Procedure

(1) When STEREO L only signal (or R only signal) is received, check that the Output Level Ratio of L CH and R CH is 15 dB or more. (Example)

CH	Output Level
L	1.2 Vpp
R	0.21 Vpp or less

When L only is received (100% modulation)

2-11. Setting For Delivery

Setting is possible by Remo-Con jig.

SPECIFICATION BY MODELS

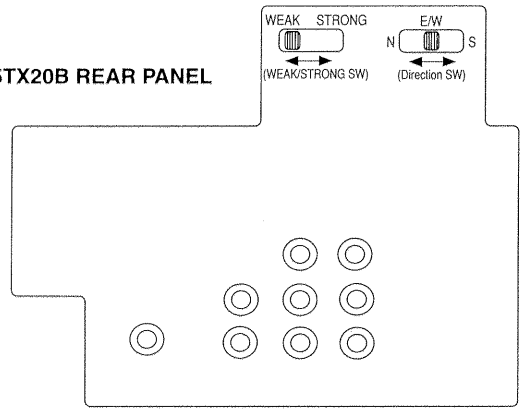
NAME	SPECIFICATIONS BY MODELS	
	P in P	No P in P
AIR/CABLE	AIR	AIR
RECEPTION CHANNEL	CH 03	CH 03
SOUND (VOLUME)	"10" On-Screen Display	"10" On-Screen Display
INPUT SELECT (AVX)	TV Mode	TV Mode
CONTRAST	Maximum	Maximum
COLOR	Center	Center
TINT	Center	Center
BRIGHTNESS	Center	Center
SHARPNESS	Center	Center
WHITE CONTROL	ON: (COOL)	ON: (COOL)
BALANCE	Center	Center
BASS	Center	Center
TREBLE	Center	Center
MTS MODE	STEREO	STEREO
SURROUND	OFF	OFF
LOUDNESS	OFF	OFF
INTERNAL SPEAKERS	ON	ON
P IN P	OFF	----------
CLOSED CAPTION	OFF	OFF
CLOSED CAPTION MODE	C.C.	C.C.
CLOSED CAPTION CHANNEL	1	1

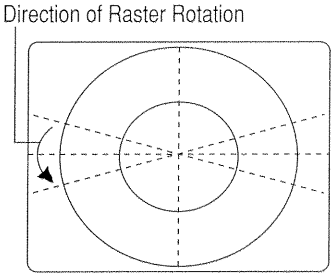
2-12. Magnetic Field Correction Circuit Operation Check. (35TX20B/CZ52 Only)

Adjustment Preperation

(1) Receive Circle Pattern Signal.
(2) Set "Weak/Strong SW" to "Strong".
(3) Set "Direction SW" to "N".
(4) Check that the raster rotates to counterclockwise when "Direction SW" set from "N" to "S".
(5) Set "Weak/Strong SW" set to "Weak.
(6) Set "Direction SW to "N".
(7) Check that the raster rotates to counterclockwise when "Direction SW" set from "N" to "S".
(Check the rotation angle is less than "Strong" position.
(8) Set "Weak/Strong SW" to "Strong" and "Direction SW" to "E/W".

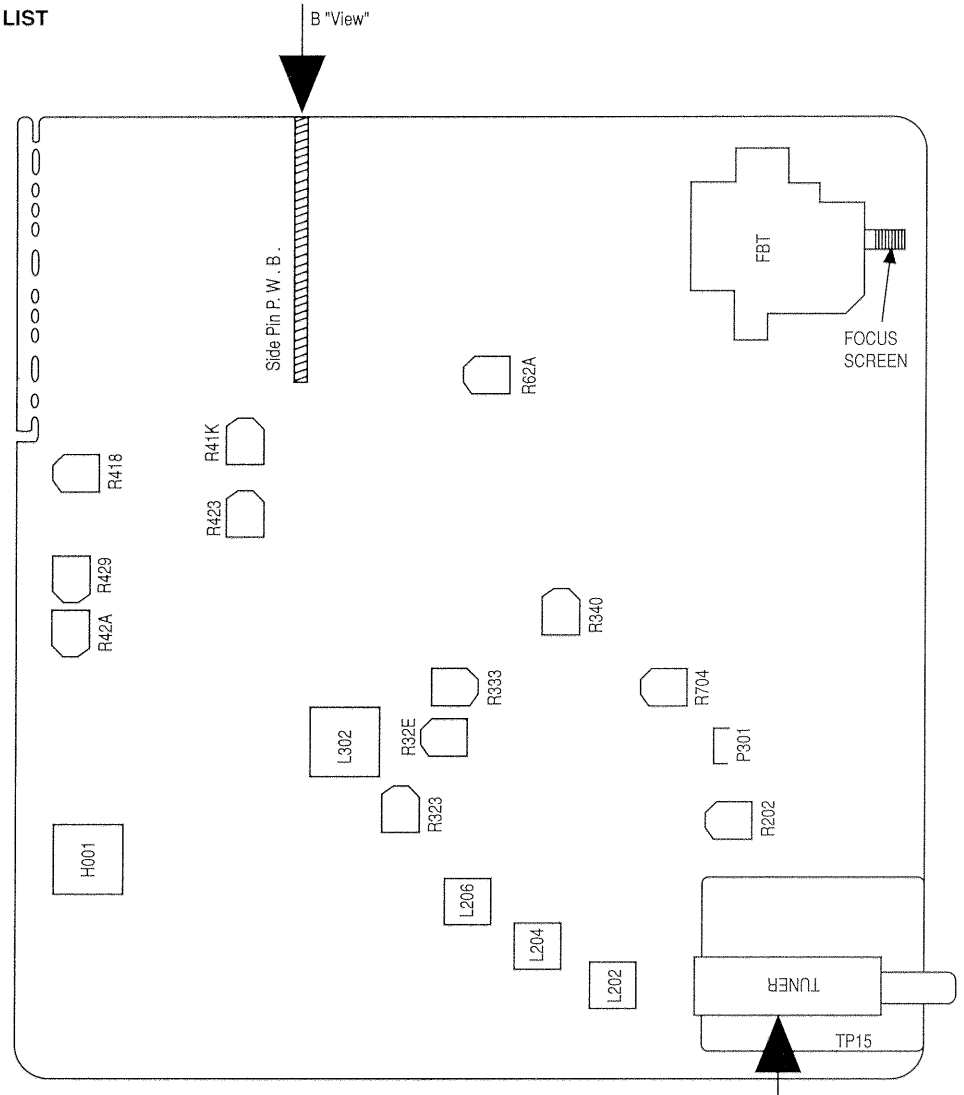
35TX20B REAR PANEL

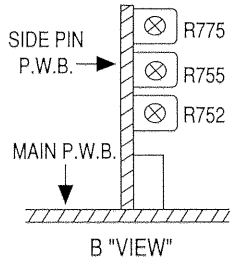


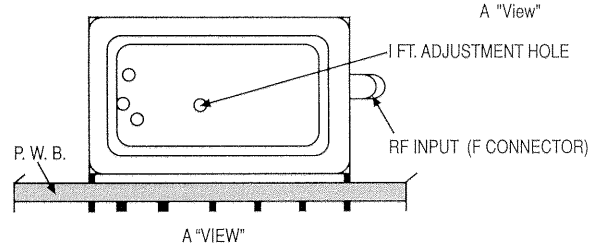


CPT SCREEN

3. ADJUSTMENT POSITION LIST



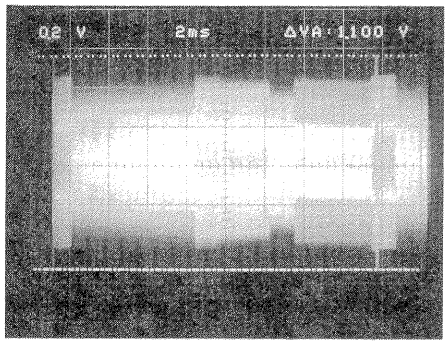




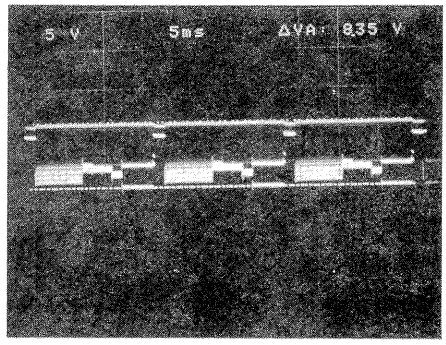
WAVEFORMS AT EACH SECTION

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

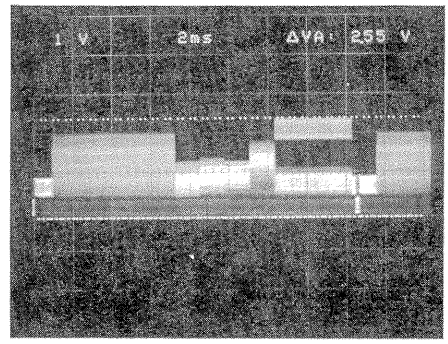
(1) U101 Pin 7 (IF Out)



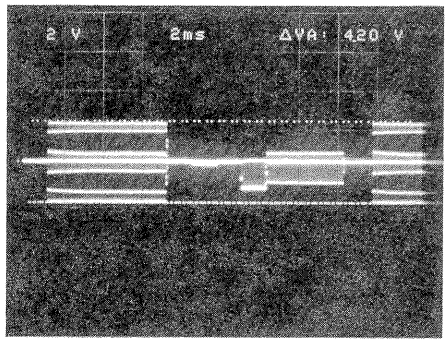
(5) I201 Pin 21 (-Y)



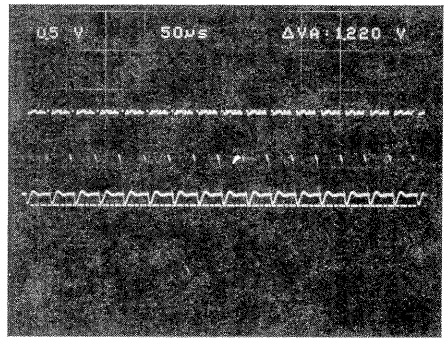
(9) I201 Pin 44 (Video Det. Out)



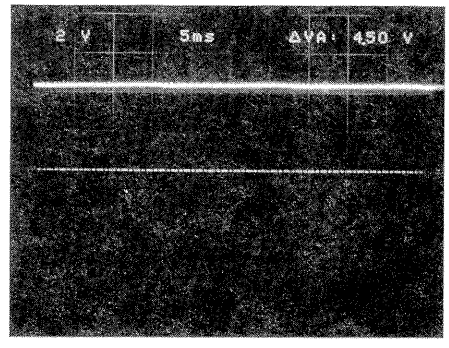
(2) I201 Pin 18 (R-Y)



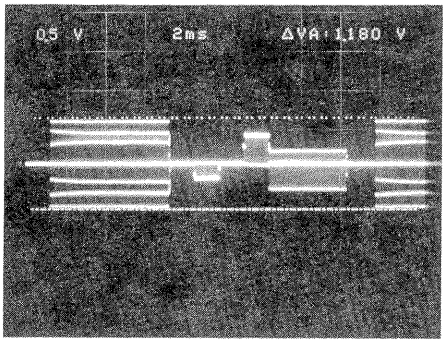
(6) I201 Pin 23 (H. Out Pulse)



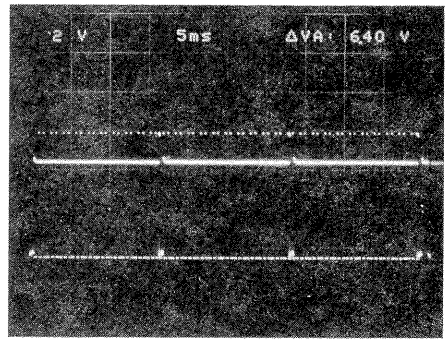
(10) I201 Pin 47 (AFT Out)



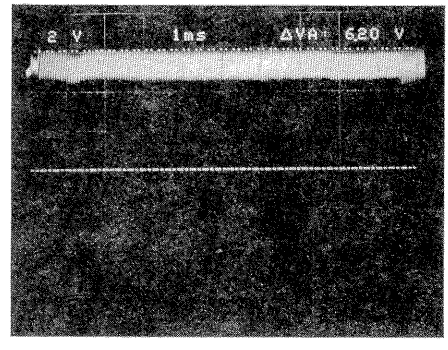
(3) I201 Pin 19 (G-Y)



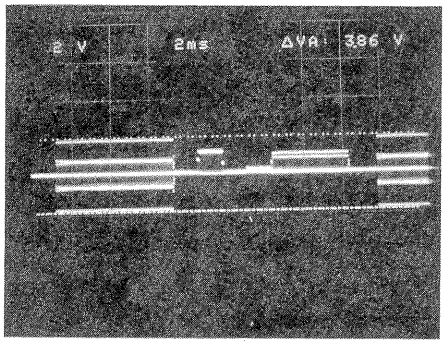
(7) I201 Pin 28 (V. Out Pulse)



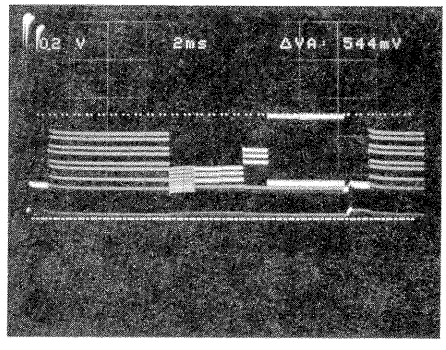
(11) I201 Pin 49 (RF-AGC Out)



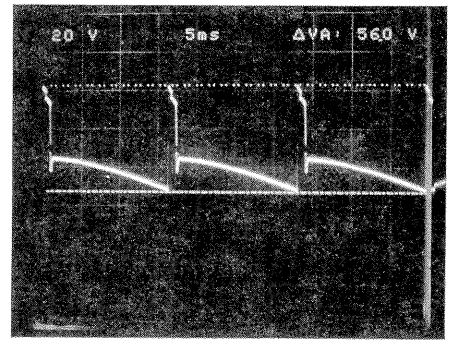
(4) I201 Pin 20 (B-Y)



(8) I201 Pin 34 (Video In)



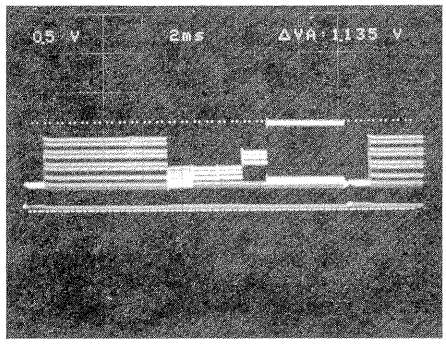
(12) I620 Pin 12 (V.Out)



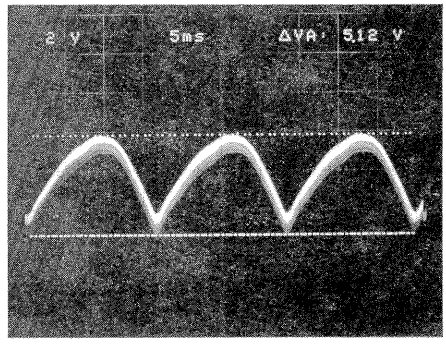
WAVEFORMS AT EACH SECTION

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

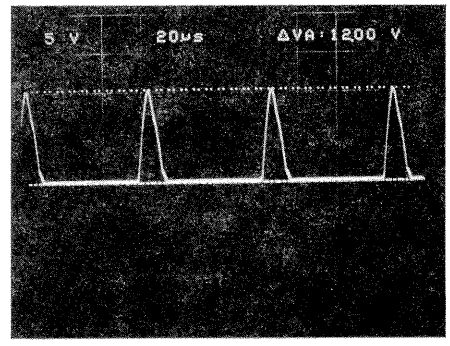
(13) Q30C Emitter (Y)



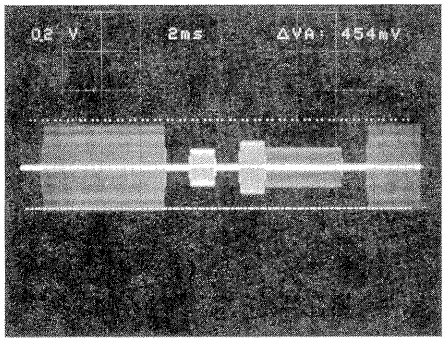
(17) Q650 Emitter (Side Pin Drive)



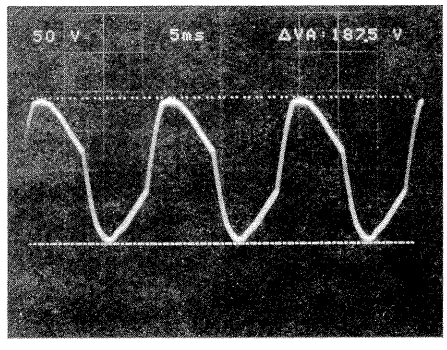
(21) Q702 Collector (H. Out)



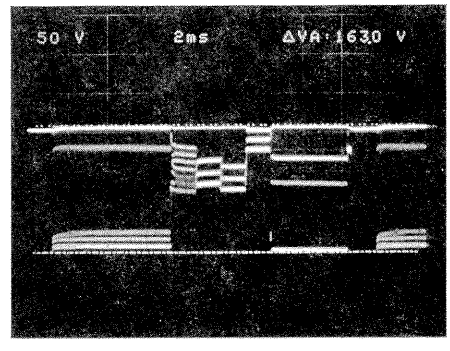
(14) Q309 Emitter (C)



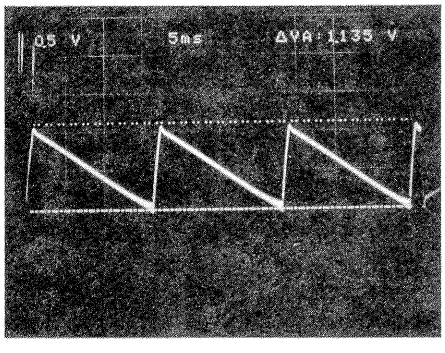
(18) Q750 Base (Side Pin Adj.)



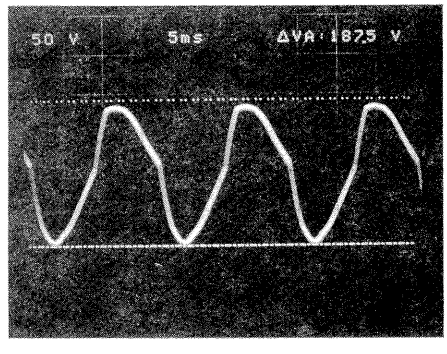
(22) Q854 Collector (Video Amp. Red)



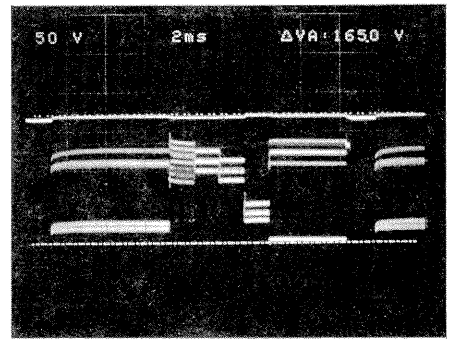
(15) P65B Pin 1 (Side Pin Amp +)



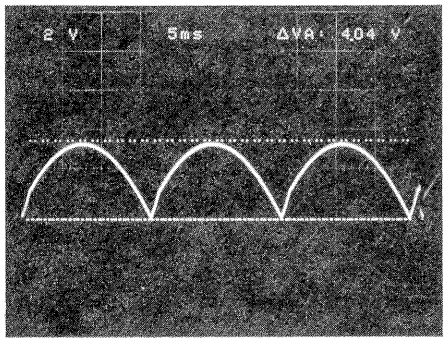
(19) Q752 Collector (Side Pin Out)



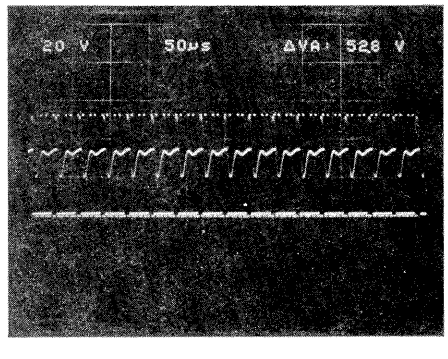
(23) Q855 Collector (Video Amp. Green)



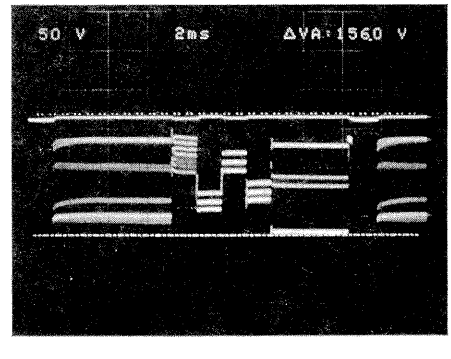
(16) P65B Pin 2 (Side Pin Amp -)



(20) Q701 Collector (Hor. Drive)



(24) Q856 Collector (Video Amp. Blue)



TROUBLESHOOTING

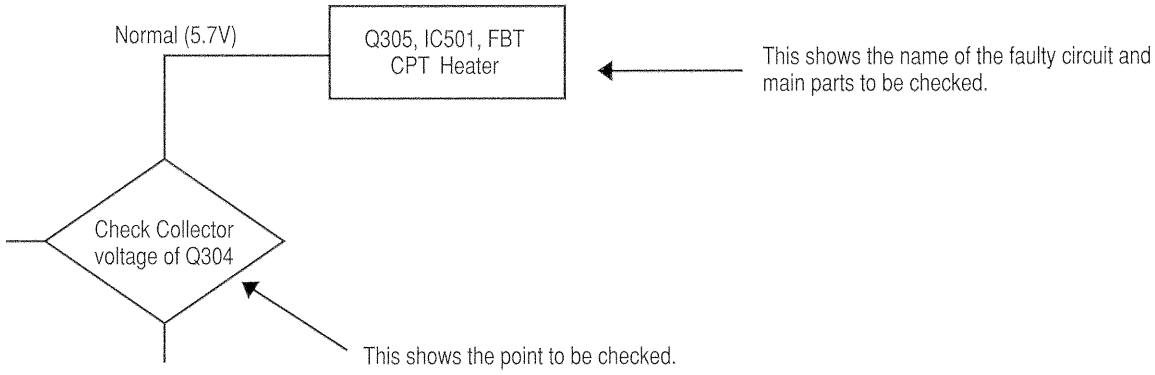
PRODUCT SAFETY NOTE

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:

This shows the name of the faulty circuit and main parts to be checked.
This shows the point to be checked.

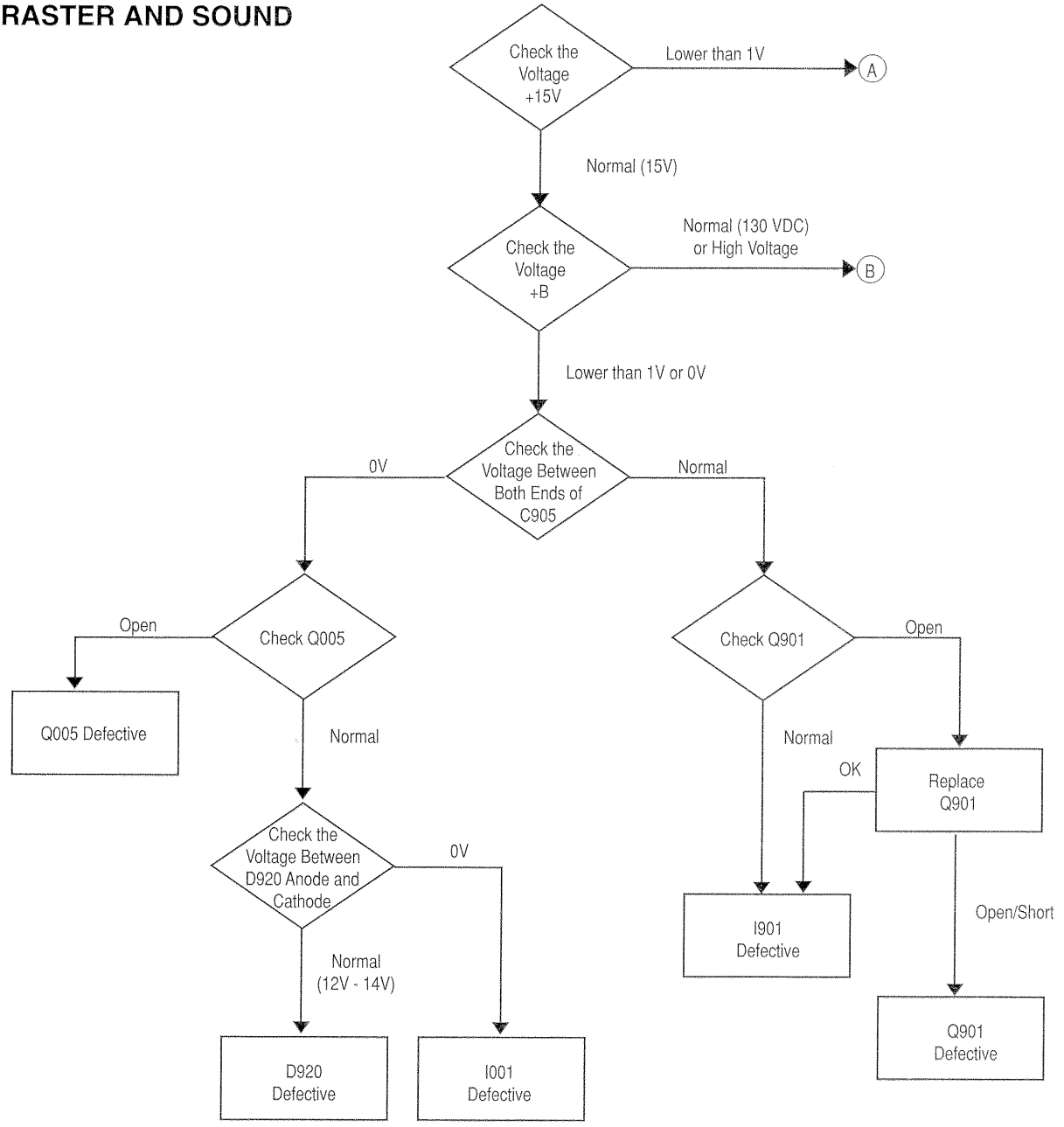


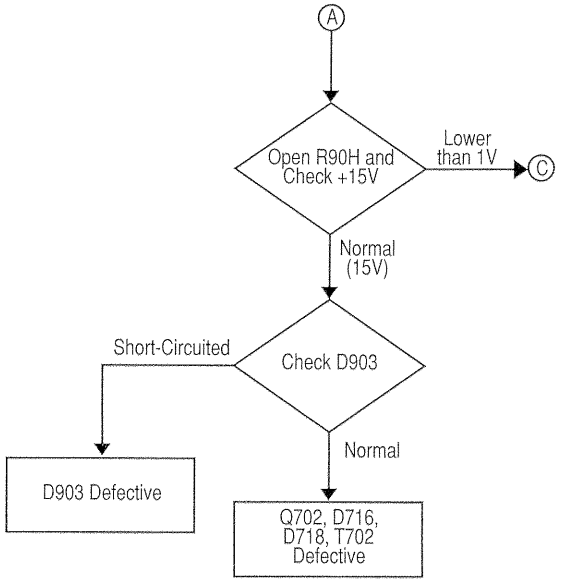
(2) The voltage shown in the chart may differ to some extent depending on the condition of the set and tester.

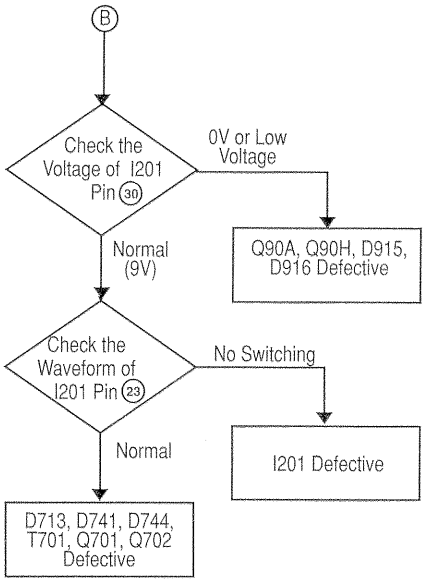
PRECAUTION ON MAKING MEASUREMENTS AND ON HANDLING

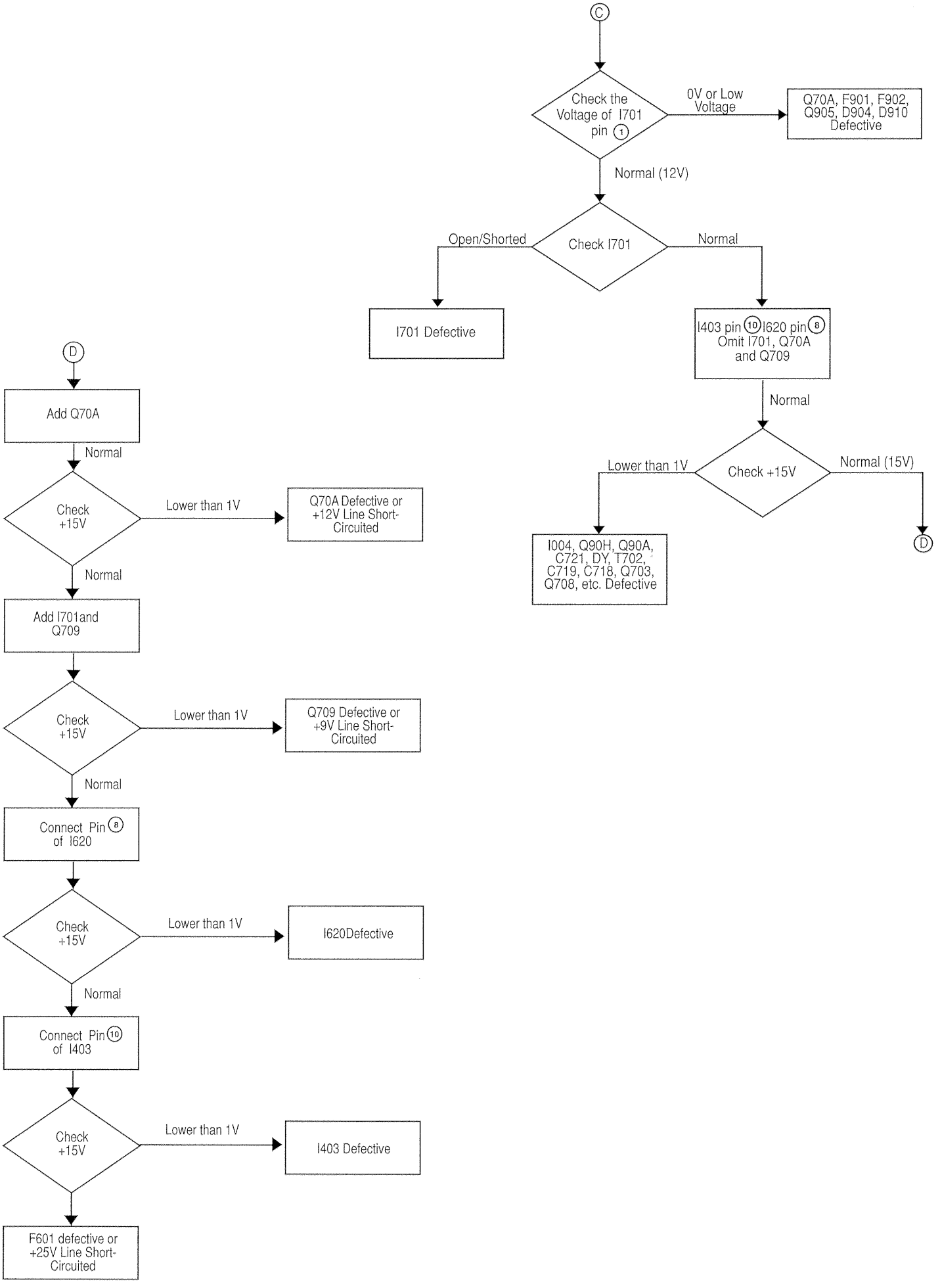
1. When any parts become abnormally hot or there is a smell of burning, cut OFF the power immediately.
2. Do not make shorts between circuits or across terminals except for those specified.
3. When applying a signal for checking purposes, make connection in the alternate current system for any not specified.
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








C
Check the Voltage of I701 pin 1
0V or Low Voltage
Q70A, F901, F902, Q905, D904, D910 Defective
Normal (12V)
Check I701
Open/Shorted
Normal
I701 Defective
I403 pin 10 I620 pin 8 Omit I701, Q70A and Q709
Normal
Check +15V
Lower than 1V
Normal (15V)
I004, Q90H, Q90A, C721, DY, T702, C719, C718, Q703, Q708, etc. Defective
D
D
Add Q70A
Normal
Check +15V
Lower than 1V
Q70A Defective or +12V Line Short-Circuited
Normal
Add I701and Q709
Check +15V
Lower than 1V
Q709 Defective or +9V Line Short-Circuited
Normal
Connect Pin 8 of I620
Check +15V
Lower than 1V
I620Defective
Normal
Connect Pin 10 of I403
Check +15V
Lower than 1V
I403 Defective
F601 defective or +25V Line Short-Circuited

REPLACEMENT PARTS LIST

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.

ABBREVIATIONS

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 Glaze

Semiconductors: TR: Transistor; DI: Diode; ZD: Zener Diode; VA: Varistor; TH: Thermistor; IC: Integrated Circuit

SYMBOL NO.	PART NO.	PART DESCRIPTION
		CAPACITORS
C001	0890087R	CAP.-CERAMIC 1000PF-K 50V
C002	0800047R	CAP.-ELECTRO. 100UF-M 6.3V
C003	0800072R	CAP.-ELECTRO. 470UF-M 6.3V
C004	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C005	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C006	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C007	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C008	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)
C00E	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C010	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C011	0800049R	CAP.-ELECTRO. 100UF-M 16V
C012	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C013	0800015R	CAP.-ELECTRO. 10UF-M 16V
C014	0800015R	CAP.-ELECTRO. 10UF-M 16V
C015	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C016	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C017	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C018	0880051R	CAP.-POLYESTER 0.033UF-KEB 50V
C019	0890086R	CAP.-CERAMIC 820PF-K 50V
C01A	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V
C01E	0800074N	CAP.-ELECTRO. 470UF-M 16V(CZ52/CY57/CY56)
C01H	0800015R	CAP.-ELECTRO. 10UF-M 16V
C022	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V
C023	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C024	0890087R	CAP.-CERAMIC 1000PF-K 50V
C025	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C030	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C031	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)
C032	0890078R	CAP.-CERAMIC 220PF-K 50V
C090	0890087R	CAP.-CERAMIC 1000PF-K 50V
C091	0800015R	CAP.-ELECTRO. 10UF-M 16V
C092	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V
C093	0800005R	CAP.-ELECTRO. 2.2UF-M 50V
C094	0800047R	CAP.-ELECTRO. 100UF-M 6.3V
C095	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C096	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C101	0800047R	CAP.-ELECTRO. 100UF-M 6.3V
C102	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C103	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C104	0800082F	CAP.-ELECTRO. 1000UF-M 16V
C105	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C106	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C107	0890063R	CAP.-CERAMIC 15PF-J 50V
C108	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C109	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C110	0890072R	CAP.-CERAMIC 68PF-J 50V
C111	0890072R	CAP.-CERAMIC 68PF-J 50V
C112	0890072R	CAP.-CERAMIC 68PF-J 50V
C201	0800015R	CAP.-ELECTRO. 10UF-M 16V
C202	0800082F	CAP.-ELECTRO. 1000UF-M 16V
C203	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C204	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C205	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
C206	0890087R	CAP.-CERAMIC 1000PF-K 50V
C208	0880055R	CAP.-POLYESTER 0.068UF-KEB 50V
C20A	0246464R	CAP.-CERAMIC 100PF-J CH 50V TAPE
C20C	0890118R	CAP.-CERAMIC 22PF-J CH 50V
C20E	0246463R	CAP.-CERAMIC 91PF-J CH 50V
C20F	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C20H	0800001R	CAP.-ELECTRO. 0.47UF-M 50V
C20K	0890063R	CAP.-CERAMIC 15PF-J 50V
C210	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C211	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C212	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C213	0890089R	CAP.-CERAMIC 1500PF-K 50V
C214	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
C215	0800041R	CAP.-ELECTRO. 47UF-M 16V
C217	0890118R	CAP.-CERAMIC 22PF-J CH 50V
C301	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C302	0800005R	CAP.-ELECTRO. 2.2UF-M 50V
C303	0800015R	CAP.-ELECTRO. 10UF-M 16V
C304	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C305	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C307	0800005R	CAP.-ELECTRO. 2.2UF-M 50V
C309	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C30A	0890073R	CAP.-CERAMIC 82PF-J 50V
C30C	0890061R	CAP.-CERAMIC 10PF- 50V
C30E	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C30K	0800015R	CAP.-ELECTRO. 10UF-M 16V
C310	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C311	0890073R	CAP.-CERAMIC 82PF-J 50V
C313	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C314	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C315	0800049R	CAP.-ELECTRO. 100UF-M 16V
C316	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C317	0800049R	CAP.-ELECTRO. 100UF-M 16V
C318	0800015R	CAP.-ELECTRO. 10UF-M 16V
C319	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C31A	0800015R	CAP.-ELECTRO. 10UF-M 16V
C31C	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C31E	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C31H	0800015R	CAP.-ELECTRO. 10UF-M 16V
C31K	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C320	0800015R	CAP.-ELECTRO. 10UF-M 16V
C321	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C322	0800049R	CAP.-ELECTRO. 100UF-M 16V
C323	0800023R	CAP.-ELECTRO. 22UF-M 16V(CY55/CY57BP)
C325	0800015R	CAP.-ELECTRO. 10UF-M 16V
C326	0800009R	CAP.-ELECTRO. 4.7UF-M 25V
C327	0800049R	CAP.-ELECTRO. 100UF-M 16V
C330	0800042R	CAP.-ELECTRO. 47UF-M 25V
C332	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C3801	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52)
C3802	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52)
C3803	0800041R	CAP.-ELECTRO. 47UF-M 16V(CZ52)
C3804	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52)
C3805	0244171R	CAP.-CERAMIC 0.01UF-Z F 50V TAPE(CZ52)
C390	0890063R	CAP.-CERAMIC 15PF-J 50V
C391	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C392	0890078R	CAP.-CERAMIC 220PF-K 50V
C393	0800023R	CAP.-ELECTRO. 22UF-M 16V(CY55/CY57BP)
C394	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CY55/CY57BP)
C399	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C401	0800049R	CAP.-ELECTRO. 100UF-M 16V
C402	0800015R	CAP.-ELECTRO. 10UF-M 16V
C403	0800015R	CAP.-ELECTRO. 10UF-M 16V

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C404	0800049R	CAP.-ELECTRO. 100UF-M 16V	C503	0800001R	CAP.-ELECTRO. 0.47UF-M 50V
C405	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	C504	0800082F	CAP.-ELECTRO. 1000UF-M 16V
C406	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C507	0800074N	CAP.-ELECTRO. 470UF-M 16V
C407	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C510	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C408	0800039R	CAP.-ELECTRO. 47UF-M 10V	C601	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C409	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)	C602	0890089R	CAP.-CERAMIC 1500PF-K 50V
C40A	0292712F	CAP.-TANTALUM 3.3UF-K 16V	C603	0880046R	CAP.-POLYESTER 0.015UF-K 50V
C40C	0292714F	CAP.-TANTALUM 10UF-K 16V	C604	0800048R	CAP.-ELECTRO. 100UF-M 10V
C40E	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C605	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C40H	0800015R	CAP.-ELECTRO. 10UF-M 16V	C606	0890087R	CAP.-CERAMIC 1000PF-K 50V
C40K	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C607	0244107R	CAP.-CERAMIC 3300PF-K 50V TAPE
C410	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C608	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C411	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C609	0800015R	CAP.-ELECTRO. 10UF-M 16V
C412	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V	C60F	0890082R	CAP.-CERAMIC 390PF-K 50V
C413	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C620	0800057R	CAP.-ELECTRO. 220UF-M 10V
C414	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C621	0880042R	CAP.-POLYESTER 0.0068UF-KEB50V
C415	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C622	0292716R	CAP.-TANTALUM 1.0UF-K 20V
C416	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C623	0248696R	CAP.-CERAMIC 330PF-J SL 50V TAPE
C417	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C624	0800061N	CAP.-ELECTRO. 220UF-M 35V
C418	0800007R	CAP.-ELECTRO. 3.3UF-M 50V	C625	0800007R	CAP.-ELECTRO. 3.3UF-M 50V
C419	0800049R	CAP.-ELECTRO. 100UF-M 16V	C626	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)
C41C	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE	C627	0800007R	CAP.-ELECTRO. 3.3UF-M 50V
C41E	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V	C628	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C41H	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)	C629	0800083F	CAP.-ELECTRO. 1000UF-M 25V(31V/32V)
C41K	0880048R	CAP.-POLYESTER 0.022UF-KEB 50V	C629	0800084F	CAP.-ELECTRO. 1000UF-M 35V(CZ52)
C420	0800003R	CAP.-ELECTRO. 1.0UF-M 50V	C62A	0800056R	CAP.-ELECTRO. 220UF-M 6.3V
C421	0244111R	CAP.-CERAMIC 6800PF-K 50V TAPE	C62H	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)
C422	0276719R	CAP.-POLYESTER 0.15UF-J 50V	C630	0890087R	CAP.-CERAMIC 1000PF-K 50V
C423	0800015R	CAP.-ELECTRO. 10UF-M 16V	C630	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
C424	0800015R	CAP.-ELECTRO. 10UF-M 16V	C631	0800041R	CAP.-ELECTRO. 47UF-M 16V
C425	0890087R	CAP.-CERAMIC 1000PF-K 50V	C632	0880039R	CAP.-POLYESTER 0.0047UF-KEB50V(31V/32V)
C426	0880056R	CAP.-POLYESTER 0.082UF-KEB 50V	C632	0880042R	CAP.-POLYESTER 0.0068UF-KEB50V(CZ52)
C427	0248700R	CAP.-CERAMIC 680PF-J SL 50V	C633	0800005R	CAP.-ELECTRO. 2.2UF-M 50V
C428	0800023R	CAP.-ELECTRO. 22UF-M 16V	C634	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C429	0244111R	CAP.-CERAMIC 0.082UF-KEB 50V	C636	0800005R	CAP.-ELECTRO. 2.2UF-M 50V
C42A	0276719R	CAP.-POLYESTER 0.15UF-J 50V	C637	0800018R	CAP.-ELECTRO. 10UF-M 50V
C42C	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)	C701	0890087R	CAP.-CERAMIC 1000PF-K 50V
C42E	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)	⚠ C702	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C42H	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)	C703	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C42K	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)	C704	0880051R	CAP.-POLYESTER 0.033UF-KEB 50V
C430	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C705	0890087R	CAP.-CERAMIC 1000PF-K 50V
C431	0800001R	CAP.-ELECTRO. 0.47UF-M 50V	C706	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V
C432	0800016R	CAP.-ELECTRO. 10UF-M 25V	C707	0800049R	CAP.-ELECTRO. 100UF-M 16V
C433	0800047R	CAP.-ELECTRO. 100UF-M 6.3V	C708	0800001R	CAP.-ELECTRO. 0.47UF-M 50V
C434	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE	C714	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C435	0800059R	CAP.-ELECTRO. 220UF-M 25V	C715	0247842R	CAP.-CERAMIC 33PF-SL 500V
C436	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE	C716	0880019R	CAP.-POLYESTER 0.33UF-KB 50V
C437	0800059R	CAP.-ELECTRO. 220UF-M 25V	⚠ C718	244729	CAP.-CERAMIC 2200PF 2KV
C438	0800047R	CAP.-ELECTRO. 100UF-M 6.3V	⚠ C719	244728	CAP.-CERAMIC 1800PF 2KV
C439	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)	⚠ C71A	244211	CAP.-CERAMIC 1000PF-K 2KV(31V/32V)
C43A	0800075F	CAP.-ELECTRO. 470UF-M 25V	⚠ C71A	244212	CAP.-CERAMIC 1200PF-K 2KV(CZ52)
C43C	0800082F	CAP.-ELECTRO. 1000UF-M 16V	C71C	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C43E	0800041R	CAP.-ELECTRO. 47UF-M 16V	C71F	0243506R	CAP.-CERAMIC 270PF-K 500V
C43H	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)	⚠ C71H	244725	CAP.-CERAMIC 1000PF-K 2.0KV B(CZ52)
C43K	0800082F	CAP.-ELECTRO. 1000UF-M 16V	C720	0244501R	CAP.-CERAMIC 1000PF-K 500V
C440	0800059R	CAP.-ELECTRO. 220UF-M 25V	⚠ C721	0262429F	CAP.-POLYPRO. 12000PF-J 1800V
C441	0800015R	CAP.-ELECTRO. 10UF-M 16V	⚠ C722	0299707F	CAP.-POLYESTOR 0.015UF-K 630V
C442	0800023R	CAP.-ELECTRO. 22UF-M 16V	⚠ C723	263001	CAP.-ELECTRO.3.3UF-M 100V
C443	0800023R	CAP.-ELECTRO. 22UF-M 16V	⚠ C724	0299931F	CAP.-POLYPRO. 0.27UF-K 200V
C444	0800042R	CAP.-ELECTRO. 47UF-M 25V	⚠ C725	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C445	0800042R	CAP.-ELECTRO. 47UF-M 25V	⚠ C726	0299931F	CAP.-POLYPRO. 0.27UF-K 200V(31V/32V)
C450	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	⚠ C726	0299932F	CAP.-POLYPRO. 0.33UF-K 200V(CZ52)
C451	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C72A	0244501R	CAP.-CERAMIC 1000PF-K 500V
C453	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C72C	0800073R	CAP.-ELECTRO. 470UF-M 10V
C454	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C72H	0800048R	CAP.-ELECTRO. 100UF-M 10V
C455	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C730	0800084F	CAP.-ELECTRO. 1000UF-M 35V
C456	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C732	0800083F	CAP.-ELECTRO. 1000UF-M 25V
C457	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C733	0800056R	CAP.-ELECTRO. 220UF-M 6.3V
C458	0800009R	CAP.-ELECTRO. 4.7UF-M 25V	C735	0800005R	CAP.-ELECTRO. 2.2UF-M 50V(31V/32V)
C470	0800015R	CAP.-ELECTRO. 10UF-M 16V	C735	0800007R	CAP.-ELECTRO. 3.3UF-M 50V(CZ52)
C471	0800049R	CAP.-ELECTRO. 100UF-M 16V	C736	0244501R	CAP.-CERAMIC 1000PF-K 500V
C501	0246445R	CAP.-CERAMIC 16PF-J CH 50V	⚠ C737	0800019R	CAP.-ELECTRO. 10UF-M 63V
C502	0244141R	CAP.-CERAMIC 0.01UF-KB B 50V	C738	0253974F	CAP.-ELECTRO 33UF 250V CE04W2E33(CZ52)

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SYMBOL NO.	PART NO.	PART DESCRIPTION
C738	0255524F	CAP.-ELECTRO. 4.7MF-M 250V(KME)(31V/32V)
C73A	0800041R	CAP.-ELECTRO. 47UF-M 16V
C73C	0890086R	CAP.-CERAMIC 820PF-K 50V
C73H	0890087R	CAP.-CERAMIC 1000PF-K 50V
C742	0254823G	CAP.-ELECTRO.100UF-M 160V
C747	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)
C74A	0258130F	CAP.-ELECTRO. 330MF-M 100V(KME)(CZ52)
C74H	0243508R	CAPACITOR-CERAMIC 390PF-K 500V(CZ52)
C750	0800005R	CAP.-ELECTRO. 2.2UF-M 50V
C751	0800044R	CAP.-ELECTRO. 47UF-M 50V
C752	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C755	0880035R	CAP.-POLY 2200PF-50V
C756	0800015R	CAP.-ELECTRO. 10UF-M 16V
C757	0800015R	CAP.-ELECTRO. 10UF-M 16V
C851	0800049R	CAP.-ELECTRO. 100UF-M 16V
C852	0890087R	CAP.-CERAMIC 1000PF-K 50V
C853	0255524F	CAP.-ELECTRO. 4.7MF-M 250V(KME)
C856	0244729F	CAP.-CERAMIC 2200PF 2KV
C860	0890087R	CAP.-CERAMIC 1000PF-K 50V
C861	0890087R	CAP.-CERAMIC 1000PF-K 50V
C862	0890087R	CAP.-CERAMIC 1000PF-K 50V
C864	0890076R	CAP.CERAMIC 150PF-K 50V(31V/32V)
C864	0890077R	CAP.-CERAMIC 180PF-K 50V(CZ52)
C865	0890079R	CAP.-CERAMIC 270PF-K 50V(31V/32V)
C865	0890082R	CAP.-CERAMIC 390PF-K 50V(CZ52)
C866	0890077R	CAP.-CERAMIC 180PF-K 50V(CZ52)
C866	0890079R	CAP.-CERAMIC 270PF-K 50V(31V/32V)
C870	0890077R	CAP.-CERAMIC 180PF-K 50V(31V/32V)
C870	0890079R	CAP.-CERAMIC 270PF-K 50V(CZ52)
C872	0890074R	CAP.-CERAMIC 100PF-J 50V
C873	0890074R	CAP.-CERAMIC 100PF-J 50V
C874	0890074R	CAP.-CERAMIC 100PF-J 50V
C875	0890074R	CAP.-CERAMIC 100PF-J 50V(CZ52)
C875	0890079R	CAP.-CERAMIC 270PF-K 50V(31V/32V)
C887	0890078R	CAP.-CERAMIC 220PF-K 50V(31V/32V)
C887	0890084R	CAP.-CERAMIC 560PF-K 50V(CZ52)
C888	0890087R	CAP.-CERAMIC 1000PF-K 50V
C889	0244171R	CAP.-CERAMIC 0.01UF-Z F 50V TAPE
⚠ C901	279697	CAPACITOR-POLYESTER FILM 0.1MF-M 250V
⚠ C902	0248593F	CAP.-CERAMIC 4700PF-Z 250V
⚠ C903	0248593F	CAP.-CERAMIC 4700PF-Z 250V
⚠ C904	0244505F	CAPACITOR-CERAMIC 0.0022MF-K 500V
⚠ C905	253891	CAP.-ELECTRO. 470UF 200V HR
C906	0253957F	CAP.-ELECTRO. 22UF-M 160V
C907	0800064R	CAP.-ELECTRO. 330UF-M 6.3V
C908	0800003R	CAP.-ELECTRO. 1.0UF-M 50V
C909	0800001R	CAP.-ELECTRO. 0.47UF-M 50V
⚠ C90A	0248593F	CAP.-CERAMIC 4700PF-Z 250V
C90C	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C90E	0880031R	CAP.-POLY.1000PF-K 50V
C90F	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C90H	0284891F	CAP.-ELECTRO 150UF 200V
C90K	0880066F	CAP.-POLYESTER 0.47 50V
C910	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
C911	0890081R	CAP.-CERAMIC 330PF 50V
C912	0258192F	CAP.-ELECTRO 2200UF 25V
C913	0890087R	CAP.-CERAMIC 1000PF-K 50V
C914	0800024R	CAP.-ELECTRO. 22UF-M 25V
C915	0800015R	CAP.-ELECTRO. 10UF-M 16V
C917	0245612F	CAP.-CERAMIC 4700PF-KF B 1KV
C919	0245608F	CAP.-CERAMIC 1000PF-K B 1000V
C91C	0890082R	CAP.-CERAMIC 390PF-K 50V
C91H	0800061N	CAP.-ELECTRO. 220UF-M 35V
C91K	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)
⚠ C920	279697	CAPACITOR-POLYESTER FILM 0.1MF-M 250V
⚠ C969	248593	CAP.-CERAMIC 4700PF-Z 250V
CA01	0800047R	CAP.-ELECTRO. 100UF-M 6.3V(CZ52)
CA01	0890086R	CAP.-CERAMIC 820PF-K 50V(CZ52/CY56/57)
CA02	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA03	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA04	0800049R	CAP.-ELECTRO. 100UF-M 16V(CZ52/CY56/57)
CA05	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA07	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA08	0800049R	CAP.-ELECTRO. 100UF-M 16V(CZ52/CY56/57)
CA09	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA10	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA11	0800041R	CAP.-ELECTRO. 47UF-M 16V(CZ52/CY56/57)
CA12	0800049R	CAP.-ELECTRO. 100UF-M 16V(CZ52/CY56/57)
CA13	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA14	0890078R	CAP.-CERAMIC 220PF-K 50V(CZ52/CY56/57)
CA15	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA16	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52/CY56/57)
CA17	0800001R	CAP.-ELECTRO. 0.47UF-M 50V(CZ52/CY56/57)
CA18	0246445R	CAP.-CERAMIC 16PF-J CH 50V(CZ52/CY56/57)
CA19	0890085R	CAP.-CERAMIC 680PF-K 50V(CZ52/CY56/57)
CA20	0800001R	CAP.-ELECTRO. 0.47UF-M 50V(CZ52/CY56/57)
CA21	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA22	0890078R	CAP.-CERAMIC 220PF-K 50V(CZ52/CY56/57)
CA25	0800003R	CAP.-ELECTRO. 1.0UF-M 50V(CZ52/CY56/57)
CA26	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA27	0800005R	CAP.-ELECTRO. 2.2UF-M 50V(CZ52/CY56/57)
CA28	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA29	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA32	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52/CY56/57)
CA35	0800058R	CAP.-ELECTRO. 220UF-M 16V(CZ52/CY56/57)
CA37	0880057R	CAP.-POLYESTER 0.1UF-KEB 50V(CZ52/CY56/57)
CA38	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA40	0800049R	CAP.-ELECTRO. 100UF-M 16V(CZ52/CY56/57)
CA41	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA42	0800049R	CAP.-ELECTRO. 100UF-M 16V(CZ52/CY56/57)
CA43	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA44	0800041R	CAP.-ELECTRO. 47UF-M 16V(CZ52/CY56/57)
CA48	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57
CA49	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA54	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA55	0800049R	CAP.-ELECTRO. 100UF-M 16V(CZ52/CY56/57)
CA60	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52/CY56/57)
CA61	0800007R	CAP.-ELECTRO. 3.3UF-M 50V(CZ52/CY56/57)
CA62	0890085R	CAP.-CERAMIC 680PF-K 50V(CZ52/CY56/57)
CA63	0890089R	CAP.-CERAMIC 1500PF-K 50V(CZ52/CY56/57)
CA66	0890066R	CAP.CERAMIC 27PF-J 50V(CZ52/CY56/57)
CA67	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52/CY56/57)
CA68	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CA69	0800003R	CAP.-ELECTRO. 1.0UF-M 50V(CZ52/CY56/57)
CA70	0880057R	CAP.-POLYESTER 0.1UF-KEB 50V(CZ52/CY56/57)
CA71	0880057R	CAP.-POLYESTER 0.1UF-KEB 50V(CZ52/CY56/57)
CA72	0890087R	CAP.-CERAMIC 1000PF-K 50V(CZ52/CY56/57)
CAZ1	0890084R	CAP.-CERAMIC 560PF-K 50V(CZ52/CY57/CY56)
CAZ2	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52/CY57/CY56)
CE20	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52/CY56/57)
CE21	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52/CY56/57)
CE22	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52/CY56/57)
CE25	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE(CZ52/CY56/57)
CMF1	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52)
CMF2	0800049R	CAP.-ELECTRO. 100UF-M 16V(CZ52)
CMF3	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V(CZ52)
CY01	0890083R	CAP.-CERAMIC 470PF-K 50V(CZ52)
CY02	0890083R	CAP.-CERAMIC 470PF-K 50V(CZ52)
CY03	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52)
CY04	0800015R	CAP.-ELECTRO. 10UF-M 16V(CZ52)
CY05	0276717R	CAP.-POLY. 0.1UF-J 50V (TF TYP E)(CZ52)
CY06	0890076R	CAP.CERAMIC 150PF-K 50V(CZ52)
CY07	0800049R	CAP.-ELECTRO. 100UF-M 16V(CZ52)
CY08	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V(CZ52)
		DIODES
D001	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D002	2398611M	DIODE 1SS254 TAPE SI 4NSEC(CY55)
D003	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D004	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D005	2339833M	ZENER HZS5A3 TA SI 200MA
D006	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D007	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D009	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D00A	2398611M	DIODE 1SS254 TAPE SI 4NSEC

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SYMBOL NO.	PART NO.	PART DESCRIPTION
D00C	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D00E	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D00H	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D00K	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D010	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D011	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D012	2339889M	ZENER HZS12 (C3) 0.005A(CZ52/CY57/CY56)
D013	2339889M	ZENER HZS12 (C3) 0.005A(CZ52/CY57/CY56)
D014	2339889M	ZENER HZS12 (C3) 0.005A(CZ52/CY57/CY56)
D016	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D017	2398611M	DIODE 1SS254 TAPE SI 4NSEC(31V/32V)
D020	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D022	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D023	2339862M	ZENER HZS-9A2 TA
D024	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D101	2339971M	ZENER HZS33-1 TA
D301	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D302	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D303	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D304	2339889M	ZENER HZS12 (C3) 0.005A
D305	2339862M	ZENER HZS-9A2 TA
D306	2339862M	ZENER HZS-9A2 TA
D307	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D308	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D390	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D391	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D401	2339812M	ZENER HZS3A2 TA (SI.200MA)
D402	2339812M	ZENER HZS3A2 TA (SI.200MA)
D403	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D404	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D405	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D406	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D407	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D410	2339889M	ZENER HZS12 (C3) 0.005A(CZ52)
D501	2339889M	ZENER HZS12 (C3) 0.005A
D502	2339889M	ZENER HZS12 (C3) 0.005A
D503	2339889M	ZENER HZS12 (C3) 0.005A
D601	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D602	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D605	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D620	2339862M	ZENER HZS-9A2 TA
D621	2339491M	DIODE AM01Z (200 TAPE) 1A
D622	2339491M	DIODE AM01Z (200 TAPE) 1A
D623	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D626	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D627	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D628	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D701	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D703	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D704	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D705	CH00031M	DIODE AU02V1(280V)
⚠ D707	2339242M	ZENER HZS33L2 TAPE
⚠ D708	2339223M	ZENER HZS27 (3L)
D712	2339251M	ZENER HZS36-1L TAPE
D713	2339491M	DIODE AM01Z (200 TAPE) 1A
D714	2398611M	DIODE 1SS254 TAPE SI 4NSEC
D715	2338944	DIODE FML-G12S (F) (200V) SI 0.04US(CZ52)
⚠ D716	2348511	DIODE RS3FS
⚠ D717	2348511	DIODE RS3FS(35V)
⚠ D718	2336612M	DIODE RU3AM TA
D719	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D71A	2339481M	DIODE AS01Z (200 TAPE) SI 0.6A
D720	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D721	2335991M	ZENER HZ-T33 (02 TP)
D722	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D72A	2331809M	ZENER DIODE HZ-6 TAPE (C3) SI 500MW
D72H	2331812M	ZENER DIODE HZ-7 TAPE (A2) SI 500MW
D73A	2339851M	ZENER HZS7A1 TAPE (SI.200MA)
⚠ D73C	2339481M	DIODE AS01Z (200 TAPE) SI 0.6A
D73F	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D73H	CH00031M	DIODE AU02V1(280V)
D740	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D741	2339491M	DIODE AM01Z (200 TAPE) 1A

SYMBOL NO.	PART NO.	PART DESCRIPTION
D742	2339851M	ZENER HZS7A1 TAPE (SI.200MA)
D743	2339834M	ZENER HZS5(B1) TAPE
D744	2339882M	ZENER DIODE HZS-12(A2) TAPE
D745	2339491M	DIODE AM01Z (200 TAPE) 1A(CZ52)
D750	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D781	2339822M	ZENER HZS4A2 TA
D801	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D802	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D803	2331781M	ZENER HZ-4 TAPE (A1) SI 500MW
D810	2339601M	ZENER HZS-2 TAPE (ALL) SI 400MW
D811	2339601M	ZENER HZS-2 TAPE (ALL) SI 400MW
D812	2339601M	ZENER HZS-2 TAPE (ALL) SI 400MW
D821	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D822	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D823	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
⚠ D901	2342062	DIODE D3SBA60-4103
D902	2339491M	DIODE AM01Z (200 TAPE) 1A
D903	2339491M	DIODE AM01Z (200 TAPE) 1A
D904	2331991M	DIODE R02A (V) SI 1.2A 6
D905	2339481M	DIODE AS01Z (200 TAPE) SI 0.6A
D906	2339876M	ZENER HZS11B3 TA
D907	2339481M	DIODE AS01Z (200 TAPE) SI 0.6A
D908	2339481M	DIODE AS01Z (200 TAPE) SI 0.6A
D909	2339812M	ZENER HZS3A2 TA (SI.200MA)
⚠ D90A	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D90C	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D90E	2339835M	ZENER HZS5B2 TAPE
D90F	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D90H	2339835M	ZENER HZS5B2 TAPE
D90K	2339833M	ZENER HZS5A3 TA SI 200MA
D910	2338944	DIODE FML-G12S (F) (200V) SI 0.04US
D912	2339481M	DIODE AS01Z (200 TAPE) SI 0.6A
D913	2339835M	ZENER HZS5B2 TAPE
D914	2339491M	DIODE AM01Z (200 TAPE) 1A
D915	2339848M	ZENER HZS-6-C2 TAPE
D916	2339848M	ZENER HZS-6-C2 TAPE
D917	2339491M	DIODE AM01Z (200 TAPE) 1A
D920	2398611M	DIODE 1SS254 TAPE (35V) SI 4NSEC
D921	2339191M	ZENER HZS20-1L TAPE
DA01	2398611M	DIODE 1SS254 TAPE(35V)SI 4NSEC(CZ52/CY56/57)
DA02	2339867M	ZENER HZS-9-C1 TAPE (SI.200MA)(CZ52/CY56/57)
DA03	2339867M	ZENER HZS-9-C1 TAPE (SI.200MA)(CZ52/CY56/57)
DA04	2339867M	ZENER HZS-9-C1 TAPE (SI.200MA)(CZ52/CY56/57)
DA05	2398611M	DIODE 1SS254 TAPE(35V)SI 4NSEC(CZ52/CY56/57)
DA06	2339867M	ZENER HZS-9-C1 TAPE (SI.200MA)(CZ52/CY56/57)
DA07	2398611M	DIODE 1SS254 TAPE(35V)SI 4NSEC(CZ52/CY56/57)
DA08	2398611M	DIODE 1SS254 TAPE(35V)SI 4NSEC(CZ52/CY56/57)
DA09	2398611M	DIODE 1SS254 TAPE(35V)SI 4NSEC(CZ52/CY56/57)
DA10	2398611M	DIODE 1SS254 TAPE(35V)SI 4NSEC(CZ52/CY56/57)
DA11	2398611M	DIODE 1SS254 TAPE(35V)SI 4NSEC(CZ52/CY56/57)
DE20	2398611M	DIODE 1SS254 TAPE(35V)SI 4NSEC(CZ52/CY56/57)
ZD0501	2339885M	ZENER HZS12B2 TA(CZ52)
ZD0502	2339885M	ZENER HZS12B2 TA(CZ52)
ZD3801	2331154M	ZENER HZ-12 (A1-3 B1-3.TA) SI 200MA(CZ52)
ZD3802	2331154M	ZENER HZ-12 (A1-3 B1-3.TA) SI 200MA(CZ52)
		REMOTE CONTROLS
E301	HL00231	REMOTE CONTROL UNIT CLU-411U 31CX5B
E301	HL00221	REMOTE CONTROL UNIT CLU-412UI 31CX6B
E301	HL00224	REMOTE CONTROL UNIT CLU-415UI 32CX7B
E301	HL00224	REMOTE CONTROL UNIT CLU-415UI 35TX20B
		DEFLECTION YOKE
⚠ E601	BY00511	DEFLECTION YOKE 31V MURATA (31V/32V)
		FUSES
⚠ F601	2722382	FUS-DC0.75A-J/UL(L)
⚠ F901	2722358	FUSE AC05A
⚠ F902	2722353	FUSE AC1.6A

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SYMBOL NO.	PART NO.	PART DESCRIPTION
		SPARK GAPS
G851	2340037	SPARK GAP
G854	2340039	SPARK GAP(CZ52)
G855	2340039	SPARK GAP(CZ52)
G856	2340039	SPARK GAP(CZ52)
⚠ G901	2340741	SURGE PROTECTOR DSP-301N-S00B
		FILTERS
H301	2151041	DELAY LINE AND BAND PASS FILTER
⚠ H901	2793313	CP-EXN-G131P365L
HA02	2791754	FX-DSS306B101M(CZ52/CY56/57)
HA03	2791754	FX-DSS306B101M(CZ52/CY56/57)
HA07	2791759	FX-DSS306B102M(CZ52/CY56/57)
HA08	2791759	FX-DSS306B102M(CZ52/CY56/57)
HA09	2791762	FX-DSS306FZ103M(CZ52/CY56/57)
HA10	2791762	FX-DSS306FZ103M(CZ52/CY56/57)
		INTEGRATED CIRCUITS
I001	CP00202	DIGITAL MONOLITHIC IC (LC864156A-5830)
I002	2381111	IC M6M80021L
I003	2917391	IC MSC11371RS
I004	2020461	IC AN78L05
I05	CP01771	ANALOG MONOLITHIC IC (M52684AP)(CZ52/CY56/57)
⚠ I201	2004133	IC LA7674
I301	2003981	IC BA7604N
I302	CZ00081	ANALOG MONOLITHIC IC (LA7952)
I401	2004592	IC AN5817K
I402	CK00121	SURROUND IC UPC1892
⚠ I403	2004341	IC AN7178
I404	2366301	IC UPD4052BC
⚠ I620	2003541	IC LA7838
I621	2362601	IC HA17458PS
I701	2003423	IC UPC7893AHF ICL
⚠ I720	2000521	IC PC713F6
⚠ I901	2912177	IC STR30130
⚠ I902	2000521	IC PC713F6
⚠ I903	2000465	IC PS2501-1 (KC/LC)
⚠ I904	2000465	IC PS2501-1 (KC/LC)
IA01	2020341	IC MM1111XS(CZ52/CY56/57)
IA02	CP00841	ANALOG MONOLITHIC IC M52694P(CZ52/CY56/57)
IA03	CP00831	DIGITAL MONOLITHIC IC M65607SP(CZ52/CY56/57)
IA04	CP00851	DIG MONOLITHIC IC (HM53461-10)(CZ52/CY56/57)
IA05	2366361	IC.AN7805(CZ52/CY56/57)
IY01	2381211	IC M51494L(CZ52)
		INDUCTORS/COILS
L001	2122253M	COIL-AXIAL 100UH-K
L003	2122942M	COIL-AXIAL 8.2UHKM BELTING
L004	2122942M	COIL-AXIAL 8.2UHKM BELTING
L005	2122942M	COIL-AXIAL 8.2UHKM BELTING
L006	2122942M	COIL-AXIAL 8.2UHKM BELTING
L008	2120482	FILTER COIL 100 UHK(CZ52/CY57/CY56)
L010	BH00101	OSC COIL
L101	2122253M	COIL-AXIAL 100UH-K
L102	2122253M	COIL-AXIAL 100UH-K
L103	2122927M	COIL-AXIAL 0.68UH-M
L201	2122253M	COIL-AXIAL 100UH-K
L202	2145982	COIL-DISCRI 4.7MHZ
L203	2143672	IF COIL WITH 7 CASE 1:3 INCORE
L204	2143678	IF COIL WITH 7 CASE 10T
L205	2142445	COIL-AFC
L206	2122949M	COIL-AXIAL 33UHKM BELTING
L207	2122944M	COIL-AXIAL 12UHKM BELTING
L208	2122952M	COIL-AXIAL 47UHKM BELTING
L301	2122253M	COIL-AXIAL 100UH-K
L302	2145891	1H DELAY LINE
L303	2122939M	COIL-AXIAL 5.6UHKM BELTING
L304	2122943M	COIL-AXIAL 10UHKM BELTING
L305	2122943M	COIL-AXIAL 10UHKM BELTING(CZ52)

SYMBOL NO.	PART NO.	PART DESCRIPTION
L305	2122947M	COIL-AXIAL 22UHKM BELTING(31V/32V)
L308	2122951M	COIL-AXIAL 39UHKM BELTING
L309	2122956M	COIL-AXIAL 100UHKM BELTING
L311	2122253M	COIL-AXIAL 100UH-K
L601	2122956M	COIL-AXIAL 100UHKM BELTING
L602	2122099	FIXED INDUCTOR-FL-11Z 180K(CZ52)
L700	2122938M	COIL-AXIAL 4.7UHKM BELTING
L701	2122652M	FERRITE CORE
L702	2124513	COIL-H.LINEARITY A3LXU2
L703	2771893	FERITE BEADS CORE (005)
⚠ L704	2275381	COIL-CHOKING 1000UH
L705	2122248M	COIL-AXIAL 47UH-K
L705	2122253M	COIL-AXIAL 100UH-K (CZ52)
L709	2122094	FIXED INDUCTOR 22UF-K(31V/32V)
L709	2122095	FIXED INDUCTOR FL-11Z 27UH-K(CZ52)
⚠ L710	2122244M	COIL-AXIAL 22UH-K
L711	2122652M	FERRITE CORE
L71A	2122652M	FERRITE CORE
L850	2120482	FILTER COIL 100 UHK
L851	2122945M	COIL-AXIAL 15UHKM BELTING
L852	2122945M	COIL-AXIAL 15UHKM BELTING
L853	2122945M	COIL-AXIAL 15UHKM BELTING
L854	2122956M	COIL-AXIAL 100UHKM BELTING
L855	2122956M	COIL-AXIAL 100UHKM BELTING
L856	2122956M	COIL-AXIAL 100UHKM BELTING
L861	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L862	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L863	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L864	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L865	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L866	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L867	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L868	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L869	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L871	2123468M	FERRITE BEADS CORE LEAD 0.8MH
⚠ L901	2272293	LINE FILTER-LL
⚠ L902	2121676	LINE FILTER
L905	2122652M	FERRITE CORE
⚠ L905	2229022	DEGAUSSING COIL (31V/32V)
L906	2122652M	FERRITE CORE
L907	2122652M	FERRITE CORE
L908	2122652M	FERRITE CORE
L909	2122099	FIXED INDUCTOR-FL-11Z 180K
L90A	2122263M	LA AXIAL COIL 561
L920	2122653M	FERRITE CORE 1.65UH TAPE
L922	2125724	COIL-CHOKE 47UH-K
⚠ L970	2229023	DEGAUSSING COIL (35V) 35TX20B
LA01	2122253M	COIL-AXIAL 100UH-K(CZ52)
LA01	2123781R	FILTER COIL 101K(CZ52/CY56/57)
LA02	2123781R	FILTER COIL 101K(CZ52/CY56/57)
LA03	2122253M	COIL-AXIAL 100UH-K(CZ52/CY56/57)
LA04	2123781R	FILTER COIL 101K(CZ52/CY56/57)
LA07	2122934M	COIL-AXIAL 2.2UH-M(CZ52/CY56/57)
LA09	2122934M	COIL-AXIAL 2.2UH-M(CZ52/CY56/57)
LMFC	BZ00411	COIL M.F.COIL 35TX20B
LY01	2122253M	COIL-AXIAL 100UH-K(CZ52)
		INSTRUCTION MANUAL
N201	QR02651	INSTRUCTION MANUAL A3LXU(II)
		TRANSISTORS
Q001	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ(CY55)
Q002	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q003	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q004	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q005	2320663M	TRS. 2SC1213A (C)
Q006	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q008	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q009	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q101	2320144M	TRS. 2SC1906 (TAPE) SI 750MHZ
Q201	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ

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SYMBOL NO.	PART NO.	PART DESCRIPTION
Q202	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q203	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q301	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q302	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q305	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q306	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q308	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q309	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q30A	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q30C	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q30E	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q30H	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q30K	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q310	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q312	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q314	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q315	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q3801	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)(CZ52)
Q3802	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)(CZ52)
Q401	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q402	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q403	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q404	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q405	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q406	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q407	2320647M	TRS. 2SC1213 (C 21TZ/D 21TZ)SI 80MHZ4
Q50C	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q601	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q602	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q603	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q650	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
Q701	2323523M	TRS. 2SD789 D TAPE
⚠ Q702	2315272	TRS. 2SC4589-03
⚠ Q703	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
⚠ Q708	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q709	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q70A	2323431	TRS. 2SC1983
Q70H	2315411	TRS. 2SD2012
Q710	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q750	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q751	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q752	2323434	TRS. 2SC1983 (O/Y)
Q752	2320663M	TRS. 2SC1213A (C)
Q753	2321321M	TRS. 2SA844 (D TZ/E TZ) SI 200MHZ
Q761	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q801	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q802	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q803	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q804	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q805	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q806	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q807	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q808	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q809	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q810	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q811	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q812	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q813	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q814	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q815	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q851	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ
Q852	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ
Q853	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ
Q854	2312371	TRANSISTOR 2SC3942(RL)
Q855	2312371	TRANSISTOR 2SC3942(RL)
Q856	2312371	TRANSISTOR 2SC3942(RL)
Q857	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q864	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q901	2327883M	TRS. 2SA1207 (S/T) SI 150MHZ
Q904	2326216	TRS. 2SC3116 (S/T)
⚠ Q905	2328451	TRS. FN651
Q906	2320631M	TRS. 2SA673 (B 26TZ/C 26TZ)SI 80MHZ
Q907	2323526M	TRS. 2SD789 D/E TAPE
Q908	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ
Q909	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
Q90A	2320681M	TRS. 2SA673A TAPE (B/C) SI 80MHZ
Q90C	2326631	THYRISTOR CR5AS-8(B-A1)
Q90H	2320663M	TRS. 2SC1213A (C)
QA01	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ(CZ52/CY56/57)
QA02	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA03	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)SI 80MHZ(CZ52/CY56/57)
QA04	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA05	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA08	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA09	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA10	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA11	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA16	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA17	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA18	2320637M	TRS.2SA673(C26TZ/D26TZ)SI 80MHZ(CZ52/CY56/57)
QA19	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QA20	2320596M	TRS. 2SC458 (C TZ/D TZ)SI 230MHZ(CZ52/CY56/57)
QMF1	2320647M	TRS. 2SC1213 (C 21 TZ/D 21 TZ) SI 80MHZ4(CZ52)
QY01	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ(CZ52)
QY02	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ(CZ52)
		RESISTORS
R001	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R002	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R003	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R004	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R005	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R006	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R007	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R008	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R009	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R00A	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R00C	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R00E	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R00H	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R00K	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R010	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R011	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R012	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB(31V/32V)
R013	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(31V/32V)
R014	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB(31V/32V)
R015	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB(31V/32V)
R016	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB(31V/32V)
R017	0700032M	RES.-CARBON FLM 1/16W 220-JB
R019	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R01A	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R01C	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R01E	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R01H	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R01K	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R020	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R021	0700036M	RES.-CARBON FLM 1/16W 470-JB(31V/32V)
R021	0700038M	RES.-CARBON FLM 1/16W 680-JB(CZ52)
R022	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R023	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R024	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R025	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R026	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R027	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB(CZ52)
R027	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB(31V/32V)
R028	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R029	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R02A	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R02C	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R02E	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R02H	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R02K	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R030	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R031	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R032	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB(CZ52)

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R032	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB(31V/32V)
R033	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R034	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB(CZ52)
R034	0700054M	RES.-CARBON FLM 1/16W 10K-JB(31V/32V)
R035	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB(CZ52)
R035	0700055M	RES.-CARBON FLM 1/16W 12K-JB(31V/32V)
R036	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R037	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R038	0100065M	RES.-CARBON FLM 1/8W 1K-JB(CZ52/CY56/57)
R038	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CY55/CY57BP)
R039	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R03A	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R03C	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R03E	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R03H	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R03K	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R040	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
R041	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R042	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R043	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R044	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R045	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R046	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R047	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R048	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R049	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R04A	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB(31V/32V)
R04A	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB(CZ52)
R04C	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R04E	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R04H	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB(31V/32V)
R04H	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB(CZ52)
R04K	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R050	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R051	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0516	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52)
R0517	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB(CZ52)
R053	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB(CY55/CY57BP)
R054	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CY55/CY57BP)
R055	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R056	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R057	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R058	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R059	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R05A	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R05C	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R05E	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R05H	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R05K	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R060	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R061	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R062	0100065M	RES.-CARBON FLM 1/8W 1K-JB(CZ52/CY56/57)
R063	0100065M	RES.-CARBON FLM 1/8W 1K-JB(CZ52/CY56/57)
R064	0100065M	RES.-CARBON FLM 1/8W 1K-JB(CZ52/CY56/57)
R065	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB(CY55/CY57BP)
⚠ R066	0119514S	RESISTOR-METAL OXIDE FILM RN 1/4P 10-J
R067	0700036M	RES.-CARBON FLM 1/16W 470-JB
R068	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R069	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R06C	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R06E	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R06F	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R06H	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R06K	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R070	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R071	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R072	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R072	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB(CZ52)
R073	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB(31V/32V)
R073	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB(CZ52)
R074	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB(31V/32V)
R074	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB(CZ52)
R080	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R081	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R083	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R084	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R085	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R086	0700031M	RES.-CARBON FLM 1/16W 180-JB
R087	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R08C	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R091	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R092	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
R093	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
R094	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R095	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R096	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R097	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R098	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R099	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R09A	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R09C	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R09H	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R09K	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0L1	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
R101	0700031M	RES.-CARBON FLM 1/16W 180-JB
R102	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R103	0700014M	RES.-CARBON FLM 1/16W 10-J
R104	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R105	0700023M	RES.-CARBON FLM 1/16W 47-J
R106	0700033M	RES.-CARBON FLM 1/16W 270-JB
R107	0100061M	RES.-CARBON FLM 1/8W 680-JB
R108	0187040M	RES.-CARBON FLM 1/16W 91-J
R109	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB(CZ52)
R109	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB(31V/32V)
R110	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB(CZ52)
R110	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB(31V/32V)
R201	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R202	150287	RES.-VARIABLE RV06 10K-B
R203	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R204	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R205	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R206	0700027M	RES.-CARBON FLM 1/16W 100-JB
R207	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R208	0700033M	RES.-CARBON FLM 1/16W 270-JB
R209	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R20A	0100121M	RES.-CARBON FLM 1/8W 220K-JB
R20C	0100127M	RES.-CARBON FLM 1/8W 390K-JB
R20E	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R20H	0100117M	RES.-CARBON FLM 1/8W 150K-JB
R20K	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R210	0700036M	RES.-CARBON FLM 1/16W 470-JB
R211	0100055M	RES.-CARBON FLM 1/8W 390-JB
R212	0700027M	RES.-CARBON FLM 1/16W 100-JB
R213	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R214	0700033M	RES.-CARBON FLM 1/16W 270-JB
R216	0700027M	RES.-CARBON FLM 1/16W 100-JB
R217	0700027M	RES.-CARBON FLM 1/16W 100-JB
R2Z1	0700036M	RES.-CARBON FLM 1/16W 470-JB(CZ52/CY56/57)
R2Z2	0700037M	RES.-CARBON FLM 1/16W 560-JB(CZ52/CY56/57)
R302	0100127M	RES.-CARBON FLM 1/8W 390K-JB(31V/32V)
R302	0100133M	RES.-CARBON FLM 1/8W 680K-JB(CZ52)
R303	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R305	0700036M	RES.-CARBON FLM 1/16W 470-JB
R306	0700033M	RES.-CARBON FLM 1/16W 270-JB(31V/32V)
R306	0700034M	RES.-CARBON FLM 1/16W 330-JB(CZ52)
R307	0700034M	RES.-CARBON FLM 1/16W 330-JB(CZ52)
R307	0700035M	RES.-CARBON FLM 1/16W 390-JB(31V/32V)
R308	0700038M	RES.-CARBON FLM 1/16W 680-JB
R309	0700037M	RES.-CARBON FLM 1/16W 560-JB
R30E	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R30H	0700038M	RES.-CARBON FLM 1/16W 680-JB
R30K	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R310	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R312	0100033M	RES.-CARBON FLM 1/8W 47-JB
R316	0700037M	RES.-CARBON FLM 1/16W 560-JB
R317	0700029M	RES.-CARBON FLM 1/16W 150-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R318	0187060M	RES.-CARBON FLM 1/16W 620-JB
R31C	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R31E	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R31H	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R31K	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R320	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R321	0700037M	RES.-CARBON FLM 1/16W 560-JB
R322	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R323	150282	RES.-VARIABLE RV06 500-B
R324	0700038M	RES.-CARBON FLM 1/16W 680-JB
R325	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R326	0700032M	RES.-CARBON FLM 1/16W 220-JB
R327	0700033M	RES.-CARBON FLM 1/16W 270-JB
R328	0700033M	RES.-CARBON FLM 1/16W 270-JB
R329	0700039M	RES.-CARBON FLM 1/16W 820-JB
R32C	0700037M	RES.-CARBON FLM 1/16W 560-JB
R32E	150283	RES.-VARIABLE RV6 1K-B CARBON FL
R32H	0700039M	RES.-CARBON FLM 1/16W 820-JB
R32K	0700037M	RES.-CARBON FLM 1/16W 560-JB
R330	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R331	0700027M	RES.-CARBON FLM 1/16W 100-JB
R332	0700038M	RES.-CARBON FLM 1/16W 680-JB
R333	150282	RES.-VARIABLE RV06 500-B
R334	0100055M	RES.-CARBON FLM 1/8W 390-JB
R335	0700032M	RES.-CARBON FLM 1/16W 220-JB
R336	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R337	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R338	0700036M	RES.-CARBON FLM 1/16W 470-JB
R339	0187060M	RES.-CARBON FLM 1/16W 620-JB
R33A	0700035M	RES.-CARBON FLM 1/16W 390-JB
R33C	0700037M	RES.-CARBON FLM 1/16W 560-JB
R33E	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R33H	0700032M	RES.-CARBON FLM 1/16W 220-JB
R340	150287	RES.-VARIABLE RV06 10K-B
R341	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R342	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R343	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R344	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R345	0700031M	RES.-CARBON FLM 1/16W 180-JB
R346	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R348	0100041M	RES.-CARBON FLM 1/8W 100-JB
R349	0100041M	RES.-CARBON FLM 1/8W 100-JB
R34A	0100038M	RES.-CARBON FLM 1/8W 75-JB
R34C	0100041M	RES.-CARBON FLM 1/8W 100-JB
R34H	0100038M	RES.-CARBON FLM 1/8W 75-JB
R34K	0100038M	RES.-CARBON FLM 1/8W 75-JB(31V/32V)
R350	0100041M	RES.-CARBON FLM 1/8W 100-JB
R351	0100041M	RES.-CARBON FLM 1/8W 100-JB
R352	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R354	0700027M	RES.-CARBON FLM 1/16W 100-JB
R355	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R356	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R358	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R359	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R35A	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R35E	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R360	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R361	0100038M	RES.-CARBON FLM 1/8W 75-JB
R362	0100038M	RES.-CARBON FLM 1/8W 75-JB
R364	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R365	0700034M	RES.-CARBON FLM 1/16W 330-JB
R366	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R367	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R3801	0187038M	RES.-CARBON FLM 1/16W 75-J(CZ52)
R3802	0100041M	RES.-CARBON FLM 1/8W 100-JB(CZ52)
R3803	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52)
R3804	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52)
R3805	0100123M	RES.-CARBON FLM 1/8W 270K-JB(CZ52)
R3806	0700064M	RES.-CARBON FLM 1/16W 56K-JB(CZ52)
R3807	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB(CZ52)
R3808	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB(CZ52)
R3809	0700064M	RES.-CARBON FLM 1/16W 56K-JB(CZ52)
R3810	0100123M	RES.-CARBON FLM 1/8W 270K-JB(CZ52)
R3811	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52)
R3812	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52)
R3813	0100041M	RES.-CARBON FLM 1/8W 100-JB(CZ52)
R390	0700035M	RES.-CARBON FLM 1/16W 390-JB
R391	0100133M	RES.-CARBON FLM 1/8W 680K-JB
R392	0700032M	RES.-CARBON FLM 1/16W 220-JB
R393	0100049M	RES.-CARBON FLM 1/8W 220-JB
R395	0700027M	RES.-CARBON FLM 1/16W 100-JB
R396	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R397	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R39A	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R401	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R402	0700034M	RES.-CARBON FLM 1/16W 330-JB
R403	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R404	0700062M	RES.-CARBON FLM 1/16W 39K-JB
R405	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R406	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R407	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R408	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R409	0700034M	RES.-CARBON FLM 1/16W 330-JB
R40A	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R40C	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R40E	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R40H	0700062M	RES.-CARBON FLM 1/16W 39K-JB
R40K	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R410	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R411	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R412	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R413	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R415	0187082M	RES.-CARBON FLM 1/16W 5.1K-JB
R416	0100116M	RES.-CARBON FLM 1/8W 130K-JB
R417	0100117M	RES.-CARBON FLM 1/8W 150K-JB
R418	150160	RES.-VARIABLE RV06 100K-B 0.1W
R419	0700036M	RES.-CARBON FLM 1/16W 470-JB
R41A	0700036M	RES.-CARBON FLM 1/16W 470-JB
R41C	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R41E	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R41K	150287	RES.-VARIABLE RV06 10K-B
R420	0100125M	RES.-CARBON FLM 1/8W 330K-JB
R421	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R422	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R423	150157	RES.-VARIABLE RV06 20K-B 0.1W
R424	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R425	0100133M	RES.-CARBON FLM 1/8W 680K-JB
R427	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R428	0100116M	RES.-CARBON FLM 1/8W 130K-JB
R429	150290	RES.-VARIABLE RV06 50K-B
R42A	150290	RES.-VARIABLE RV06 50K-B
R42E	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R42F	0700036M	RES.-CARBON FLM 1/16W 470-JB
R42G	0100133M	RES.-CARBON FLM 1/8W 680K-JB
R42K	0100117M	RES.-CARBON FLM 1/8W 150K-JB
R430	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R431	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R432	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R433	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R434	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R435	0700037M	RES.-CARBON FLM 1/16W 560-JB
R436	0700037M	RES.-CARBON FLM 1/16W 560-JB
R437	0700037M	RES.-CARBON FLM 1/16W 560-JB
R438	0700037M	RES.-CARBON FLM 1/16W 560-JB
R439	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R43A	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R43C	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R43E	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R43H	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R43K	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R440	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R441	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R442	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R443	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R444	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R445	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R446	0700034M	RES.-CARBON FLM 1/16W 330-JB
R447	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R448	0700034M	RES.-CARBON FLM 1/16W 330-JB
⚠ R449	0119505G	RES.-MTL OXIDE FLM 2.2-J
R44A	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R44C	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R44E	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB
⚠ R44H	0119505G	RES.-MTL OXIDE FLM 2.2-J
⚠ R44K	0119687S	RES.-METAL OXIED FLM 4.7-J 1/4W
R450	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB
R451	0100133M	RES.-CARBON FLM 1/8W 680K-JB(CZ52)
R452	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R453	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R454	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R458	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R45A	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R45H	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R470	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R471	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R472	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R473	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R474	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R475	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R476	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R477	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R478	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R479	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R47A	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R47C	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R47E	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R47F	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R47H	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R47K	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R480	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R481	0100113M	RES.-CARBON FLM 1/8W 100K-JB(31V/32V)
R482	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R483	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R484	0100113M	RES.-CARBON FLM 1/8W 100K-JB(31V/32V)
R485	0700063M	RES.-CARBON FLM 1/16W 47K-JB
⚠ R490	119514	RES.-METAL OXIDE FILM 1/4W 10-J
R501	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R502	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R519	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R51A	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R51C	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R51E	0100049M	RES.-CARBON FLM 1/8W 220-JB
R51H	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R51K	0100049M	RES.-CARBON FLM 1/8W 220-JB
R520	0100049M	RES.-CARBON FLM 1/8W 220-JB
R521	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R522	0700031M	RES.-CARBON FLM 1/16W 180-JB
R601	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R602	0700027M	RES.-CARBON FLM 1/16W 100-JB
R603	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R604	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R607	0100119M	RES.-CARBON FLM 1/8W 180K-JB
R608	0700038M	RES.-CARBON FLM 1/16W 680-JB
R609	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R60A	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R60C	0100055M	RES.-CARBON FLM 1/8W 390-JB
R60E	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R60H	0700032M	RES.-CARBON FLM 1/16W 220-JB
R610	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R613	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R614	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R621	0700035M	RES.-CARBON FLM 1/16W 390-JB
R622	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R623	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R624	0100131M	RES.-CARBON FLM 1/8W 560K-JB
R625	0114135M	RES.-CARBON FLM 1/4W 150-JB
R626	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R627	0100129M	RES.-CARBON FLM 1/8W 470K-JB
R628	0187106M	RES.-CARBON FLM 1/16W 51K-JB
R629	0187104M	RES.-CARBON FLM 1/16W 43K-JB(CZ52)
R629	0700064M	RES.-CARBON FLM 1/16W 56K-JB(31V/32V)
R62A	150160	RES.-VARIABLE RV06 100K-B 0.1W
R62C	0119731M	RES.-MTL 0X1DE 1W R68-K TAPE(CZ52)
R62C	0119841M	RES.-MTL OXIDE FLM 1W 0.82-JB(31V/32V)
R62H	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB(CZ52)
R62H	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB(31V/32V)
R62K	0700037M	RES.-CARBON FLM 1/16W 560-JB
R630	0700032M	RES.-CARBON FLM 1/16W 220-JB
R631	0700065M	RES.-CARBON FLM 1/16W 68K-JB(31V/32V)
R631	0700067M	RES.-CARBON FLM 1/16W 100K-JB(CZ52)
R632	0114161M	RES.-CARBON FLM 1/4W 1K-JB(CZ52)
R632	0114163M	RES.-CARBON FLM 1/4W 1.2K-JB(31V/32V)
R634	0114161M	RES.-CARBON FLM 1/4W 1K-JB(CZ52)
R636	0113746M	RES.-CARBON FLM 1/2W 680-JB
R637	0110115S	RES.-MTL OXIDE FLM 56-JS
R647	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
R648	0114143M	RES.-CARBON FLM 1/4W 330-JB
R649	0100056M	RES.-CARBON FLM 1/8W 430-JB
R64C	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R650	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R651	0100125M	RES.-CARBON FLM 1/8W 330K-JB
R651	0700066M	RES.-CARBON FLM 1/16W 82K-JB(31V/32V)
R651	0700067M	RES.-CARBON FLM 1/16W 100K-JB(CZ52)
R652	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R652	0700064M	RES.-CARBON FLM 1/16W 56K-JB(CZ52)
R652	0700066M	RES.-CARBON FLM 1/16W 82K-JB(31V/32V)
R653	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R654	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R655	0700059M	RES.-CARBON FLM 1/16W 27K-JB(CZ52)
R655	0700063M	RES.-CARBON FLM 1/16W 47K-JB(31V/32V)
R656	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R657	0100117M	RES.-CARBON FLM 1/8W 150K-JB(CZ52)
R657	0100119M	RES.-CARBON FLM 1/8W 180K-JB(31V/32V)
R658	0700055M	RES.-CARBON FLM 1/16W 12K-JB(CZ52)
R658	0700058M	RES.-CARBON FLM 1/16W 22K-JB(31V/32V)
R659	0100117M	RES.-CARBON FLM 1/8W 150K-JB
R663	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R664	0700063M	RES.-CARBON FLM 1/16W 47K-JB(31V/32V)
R664	0700066M	RES.-CARBON FLM 1/16W 82K-JB(CZ52)
R665	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R666	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R667	0100133M	RES.-CARBON FLM 1/8W 680K-JB
R668	2340371	THERMISTOR 112301-9
R669	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R670	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R671	0700065M	RES.-CARBON FLM 1/16W 68K-JB(CZ52)
R701	0700036M	RES.-CARBON FLM 1/16W 470-JB
R702	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R703	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R704	150287	RES.-VARIABLE RV06 10K-B
⚠ R705	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R706	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R707	0700029M	RES.-CARBON FLM 1/16W 150-JB
R708	0100125M	RES.-CARBON FLM 1/8W 330K-JB
R709	0114141M	RES.-CARBON FLM 1/4W 270-JB
R70A	0114141M	RES.-CARBON FLM 1/4W 270-JB
R710	0700033M	RES.-CARBON FLM 1/16W 270-JB
R716	0113729M	RES.-CARBON FLM 1/2W 150-JB
R717	0700067M	RES.-CARBON FLM 1/16W 100K-JB
⚠ R718	0100037M	RES.-CARBON FLM 1/8W 68-JB
R720	0114141M	RES.-CARBON FLM 1/4W 270-JB
⚠ R721	0119838S	RES.-MTL FLM 1/4-S 0.5-J
⚠ R725	0119505G	RES.-MTL OXIDE FLM 2.2-J
⚠ R726	0119505G	RES.-MTL OXIDE FLM 2.2-J
R727	0119688M	RES.-MTL FLM 1W 0.22-JB
R728	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
⚠ R729	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R732	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB
R734	0113748M	RES.-CARBON FLM 1/2 P-B 820-JB
R735	0113750M	RES.-CARBON FLM 1/2W 1K-JB
⚠ R736	0700032M	RES.-CARBON FLM 1/16W 220-JB
⚠ R738	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R739	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R73A	0114049M	RES.-CARBON FLM 1/4W 22-JB
R73C	0700023M	RES.-CARBON FLM 1/16W 47-J
⚠ R73E	0119838S	RES.-MTL FLM 1/4-S 0.5-J
R73H	0114161M	RES.-CARBON FLM 1/4W 1K-JB
R73K	0700036M	RES.-CARBON FLM 1/16W 470-JB
R740	0110125S	RES.-MTL OXIDE FLM 150-JS(CZ52)
⚠ R745	0700054M	RES.-CARBON FLM 1/16W 10K-JB
⚠ R746	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R74A	0100061M	RES.-CARBON FLM 1/8W 680-JB
R74C	0100103M	RES.-CARBON FLM 1/8W 39K-JB(CZ52)
R74C	0100107M	RES.-CARBON FLM 1/8W 56K-JB(31V/32V)
R74H	0100107M	RES.-CARBON FLM 1/8W 56K-JB(31V/32V)
R74H	0100109M	RES.-CARBON FLM 1/8W 68K-JB(CZ52)
R750	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
R750A	0114131M	RES.-CARBON FLM 1/4W 100-JB
R751	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R752	150279	RES.-VARIABLE RV06 100K-B(V)
R753	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R754	0700038M	RES.-CARBON FLM 1/16W 680-JB
R755	150276	RES.-VARIABLE RV06 20K-B(V)
R756	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R757	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R758	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R759	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R760	0700066M	RES.-CARBON FLM 1/16W 82K-JB
R762	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R763	0110259S	RES.-MTL OXIDE FLM 3.9K-JS
R764	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB
R765	0100071M	RES.-CARBON FLM 1/8W 1.8K-JB
R766	0700027M	RES.-CARBON FLM 1/16W 100-JB
R767	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
R768	0700056M	RES.-CARBON FLM 1/16W 15K-JB
R769	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R770	0100115M	RES.-CARBON FLM 1/8W 120K-JB
R771	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R772	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R773	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R774	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R775	150275	RES.-VARIABLE RV06 10K-B(V)
R776	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
⚠ R781	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
R782	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R783	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R785	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R786	0110241S	RES.-MTL OXIDE FLM 680-JS
R787	110219	RES.-MTL OXIDE FLM 82-J 2W
R788	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R789	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R790	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R791	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R793	0110177S	RES.-MTL OXIDE FLM 22K-JS
R794	0110257S	RES.-MTL OXIDE FLM 3.3K-JS
R798	0113760M	RES.-CARBON FLM 1/2W 2.7K-JB
R801	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R802	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R805	0700023M	RES.-CARBON FLM 1/16W 47-J(CZ52)
R805	0700026M	RES.-CARBON 1/16P 82-JB(31V/32V)
R806	150109	RES.-VARIABLE RV6 200-B
R807	150272	RES.-VARIABLE RV06 2K-B (V)
R808	0700038M	RES.-CARBON FLM 1/16W 680-JB
R809	0700038M	RES.-CARBON FLM 1/16W 680-JB
R811	0700024M	RES.-CARBON FLM 1/16W 56-J(31V/32V)
R811	0700026M	RES.-CARBON 1/16P 82-JB(CZ52)
R813	0700038M	RES.-CARBON FLM 1/16W 680-JB
R814	150272	RES.-VARIABLE RV06 2K-B (V)
R815	0700023M	RES.-CARBON FLM 1/16W 47-J(CZ52)
R815	0700027M	RES.-CARBON FLM 1/16W 100-JB(31V/32V)
R816	150109	RES.-VARIABLE RV6 200-B
R817	0700038M	RES.-CARBON FLM 1/16W 680-JB
R818	150272	RES.-VARIABLE RV06 2K-B (V)
R819	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R820	0100049M	RES.-CARBON FLM 1/8W 220-JB
R821	0100049M	RES.-CARBON FLM 1/8W 220-JB
R822	0100049M	RES.-CARBON FLM 1/8W 220-JB
R824	0100063M	RES.-CARBON FLM 1/8W 820-JB
R825	0100063M	RES.-CARBON FLM 1/8W 820-JB
R826	0100057M	RES.-CARBON FLM 1/8W 470-JB
R827	0100057M	RES.-CARBON FLM 1/8W 470-JB
R828	0100057M	RES.-CARBON FLM 1/8W 470-JB
R829	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R830	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R831	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R832	0700032M	RES.-CARBON FLM 1/16W 220-JB
R833	0700032M	RES.-CARBON FLM 1/16W 220-JB
R834	0700032M	RES.-CARBON FLM 1/16W 220-JB
R835	0187074M	RES.-CARBON FLM 1/16W 2.4K-JB
R836	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
R837	0700038M	RES.-CARBON FLM 1/16W 680-JB
R838	0700035M	RES.-CARBON FLM 1/16W 390-JB
R839	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R840	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R841	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R842	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R843	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R844	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R845	0700035M	RES.-CARBON FLM 1/16W 390-JB
R846	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R847	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R848	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R849	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R850	0100041M	RES.-CARBON FLM 1/8W 100-JB
⚠ R851	0110271S	RES.-MTL OXIDE FLM 2W 12K-JS(31V/32V)
⚠ R851	0110367S	RES.-MTL OXIDE FLM 3W 8.2K-JS(CZ52)
⚠ R852	0110271S	RES.-MTL OXIDE FLM 2W 12K-JS(31V/32V)
⚠ R852	0110367S	RES.-MTL OXIDE FLM 3W 8.2K-JS(CZ52)
⚠ R853	0110271S	RES.-MTL OXIDE FLM 2W 12K-JS(31V/32V)
⚠ R853	0110367S	RES.-MTL OXIDE FLM 3W 8.2K-JS(CZ52)
R861	0100063M	RES.-CARBON FLM 1/8W 820-JB
R862	0100063M	RES.-CARBON FLM 1/8W 820-JB
R863	0100049M	RES.-CARBON FLM 1/8W 220-JB
R864	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R865	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R875	0113750M	RES.-CARBON FLM 1/2W 1K-JB
R876	0113750M	RES.-CARBON FLM 1/2W 1K-JB
R877	0113750M	RES.-CARBON FLM 1/2W 1K-JB
R878	0100049M	RES.-CARBON FLM 1/8W 220-JB
R879	0100049M	RES.-CARBON FLM 1/8W 220-JB
R880	0100049M	RES.-CARBON FLM 1/8W 220-JB
R881	0114131M	RES.-CARBON FLM 1/4W 100-JB
R882	0114131M	RES.-CARBON FLM 1/4W 100-JB
R883	0114131M	RES.-CARBON FLM 1/4W 100-JB
R884	0100037M	RES.-CARBON FLM 1/8W 68-JB(CZ52)
R884	0100040M	RES.-CARBON FLM 1/8W 91-JB(31V/32V)
R885	0100037M	RES.-CARBON FLM 1/8W 68-JB(CZ52)
R885	0100040M	RES.-CARBON FLM 1/8W 91-JB(31V/32V)
R886	0100037M	RES.-CARBON FLM 1/8W 68-JB(CZ52)
R886	0100040M	RES.-CARBON FLM 1/8W 91-JB(31V/32V)
R888	0700023M	RES.-CARBON FLM 1/16W 47-J(CZ52)
R888	0700027M	RES.-CARBON FLM 1/16W 100-JB(31V/32V)
⚠ R901	2341281	THERMISTOR
⚠ R902	147811	RES. -WIRE WOUND 15W 1.5-KM
⚠ R903	141161	RES.-WIRE WOUND 15W 220-JF
R904	0110221S	RES.-MTL OXIDE FLM 100-JS
R905	0110197S	RES.-MTL OXIDE FLM 2W 10-JS
R906	0110197S	RES.-MTL OXIDE FLM 2W 10-JS
R907	0110173S	RES.-MTL OXIDE FLM 15K-JS
R908	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R909	0100129M	RES.-CARBON FLM 1/8W 470K-JB
R90A	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W
R90C	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R90F	0110125S	RES.-MTL OXIDE FLM 150-JS
R90H	0114059M	RESISTOR-CARBON FILM SRD 1/4 PF 56-J
R90K	0110125S	RES.-MTL OXIDE FLM 150-JS
R910	0100133M	RES.-CARBON FLM 1/8W 680K-JB
R912	141159	RES.-WIRE WOUND 15W 180-JF(31V/32V)

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.

SYMBOL NO.	PART NO.	PART DESCRIPTION
R912	141161	RES.-WIRE WOUND 15W 220-JF(CZ52)
R914	0110155S	RES.MTL OXIDE FLM 2.7K-JS 1W
R915	0110261S	RES.-MTL OXIDE FLM 4.7K-JS
R916	0114221M	RES.-CARBON FLM 1/4 PB 68K-J
R917	0114209M	RESISTOR-CARBON FILM SRD 1/4 PF 22K-J
R918	0100010M	RES.-CARBON FLM 1/8W 5.1-JB
R919	0700027M	RES.-CARBON FLM 1/16W 100-JB
R91A	0700032M	RES.-CARBON FLM 1/16W 220-JB
R91C	0100101M	RES.-CARBON FLM 1/8W 33K-JB
R91E	0110129S	RES.-MTL OXIDE FLM 220-JS
R91F	0114171M	RES.-CARBON FLM 1/4W 2.7K-JB
R91H	0114053M	RESISTOR-CARBON FILM SRD 1/4 PB 33-J
R91K	0110141S	RES.-MTL OXIDE FLM 680-JS
R920	0700027M	RES.-CARBON FLM 1/16W 100-JB
R921	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R922	0114179M	RESISTOR-CARBON FILM SRD 1/4 PF 5.6K-J
R923	0114149M	RESISTOR-CARBON FILM SRD 1/4 PF 560-J
R924	147620	RES.-WIRE WOUND 2.7-KF
R925	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
R926	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R927	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R928	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R929	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R92A	0113750M	RES.-CARBON FLM 1/2W 1K-JB
R92C	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R92E	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R92F	0113746M	RES.-CARBON FLM 1/2W 680-JB
R92H	0700032M	RES.-CARBON FLM 1/16W 220-JB
R92K	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R930	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R931	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R932	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
⚠ R933	0119508S	RES.-MTL FLM 1/4W 56-JF
R934	0100029M	RES.-CARBON FLM 1/8W 33-JB
R935	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R936	0110197S	RES.-MTL OXIDE FLM 2W 10-JS
R937	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R938	0110281S	RES.-MTL OXIDE FLM 33K-JS
⚠ R939	0119505G	RES.-MTL OXIDE FLM 2.2-J
R93A	0100111M	RES.-CARBON FLM 1/8W 82K-JB
R93H	0113746M	RES.-CARBON FLM 1/2W 680-JB
R941	0100101M	RES.-CARBON FLM 1/8W 33K-JB
R942	0110217S	RES.-MTL OXIDE FLM 68-JS
R944	0110223S	RES.-MTL OXIDE FLM 120-JS
R969	147060	RES.-WIRE WOUND 2W 33-K
R970	141195	RES.-WIRE WOUND 10W 330-J
RA01	0100066M	RES.-CARBON FLM 1/8W 1.1K-JB(CZ52)
RA02	0100065M	RES.-CARBON FLM 1/8W 1K-JB(CZ52)
RA02	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52/CY56/57)
RA03	0100065M	RES.-CARBON FLM 1/8W 1K-JB(CZ52)
RA03	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52/CY56/57)
RA04	0100065M	RES.-CARBON FLM 1/8W 1K-JB(CZ52)
RA04	0700036M	RES.-CARBON FLM 1/16W 470-JB(CZ52/CY56/57)
RA05	0100117M	RES.-CARBON FLM 1/8W 150K-JB(CZ52/CY56/57)
RA06	0700037M	RES.-CARBON FLM 1/16W 560-JB(CZ52/CY56/57)
RA07	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
RA08	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA09	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA10	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52/CY56/57)
RA11	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52/CY56/57)
RA13	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
RA15	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
RA32	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB(CZ52/CY56/57)
RA33	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB(CZ52/CY56/57)
RA34	0700063M	RES.-CARBON FLM 1/16W 47K-JB(CZ52/CY56/57)
RA35	0700058M	RES.-CARBON FLM 1/16W 22K-JB(CZ52/CY56/57)
RA36	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA37	0700058M	RES.-CARBON FLM 1/16W 22K-JB(CZ52/CY56/57)
RA38	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA39	0700035M	RES.-CARBON FLM 1/16W 390-JB(CZ52/CY56/57)
RA40	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA43	0700067M	RES.-CARBON FLM 1/16W 100K-JB(CZ52/CY56/57)
RA44	0700063M	RES.-CARBON FLM 1/16W 47K-JB(CZ52/CY56/57)
RA45	0700039M	RES.-CARBON FLM 1/16W 820-JB(CZ52/CY56/57)
RA46	0110209S	RES.-MTL OXIDE FLM 33-JS(CZ52/CY56/57)
RA47	0110209S	RES.-MTL OXIDE FLM 33-JS(CZ52/CY56/57)
RA48	0187038M	RES.-CARBON FLM 1/16W 75-J(CZ52/CY56/57)
RA49	0187038M	RES.-CARBON FLM 1/16W 75-J(CZ52/CY56/57)
RA50	0700028M	RES.-CARBON FLM 1/16W 120-JB(CZ52/CY56/57)
RA51	0700032M	RES.-CARBON FLM 1/16W 220-JB(CZ52/CY56/57)
RA53	0100041M	RES.-CARBON FLM 1/8W 100-JB(CZ52/CY56/57)
RA55	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52/CY56/57)
RA56	0100097M	RES.-CARBON FLM 1/8W 22K-JB(CZ52/CY56/57)
RA57	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52/CY56/57)
RA58	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52/CY56/57)
RA59	0700037M	RES.-CARBON FLM 1/16W 560-JB(CZ52/CY56/57)
RA60	0700066M	RES.-CARBON FLM 1/16W 82K-JB(CZ52/CY56/57)
RA61	0700036M	RES.-CARBON FLM 1/16W 470-JB(CZ52/CY56/57)
RA62	0700028M	RES.-CARBON FLM 1/16W 120-JB(CZ52/CY56/57)
RA63	0179536M	RES.-METAL GLAZED FILM 1M J(CZ52/CY56/57)
RA64	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB(CZ52/CY56/57)
RA65	0187034M	RES.-CARBON FLM 1/16W 51-J(CZ52/CY56/57)
RA66	0700034M	RES.-CARBON FLM 1/16W 330-JB(CZ52/CY56/57)
RA69	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52/CY56/57)
RA73	0700032M	RES.-CARBON FLM 1/16W 220-JB(CZ52/CY56/57)
RA74	0700032M	RES.-CARBON FLM 1/16W 220-JB(CZ52/CY56/57)
RA78	0100059M	RES.-CARBON FLM 1/8W 560-JB(CZ52/CY56/57)
RA80	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
RA81	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB(CZ52/CY56/57)
RA82	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
RA83	0100059M	RES.-CARBON FLM 1/8W 560-JB(CZ52/CY56/57)
RA84	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA85	0700063M	RES.-CARBON FLM 1/16W 47K-JB(CZ52/CY56/57)
RA86	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA87	0100065M	RES.-CARBON FLM 1/8W 1K-JB(CZ52/CY56/57)
RA89	0700058M	RES.-CARBON FLM 1/16W 22K-JB(CZ52/CY56/57)
RA90	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA91	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA92	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA93	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RA94	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
RA95	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB(CZ52/CY56/57)
RA96	0700056M	RES.-CARBON FLM 1/16W 15K-JB(CZ52/CY56/57)
RA97	0700033M	RES.-CARBON FLM 1/16W 270-JB(CZ52/CY56/57)
RA98	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB(CZ52/CY56/57)
RAZ1	0700036M	RES.CARBON FLM 1/16W 470-JB(CZ52/CY57/CY56)
RAZ2	0700037M	RES.CARBON FLM 1/16W 560-JB(CZ52/CY57/CY56)
RE01	0700054M	RES.-CARBON FLM 1/16W 10K-JB(CZ52/CY56/57)
RE02	0700037M	RES.-CARBON FLM 1/16W 560-JB(CZ52/CY56/57)
RE04	0100041M	RES.-CARBON FLM 1/8W 100-JB(CZ52/CY56/57)
RE05	0100041M	RES.-CARBON FLM 1/8W 100-JB(CZ52/CY56/57)
RE06	0100041M	RES.-CARBON FLM 1/8W 100-JB(CZ52/CY56/57)
RE10	0700055M	RES.-CARBON FLM 1/16W 12K-JB(CZ52/CY56/57)
RE11	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52/CY56/57)
RE12	0700058M	RES.-CARBON FLM 1/16W 22K-JB(CZ52/CY56/57)
RE13	0700058M	RES.-CARBON FLM 1/16W 22K-JB(CZ52/CY56/57)
RE20	0700059M	RES.-CARBON FLM 1/16W 27K-JB(CZ52/CY56/57)
RE21	0700059M	RES.-CARBON FLM 1/16W 27K-JB(CZ52/CY56/57)
RE22	0700063M	RES.-CARBON FLM 1/16W 47K-JB(CZ52/CY56/57)
RE23	0700059M	RES.-CARBON FLM 1/16W 27K-JB(CZ52/CY56/57)
RE24	0700059M	RES.-CARBON FLM 1/16W 27K-JB(CZ52/CY56/57)
RE25	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB(CZ52/CY56/57)
RE26	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB(CZ52/CY56/57)
RMF1	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB(CZ52)
RMF2	0100053M	RES.-CARBON FLM 1/8W 330-JB(CZ52)
RMF3	0100056M	RES.-CARBON FLM 1/8W 430-JB(CZ52)
RMF4	0100093M	RES.-CARBON FLM 1/8W 15K-JB(CZ52)
RTP15	0110125S	RES.-MTL OXIDE FLM 150-JS
RY01	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52)
RY02	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB(CZ52)
RY03	0100057M	RES.-CARBON FLM 1/8W 470-JB(CZ52)
RY04	0700036M	RES.-CARBON FLM 1/16W 470-JB(CZ52)
RY05	0700036M	RES.-CARBON FLM 1/16W 470-JB(CZ52)
RY06	0700027M	RES.-CARBON FLM 1/16W 100-JB(CZ52)
RY07	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB(CZ52)
RY08	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB(CZ52)

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SYMBOL NO.	PART NO.	PART DESCRIPTION
RY09	0700058M	RES.-CARBON FLM 1/16W 22K-JB(CZ52)
RY10	0700057M	RES.-CARBON FLM 1/16W 18K-JB(CZ52)
RY11	0700055M	RES.-CARBON FLM 1/16W 12K-JB(CZ52)
		SWITCHES/RELAY
S001	2632851	5KEY TACT SWITCH(CY57/CY57BP)
S001	2633402	5KEY PUSH SWITCH(CY56/CY55)
S002	FE00081	PUSH SWITCH KSM0635B(CY56/CY55)
S002	2632901	1P TACT SWITCH(CY57/CY57BP)
S003	FE00081	PUSH SWITCH KSM0635B(CY56/CY55)
S003	2632901	1P TACT SWITCH(CY57/CY57BP)
S0501	2633321	5KEY TACT SWITCH(CZ52)
S0502	2632901	1P TACT SWITCH(CZ52)
⚠ S901	2641222	POWER RELAY
⚠ SMF1	2620971	SLIDE SWITCH(CZ52)
⚠ SMF2	2620802	SLIDE SWITCH(CZ52)
		SPEAKERS
⚠ SP451	2412647	SPEAKER 60X120(5W) 31CX5/6B
⚠ SP451	2735338	SP AR HORN 32CX7B
⚠ SP451	2414607	SPEAKER 6X12 35TX20B
⚠ SP452	2412647	SPEAKER 60X120(5W) 31CX5/6B
⚠ SP452	2735338	SP AR HORN 32CX7B
⚠ SP452	2414607	SPEAKER 6X12 35TX20B
		TRANSFORMERS
⚠ T701	2274353	TRANS.-H.DRIVE
⚠ T702	2437094	FBT-C87LUI
⚠ T901	2216002	SW.TRANS.A3LXU
		COLOR PICTURE TUBES
⚠ V1	DE00064	CPT A78LCU30X(M)SDF(31CX5/6B)
⚠ V1	DE00961	CPT A80LJF30X(32CX7B)
⚠ V1	2471593	CPT A89AEJ15X01 (35TX20B)
		CRYSTALS
X001	2168831	CRYSTAL CSA12.0MTZ
X103	2300477	SAW FILTER HW2267
X201	2167311	FILTER CERAMIC (4.5MHZ)
X202	2167201	TRAP CERAMIC (4.5MHZ)
X301	2793281	DELAY LINE
X302	2794401	DELAY LINE GLASS 63.5US
X501	2791505	CRYSTAL HC-491U 3.58MHZ
X701	2167241	CERAMIC OSC CSB503F
XA01	BP00171	X'TAL 14R3X16THC-49/U(CZ52/CY56/57)
XA02	2167241	CERAMIC OSC CSB503F(CZ52/CY56/57)
		MISCELLANEOUS PARTS
#010	3105306	FRAME ASSEMBLY 31CX5/6B COMPLETE
#010	H920182	VELCRO 32CX7B
#021	3701202	PWB HOLDER G7-A PA
#050	3105316	FRAME SUB-ASSEMBLY 31CX5/6B
#060	QD00684	FRAME ASSEMBLY 32CX7B
#080	3164773	BACKCOVER 35TX20B
#086	H920131	THREE BOND TB1521 1KG CAN 35TX20B
#088	3483761	BACK COVER NET 35TX20B SPCC
#089	9485101	ADHESIVE DIA-BOND DY-470 35TX20B
#100	4521713H	SCREW HEXAGON HEAD 35TX20B
#105	4516581	SCREW 4*16 SPECIAL WASHER SWRM 35TX20B
#106	NT00122	A3LXU2 TERMINAL BOARD
#110	QD00674	FRAME SASSY 32CX7B
#111	4107241	SUPPORT METAL AV JACK SECC 20/ 35TX20B
#112	8781642	SCREW 4*12 TAPPING 35TX20B
#116	3850262	CHASSIS RAIL 27500-A(CONSOLE) PS 35TX20B
#117	3850272	CHASSIS RAIL 27500-B(CONSOLE) PS 35TX20B
#118	4520771	HEXAGON HEAD TAPPING SCREW 4*18 35TX20B
#119	4520771	HEXAGON HEAD TAPPING SCREW 4*18 35TX20B

SYMBOL NO.	PART NO.	PART DESCRIPTION
#150	3105323	FRAME 31CX5/6B
#150	QD00261	FRAME 32CX7B PS
#151	H830071	WASHER 1/4 FLAT 35TX20B
#152	4517801	6 FLANGE-NUT 35TX20B
#160	3739671	BS CORD HOLDER NYLON 6
#200	PH00811	DOOR 32CX7B
#200	8781646	SCREW 4 X 16 TAPPING 35TX20B
#202	4519503	3X12 B TAPPING SCREW SWCH15A
#203	4519503	3X12 B TAPPING SCREW SWCH15A
#210	4159427	3X10 SCREW WITH WASHER STEEL
#220	4520771	HEXAGON HEAD TAPPING SCREW 4*18 35TX20B
#225	3875771	LATCH 4T02 NYLON 31CX5/6B
#225	3875771	LATCH 4T02 NYLON 32CX7B
#230	3483601	SP NET R 31CX5/6B SPCC
#231	3483611	SP NET L 31CX5/6B SPCC
#250	4520232	4X16 D TAPPING SCREW SWCH16A
#250	3487421	HITACHI BADGE 55 (S) PS 31V/32V
#250	3727972	POWER CORD HANGER 35TX20B
#251	4520232	4X16 DTAPPING SCREW SWCH16A(CZ52/CY56/57)
#260	4778201	LABEL BASE 35TX20B PVC
#269	3756631	PLASTIC RIVET 35TX20B
#280	3106469	FRAME ASSEMBLY 35TX20B complete
#283	3273872	BUTTON 35TX20B
#284	3487421	HITACHI BADGE 55 (S) PS 35TX20B
#285	3204184	R/C LENS 35TX20B
#286	3483712	SP NET (R) 35TX20B
#287	3483722	SP NET (L) 35TX20B
#288B	3828164	INDOOR PLATE 35TX20B PC
#289	8781642	SCREW 4*12 TAPPING 35TX20B
#290	9485101	ADHESIVE DIA-BOND DY-470 35TX20B
#292	8815126	WASHER-4LOCKING 35TX20B
#293A	H390041	HIMERON SHEET 85X10 35TX20B
#293B	H390051	BUTTON CUSHION 35TX20B
#294	4733887H	HIMERON 3170 35TX20B
#295A	3106458	FRAME SUBASSEMBLY 35TX20B
#296A	3106402	FRAME 35TX20B PS6075
#297	3821953	DOOR 35TX20B PS
#298	3875771	LATCH 4T02 NYLON 35TX20B
#299	H390043	HIMERON SHEET 740X10 35TX20B
#300	3821421	DOOR 31CX5/6B PS
#300	3204188	R/C LENS 32CX7B
#309	3204181	R/C LENS 31CX5/6B PMMA
#310	8781642	SCREW 4*12 TAPPING 32CX7B
#320	PH02501	INDOOR PLATE 31CX5/6B
#329	3827634	IN-DOOR PLATE (L) 31CX5/6B
#360	PH02223	SP SHEET 32CX7B
#400	PH00911	INDOOR PLATE 32CX7B
#410	8781642	SCREW 4*12 TAPPING 31CX5/6B
#420	8441428	HIMERON SHEET(H) HIMERON 31CX5/6B
#430	8441429	HIMERON SHEET(I) HIMERON 31CX5/6B
#440	8440444	SP HIMERON C29-BV20 31CX5/6B
#521	3164045	BACK COVER A3LXU2 31CX5/6B
#521	3164043	32CX7B BACK COVER
#521A	3768811	130 ADHESION PIECE B 31CX5/6B
#523	H340001	BACKCOVER SUBASSEMBLY 31CX5/6B
#530	8440444	SP HIMERON C29-BV20 32CX7B
#601	3727972	POWER CORD HANGER 31V/32V
#680	H461171	PATENT AND TELESONICS LABEL 32CX7B
#686	H461171	PATENT AND TELESONICS LABEL 31CX5/6B
#805	4518378	6X35 TAPPING SCREW WITH WASHER .STEEL
#860	4520771	HEXAGON HEAD TAPPING SCREW 4*18
#887	H390031	CUSHION-NEOPRENE 32CX7B
#889	8441611	HIMERON SHEET 240*18 32CX7B
#895	8781646	SCREW 4 X 16 TAPPING 31V/32V
#898	8781646	SCREW 4 X 16 TAPPING 31CX5/6B
#900	8781642	SCREW 4*12 TAPPING 31CX5/6B
#900	PC00341	BUTTON 32CX7B
#906	PH00971	TERMINAL LABEL A3LXU2(31V/32V)
#908	PH00972	TERMINAL LABEL 35V(CZ52)
#910	8781642	SCREW 4*12 TAPPING 32CX7B
#960	9436271	PERMACEL TAPE NO.2 31CX5/6B
#970	8815126	WASHER-4LOCKING 31CX5/6B
⚠ CP0501	2574762	R/C MODULE SPS-409-1K(CZ52)

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SYMBOL NO.	PART NO.	PART DESCRIPTION
E0P	EF02522	PIP CONNECTOR(CZ52/CY57/CY56)
E203	2784243	DRY BATTERY SUM-3 (G)
E3P1	2976661	CONN. W/WIRE SEH 12J (L300)(CZ52/CY57/CY56)
E3P2	EF01321	CONNECTOR CO-08C-B2R5-561
E3S	2976691	CONN. W/WIRE SEH 5J (L300)
E602	2994511	CRT EARTH WIRE (31V/32V)
E602	2908402	CRT EARTH WIRE 35TX20B
E603	2771461	EDGE MAGNET
E604	2773672	CF-MAGNET (31V/32V)
E801	2976671	CONN. W/WIRE SEH 4J (L560)
E851	2953344	CPT SOCKET
⚠ E901	2745411	AC POWER CORD
EA01	2974231S	CONN. W/WIRE SEH 9J L60 (C-B)(CZ52/CY56/57)
EA02	2974201S	CONN. W/WIRE SEH 8J L60 (C-B)(CZ52/CY56/57)
EF901	2720641	FUSE HOLDER
EF902	2720641	FUSE HOLDER
EG	2663328	2J MINI-CONNECTOR WITH WIRE (31V/32V)
EY02	2956485	CONNECTOR CO-01C-A—471(CZ52)
⚠ J301	2983095	8P PIN JACK WITH SWITCH
⚠ J30F	2673602	US13(31V/32V)
JG	2973682S	CONN.W/WIRE SEH 2J(L620) UL1007(CZ52)
JM	2665293	6P MINI CONN LEAD 35TX20B
⚠ JSIN	2983122	S-SOCKET
JSL	2976751	CONN. W/WIRE EH 3J (L620) 31CX5/6B
JSL	2976753	CONN. W/WIRE EH 3J (L620) 32CX7B
JSL	2976752	CONN. W/WIRE EH 3J (L820) 35TX20B
JSR	2976761	CONN. W/WIRE EH 4J (L680) 31CX5/6B
JSR	2976763	CONN. W/WIRE EH 4J (L680) 32CX7B
JSR	2976762	CONN. W/WIRE EH 4J (L780) 35TX20B
KAJP	9374575	UL CSA1007-24HP CODE GREEN(CZ52/CY56/57)
N001	3443231	SHIELD PLATE M1C TC-30
N101	3785511	V LOCK 16 31V/32V
N101	544510	TERMINAL PIECE
N101	3785502	V LOCK 11.5 35TX20B
N101	QN00155	CHASSIS MODEL LABEL FOR HIMEX(A3LXU 35V)
N101	QN00156	CHAS.MODEL LABEL FOR HIMEX(A3LXU 31V/32V)
N102	3785522	V LOCK 20 31V/32V
N102	3785511	V LOCK 16 35TX20B
N103	3785502	V LOCK 11.5 32CX7B
N103	3785522	V LOCK 20 35TX20B
N104	3785502	V LOCK 11.5 31CX5/6B
N104	3785511	V LOCK 16 32CX7B
N105	3705232	ANODE CLAMPER 94V0 (101) 31V/32V
N105A	3705232	ANODE CLAMPER 94V0 (101) 32CX7B
N106	3785511	V LOCK 16 31V/32V
N107	3785502	V LOCK 11.5 32CX7B
N108	3785511	V LOCK 16 31CX5/6B
N108	3705232	ANODE CLAMPER 94V0 (101) 35TX20B
N108	3785511	V LOCK 16 32CX7B
N109	3700342	WIRE CLAMP V0 32CX7B
N109	3763751	SK BINDER 35TX20B
N110	3785502	V LOCK 11.5 31V/32V
N111	3785502	V LOCK 11.5 31V/32V
N112A	9374506	WIRE UL1007 CSATR64 AWG22 1/0.64 FR-1 GR
N113	3763751	SK BINDER 31CX5/6B
N120	4690171	CAUTION LABEL C (F)
N201	3763751	SK BINDER
N401	QN00326	SERVICEMAN WARNING LABEL 31CX5/6B
N401	QN00321	SERVICEMAN WARNING LABEL A 32CX7B
N401	QN00325	SERVICEMAN WARNING LABEL A 35TX20B
N403	3446863	S HEAT SINK (M1-K) AL
N403A	4520881	M3*8 SCREW WITH WASHER
N403B	8821234	NUT-3
N601	4615641	WEDGE (31V/32V)
N606	3330941	EARTH SPRING (31V/32V)
N606	3333922	EARTH SPRING SUS. 35TX20B
N607	3763751	SK BINDER 35TX20B
N607A	3763751	SK BINDER (31V/32V)
N608	3763752	SK BINDER 200 NYLON 66
N610	2772981	FERRITE SHEET ASS'Y
N611	2772211	MAG. PIECE (31V/32V)
N612	2956801	EARTH RING
N613	4621186	CUSHION 2908 CR 35TX20B
N620	3446862	VERTICAL HEAT SINK M1LXU
N620A	4520881	M3*8 SCREW WITH WASHER
N620B	8821234	NUT-3
N701	8821114	NUT,3
N701A	4243445	G51 INSULATION WASHER PL-11T
N701B	8711412	SCREW-3X12 PAN HEAD
N702	3445542	H.HEAT SINK HY09 A11DOP-H2
N702A	4514061	SCREW FLANGED 3*12
N702B	8821234	NUT-3
N702C	8813124	SPRING WASHER-3
N702D	4284311	2000 EARTH PIN
N702E	4159411	SCREW 3*8 KNURLED TAPPING SWRM
N706	4276993	VERTICAL HEAT SINK
N706A	4520881	M3*8 SCREW WITH WASHER
N70A	4276993	VERTICAL HEAT SINK
N70AA	4520881	M3*8 SCREW WITH WASHER
N752	3445563	HEAT SINK A3LXU
N752A	4520881	M3*8 SCREW WITH WASHER
N854	4348493	CPT HEAT SINK A2LXU AL(CZ52)
N855	4348493	CPT HEAT SINK A2LXU AL(CZ52)
N856	4348493	CPT HEAT SINK A2LXU AL(CZ52)
N901	3446871	POWER HEAT SINK A3LXU2(31V/32V)
N901	3446873	POWER HEAT SINK 35V(CZ52)
N901A	4520883	3*12 SCREW WITH WASHER
N901B	8781642	SCREW 4*12 TAPPING
N901C	4137974	4X12 TAPPING WITH WASHER STEEL
N901D	2787531	MICA SHETT
N901E	8815126	WASHER-4LOCKING
N910	4107502	PWB METAL R (A1) TC-30
N912	4107512	A1LXU1 PWB METAL L TC-30
NA01	MD01161	M3 PIP SHIELD CASE A(CZ52/CY56/57)
NA02	MD01171	M3 PIP SHIELD CASE B(CZ52/CY56/57)
NC901	2784342	CONDENSER COVER
NE901	3772201	AC CORD HOLDER NYLON
NMFC	3763751	SK BINDER 35TX20B
P001	2675287	PLUG PIN (PH 8P)(CZ52/CY56/57)
P301	2959053	5P POST PIN 4P TYPE PH
P301	2902252	12P PLUG PIN(CZ52/CY56/57)
P31	2663131	2P PLUG PIN WITH BASE
P3S	2902264	PLUG PIN SUB MINI 5P
P65A	2675583	PLUG.JL-BT-E-5P
P65B	2675563	PLUG JL-F-E-5P
P66A	2675583	PLUG.JL-BT-E-5P
P66B	2675563	PLUG JL-F-E-5P
P801	2902267	PLUG PIN SUB MINI 8P
P802	2902263	PLUG PIN SUB MINI 4P
P901	2782611	CENTER PIN
P902	2782611	CENTER PIN
PA01	2902248	PLUG PIN SUB MINI9P(CZ52/CY56/57)
PA02	2902247	PLUG PIN SUB MINI 8P(CZ52/CY56/57)
PFJ	2902266	PLUG PIN SUB MINI 7P(CZ52)
PFJ	2902246	PLUG PIN SUB MINI 7P(CZ52)
PFV	2902265	PLUG PIN SUB MINI 6P(CZ52)
PFV	2902251	11P PLUG PIN(CZ52)
PG	2902261	PLUGPIN SUB MINI 2P(CZ52)
PG2	2902241	PLUG PIN SUB MINI 2P(CZ52)
PG3	2661942	3P PLUG PIN WITH L TYPE(CZ52)
PM	2665272	4P PLUG PIN WITH BASE
PSL	2902262	PLUG PIN SUB MINI 3P
PSR	2902263	PLUG PIN SUB MINI 4P
PW	2661753	4P PLUG PIN WITH BASE
PY01	2675565	PLUG PIN JL-F-E 7P(CZ52)
PY02	2661756	1P PLUG PIN WITH BASE(CZ52)
PYNR	2675585	PLUG PIN JL-BT-E 7P(CZ52)
⚠ U001	2574762	R/C MODULE SPS-409-1K(CZ52)
⚠ U101	2428681	TUNER ET-352A
Z	9451136	UL CSA TUBE NO.8
Z004	9413926	SILICON RUBBER(CZ52)
Z101	9413945	SILICONE KE-1300 (WHITE)
Z101	9449603	NITTOH TAPE #747
Z101A	9449503	ADHESIVE TAPE (SCOTCH NO.3 W=9) 35TX20B
Z102	9449503	ADHESIVE TAPE (SCOTCH NO.3 W=9) 32CX7B
Z103	9436111	TAPE-ADHESIVE W50 NITTO#223S 31CX5/6B

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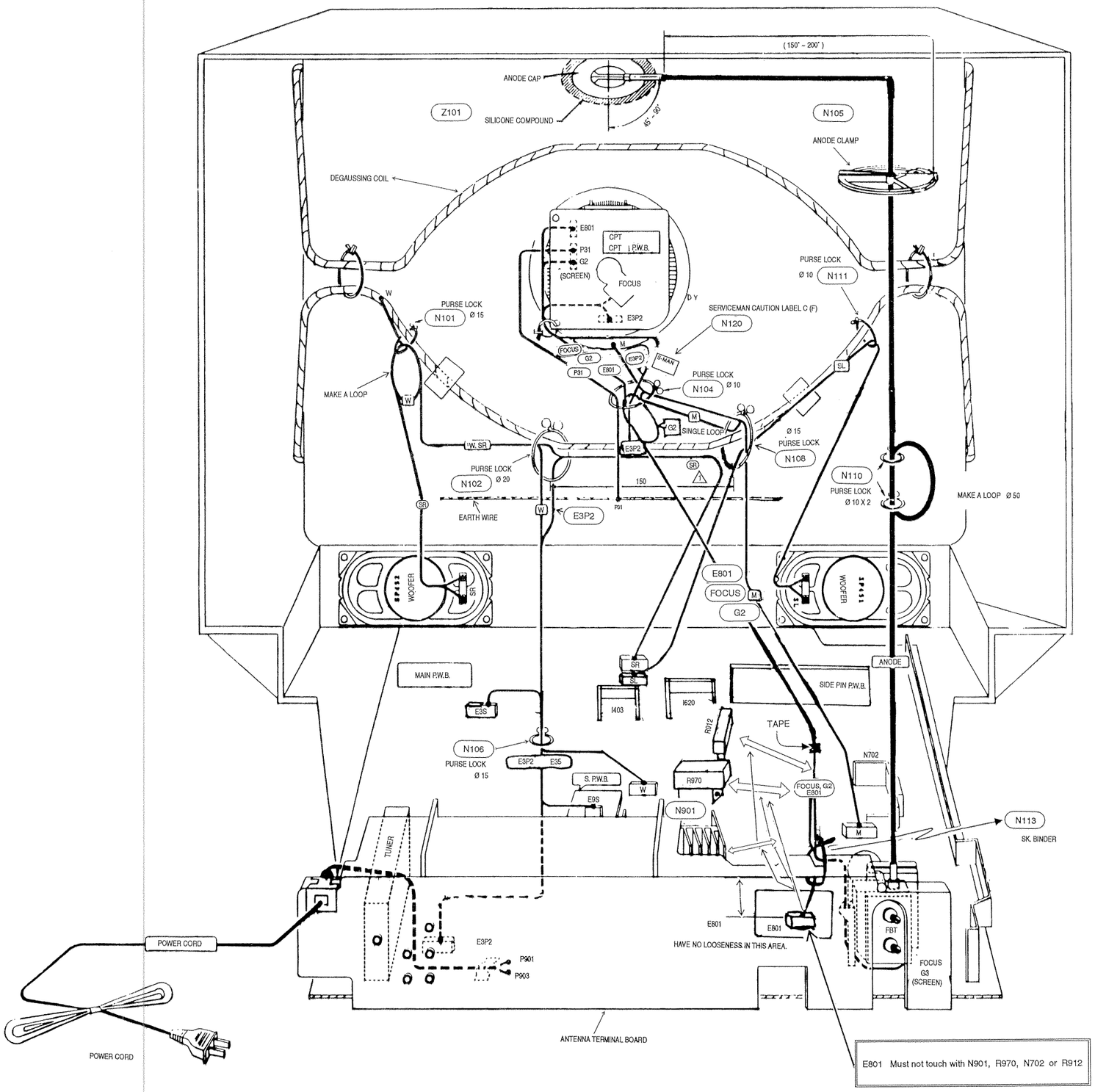
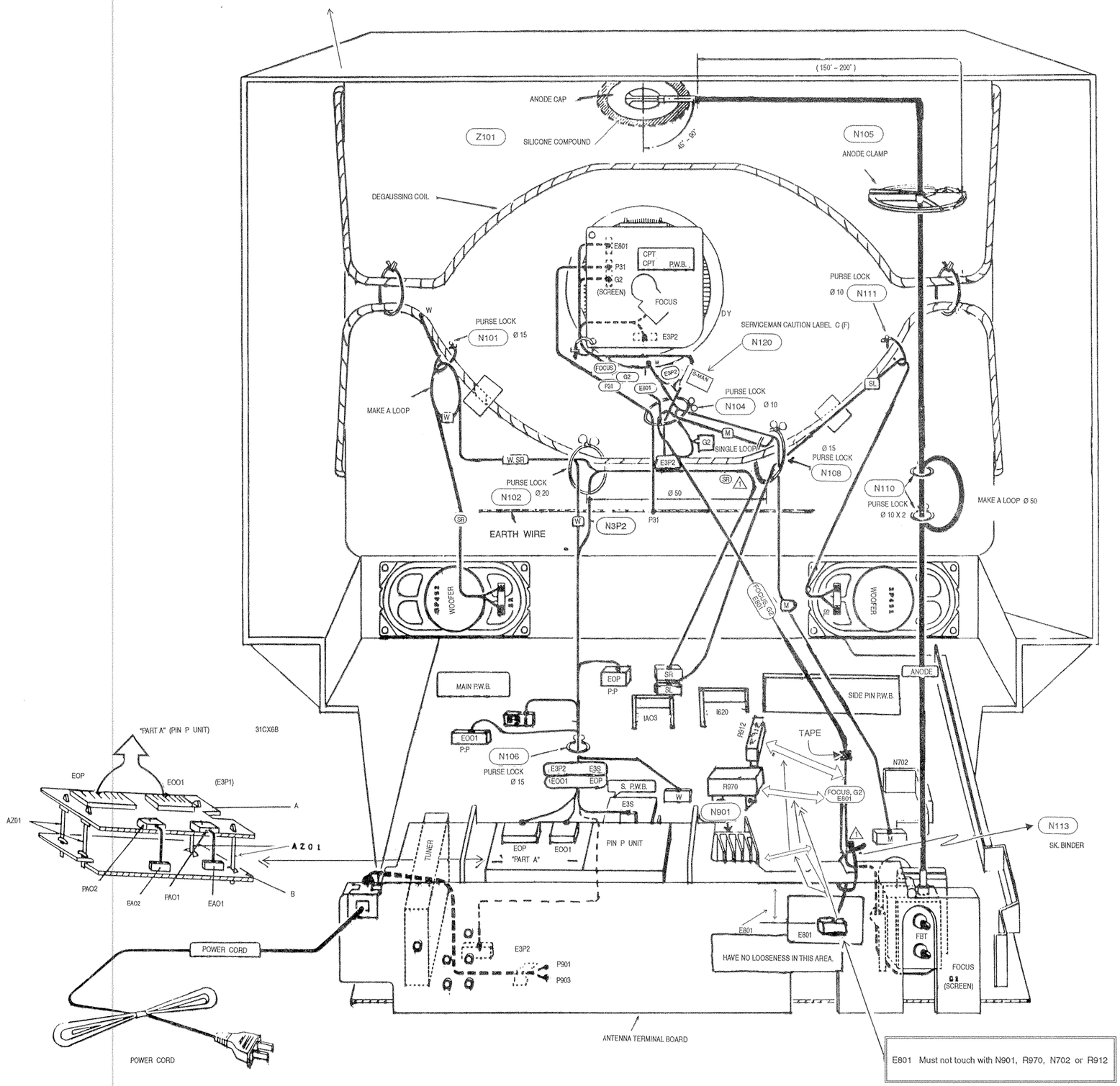
SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
Z104	9449916	NITTO TAPE W19MM 31CX5/6B			
Z20E	9485158	HOT MELT (AX-1503C)			
Z330	9485158	HOT MELT (AX-1503C)			
Z398	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW			
Z39A	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW			
Z403	9414017	SILICONE COMPOUND(G-746)			
Z490	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW			
Z501	9316403	RESIN FLUX CORED WIRE SOLDER (RH50-2.3-A			
Z601	H920251	PERMACEL TAPE P-201 W19 (31V/32V)			
Z601	9449506	SCOTCH TAPE NO.29 19MM (31V/32V)			
Z603	9473101	WHITE PAINT (31V/32V)			
Z604	9553945	ADHESIVE TAPE PERMACEL P212 (FIBER GLASS)			
Z606	9436111	TAPE-ADHESIVE W50 NITTO#223S 35TX20B			
Z606A	9436111	TAPE-ADHESIVE W50 NITTO#223S (31V/32V)			
Z608	H920251	PERMACEL TAPE P-201 W19 (31V/32V)			
Z608	H920251	PERMACEL TAPE P-201 W19 35TX20B			
Z609	9449503	ADHESIVE TAPE (SCOTCH NO.3 W=9)			
Z610	9449553	TAPE-ADHESIVE W19 NITTO#223S(B PVC			
Z611	9449503	ADHESIVE TAPE (SCOTCH NO.3 W=9) 35TX20B			
Z620	9414017	SILICONE COMPOUND(G-746)			
Z701	9414017	SILICONE COMPOUND(G-746)			
Z703	9413926	SILICON RUBBER			
Z706	9414017	SILICONE COMPOUND(G-746)			
Z70A	9414017	SILICONE COMPOUND(G-746)			
Z737	9485158	HOT MELT (AX-1503C)			
Z73E	9563443	INSULATING TUBE-HG-2E 4MM(CZ52)			
Z752	9414017	SILICONE COMPOUND(G-746)			
Z901	9553958	ADHESIVE TAPE (PERMACEL P212 19W)			
Z902	9414017	SILICONE COMPOUND(G-746)			
Z90K	9413926	SILICON RUBBER			
Z910	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW			
Z912	9485158	HOT MELT (AX-1503C)			
Z969	9413926	SILICON RUBBER(31V/32V)			
ZA01	3787482	PCB HOLDER (16L)(CZ52/CY56/57)			
ZKL4	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW			
ZMFC	9436111	TAPE-ADHESIVE W50 NITTO#223S 35TX20B			
ZN901	9451115	UL CSA TUBE NO.0			
ZR062	9451136	UL CSA TUBE NO.8(CZ52/CY56/57)			
ZR067	9451115	UL CSA TUBE NO.0			
ZR067J	9374575	UL CSA1007-24HP CODE GREEN			
ZR067T	9553958	ADHESIVE TAPE (PERMACEL P212 19W)			
ZR0L1	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW			
ZR2Z2	9451115	UL CSA TUBE NO.0(CZ52/CY56/57)			

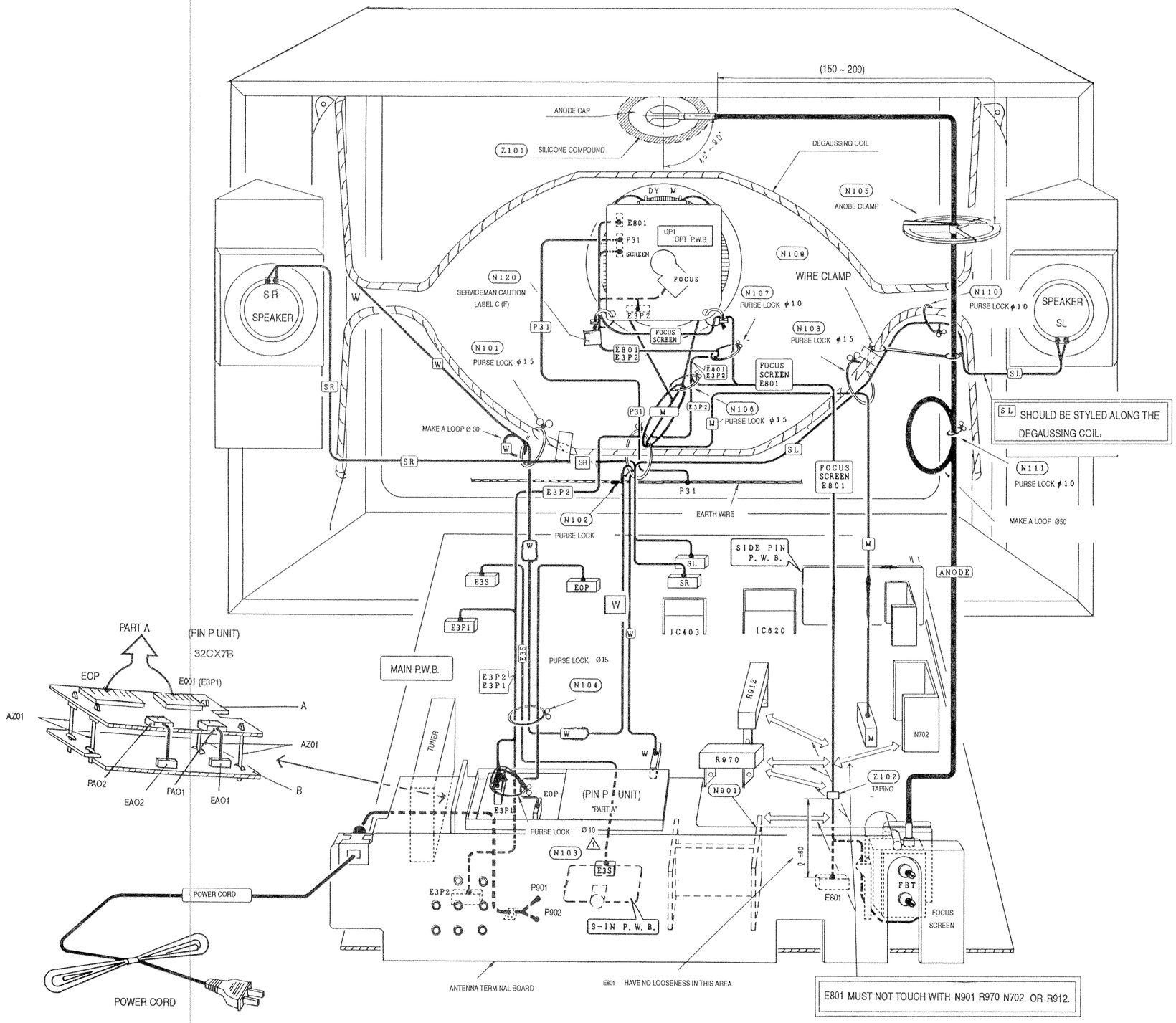
WIRING DRAWING OF 31CX5B/CY55 FINAL ASSEMBLY



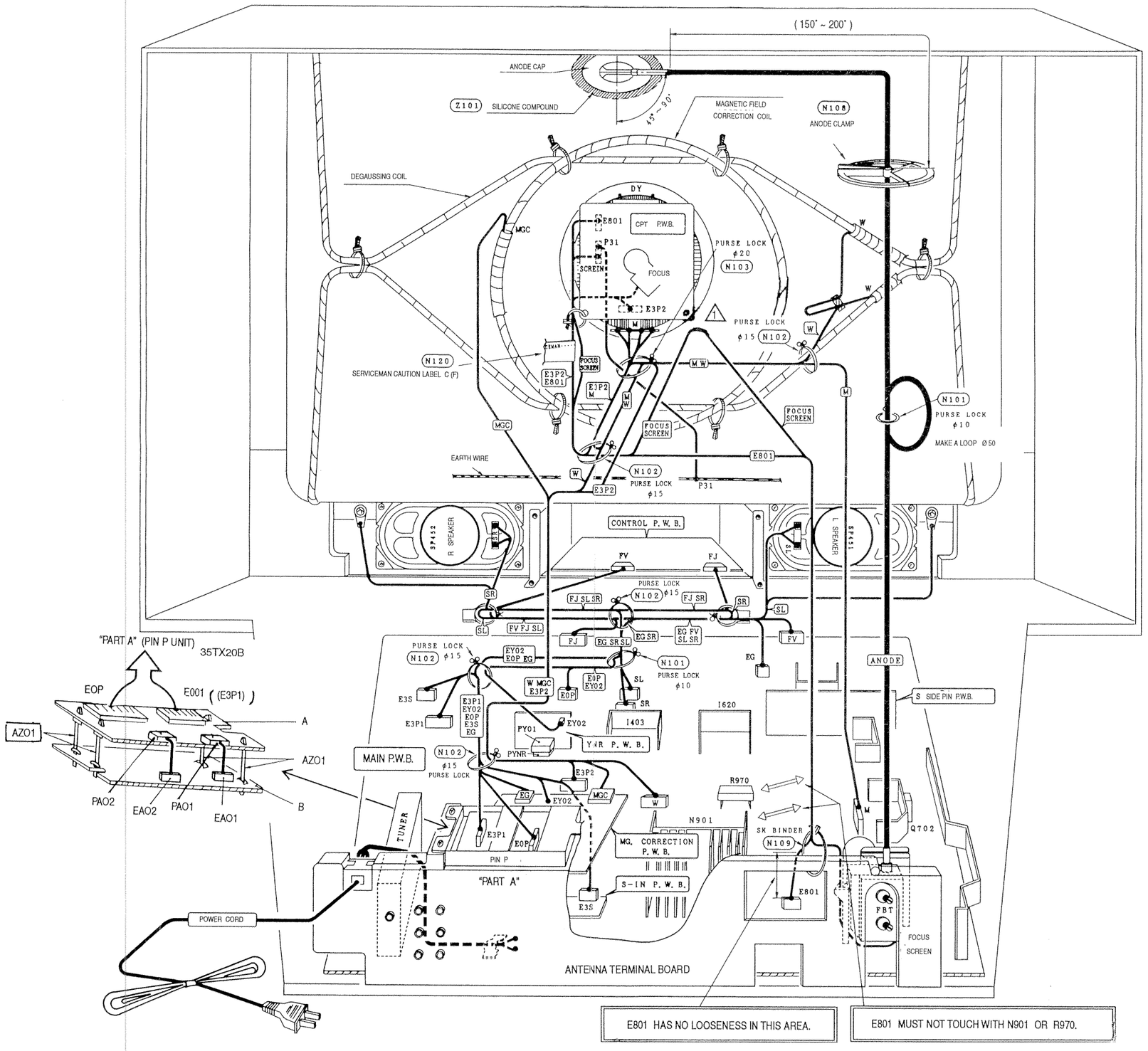
WIRING DRAWING OF 31CX6B/CY56 FINAL ASSEMBLY



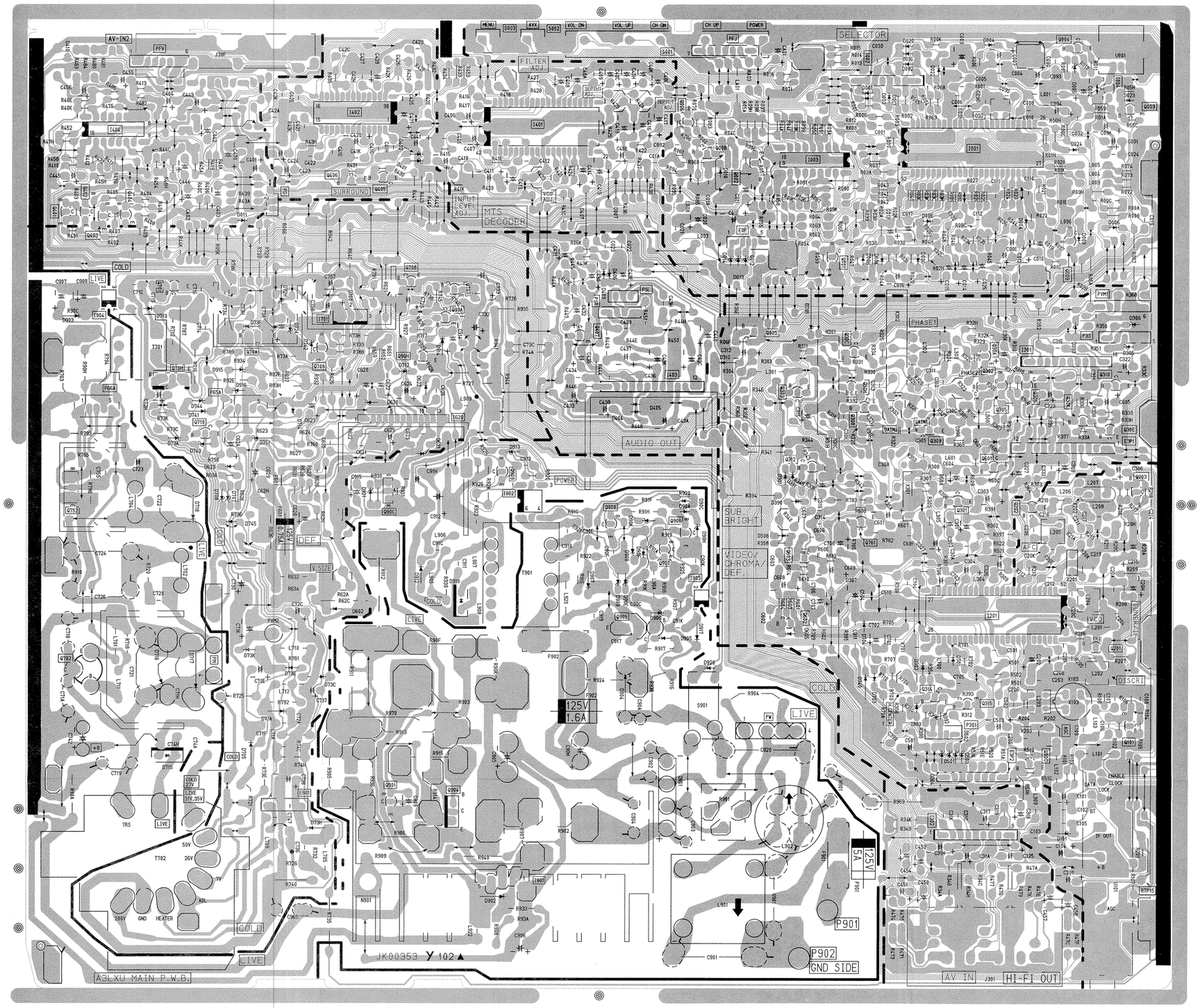
WIRING DRAWING OF 32CX7B/CY57 FINAL ASSEMBLY



35TX20B FINAL WIRING DRESS DRAWING. (CZ52)

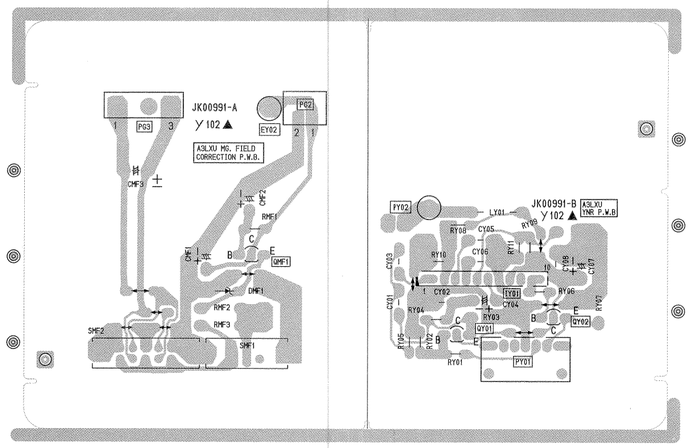


PRINTED WIRING BOARD FOIL PATTERN



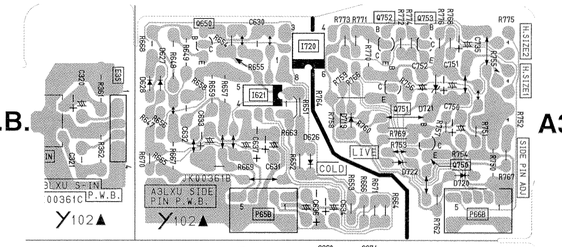
A3LXU2 MAIN P.W.B.

A3LXU2 MAG. FIELD CORRECTION P.W.B.

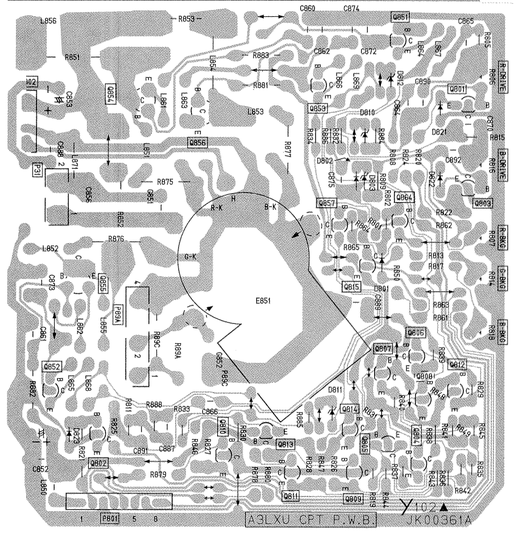


A3LXU2 YNR P.W.B.

A3LXU2 S P.W.B.



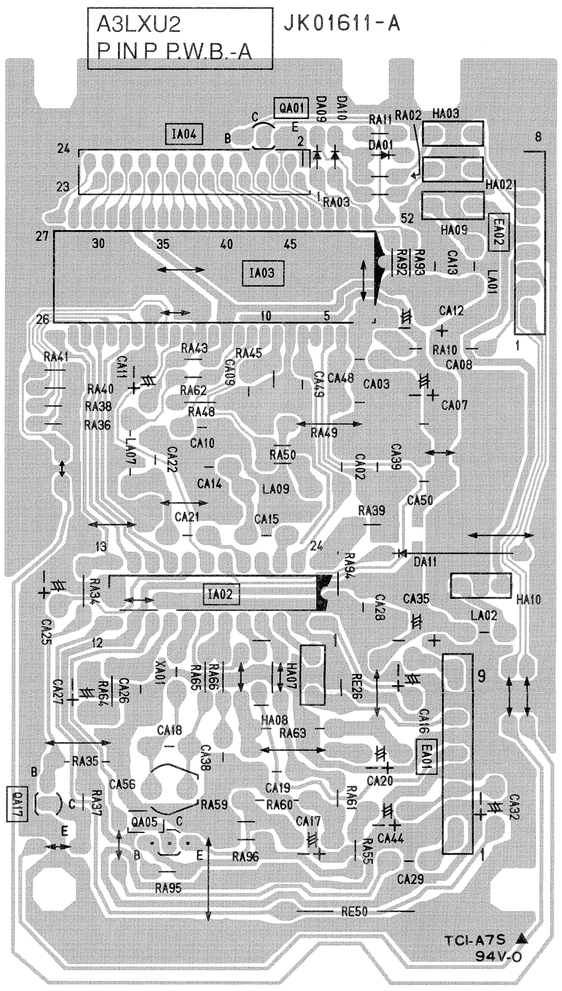
A3LXU2 SIDE PIN P.W.B.

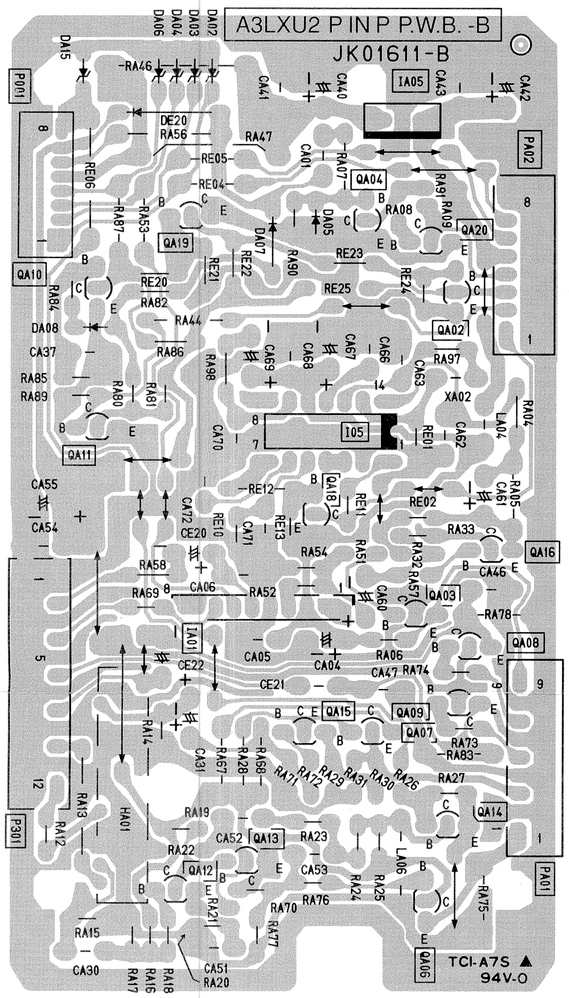


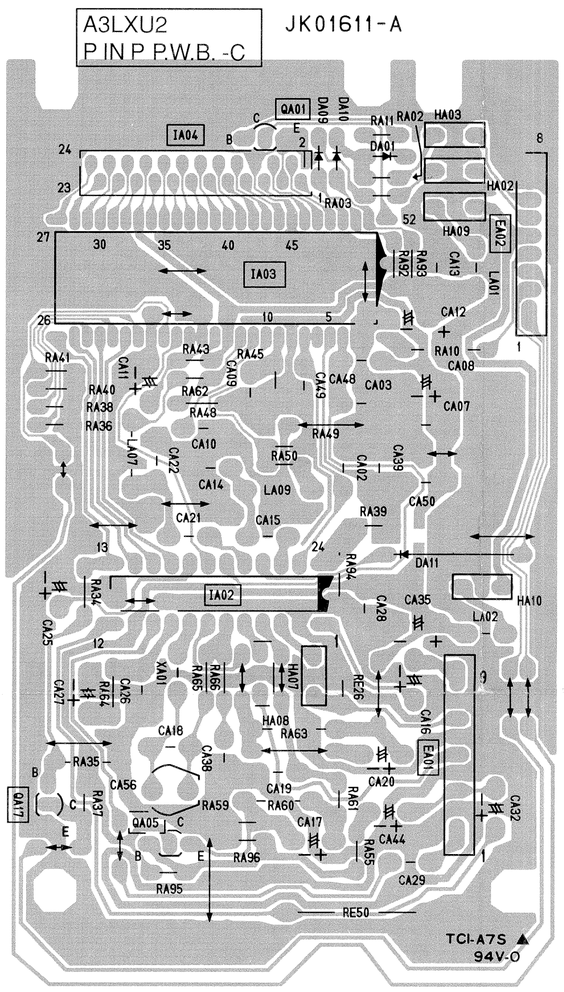
A3LXU2 C.P.T. P.W.B.

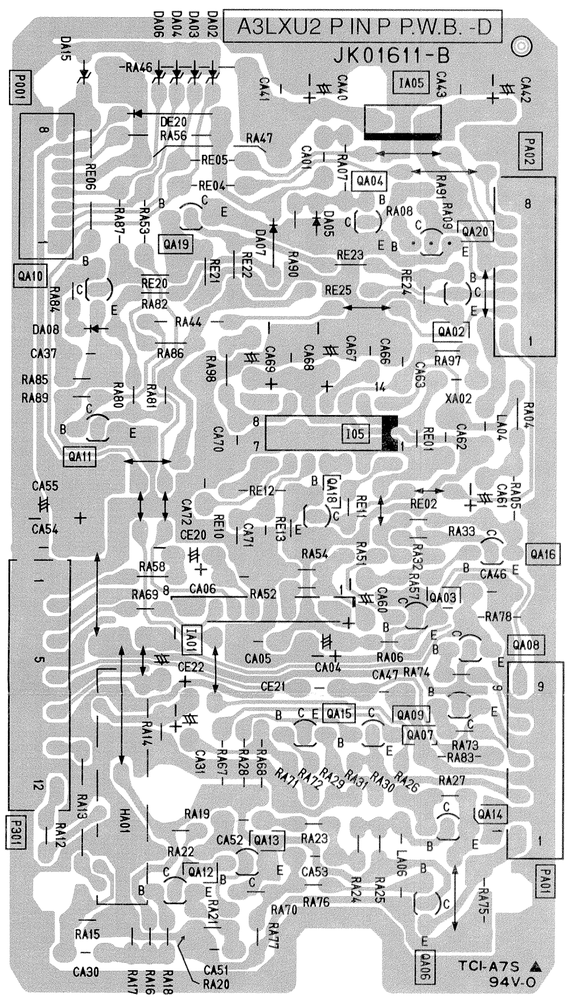
PRINTED WIRING BOARD FOIL PATTERN

A3LXU2 P in P P.W.B.









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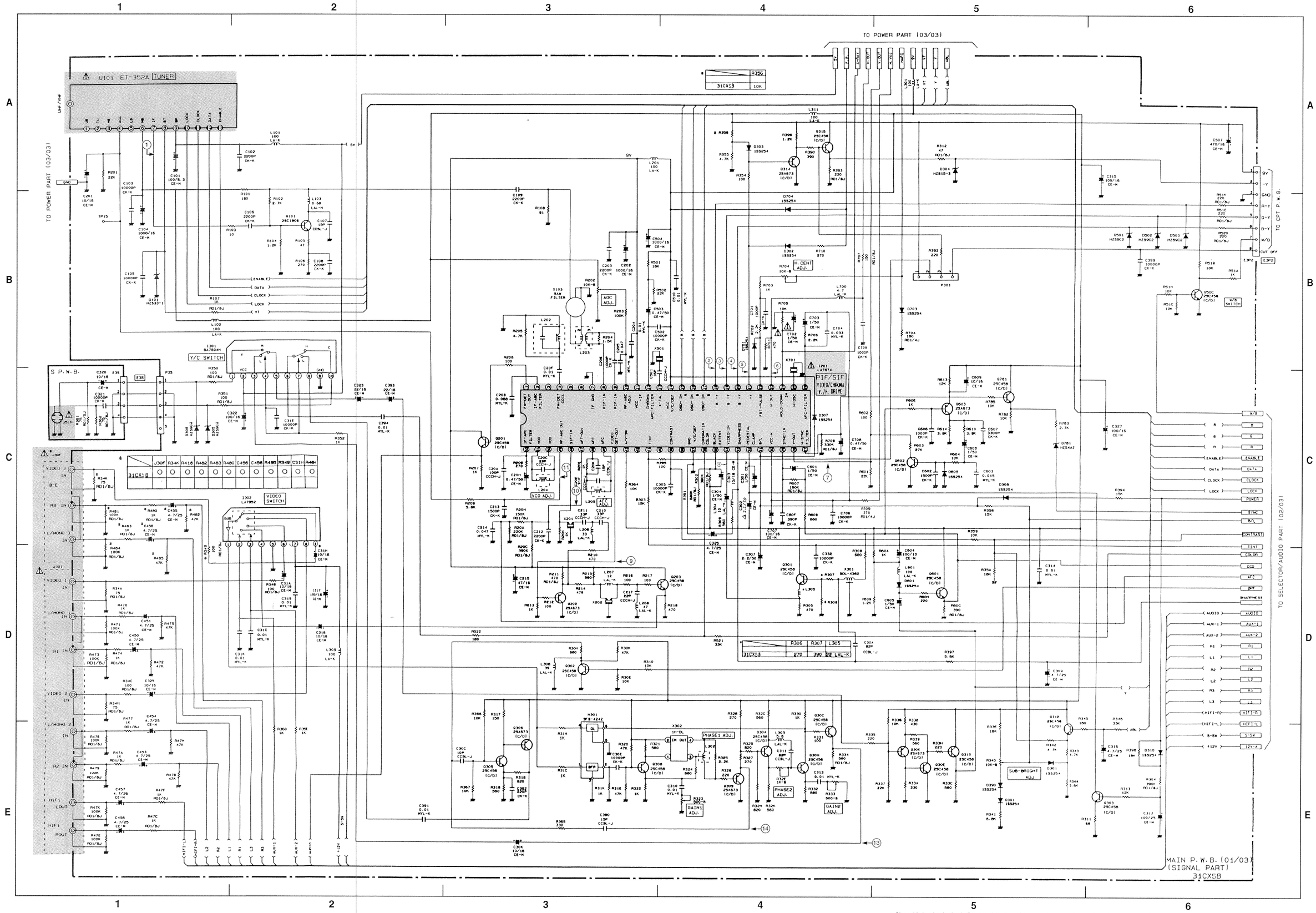
CIRCUIT SCHEMATIC DIAGRAM OF 31CX5B/CY55



- 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.

Circuit No.	Pin No.	Voltage VDC
I201	1	4.4
	2	6.8
	3	5.6
	4	5.6
	5	4.3
	6	4.0
	7	0.0
	8	4.5
	9	4.5
	10	5.8
	11	8.8
	12	5.6
	13	5.4
	14	8.9
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	5.0
	20	5.0
	21	4.0
	22	0.4
	23	0.4
	24	0.0
	25	5.0
	26	5.7
	27	7.6
	28	4.5

Circuit No.	Pin No.	Voltage VDC
I201	29	7.0
	30	7.6
	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7

Circuit No.	Pin No.	Voltage VDC
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0

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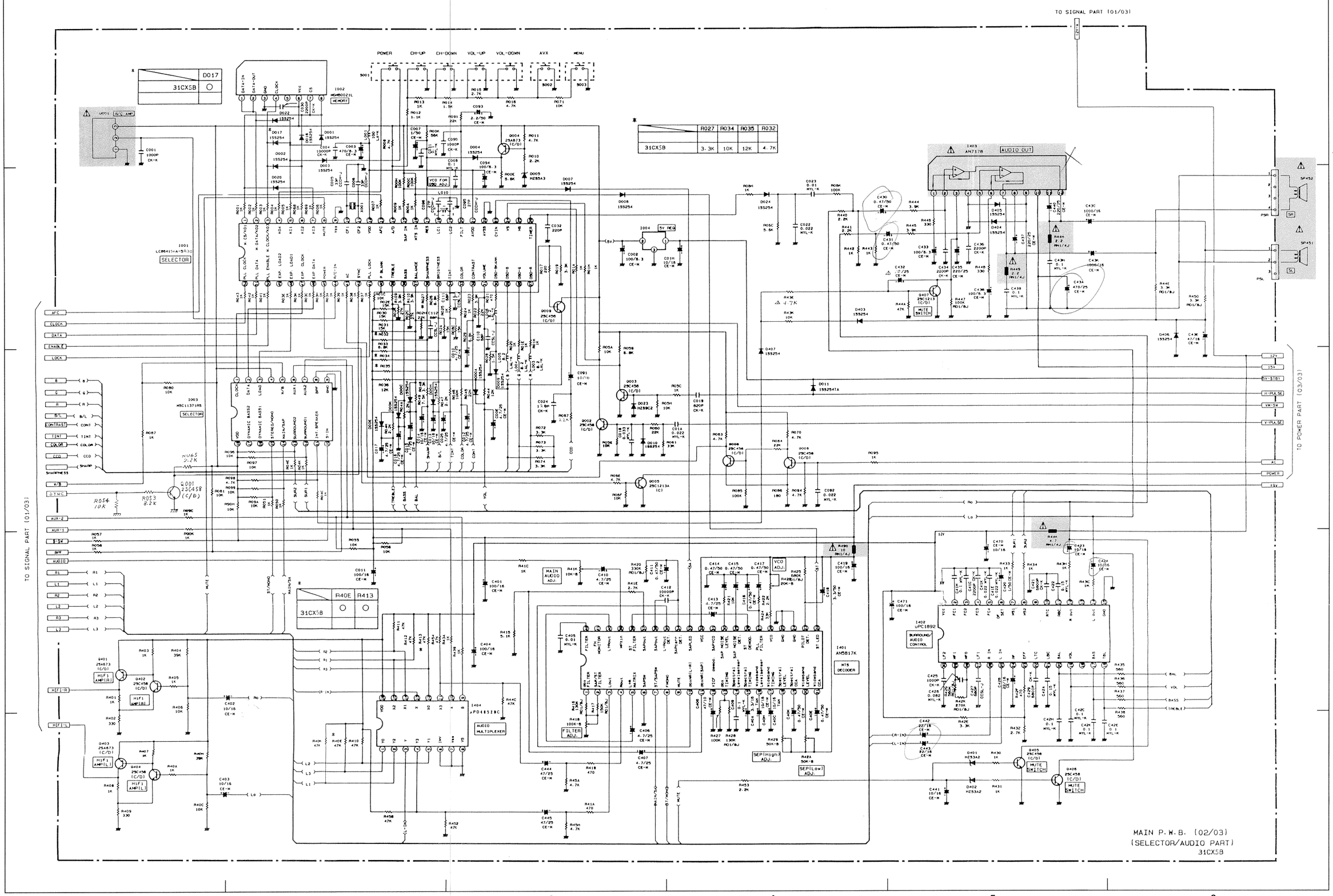
CIRCUIT SCHEMATIC DIAGRAM OF 31CX5B/CY55



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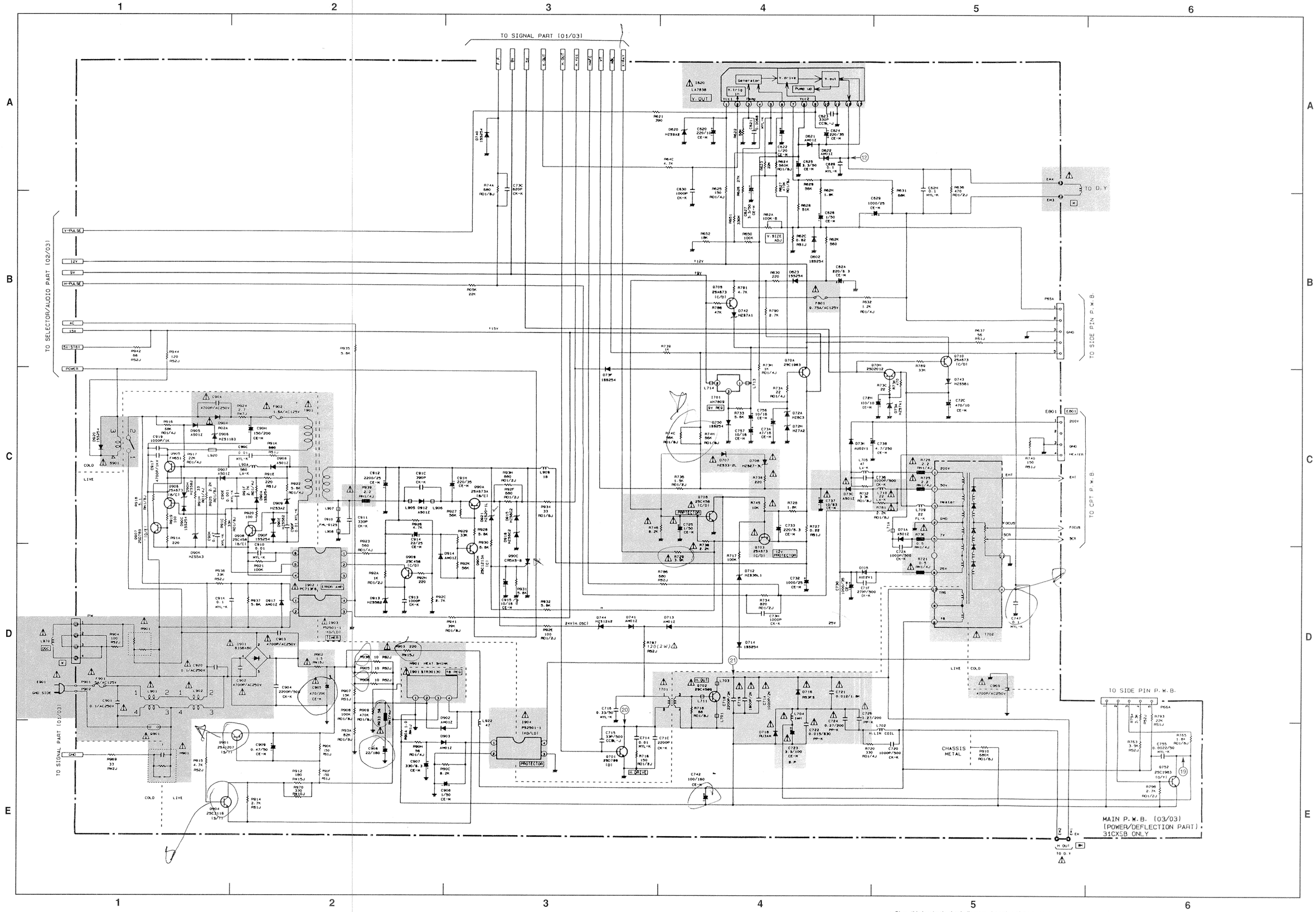
CIRCUIT SCHEMATIC DIAGRAM OF 31CX5B/CY55



- *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.

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	——
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q402	B	2.4
	C	11.0
	E	1.7
Q403	B	12.0
	C	6.0
	E	12.0
Q404	B	2.4
	C	11.0
	E	1.7
Q405	B	0.5
	C	0.0
	E	0.0

Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (35V)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5

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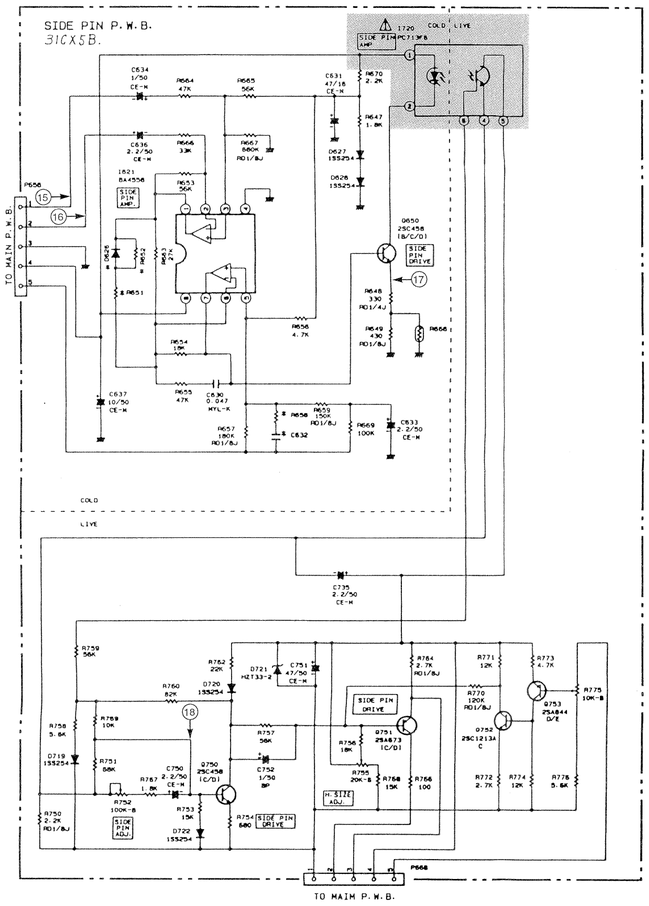
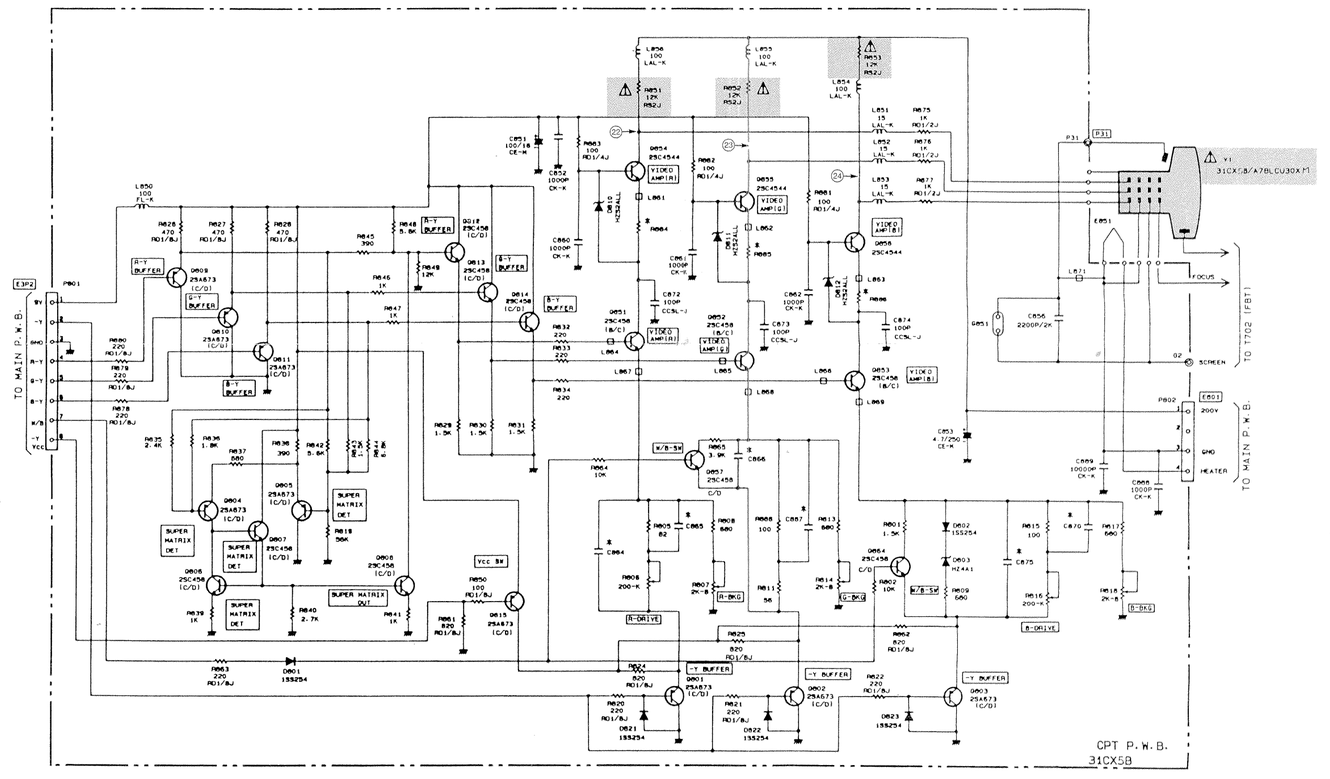
CIRCUIT SCHEMATIC DIAGRAM 31CX5B/CY55

※	R651	R652	D626	R658	C632
31CX5B	82K	82K	1SS254	22K	0.0047 MYL-K

※	31CX5B
C864	270 CK-K
C865	470 CK-K
C866	180 CK-K
C870	150 CK-K
C875	150 CK-K
C887	150 CK-K
R884	68
R885	68
R886	68





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Circuit No.	Pin No.	Voltage VDC
I621	1	5.0
	2	5.0
	3	5.0
	4	0.0
	5	5.7
	6	5.7
	7	6.2
	8	10.9

Circuit No.	Pin No.	Voltage VDC
I720	1	11.0
	2	9.8
	3	0.0
	4	-56.0
	5	-36.0

Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0

Circuit No.	Pin No.	Voltage VDC
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0

Circuit No.	Pin No.	Voltage VDC
Q0501 Control 35v	B	0.0
	C	0.0
	E	0.0
Q3801 Control 35v	B	3.8
	C	12.0
	E	3.2
Q3802 Control 35v	B	3.6
	C	12.0
	E	3.2

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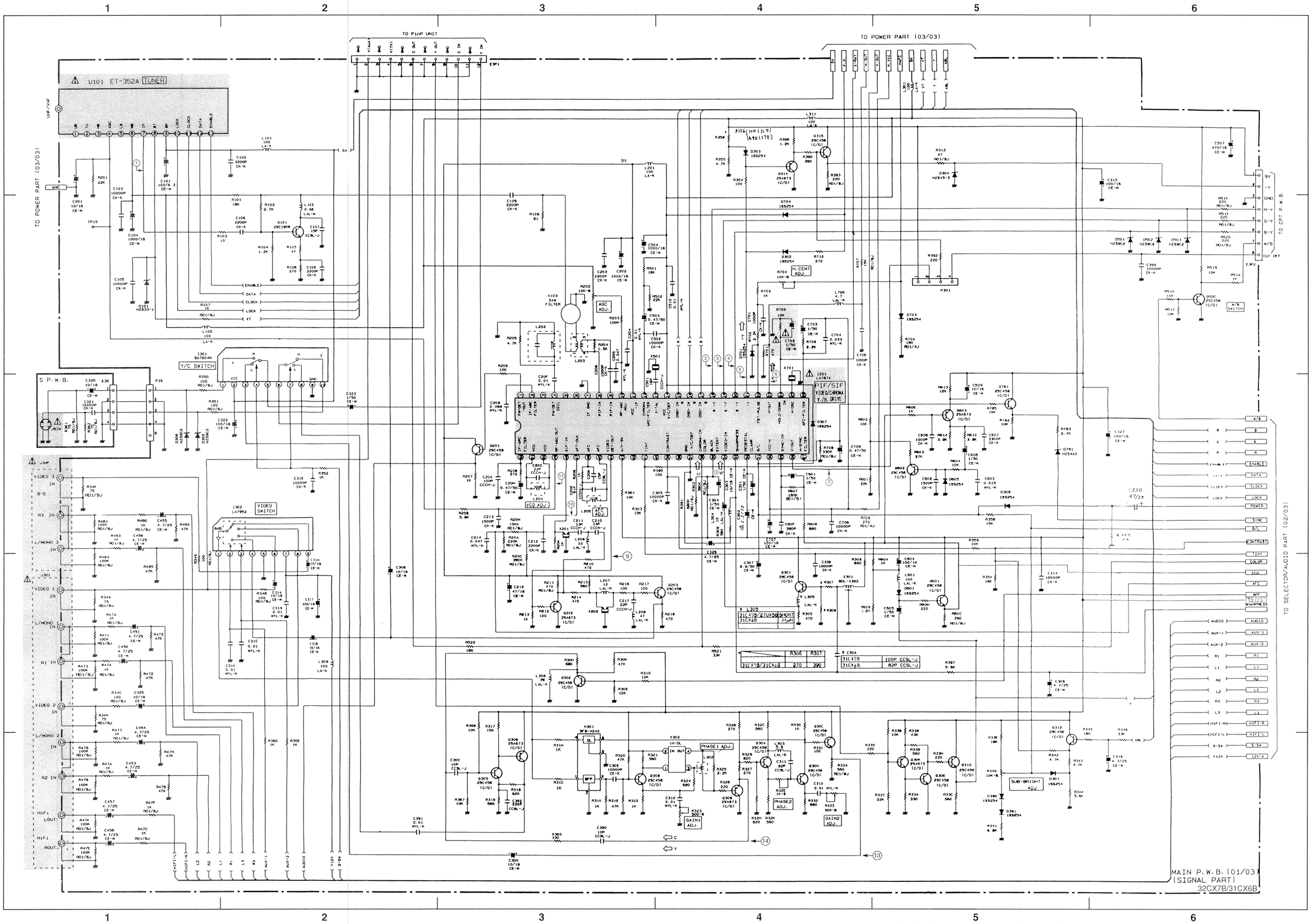
CIRCUIT SCHEMATIC DIAGRAM 31CX6B/CY56, 32CX7B/CY57



Circuit No.	Pin No.	Voltage VDC
I201	1	4.4
	2	6.8
	3	5.6
	4	5.6
	5	4.3
	6	4.0
	7	0.0
	8	4.5
	9	4.5
	10	5.8
	11	8.8
	12	5.6
	13	5.4
	14	8.9
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	5.0
	20	5.0
	21	4.0
	22	0.4
	23	0.4
	24	0.0
	25	5.0
	26	5.7
	27	7.6
	28	4.5

Circuit No.	Pin No.	Voltage VDC
I201	29	7.0
	30	7.6
	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7

Circuit No.	Pin No.	Voltage VDC
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0

- 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.

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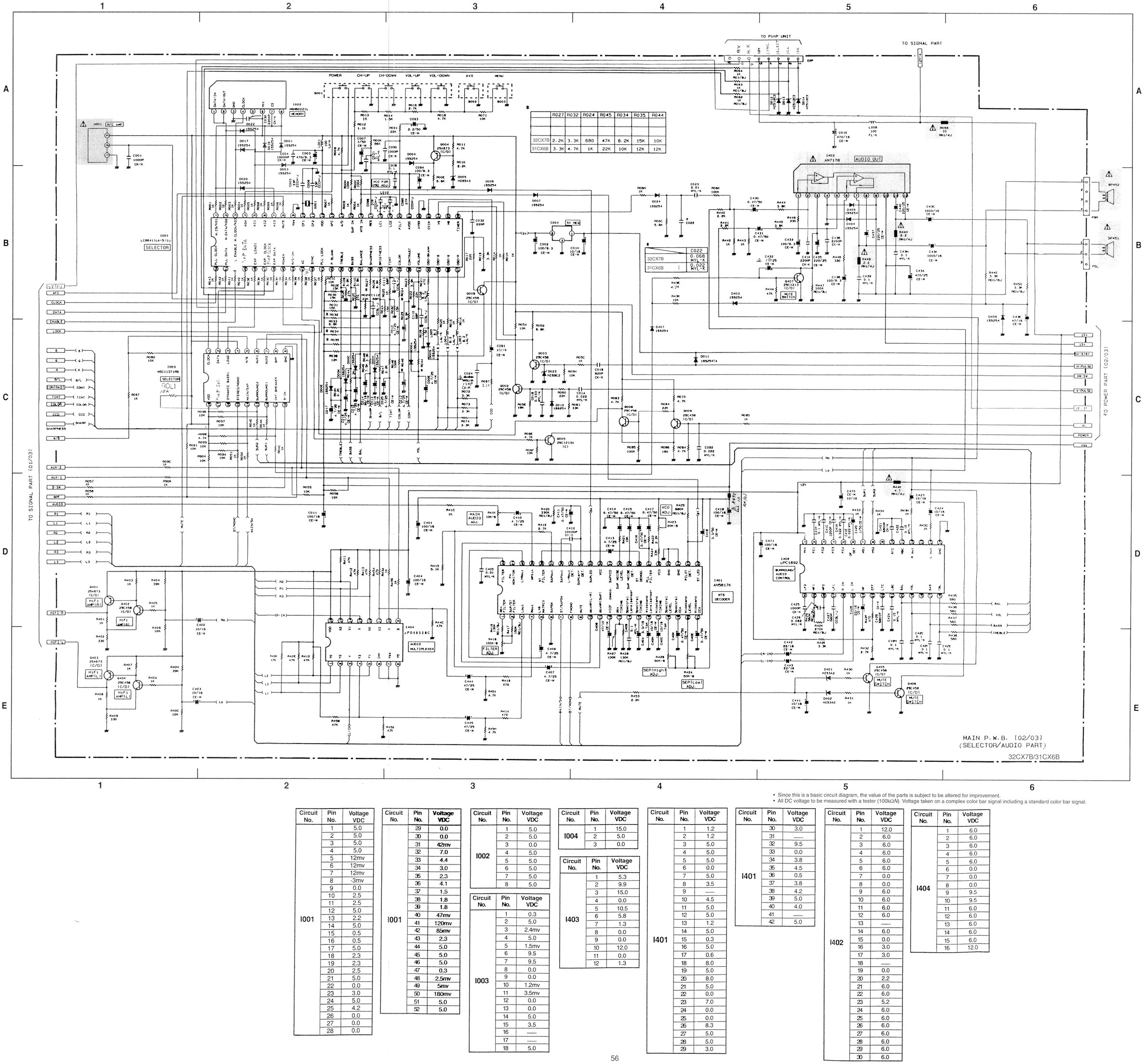
CIRCUIT SCHEMATIC DIAGRAM OF 31CX6B/CY56, 32CX7B/CY57



	R027	R032	R024	R045	R034	R035	R044
32CX7B	2.2K	3.3K	680	47K	8.2K	15K	10K
31CX6B	3.3K	4.7K	1K	22K	10K	12K	12K

	C022
32CX7B	0.068 MYL-K
31CX6B	0.022 MYL-K

- 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.

Circuit No.	Pin No.	Voltage VDC
I001	1	5.0
	2	5.0
	3	5.0
	4	5.0
	5	12mv
	6	12mv
	7	12mv
	8	-3mv
	9	0.0
	10	2.5
	11	2.5
	12	5.0
	13	2.2
	14	5.0
	15	0.5
	16	0.5
	17	5.0
	18	2.3
	19	2.3
	20	2.5
	21	5.0
	22	0.0
	23	3.0
	24	5.0
	25	4.2
	26	0.0
	27	0.0
	28	0.0

Circuit No.	Pin No.	Voltage VDC
I001	29	0.0
	30	0.0
	31	42mv
	32	7.0
	33	4.4
	34	3.0
	35	2.3
	36	4.1
	37	1.5
	38	1.8
	39	1.8
	40	47mv
	41	120mv
	42	85mv
	43	2.3
	44	5.0
	45	5.0
	46	5.0
	47	0.3
	48	2.5mv
	49	5mv
	50	180mv
	51	5.0
	52	5.0

Circuit No.	Pin No.	Voltage VDC
I002	1	5.0
	2	5.0
	3	0.0
	4	5.0
	5	5.0
	6	5.0
	7	5.0
	8	5.0

Circuit No.	Pin No.	Voltage VDC
I003	1	0.3
	2	5.0
	3	2.4mv
	4	5.0
	5	1.5mv
	6	9.5
	7	9.5
	8	0.0
	9	0.0
	10	1.2mv
	11	3.5mv
	12	0.0
	13	0.0
	14	5.0
	15	3.5
	16	—
	17	—
	18	5.0

Circuit No.	Pin No.	Voltage VDC
I004	1	15.0
	2	5.0
	3	0.0

Circuit No.	Pin No.	Voltage VDC
I403	1	5.3
	2	9.9
	3	15.0
	4	0.0
	5	10.5
	6	5.8
	7	1.3
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	1.3

Circuit No.	Pin No.	Voltage VDC
I401	1	1.2
	2	1.2
	3	5.0
	4	5.0
	5	5.0
	6	0.0
	7	5.0
	8	3.5
	9	—
	10	4.5
	11	5.0
	12	5.0
	13	1.2
	14	5.0
	15	0.3
	16	5.0
	17	0.6
	18	8.0
	19	5.0
	20	8.0
	21	5.0
	22	0.0
	23	7.0
	24	0.0
	25	0.0
	26	8.3
	27	5.0
	28	5.0
	29	3.0

Circuit No.	Pin No.	Voltage VDC
I401	30	3.0
	31	—
	32	9.5
	33	0.0
	34	3.8
	35	4.5
	36	0.5
	37	3.8
	38	4.2
	39	5.0
	40	4.0
	41	—
	42	5.0

Circuit No.	Pin No.	Voltage VDC
I402	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	0.0
	8	0.0
	9	6.0
	10	6.0
	11	6.0
	12	6.0
	13	—
	14	6.0
	15	0.0
	16	3.0
	17	3.0
	18	—
	19	0.0
	20	2.2
	21	6.0
	22	6.0
	23	5.2
	24	6.0
	25	6.0
	26	6.0
	27	6.0
	28	6.0
	29	6.0
	30	6.0

Circuit No.	Pin No.	Voltage VDC
I404	1	6.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	0.0
	7	0.0
	8	0.0
	9	9.5
	10	9.5
	11	6.0
	12	6.0
	13	6.0
	14	6.0
	15	6.0
	16	12.0

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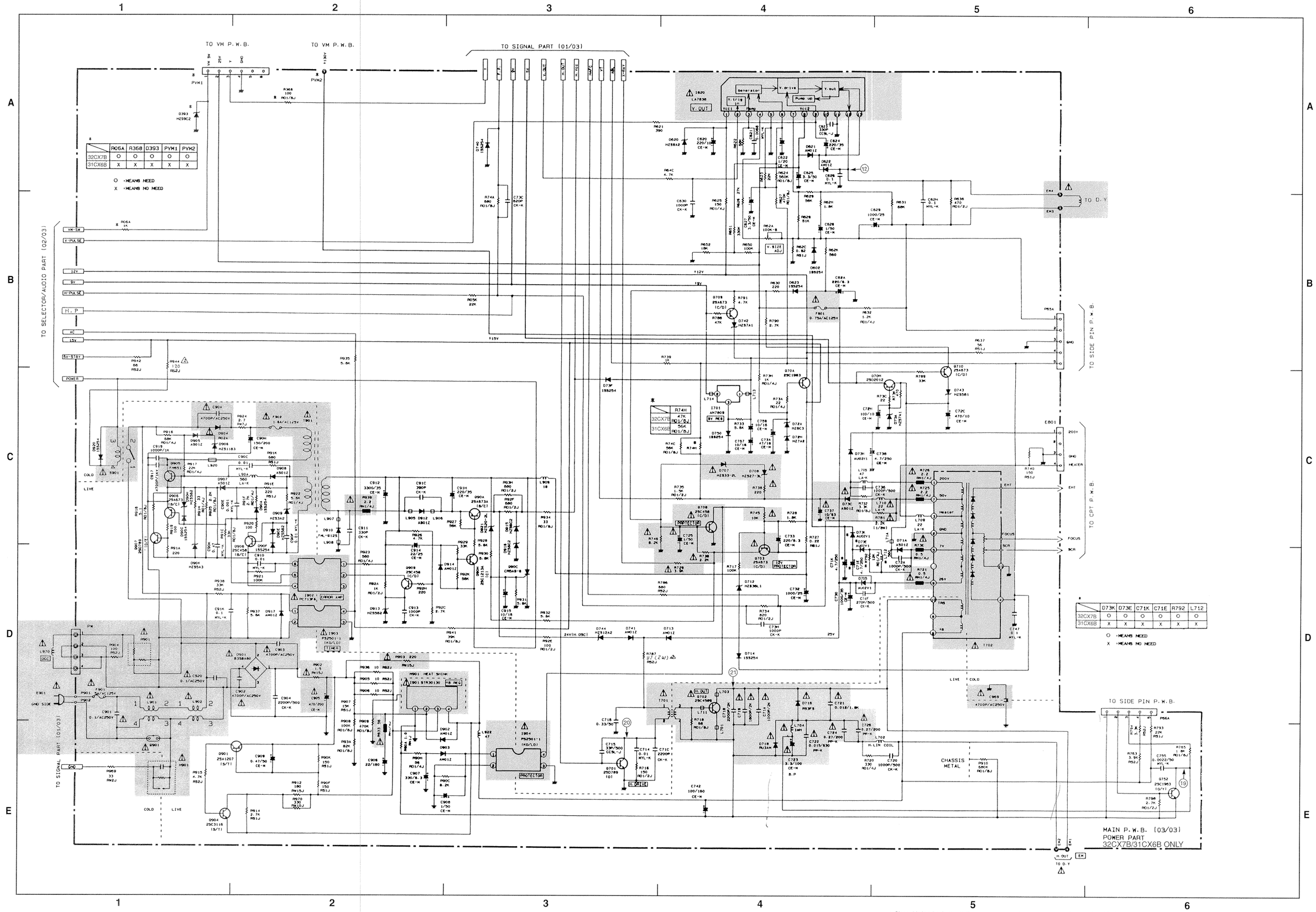
CIRCUIT SCHEMATIC DIAGRAM OF 31CX6B/CY56, 32CX7B/CY57



	R06A	R368	D393	PVM1	PVM2
32CX7B	O	O	O	O	O
31CX6B	X	X	X	X	X

O : MEANS NEED
X : MEANS NO NEED

	D73K	D73E	C71K	C71E	R792	L712
32CX7B	O	O	O	O	O	O
31CX6B	X	X	X	X	X	X

O : MEANS NEED
X : MEANS NO NEED

	R74H
32CX7B	47K RD1/6J
31CX6B	56K RD1/6J

- 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.

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q402	B	2.4
	C	11.0
	E	1.7
Q403	B	12.0
	C	6.0
	E	12.0
Q404	B	2.4
	C	11.0
	E	1.7
Q405	B	0.5
	C	0.0
	E	0.0

Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (35V)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5

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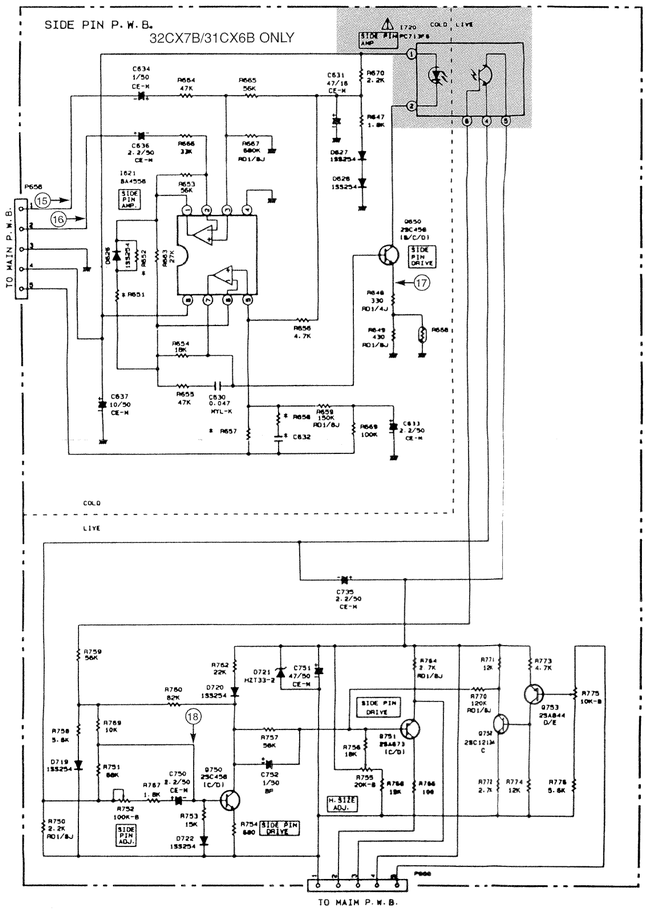
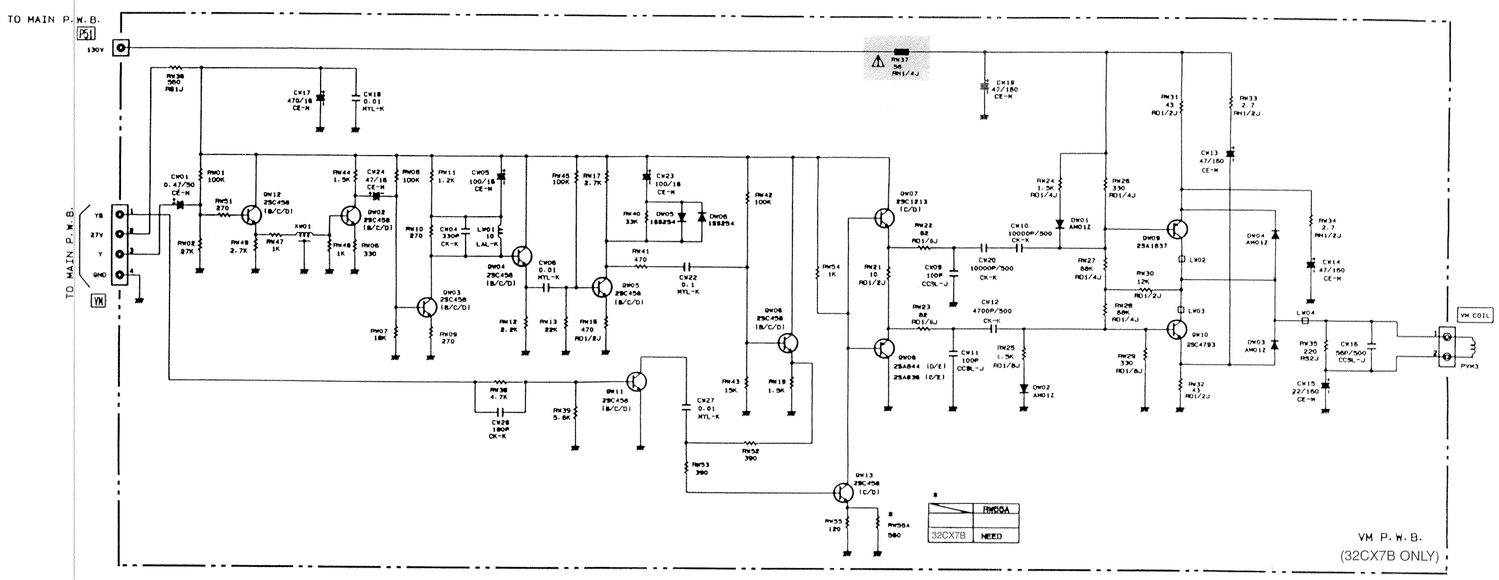
CIRCUIT SCHEMATIC DIAGRAM OF 31CX6B/CY56, 32CX7B/CY57

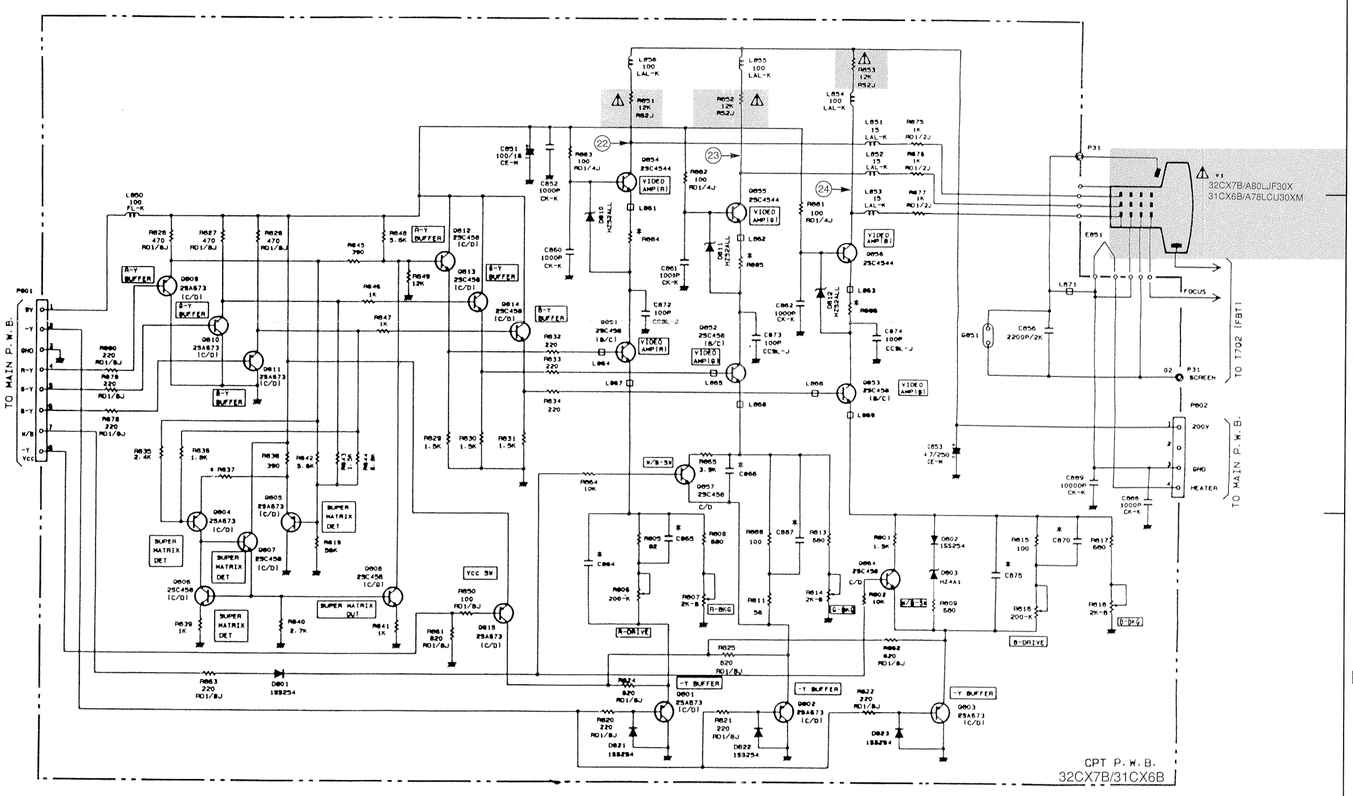
	R651	R652	R657	R658	C632
32CX7B	82K	82K	180K RD1/8J	22K	0.0047 MYL-K
31CX6B	82K	82K	180K RD1/8J	22K	0.0047 MYL-K

			32CX7B	31CX6B
C864			270 CK-K	180 CK-K
C865			470 CK-K	270 CK-K
C866			180 CK-K	270 CK-K
C870			150 CK-K	180 CK-K
C875			150 CK-K	270 CK-K
C887			150 CK-K	220 CK-K
R884			68	82
R885			68	82
R886			68	82
R637			680	680

	RW00A
32CX7B	NEED







Circuit No.	Pin No.	Voltage VDC
I621	1	5.0
	2	5.0
	3	5.0
	4	0.0
	5	5.7
	6	5.7
	7	6.2
	8	10.9

Circuit No.	Pin No.	Voltage VDC
I720	1	11.0
	2	9.8
	3	0.0
	4	-56.0
	5	-36.0

Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0

Circuit No.	Pin No.	Voltage VDC
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0

Circuit No.	Pin No.	Voltage VDC
Q0501 Control 35v	B	0.0
	C	0.0
	E	0.0
Q3801 Control 35v	B	3.8
	C	12.0
	E	3.2
Q3802 Control 35v	B	3.6
	C	12.0
	E	3.2

- 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.

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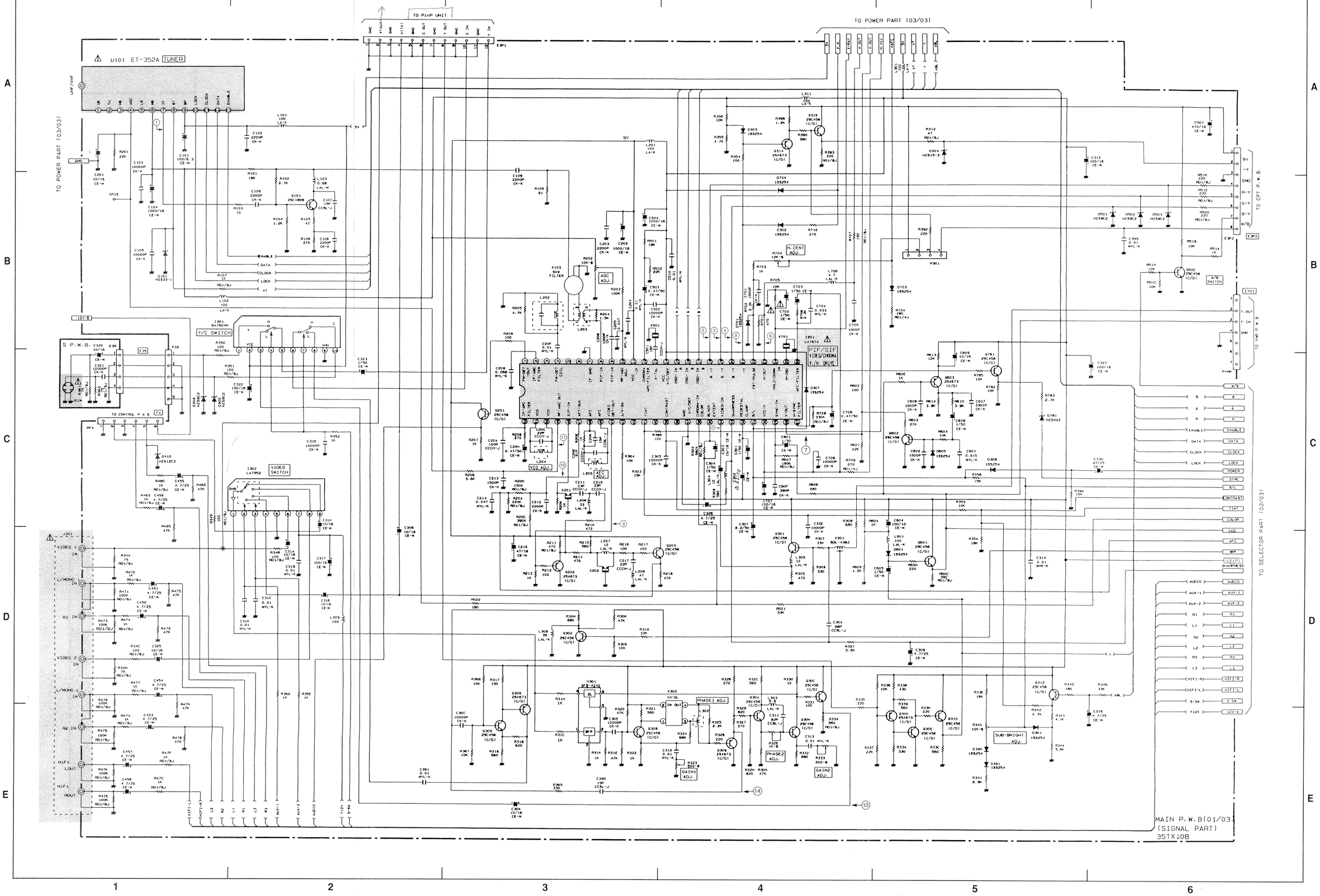
CIRCUIT SCHEMATIC DIAGRAM 35TX20B/CZ52



Circuit No.	Pin No.	Voltage VDC
I201	1	4.4
	2	6.8
	3	5.6
	4	5.6
	5	4.3
	6	4.0
	7	0.0
	8	4.5
	9	4.5
	10	5.8
	11	8.8
	12	5.6
	13	5.4
	14	8.9
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	5.0
	20	5.0
	21	4.0
	22	0.4
	23	0.4
	24	0.0
	25	5.0
	26	5.7
	27	7.6
	28	4.5

Circuit No.	Pin No.	Voltage VDC
I201	29	7.0
	30	7.6
	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7

Circuit No.	Pin No.	Voltage VDC
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0

- 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.

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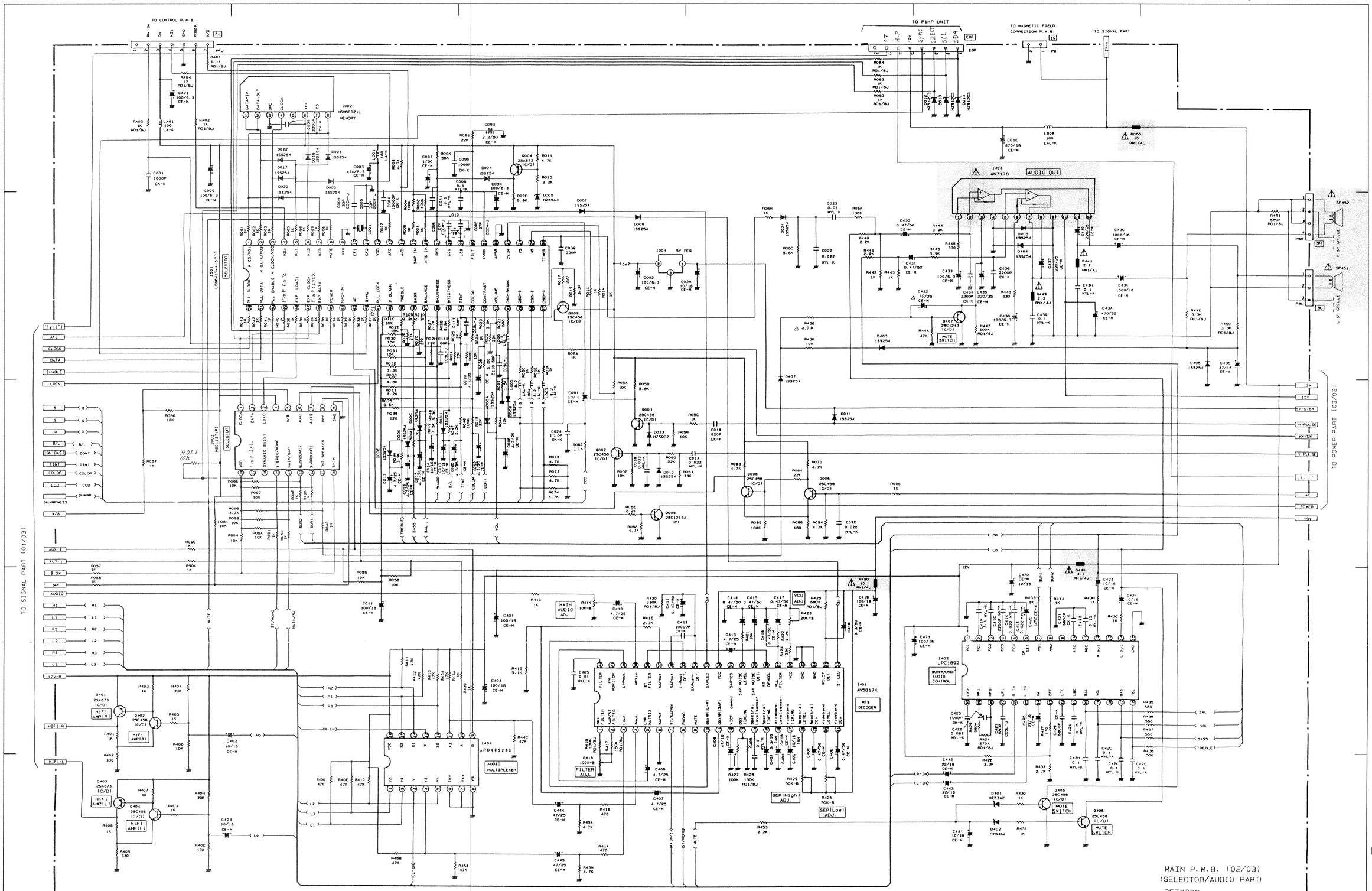
CIRCUIT SCHEMATIC DIAGRAM 35TX20B/CZ52



- 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.

Circuit No.	Pin No.	Voltage VDC
I001	1	5.0
	2	5.0
	3	5.0
	4	5.0
	5	12mv
	6	12mv
	7	12mv
	8	-3mv
	9	0.0
	10	2.5
	11	2.5
	12	5.0
	13	2.2
	14	5.0
	15	0.5
	16	0.5
	17	5.0
	18	2.3
	19	2.3
	20	2.5
	21	5.0
	22	0.0
	23	3.0
	24	5.0
	25	4.2
	26	0.0
	27	0.0
	28	0.0

Circuit No.	Pin No.	Voltage VDC
I001	29	0.0
	30	0.0
	31	42mv
	32	7.0
	33	4.4
	34	3.0
	35	2.3
	36	4.1
	37	1.5
	38	1.8
	39	1.8
	40	47mv
	41	120mv
	42	85mv
	43	2.3
	44	5.0
	45	5.0
	46	5.0
	47	0.3
	48	2.5mv
	49	5mv
	50	180mv
	51	5.0
	52	5.0

Circuit No.	Pin No.	Voltage VDC
I002	1	5.0
	2	5.0
	3	0.0
	4	5.0
	5	5.0
	6	5.0
	7	5.0
	8	5.0

Circuit No.	Pin No.	Voltage VDC
I003	1	0.3
	2	5.0
	3	2.4mv
	4	5.0
	5	1.5mv
	6	9.5
	7	9.5
	8	0.0
	9	0.0
	10	1.2mv
	11	3.5mv
	12	0.0
	13	0.0
	14	5.0
	15	3.5
	16	—
	17	—
	18	5.0

Circuit No.	Pin No.	Voltage VDC
I004	1	15.0
	2	5.0
	3	0.0

Circuit No.	Pin No.	Voltage VDC
I403	1	5.3
	2	9.9
	3	15.0
	4	0.0
	5	10.5
	6	5.8
	7	1.3
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	1.3

Circuit No.	Pin No.	Voltage VDC
I401	1	1.2
	2	1.2
	3	5.0
	4	5.0
	5	5.0
	6	0.0
	7	5.0
	8	3.5
	9	—
	10	4.5
	11	5.0
	12	5.0
	13	1.2
	14	5.0
	15	0.3
	16	5.0
	17	0.6
	18	8.0
	19	5.0
	20	8.0
	21	5.0
	22	0.0
	23	7.0
	24	0.0
	25	0.0
	26	8.3
	27	5.0
	28	5.0
	29	3.0

Circuit No.	Pin No.	Voltage VDC
I401	30	3.0
	31	—
	32	9.5
	33	0.0
	34	3.8
	35	4.5
	36	0.5
	37	3.8
	38	4.2
	39	5.0
	40	4.0
	41	—
	42	5.0

Circuit No.	Pin No.	Voltage VDC
I402	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	0.0
	8	0.0
	9	6.0
	10	6.0
	11	6.0
	12	6.0
	13	—
	14	6.0
	15	0.0
	16	3.0
	17	3.0
	18	—
	19	0.0
	20	2.2
	21	6.0
	22	6.0
	23	5.2
	24	6.0
	25	6.0
	26	6.0
	27	6.0
	28	6.0
	29	6.0
	30	6.0

Circuit No.	Pin No.	Voltage VDC
I404	1	6.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	0.0
	7	0.0
	8	0.0
	9	9.5
	10	9.5
	11	6.0
	12	6.0
	13	6.0
	14	6.0
	15	6.0
	16	12.0

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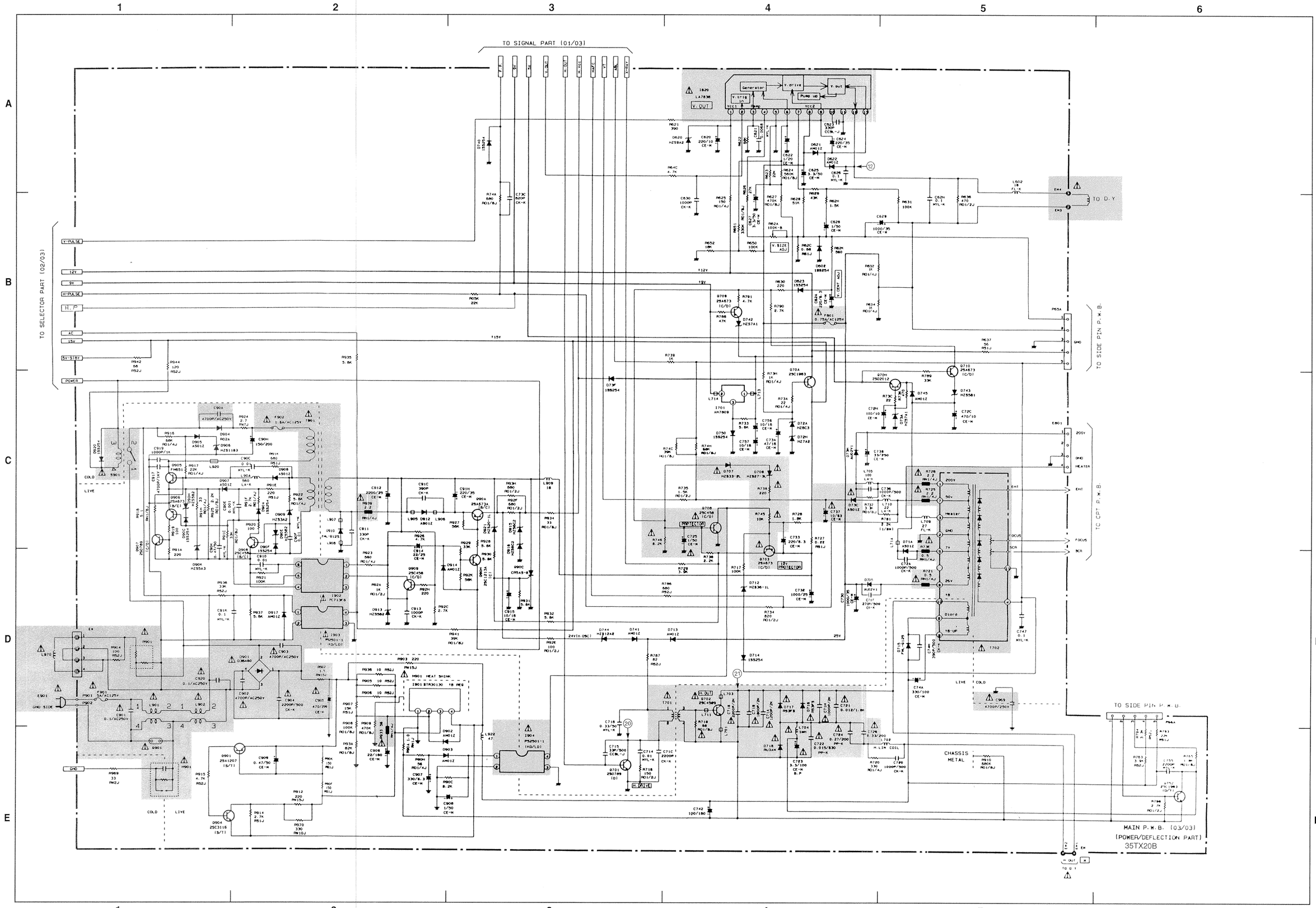
CIRCUIT SCHEMATIC DIAGRAM 35TX20B/CZ52



- 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.

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	——
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q402	B	2.4
	C	11.0
	E	1.7
Q403	B	12.0
	C	6.0
	E	12.0
Q404	B	2.4
	C	11.0
	E	1.7
Q405	B	0.5
	C	0.0
	E	0.0

Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (35V)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5

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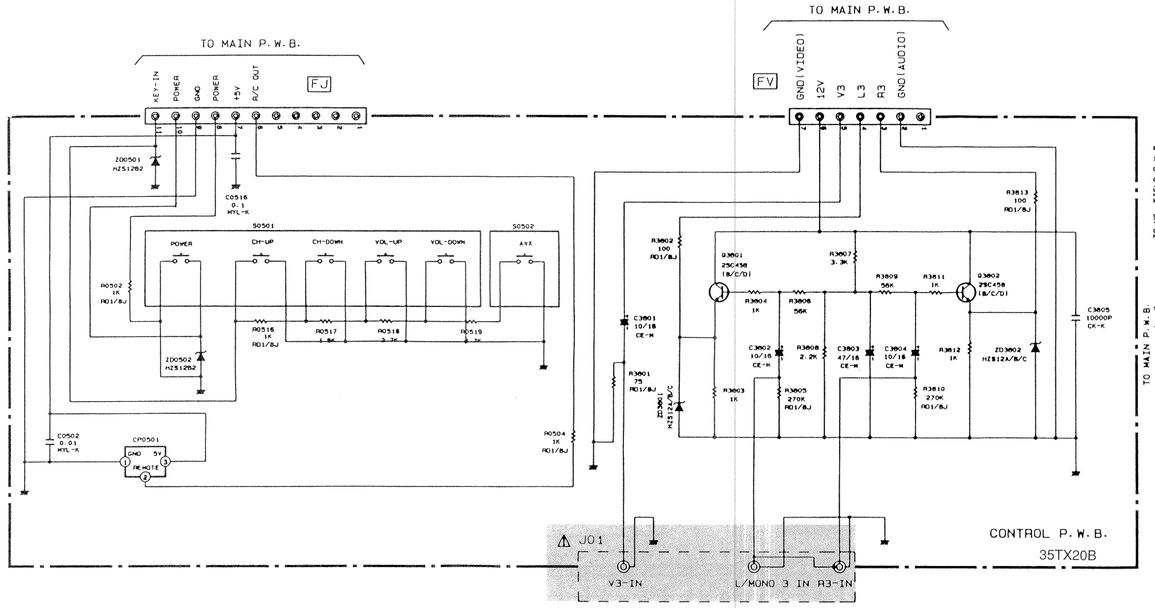
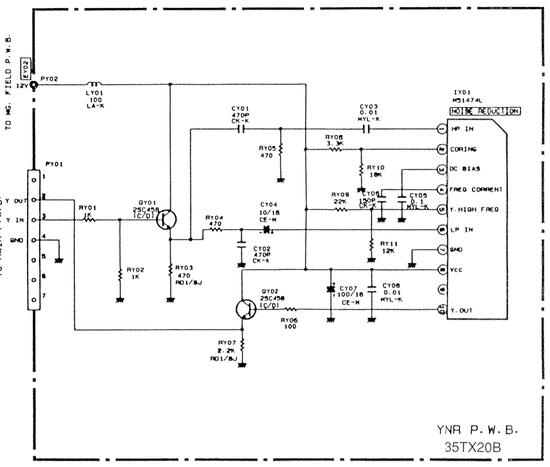
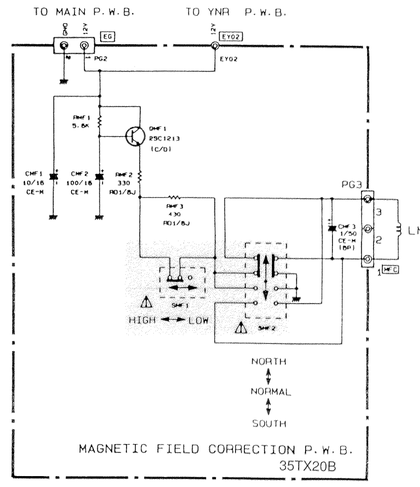
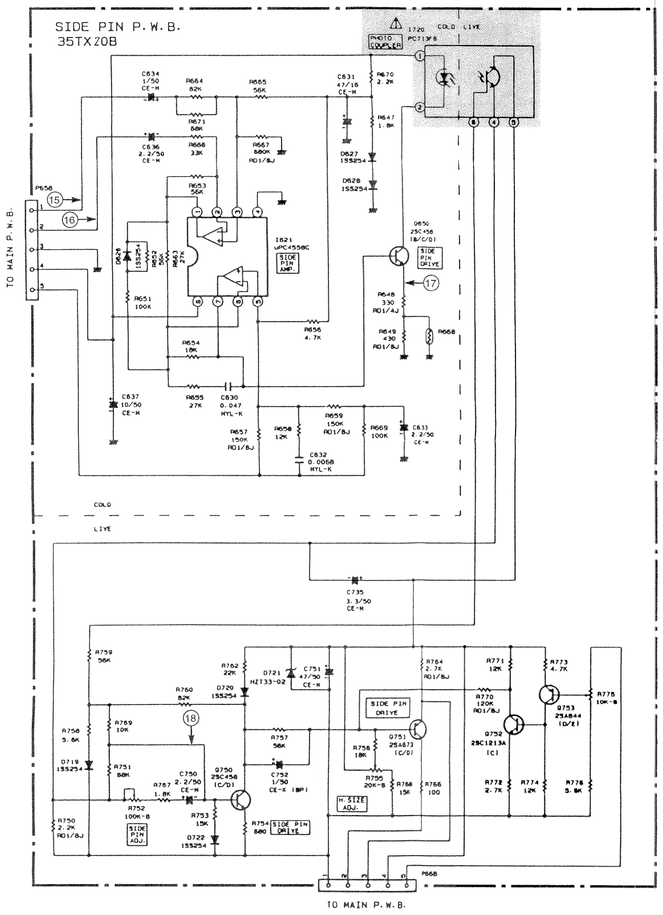
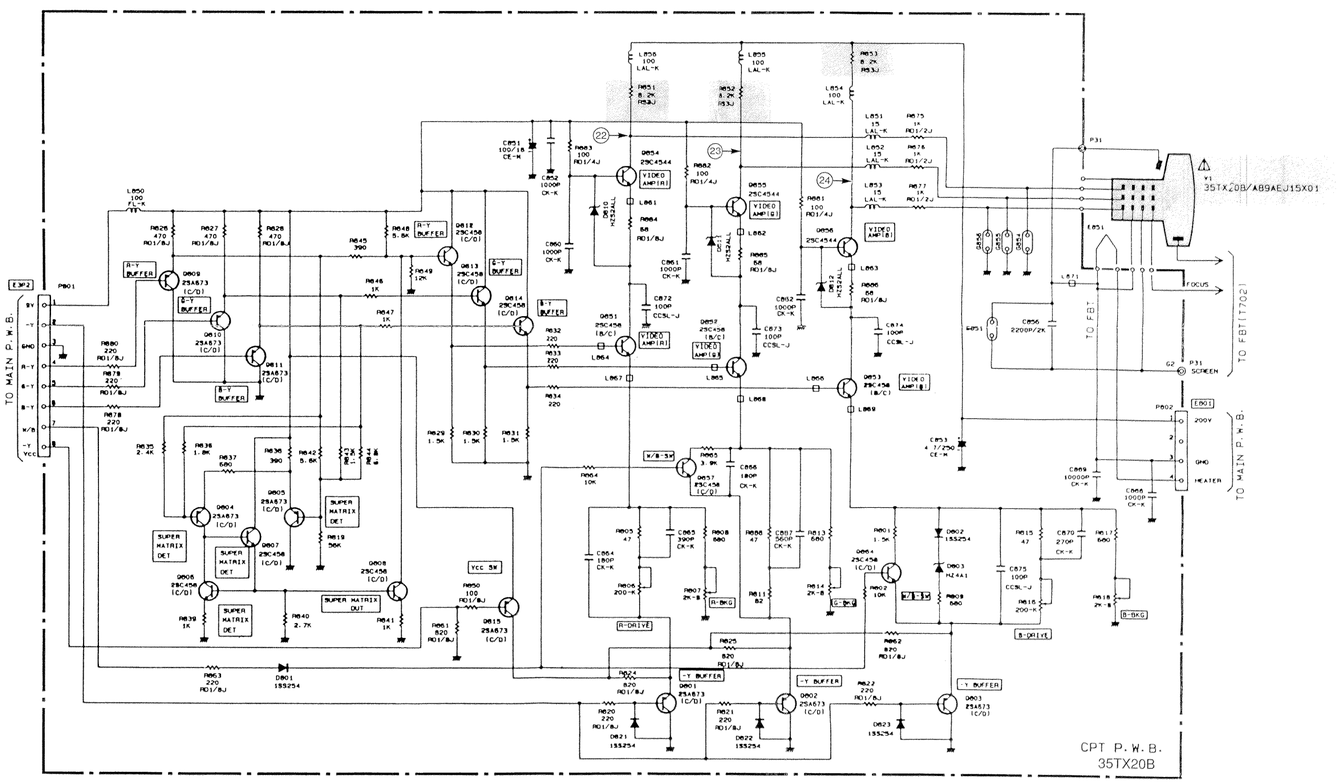
CIRCUIT SCHEMATIC DIAGRAM 35TX20B/CZ52











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Circuit No.	Pin No.	Voltage VDC
I621	1	5.0
	2	5.0
	3	5.0
	4	0.0
	5	5.7
	6	5.7
	7	6.2
	8	10.9

Circuit No.	Pin No.	Voltage VDC
I720	1	11.0
	2	9.8
	3	0.0
	4	-56.0
	5	-36.0

Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0

Circuit No.	Pin No.	Voltage VDC
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0

Circuit No.	Pin No.	Voltage VDC
Q0501 Control 35v	B	0.0
	C	0.0
	E	0.0
Q3801 Control 35v	B	3.8
	C	12.0
	E	3.2
Q3802 Control 35v	B	3.6
	C	12.0
	E	3.2

Circuit No.	Pin No.	Voltage VDC
QMF1	B	9.6
	C	10
	E	9

Circuit No.	Pin No.	Voltage VDC
QY01 YNR	B	2.2
	C	0.5
	E	1.5
QY02 YNR	B	7.4
	C	10.2
	E	6.7

Circuit No.	Pin No.	Voltage VDC
IY01	1	4.2
	2	8.4
	3	4.1
	4	3.4
	5	3.4
	6	4.3
	7	0
	8	10
	9	7.2
	10	7.3

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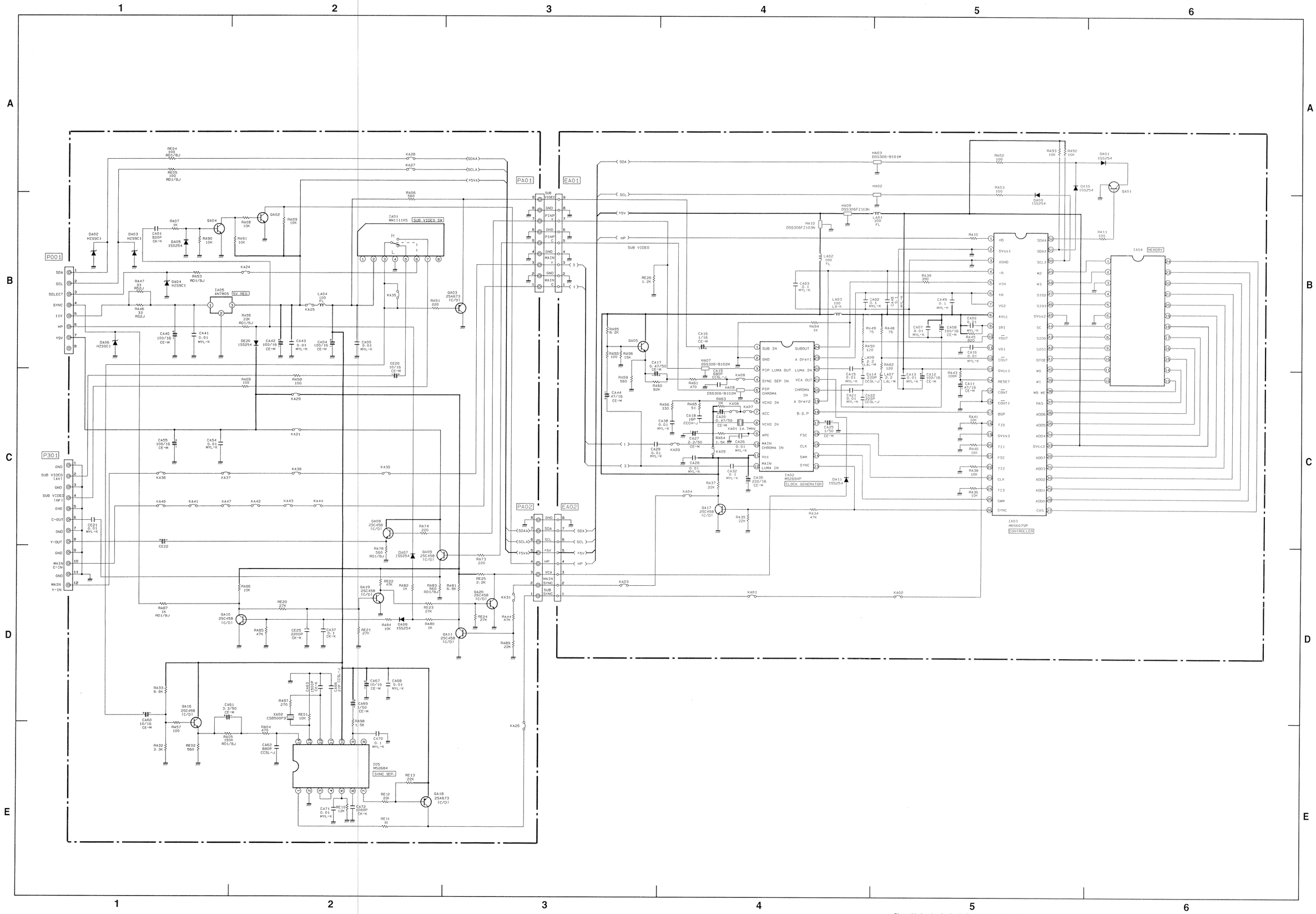
CIRCUIT SCHEMATIC DIAGRAM OF P in P



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- 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.

Circuit No.	Pin No.	Voltage VDC
IO5	1	0.85
	2	0
	3	0.99
	4	0.99
	5	0.94
	6	0.39
	7	4.16
	8	3.8
	9	2.6
	10	5
	11	2
	12	2
	13	2.8
	14	3

Circuit No.	Pin No.	Voltage VDC
IA01	1	0
	2	5
	3	1.9
	4	0
	5	2.75
	6	3
	7	2.7
	8	0

Circuit No.	Pin No.	Voltage VDC
IA02	1	2.9
	2	1.8
	3	1.7
	4	3
	5	1.29
	6	3.3
	7	4.1
	8	2.8
	9	2.4
	10	2.8
	11	5
	12	3.4
	13	1.1
	14	0
	15	1.6
	16	1.8
	17	2.3
	18	0
	19	2.5
	20	2.5
	21	2.8
	22	3.2
	23	3.7
	24	2.9

Circuit No.	Pin No.	Voltage VDC
IA03	1	0.6
	2	0
	3	0
	4	2.5
	5	3
	6	3.7
	7	3.7
	8	5
	9	3.7
	10	4.2
	11	2
	12	4.5
	13	5
	14	5
	15	0
	16	0
	17	0
	18	0
	19	0
	20	5
	21	1.8
	22	0
	23	1.6
	24	0
	25	0
	26	1
	27	4
	28	2

Circuit No.	Pin No.	Voltage VDC
IA03	29	2.3
	30	2.7
	31	2.8
	32	0.5
	33	5
	34	2.8
	35	2.8
	36	2.3
	37	3.7
	38	3.8
	39	2.2
	40	1.7
	41	5
	42	1.5
	43	3
	44	0.5
	45	0
	46	1
	47	0
	48	1
	49	1.9
	50	4.9
	51	5
	52	0

Circuit No.	Pin No.	Voltage VDC
IA04	1	1.8
	2	1
	3	0
	4	2
	5	0.9
	6	0
	7	0.5
	8	2.9
	9	1
	10	5
	11	1.8
	12	2.2
	13	3.8
	14	3.7
	15	2.3
	16	2.8
	17	2.8
	18	5
	19	0.5
	20	2.8
	21	2.7
	22	2.3
	23	1.9
	24	4.1

Circuit No.	Pin No.	Voltage VDC
IA05	1	7
	2	0
	3	5

Circuit No.	Pin No.	Voltage VDC
QA01 PinP	B	0
	C	5
	E	0
QA02 PinP	B	0.5
	C	0.6
	E	0
QA03 PinP	B	1.9
	C	0
	E	2.6
QA04 PinP	B	0
	C	2.3
	E	0
QA05 PinP	B	3
	C	5
	E	2.3
QA06 PinP	B	1.7
	C	8.9
	E	1.1
QA07 PinP	B	1.3
	C	8.9
	E	0.6
QA08 PinP	B	0.6
	C	0
	E	0
QA09 PinP	B	0.6
	C	0.7
	E	0

Circuit No.	Pin No.	Voltage VDC
QA16 PinP	B	1.6
	C	5
	E	0.9
QA17 PinP	B	0.3
	C	3.1
	E	0
QA18 PinP	B	4.5
	C	0.8
	E	5
QA19 PinP	B	0
	C	3.7
	E	0
QA20 PinP	B	0.7
	C	0
	E	0