

HITACHI

SERVICE MANUAL

NTSC

M3LXU2 CHASSIS

TA

NO. 0075

27CX7B/C767
27CX75B/C767

R/C: CLU-418U
CLU-419UI

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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SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

SOLID STATE COLOR TELEVISION

JUNE 1996

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 covers, shields, 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.

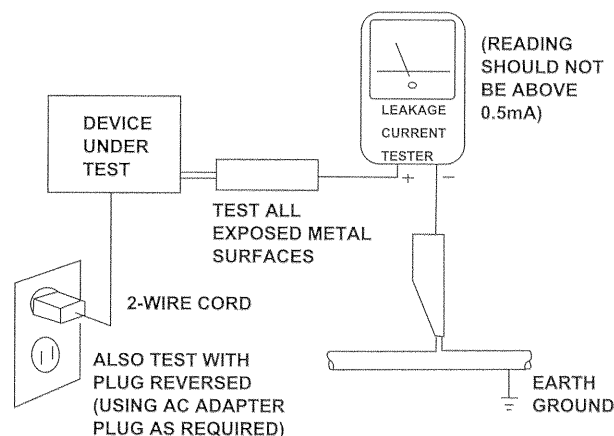
Therefore, the following checks should be performed for the continued protection of the customer and service technician.

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 $0.24M\Omega$ and a maximum resistor reading of $5.2M\Omega$. 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 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 34.0kV. In case any component having influence on the high voltage is replaced, confirm that high voltage with minimum BRIGHTNESS and CONTRAST is lower than 34.0kV. 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.

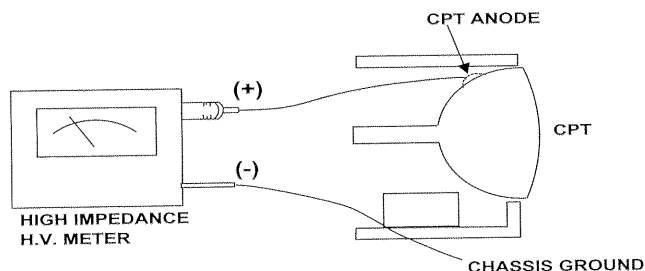
PRODUCT SAFETY NOTICE

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 $\triangle$ 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 $\triangle$ 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.

TECHNICAL SPECIFICATIONS

POWER RATINGS

27CX7B/C767	145 watts
27CX75B/C767	145 watts

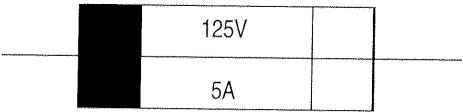
COLOR PICTURE TUBE

27CX7B/C767	A68ADT25X02
27CX75B/C767	A68ADT25X02

CAUTION

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

27V Model



F901

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

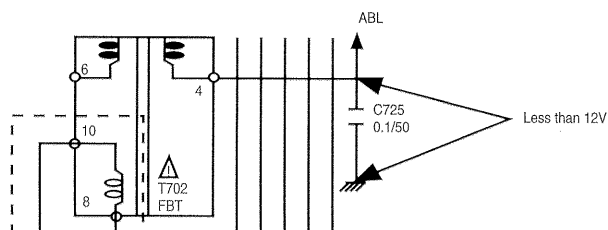
TECHNICAL CAUTIONS

27CX7B, 27CX75B

High voltage limiter circuit check and overvoltage protection circuit operation check.

Adjustment Preparation

1. Connect a high voltage voltmeter between CPT anode terminal (anode capside) and the ground.
2. Set AC Input voltage to $120 \pm 3V$.
3. Receive Circle Pattern and set "BRIGHTNESS" and "CONTRAST" to maximum. Adjust the Screen VR so that Beam Current is $1B \pm 0.1 \text{ mA}$. (The voltage of ABL terminal -C725 both ends should be 12V or less)
4. Connect R831 (Q804 collector side) to GND.



Adjustment Procedure

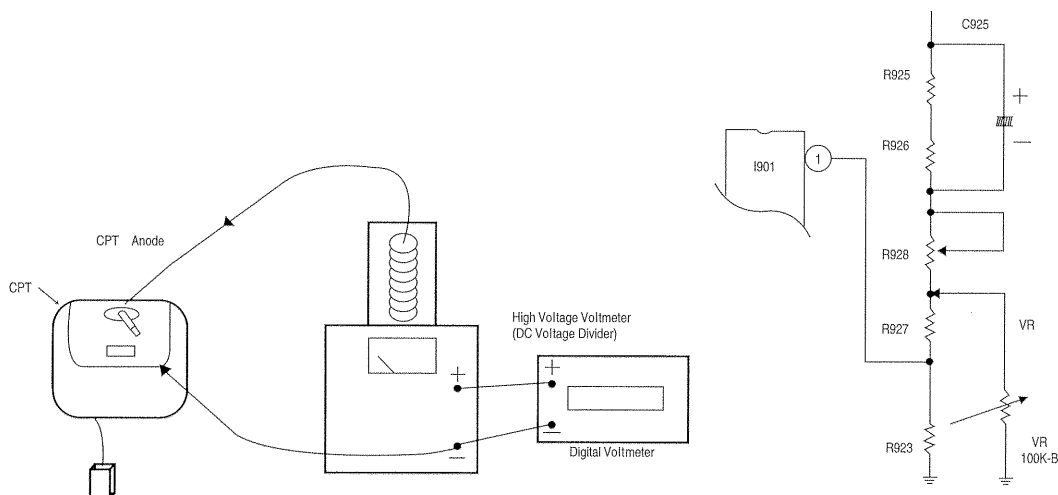
1. Check that the normal high voltage and +B voltage.

CHASSIS	$E_{HT} \pm 1 \text{ KV}$	$I_B \pm 0.1 \text{ mA}$	$+B \pm 0.3V$	$E1 \pm 1.2 \text{ KV}$
C767	27.5 KV	1.5 mA	96.0 V	32.5 KV

Adjustment Preparation

5. Set AC input voltage to $120 \pm 3V$. Then, connect the VR (100K-B) to R925 and ground side as shown below.

Note: At that time the value of VR should be maximum.



Adjustment Procedure

2. Keep CONTRAST, BRIGHTNESS, and SCREEN VR as in item (3). Reduce the VR value gradually, and check that the picture disappears when high voltage is E1. Immediately after checking that it disappears, turn off the set switch. Remove the VR and high voltage voltmeter. When connecting or removing high voltage voltmeter to or from anode cap, be sure to turn off the CTV. 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

M3LXU2 CHASSIS

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Refer to CHASSIS SERVICE MANUAL PA NO. 0051 for additional technical information.

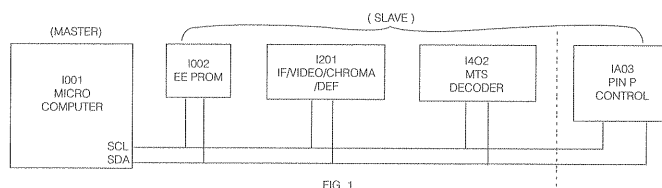
Note:

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.

I. MAIN CHASSIS ADJUSTMENT

1. I²C BUS SYSTEM

M3LXU2 Chassis uses I²C Bus Control System. Fig. 1 shows this control system.



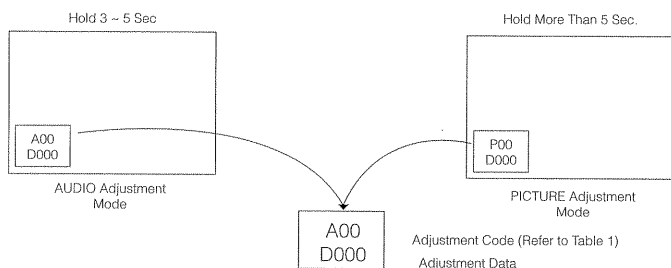
I001 (Master) controls other ICs (slave). Adjustment data is memorized in I002 (EEPROM). I001 read this data and controls other ICs.

Adjustment items applied in this chassis is shown in Table 1.

2. ADJUSTMENT PROCEDURE—START UP

2-1 How to Get to Adjustment Mode

Chassis adjustment can be done by using the front control panel buttons with CTV set turned off. Press "POWER" and "MENU" or "INPUT" keys at the same time, and hold more than 3 seconds. The CTV set turns on in adjustment mode with OSD as follows.



"To Escape from Adjustment Mode"

Press "POWER" key or "POWER" button of remo-con once at any time. Then set returns to normal state.

TABLE 1 ADJUSTMENT CODE

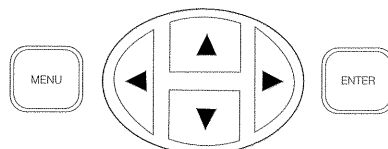
CODE NAME	ADJUSTMENT MODE	(ITEM) REMARK	SERVICE* MODE DATA
A 00	Audio Adj. Key Code	—	—
A 01	STEREO VCO Adj.	4.3	027
A 02	SAP VCO Adj.	4.6	030
A 03	Filter Adj.	4.4	026
A 04	Input Level Adj.	4.2	009
A 05	Separation (Low) Adj.	4.5	032
A 06	Separation (High) Adj.	4.5	022
P 00	Picture Adj. Key Code	—	—
P 01	PIF VCO Adj.	4.1	063
P 02	RF AGC Adj.	4.11	044
P 03	Horiz. (Phase) Position Adj.	4.8	019
P 04	Vert. (Center) Position Adj.	4.8	001
P 05	Vertical Size Adj.	4.8	030
P 06	R-BKG Cut Off Adj.	4.7-4.9	157
P 07	G-BKG Cut Off Adj.	4.7-4.9	179
P 08	B-BKG Cut Off Adj.	4.7-4.9	132
P 09	G-DRV Gain Adj.	4.9	094
P 10	B-DRV Gain Adj.	4.9	100
P 11	Sub Bright Adj.	4.10	000
P 12	Sub Color Adj.	—	000
P 13	Sub Tint Adj.	4.12	-010
P 14	Sub Sharpness Adj.	4.13	004
P 15	PinP Color Adj.	4.14	034
P 16	PinP Tint Adj.	4.15	028

*This data is an approximate service mode data. Fine adjustment must be done using the specified test procedure and adjustment tools.

2-2 Changing Data and Adjustment Code

When set is in adjustment mode, the cursor "◀, ▶, ▲, ▼" and "ENTER" keys of the customers remo-con will be the adjustment keys.

A. Use any Hitachi remote control with "ENTER" button as shown when making an adjustment.



"▲, ▼" keys are used for changing adjustment code.

"◀, ▶" keys are used for changing data.

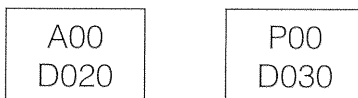
"ENTER" key is used for changing "Cut Off Mode+ Normal Mode". (Refer to cut off adjustment)

3. ADJUSTMENT MODE

If below display appears



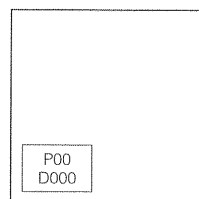
Adjustment code can not be changed by cursor "▲, ▼" keys.



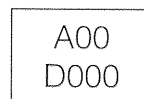
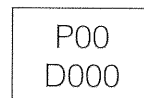
Set data "D020" at "A00" or "D030" at "P00" by "◀, ▶" keys. Then adjustment code can be changed by "▲, ▼" keys.

B. By Front Control Panel—Another Method

- Before turning ON the set, press INPUT. Then press POWER and keep pressing INPUT for about 3 seconds.
- After 3 seconds, a small square will appear on the left lower corner and there are two different displays. One shows A and D, and the other P and D for the picture adjustment.



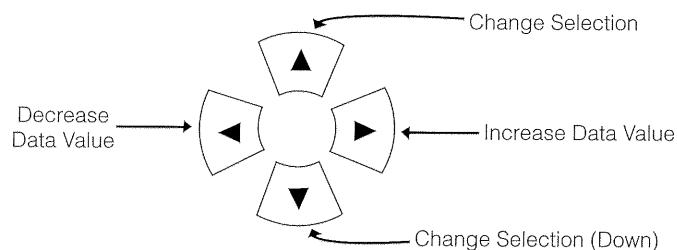
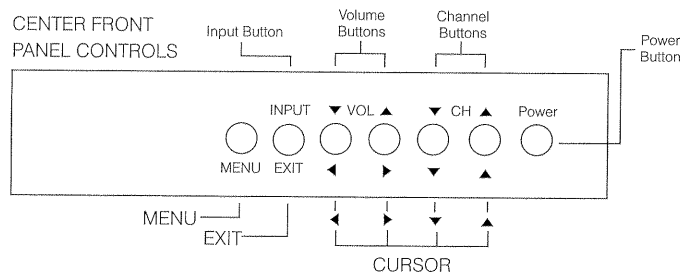
D = Data value
P = Picture
A = Audio



3. Since this adjustment is by control panel, the P and D has a value of zero. For the adjustment mode, first you have to input a data value of 30 and then you can select the other P options.

The same for the other adjustment of A and D for this adjustment you need an input value of 20 so you can select other options for A.

- To make selection you have to use the arrow keys on the front control panel.



Match front panel control cursor to remote control cursor.

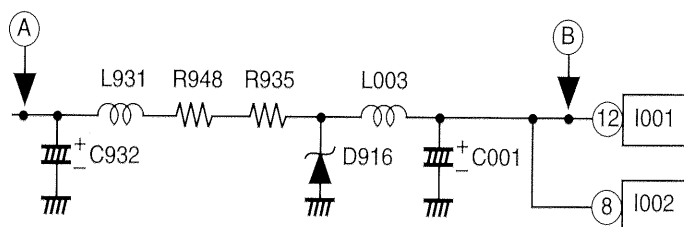
4. ADJUSTMENT PROCEDURE

4-1 IF Adjustment

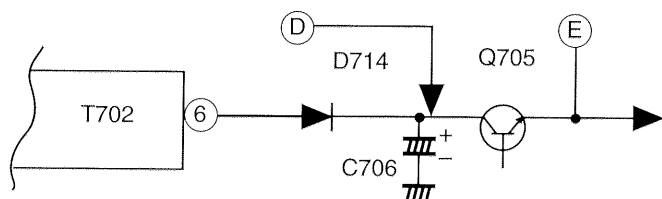
4-1-1 PIF AFC Adjustment

Adjustment Preparation

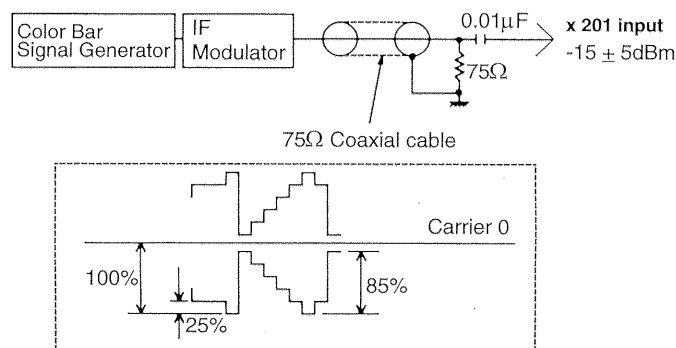
- Initial setting of EEPROM (I002)
Turn the TV set ON and check point A if it is 15V, point B if it is $5V \pm 0.3V$.



- Check +11V at (D) point and check (E) point is $9V \pm 0.3$.



- Input signal between X201 input and earth.
(Tuner IF output)



- Connect DC voltmeter (input impedance 1M Ohm or more) to I201 pin (44).

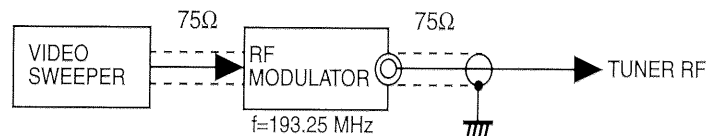
Adjustment Procedure

- Set adjustment code "P01".
Change data so that the voltmeter is $2.5 \pm 0.5V$ at I201 pin (44).

4-1-2 Adjustment of IF waveform

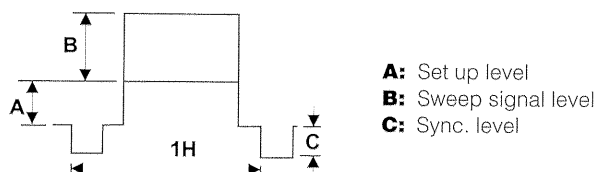
Adjustment Preparation

- Connect signal as follows
- Connect an oscilloscope to I201 Pin (47) (TP-12)

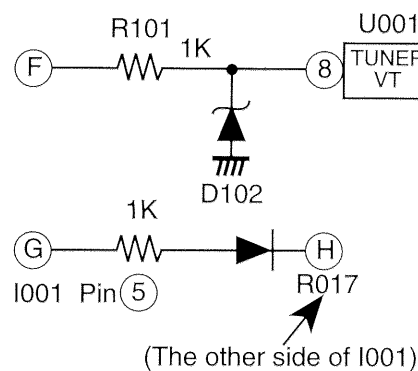


- Marks
- 0.2 MHz (10CH)
 - 1 MHz
 - 2 MHz
 - 3.6 MHz
- Output level 91 ± 3 dBμ (50Ω load)
Modulation 90 ~ 70%

- Check the signal at TP-12 as follows
- Check the following voltages:



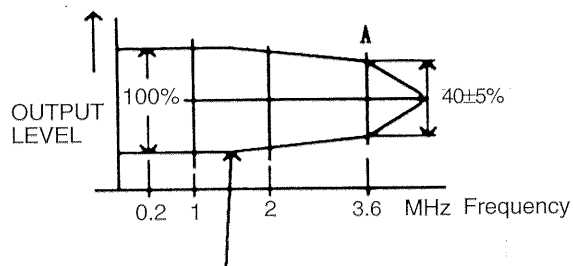
- Same as 4-1-1 (1).
- Same as 4-1-1 (2).
- Tuner VTi (F) POINT: 42V
- Connect a diode (IS2076, ISS270TA) to (G)~(H)
- Receive a color bar signal.



(The other side of I001)

Adjustment Procedure

- Adjust tuner IFT coil so that the output level of 0.2MHz is reference level (100%) and 3.6MHz level is $40 \pm 5\%$. (At that time, do not turn tuner IFT coil more than 1 turn.)

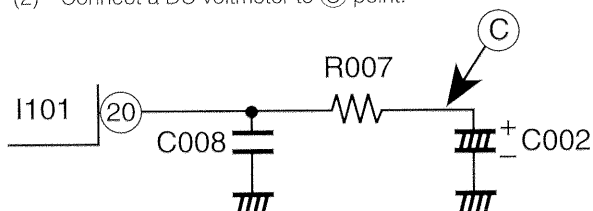


- Check that 1MHz~2MHz level is 70%~100%

4-1-3 VCO for OSD adjustment

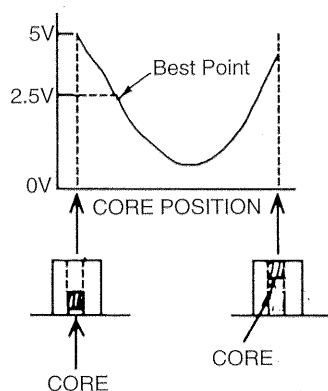
Adjustment Preparation

- Receive color bar or circle pattern signal.
- Connect a DC voltmeter to (C) point.



Adjustment Procedure

- Adjust L001 so that the voltmeter is $2.5 \pm 0.2V$.

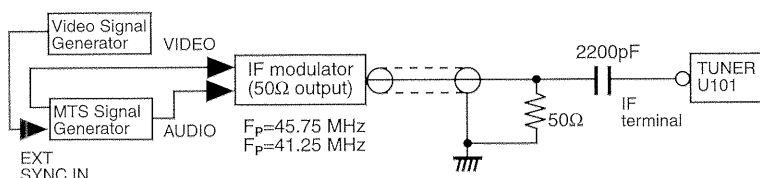


4-2 MTS Adjustment

4-2-1 Input Level Adjustment

Adjustment Preparation

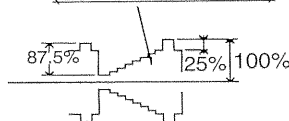
- Apply a signal to tuner (U101) using the jig shown below.



Note: Video signal and audio signal should be synchronized.

IF modulator output signal wave form

(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:

- R=0 (L only), 300 Hz, 30% modulation (see note)
- R=0 (L only), 3 KHz, 30% modulation (see note)

Monaural signal:

- Monaural, 40 Hz 100% modulation (PRE-EN OFF)

SAP signal:

- SAP, 300 Hz 30% modulation (see note)

Adjustment Preparation

- Connect AC voltmeter V to I402 pin (26).
Use the AC voltmeter of matsushita made, model VP-950C or equivalent.
- Same as item 4-1-1 (2).
(Apply +B to I201, I402). Refer to item 4-3.
- Same as item 4-1-1 (1)
- Select adjustment code "A04"

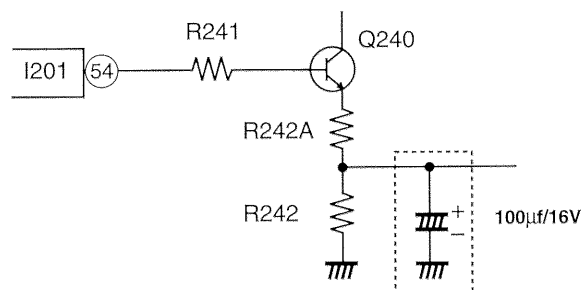
Adjustment Procedure

- Adjust the data "A04" to $VO = \text{sig } 500m \text{ Vrms} \pm 10m \text{ Vrms}$ at I402 pin (26).

4-3 Stereo VCO Adjustment

Adjustment Preparation

- Same as items 4-1-1 (1), (2), (4).
- Connect a frequency counter to I402 pin (26). Use the probe of 1:1. (Probe standard $R_i \leq 1M \Omega$, $C_i \leq 15pF$)
- Input of I402 pin (7) is no signal.
- Select adjustment code "A01".
- Connect a capacitor (100μf/16V) as follows.



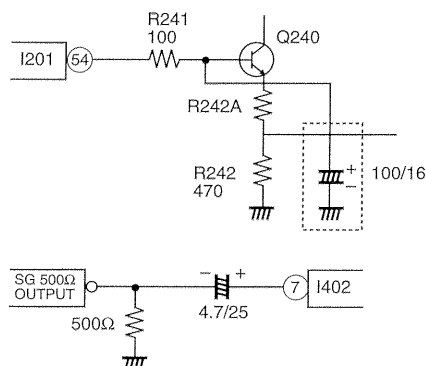
Adjustment Procedure

- Adjust the data to set to $15.73 \pm 0.1 \text{ KHz}$ by "◀▶" keys.
- Delete capacitor (100μf/16V).

4-4 Filter Adjustment

Adjustment Preparation

- Set capacitor 100uF/16V as shown as follows.
- Apply the signal to I402 pin (7) with the jig shown as follows.



(a) SG output signal spec.

① FREQUENCY

$f = 15.73 \text{ KHz}$ (sine wave)

② Signal Level

$V = 100 \text{ mVrms}$

- (4) Connect an AC voltmeter or oscilloscope to I402 pin ②⑥.
- (5) Select adjustment code "A03".

Adjustment Procedure

- (1) Adjust the data so that the voltage of I402 ②⑥ pin is minimum by "◀▶" keys.

4-5 Separation Adjustment

(The adjustment of items 4-2-1 and 4-4 must be completed first)

Adjustment Preparation

- (1) Use the same jig as input level adjustment
- (2) Connect an AC voltage meter through AUDIO AMP. to I402 pin ②⑥ or connect an oscilloscope.
- (3) Select adjustment code "A06" and set data "D032".

Adjustment Procedure

- (1) Select sound input signal ① and select adjustment code "A05" and adjust by "◀▶" keys so that 300Hz level is minimum (L separation adjustment)
 - (2) Select sound input signal ② and select adjustment code "A06", and adjust by "◀▶" keys so that 3KHz level is minimum.
 - (3) Repeat (1) and (2).
- Adjustment precision: within +1dB from minimum point.

4-6 SAP VCO Adjustment

Adjustment Preparation

- (1) Connect a frequency counter to I402 pin ②⑥.
- (2) Select adjustment Code "A02".
- (3) Connect same jig in item 4-3.

Adjustment Procedure

- (1) Adjust the data by "◀▶" keys so that frequency is $78.67 \pm 0.5 \text{ KHz}$.

4-7 Cut-Off Adjustment (Picture Adjustment)

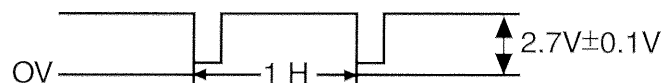
Adjustment Preparation

- (1) Connect an oscilloscope at R, G, B output.
- (2) Receive circle pattern signal.

	I201
R output	pin ①⑨
G output	pin ②⑩
B output	pin ③⑪

Adjustment Procedure

- (1) Select adjustment code "P06" and press "ENTER" button.
 - (2) Adjust R cut-off data as that R output waveform should be followed by "◀▶" key.
- Adjustment for G and B are the same procedure as R cut-off adjustment. The only difference is the data for G cut-off is "P07" and B cut-off is "P08".



4-8 Deflection Circuit Picture Adjustment

4-8-1 Horizontal Center Adjustment

Adjustment Preparation

- (1) Apply heat-run 5 minutes or more after the power is turned on.
- (2) Receive circle pattern signal.
- (3) Set CONTRAST maximum and others center.

Adjustment Procedure

- (1) Adjust horizontal center so that difference of right and left size marker is within 0.5 by adjustment code "P03"

4-8-2 Vertical Size Adjustment

Adjustment Preparation

- (1) Apply heat-run 5 minutes or more after the power is turned on.
- (2) Receive circle pattern signal, and set CONTRAST maximum and others center.
- (3) The set should face the north or south direction.

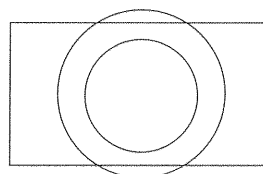
Adjustment Procedure

- (1) Adjust vertical center and size so that the outer circle of the circle pattern is like the figure below by using "◀▶", "▲▼" keys.

V Center
V Size

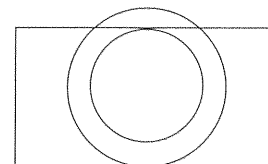
Adjustment Code
"P04"
"P05"

(i) Standard Condition



1/2 of the width of outer circle comes to the screen.

(ii) When the picture center is above CPT center at V center is minimum



When the picture center is above CPT center, adjust so that the bottom of the inner circle comes in contact with the TOP of the screen.

4-9 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 the color temperature control (white control) to warm.
- (6) Turn the screen adjusting VR fully counterclockwise.
- (7) Set adjustment mode "P06" and press "ENTER" button to set cut-off mode again. Press "ENTER" button to return to normal mode.

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.
- (2) Do not change the cut-off data (this data is named "CODE-A") corresponding to the color first appearing.
- (3) Turn the screen fully clockwise adjusting VR when a bright color lines does not appear.
- (4) Adjust the cut-off data except Code-A so that the red, green and blue bright colored line appear on the screen equally by using "◀, ▶, ▲, ▼" key.
- (5) Set to normal mode by pressing "ENTER" key.
- (6) Adjust picture control so the indication of the brightness meter is 80% of the full scale. Then, change G and B data by using "◀▶" key and adjust the high-brightness white balance.
- (7) Adjust picture control to minimum and check that the low-brightness white balance is obtained by directly observing the low-brightness without using a mirror.
- (8) When the low brightness white balance is not obtained, adjust other low-brightness white balance code except Code-A and return to item (6).
White balance color temperature setting 7,200° K
- (9) Set white control (color temperature control) to cool, and check that color temperature is approx. 9,300° K.

	Adjustment Code
R cut off	P06
G cut off	P07
B cut off	P08
G drive	P09
B drive	P10

4-10 Sub Black Level Adjustment

Adjustment Preparation

- (1) Apply heat-run for 10 minutes or more after the power is turned on.
- (2) Receive color bar signal.
- (3) Set the vertical incident illumination on the CPT surface to 20 lux or less.
- (4) Set BRIGHTNESS control to the center position.
- (5) Set white control to WARM.
- (6) Set adjustment code "P11" by remo-con.

Adjustment Procedure

- (1) Adjust "DATA" by using "◀▶" keys. The background of A1, A2 set to black and A3 is set lighter black.

W	Y	CY	G	MG	R	BL
A7	A6	A5	A4	A3	A2	A1
B						
D						
Q	I	W100%			BLK	

The background is set to black. Perform the adjustment without observing the boundary parts.

The background is set to lighter black.

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

4-11 AGC Adjustments

Adjustment Preparation

- (1) After all the adjustments are finished, heat-run 5 minutes or more in signal receiving condition.
- (2) Receive circle pattern signal.
- (3) Set PICTURE to MAXIMUM and BLACK LEVEL to on-screen display center.
- (4) Antenna input power: -53dBm
- (5) Connect DC voltmeter of internal resistance 1MΩ or more to TP15.
- (6) Set adjustment code "P02".

Adjustment Procedure

- (1) Adjust AGC data until the indication of DC voltmeter does not change any more at the maximum point. The reading of DC voltmeter is named V1. Adjust AGC data so that the indication of DC voltmeter is $(V1 - (0.5 \pm 0.2V))$.

4-12 Sub Tint Adjustment

Set adjustment code "P13".
Set data "-10" by "◀▶" keys.

4-13 Sub Sharpness Adjustment

Set adjustment code "P14".
Set data "004" by "◀▶" keys.

4-14 PinP Color Adjustment

Set adjustment code "P15".
Set data "34" by "◀▶" keys.

4-15 PinP Tint Adjustment

Set adjustment code "P16".
Set data "28" by "◀▶" keys.

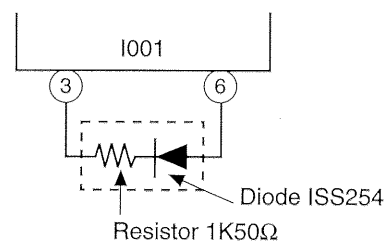
II. FUNCTION SETTING

M3LXU2 Chassis has the data for setting variety functions in EEPROM (I002).

Microcomputer (I001) set the functions needed for each model according to EEPROM data (memory switch data).

1. HOW TO SET MEMORY SWITCH SETTING MODE

Connect a diode as follows at power on. (Continue connection)



An OSD will appear on screen as follows.

MEMORY SETTING MODE

S - IN	0	1
INT. SPEAKER	0	1
AUX 1	0	1
AUX 2	0	1
POWER ON 1	0	1
POWER ON 2	0	1
P IN P 1	0	1
P IN P 2	0	1
M PAL	0	1
COMB FILTER	0	1
POWER RESUME	0	1
WATCH DOG	0	1

Function name
(Yellow background shows cursor position)

Data
(Yellow background shows selected data)

Cursor and data are changed by "◀▶▲▼" button.
After setting data, press "ENTER" button. Then MEMORY INITIALIZE operation start. After complete MEMORY INITIALIZATION, TIMER SOUND is outputted from left speaker.

Note: Press "MENU" to escape from setting mode.

2. EXPLANATION OF FUNCTIONS

- (1) S-IN
Select S-Video mode or not.
Data "1" apply S-VIDEO mode.
Data "0" do not apply S-VIDEO mode.
- (2) INT. SPEAKER
This function selects INTERNAL SPEAKERS ON/OFF MODE.
Data "1" apply INTERNAL SPEAKERS ON/OFF MODE.
Data "0" do not apply.
- (3) AUX 1, AUX 2
This is setting of VIDEO INPUT MODE.
AUX 1 AUX 2
Data 1 1 apply VIDEO INPUT MODE
Data 0 0 apply NO VIDEO INPUT MODE
- (4) POWER ON 1, POWER ON 2
Initial settings at plug in
POWER ON 1, POWER ON 2
0 0 Power off mode (normal)
1 0 Power on at last state
0 1 Power on at video mode
1 1 Power on at TV (4CH) mode
- (6) P IN P
Select PinP1 and PinP2 function.
Data "1" apply on P in P model.
Data "0" do not apply on non P in P model.
- (7) M PAL
See Table 2 for setting data.
- (8) COMB FILTER
Select COMB FILTER MODE or not.
Data "1" apply on COMB FILTER model.
Data "0" do not apply on nonCOMB FILTER model.
- (9) POWER RESUME
Data "1" apply POWER RESUME function.
Data "0" do not apply POWER RESUME function.
- (10) WATCH DOG
Data "1" apply WATCH DOG function.
Data "0" do not apply WATCH DOG function.

TABLE 2 MODEL AND DATA TABLE

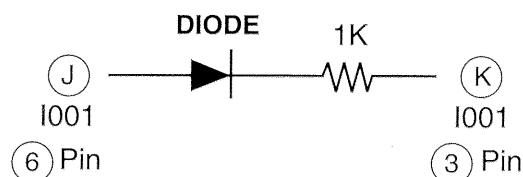
DATA NAME	MODEL NAME
	27CX7B/27CX75B(C767)
S-IN	1
INT. SPEAKER	1
AUX 1	1
AUX 2	1
POWER ON 1	0
POWER ON 2	0
P IN P 1	1
P IN P 2	0
M PAL	1
COMB FILTER	1
POWER RESUME	1
WATCH DOG	0

III. MEMORY INITIALIZE

1. TIMER SOUND OPERATION CHECK

Adjustment Procedure

- (1) Connect diode (ISS270TA or IS2076) to (J)~(K)



- (2) Confirm OSD-memory switch appears.
- (3) Remove diode.
After this operation, each setting should become to delivery setting automatically.
- (4) When the above operation is being performed check that a beeping sound is made from the left speaker.

IV. OPERATION CHECK

1. AFC OPERATION CHECK

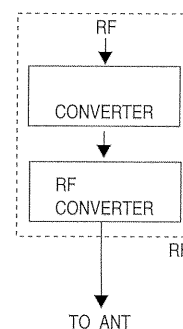
Adjustment Preparation

- (1) Connect the jig as shown below to the ANT terminal.

Adjustment Procedure

- (1) Receive a standard carrier (not offset) with the channel up/down or direct selection buttons.
 - (2) Receive an offset signal of +1.5MHZ.
 - (3) Receive an offset signal of -1.5MHZ.
Check that it is pulled into the standard tuning point.
(Perform the channel selection operation.)
- Note:** Modulation signal should be used at the circle pattern and the color bar signal.

Checking jig (All channel converter can be used)



2. CHANNEL SELECTION CIRCUIT OPERATION CHECK

2-1 Channel up/down selection

Adjustment Preparation

- (1) Set the TV set so that VHF (11,13CH), UHF (14, 46, 63CH) and CATV (A, E, P, W, CH) can be received.
- (2) Set SIGNAL SOURCE mode to ANTENNA.
(Press the MENU key, and select the SETUP and SIGNAL SOURCE mode using (▶) button.

Adjustment Procedure

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

Adjustment Preparation

- (3) Set SIGNAL SOURCE 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 SIGNAL SOURCE mode to CATV 2.

Adjustment Procedure

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

Adjustment Preparation

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

Adjustment Procedure

- (1) Set SIGNAL SOURCE to ANTENNA.
- (2) Select AUTO CHANNEL SET and press (▶) button.
After AUTO CHANNEL SET operation is completed, by

pressing the channel UP (▲) or DOWN (▼) button, check that the channels having broadcast signal (s) can be received.

- (3) Set SIGNAL SOURCE 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 CHANNEL LIST mode.
(Menu under SET-UP mode)

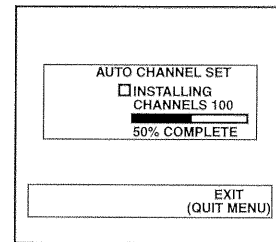
Adjustment Procedure

- (5) Check that the above items is scanned and the channels is listed "ON" on the CHANNEL LIST.

Note: 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: Display while AUTO CHANNEL SET is operating.



Note: CATV channels, actual input channel numbers and indicated channel numbers shown in Table 3 below.

TABLE 3

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																						

2-2 VOL 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 (▼) button.



2-3 POWER ON/OFF

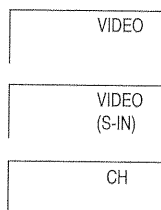
Adjustment Procedure

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

2-3-1 INPUT

Adjustment Procedure

- (1) Check that the OSD displays by pressing the INPUT button, such as below.
Receiving CH → VIDEO
→ VIDEO (S-IN)
→ Receiving CH

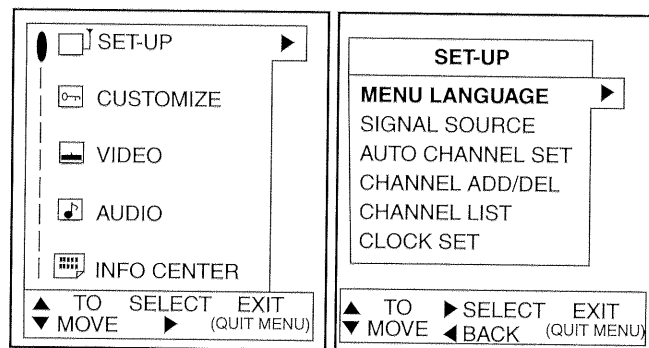


2-4 MENU

Adjustment Procedure

- (1) Check that the MENU OSD displays by pressing MENU button.

Note: MENU OSD is displayed as below.



1st page

2nd page of SET-UP mode

- (2) After MENU OSD is displayed.
Check that the keys function change as below.
MENU → MENU
CH UP → ▲ Key
CH DOWN → ▼ Key
VOLUME UP → ► Key
VOLUME DOWN ... → ◀ Key
INPUT → INPUT

2-5 MENU mode (using Remo-con)

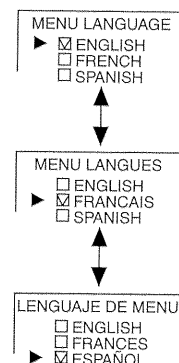
2-5-1 SET UP mode

Adjustment Preparation

- (1) Set to MENU LANGUAGE mode.

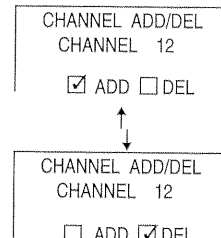
Adjustment Procedure

- (1) Check that language (ENGLISH, FRENCH, SPANISH) is selected by pressing the ▲, ▼ button.



Adjustment Preparation

- (1) Set to CHANNEL ADD/DEL mode.

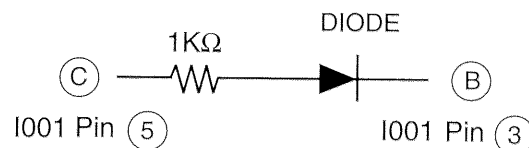


Adjustment Procedure

- (1) Check that ADD or DELETE is selected by pressing the ► button.

Adjustment Preparation

- (1) Connect diode (IS2076, ISS270TA or equivalent) between (C) and (B).

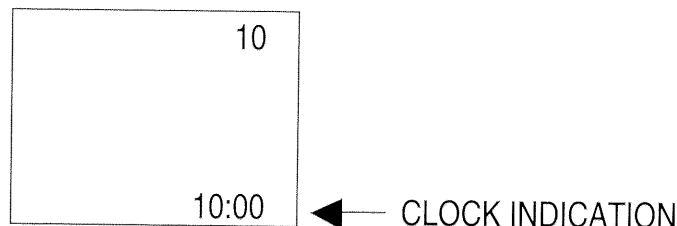


Remarks: The addition of the above diode intends to check the operation with clock counting operation as 60 times mode.

- (2) Set to CLOCK SET mode.

Adjustment Procedure

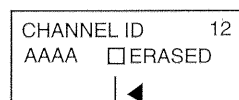
- (1) After clock setting is done and the indication disappears, perform CH indication. Check that clock indication is displayed in addition to the CH indication, and that the clock indication is going to 1 second per minute.



2-5-2 CUSTOMIZE mode

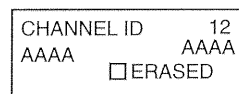
Adjustment Preparation

- (1) Set to CHANNEL ID mode.



Adjustment Procedure

- (1) Select the letter "A" by pressing the ▲,▼ button, and select the input position by pressing the ► button.
- (2) After pressing the ◀ button, check that it indicates "AAAA" same as CH No. indication.
- (3) Select CHANNEL ID Mode again. Select the "CANCEL" by pressing the ► button and press the ◀ button.
- (4) Check that "AAAA" is deleted when the CH No. is indicated after pressing the "MENU" button.



Adjustment Preparation

- (2) Set to FAMILY FAVORITES mode.

Adjustment Procedure

- (1) Select FAMILY FAVORITES option by using ► button.
- (2) Select the four categories and the registration position by using the cursor buttons.
- (3) Change to your favorite channel.
- (4) Press MENU button to set your favorite channel to be registered.
- (5) To delete your favorite channel, enter 00 as your channel, then press MENU button.

Adjustment Preparation

- (3) Set to CHILD LOCK OPTIONS mode.

Adjustment Procedure

- (1) Select CHILD LOCK OPTIONS, then press ► button to enter.
- (2) Press "0" button three times ("000"), then press ► button to enter to set child lock options ON/OFF.
- (3) Check that the picture becomes pitch-dark, and no sound comes out when CHANNEL is set to ON.
- (4) Check that the picture and sound return to the previous condition when CHANNEL is set to ON.

Note: The following is the CHILD LOCK OPTION

Mode	Options
CHANNEL LOCK	TO LOCK/UNLOCK TV SIGNAL FROM VIEWING.
VIDEO LOCK	TO LOCK/UNLOCK OF VIDEO (S-IN includes,too.)
QUICK LOCK	TO LOCK/UNLOCK TV AND VIDEO at the same time.
TV TIME OUT	TO LOCK TV SIGNAL for a specific time period.
SECRET CODE CHANGE	TO CHANGE SECRET CODE.

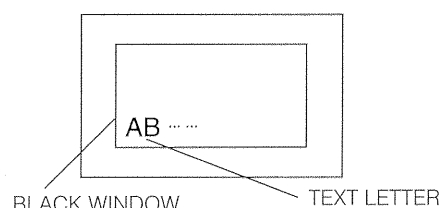
Adjustment Preparation

- (1) Set the mode to CLOSED CAPTION.
- (2) Receive a signal having a CLOSED CAPTION signal.

Adjustment Procedure

- (1) Set DISPLAY setting to "ON" with ►,◀ 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 or 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.
- (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 that the CAPTION letters disappear.



2-5-3 VIDEO mode

Adjustment Preparation

- (1) Receive the color bar signal.
- (2) Set to CONTRAST mode.

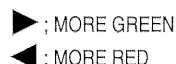


Adjustment Procedure

- (1) Check that CONTRAST is changed by pressing control ◀/▶ buttons.

Adjustment Preparation

- (3) Set to TINT mode.

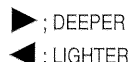


Adjustment Procedure

- (2) Check that TINT is changed by pressing control ◀/▶ buttons.

Adjustment Preparation

- (4) Set to COLOR mode.

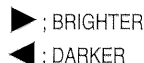


Adjustment Procedure

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

Adjustment Preparation

- (5) Set to BRIGHTNESS mode.

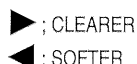


Adjustment Procedure

- (4) Check that BRIGHTNESS is changed by pressing control ◀/▶ buttons.

Adjustment Preparation

- (6) Set to SHARPNESS mode.



Adjustment Procedure

- (5) Check that SHARPNESS is changed by pressing control ◀/▶ buttons.

Adjustment Preparation

- (7) Set to COLOR TEMP. mode.



Adjustment Procedure

- (6) Check that COLOR TEMP. is changed by pressing control ◀/▶ buttons.

Adjustment Preparation

- (8) Set to RESET mode.

Adjustment Procedure

- (7) Check that all picture setting modes return to delivery settings by pressing ► button.

2-5-4 AUDIO mode**Adjustment Preparation**

- (1) Set to BALANCE mode.

► ; RIGHT
◄ ; LEFT

Adjustment Procedure

- (1) Check that BALANCE is changed by pressing control ◄/► buttons.

Adjustment Preparation

- (2) Set to BASS mode.

► ; STRONG
◄ ; WEAK

Adjustment Procedure

- (2) Check that BASS is changed by pressing control ◄/► buttons.

Adjustment Preparation

- (3) Set to TREBLE mode.

Adjustment Procedure

- (3) Check that TREBLE is changed by pressing ◄/► buttons.

Adjustment Preparation

- (1) Set to VOLUME CORRECTION mode.

Adjustment Procedure

- (1) Select the registration point using the cursor button and received Channel No. is memorized by pressing the MENU button.

Note: 4CH can be memorized.

- (2) Check that volume level changes and sets 100%–50% (5% step) using ▲, ▼ button.

Adjustment Preparation

- (4) Set to RESET mode.

Adjustment Procedure

- (4) Check that all sound setting modes return to delivery settings by pressing ► 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.

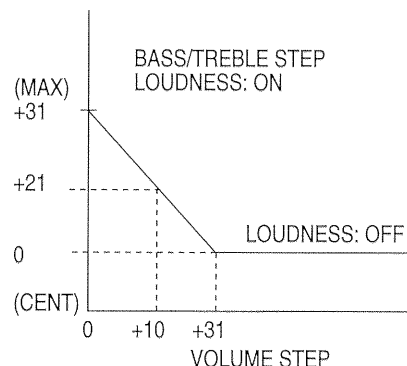
Adjustment Procedure

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

LOUDNESS	BASS	TREBLE
OFF	CENTER	
ON	+21 STEP	

(when volume is 10)

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



V. + B ADJUSTMENT (THIS ADJUSTMENT MUST BE DONE AFTER 30 SECONDS OR MORE HEAT-RUN)

- (1) Receive Circle pattern signal.
- (2) Set BRIGHTNESS control and CONTRAST control to maximum.
- (3) Set the AC voltage 120V±1V (Distortion is 3% or Less)
- (4) Connect the DC voltmeter to R909.
- (5) Adjust R928 so that the indication of the DC voltmeter is 96.0±0.3V.

VI. DEFLECTION CIRCUIT PICTURE ADJUSTMENT OPERATION CHECK

1. M3LXU2 CHASSIS HIGH VOLTAGE LIMITER CIRCUIT OPERATION CHECK

Adjustment Preparation

- (1) Connect a high voltage voltmeter between CPT anode terminal (anode capside) and the ground as shown on the following page.
- (2) Set AC input voltage to 120±3V.
- (3) Receive Circle pattern and set "BRIGHTNESS" and "CONTRAST" to maximum. Adjust Screen VR so that beam current is $I_b \pm 0.1 \text{ mA}$. (The voltage of ABL terminal -C725 both ends should be 12V or less)
- (4) Connect R831 (Q804 collector side) to GND.

Adjustment Procedure

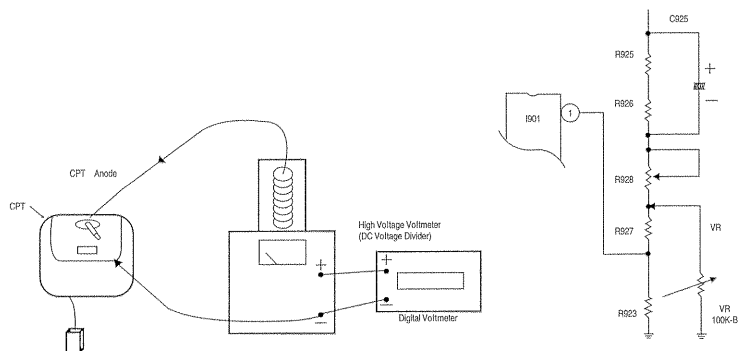
- (1) Check that the normal high voltage and +B voltage is as below.

CHASSIS	EHT ±1KV	IB±0.1mA	IB±0.3V	E1±1.2KV
C767	27.5 (KV)	1.5 (mA)	96.0	32.5

Adjustment Preparation

- (5) Set AC input voltage to $120 \pm 3V$. Then, connect the VR (100K-B) to R925 and ground side as below.

Note: At that time the value of VR should be maximum.



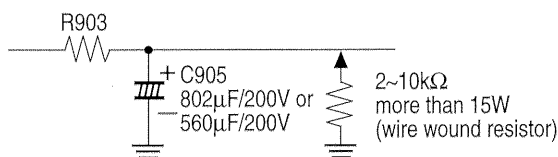
Use the voltmeter with input impedance of 10M Ohm or more with indication to the 1st decimal place.

Adjustment Procedure

- (2) Keep CONTRAST, BRIGHTNESS, and SCREEN VR as in item (3). Reduce the VR value gradually, and check that the picture disappears when high voltage is E1. Immediately after checking that it disappears, turn off the set switch. Remove the VR 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.

2. M3LXU2 CHASSIS FBT PROTECTION CIRCUIT OPERATION CHECK

- (1) Set "CONTRAST" to MAXIMUM, "BRIGHTNESS" to CENTER.
- (2) Connect an 18K Ω 1/2W resistor between +B line and D711 cathode. Check that the picture disappears.
- (3) Immediately after checking, DISCONNECT the power cord of the set.
- (4) Discharge C905 as follows.



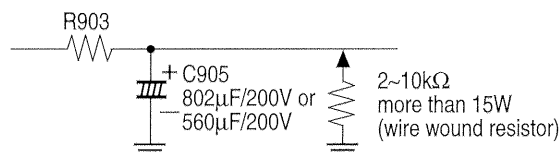
3. CHECK 16V SHORT CIRCUIT PROTECTION CIRCUIT

Adjustment Preparation

- (1) Set "CONTRAST" to MAXIMUM, "BRIGHTNESS" to CENTER.

Adjustment Procedure

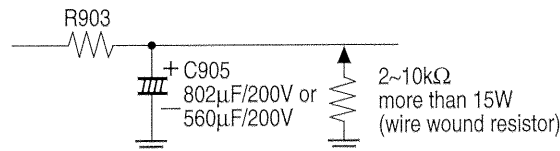
- (1) Connect 10K Ω resistor between Q945 base and GND and check that the picture disappears.
- (2) Disconnect resistor and the power cord immediately.
- (3) Discharge C905 as follows.



4. LOAD SHORT CIRCUIT PROTECTION CIRCUIT OPERATION CHECK

Adjustment Procedure

- (1) Receive circle pattern signal.
- (2) Set "CONTRAST" to MAXIMUM, "BRIGHTNESS" to CENTER.
- (3) After turning on the switch of the set, confirm that the DC voltage of D019, D020, D703 and D717 at each cathode side should be $6V \pm 1.0V$.
- (4) Short-circuit both ends of R091 and check that the picture disappears within 2-3 sec.
- (5) Disconnect short-circuit for R091 and the power cord.
- (6) Discharge C905 as follows.



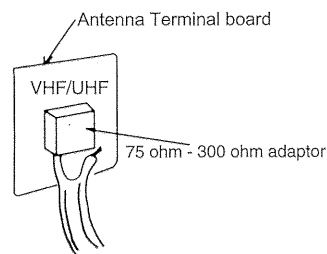
5. WEAK ELECTRIC FIELD CHECK

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 below.
- (2) Turn to no signal condition.

Adjustment Procedure

- (1) Check that the phenomena such as oscillation and abnormal beat etc. do not occur in all the channel.



VII. P IN P OPERATION CHECK

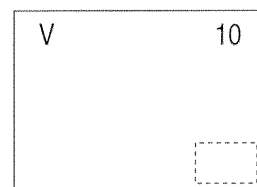
1. P IN P

Adjustment Preparation

- (1) Connect a signal to ANT input and receive it.
- (2) Connect a signal to VIDEO input.

Adjustment Procedure

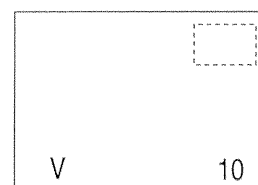
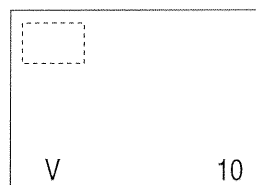
- (1) Check that by pressing "P in P" button of remo-con, sub-picture alternates between ON and OFF. When sub-picture is ON, check that the channel number and "V" are displayed.



2. MOVE

Adjustment Preparation

- (1) Press "P in P" button to set to P in P mode.
- (2) Press "INPUT" button to change sub-picture between VIDEO input and MAIN picture.



Adjustment Procedure

- (1) Check that by pressing MOVE button of remo-con twice quickly, sub-picture moves counterclockwise. At this time, check that sub-picture "V" also moves as well.
- (2) Check that by pressing MOVE button once and quickly pressing the cursor buttons, the sub-picture move to the direction of the cursors.

Note: When sub-picture is in the upper side of the screen, the channel number of main picture comes to the lower right, as shown in the figure on the preceding page.

3. SWAP**Adjustment Preparation**

- (1) Press "P in P" button to set to P in P mode.

Adjustment Procedure

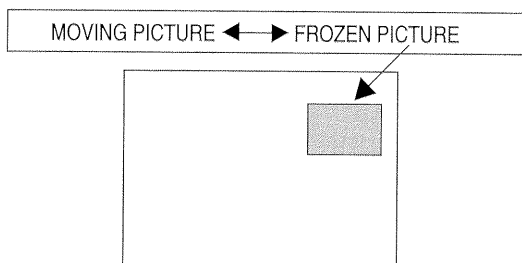
- (1) Check that by pressing "SWAP" button, the contents of main picture and sub-picture are exchanged.
- (2) If the main picture and sub-picture are receiving the same channel signal, "SWAP" button will change to video signal and vice versa.

4. FREEZE**Adjustment Preparation**

- (1) Press "P in P" button to set to P in P mode.
- (2) Sub-picture should be moving picture by pressing "SWAP" button.

Adjustment Procedure

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



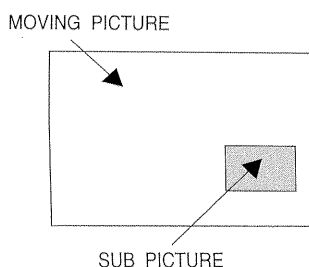
- (2) Press "P in P" button to make sub-picture disappear.

5. FREEZE (AT P IN P OFF)**Adjustment Preparation**

- (1) Connect a signal to ANTENNA input and VIDEO input. Both signals should be moving picture.
- (2) Set P in P to OFF.

Adjustment Procedure

- (1) Check that frozen picture of main screen appears by pressing FREEZE button of the remo-con.
- (2) Check it also in the TV and VIDEO modes.
- (3) Check that sub-picture disappears by pressing FREEZE button at picture frozen.
- (4) Check that it turns to normal P in P sub-picture by pressing P in P button at picture frozen.

**VIII. FINAL ASSEMBLY ADJUSTMENT/COMMON SERVICE ADJUSTMENT****1. PURITY CONVERGENCE ADJUSTMENT**

The magnetic field in 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 unevenness.
- (b) Each single color must not hit any other colors.
- (c) If white or each single color is defective, apply a magnet (s) on CPT for correction.

If any magnet is applied, check it after degaussing.

2. FOCUS ADJUSTMENT

MODEL	CPT	CONDITION	Focus VR setting position
27CX7B C767	A68ADT25X01 (RCA)	• Receive a cross-hatch signal • Contrast control: Maximum • Sharpness control: Center • Brightness control: Where the background is set	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.
27CX75B C767			

IX. MATCHING CHECK WITH OTHER INSTRUMENTS**1. VIDEO INPUT TERMINAL MATCHING CHECK****Adjustment Preparation**

- (1) Input the video signal to the VIDEO IN terminal.
The video signal level should be within 1 ± 0.2 Vp-p (75 ohm termination) with 100% white signal at this time.
- (2) Input the audio signal to the AUDIO IN terminal.
The audio signal level should be $400\text{m Vrms} \pm 20\text{m Vrms}$. (Connect VCR or TV tuner.)
- (3) Connect an audio AMP to the AUDIO OUT terminals.

Adjustment Procedure

- (1) Check that the set receives signal when selecting the INPUT mode by pressing the INPUT (FUNCTION) button of front panel control of the TV set.
- (2) When 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 receive is 25KHZ, the sound level should be as much as external audio signal (400Vrms) level.

2. S-IN INPUT TERMINAL MATCHING CHECK**Adjustment Preparation**

- (1) Connect a video/chroma signal to S-IN terminal.
- (2) Connect a sound signal to AUDIO input terminals.

Adjustment Procedure

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

3. AUDIO OUT LEVEL CHECK**Adjustment Preparation**

- (1) Input the same audio signal as item 1(2) to AUDIO IN terminal (L). At this time, connect nothing to R terminal.
- (2) Input the same audio signal as item 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 HiFi OUT terminals or monitor changes according to "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 VOLUME MAXIMUM 100% modulated signal input.)

X. SAFETY CHECK

1. POLARITY CHECK

This check is performed according to UL standard requirement. There should be electricity between AC Power Cord and Chassis Earth.

XI. MTS OPERATION CHECK

1. STEREO/SA BROADCAST RECEIVING CHECK

Adjustment preparation

- (1) Set the TV set so that an MTS broadcast (STEREO/SAP) can be received.

STEREO	11
or SAP	ST
	or SA

- (2) Set MTS mode to STEREO or SAP mode.

Note: To select between "STEREO/SAP", display sound setting of MTS mode and select AUDIO MENU.

- (3) Set BALANCE to the center.

Adjustment Procedure

- (1) When one of the MTS broadcast stereo SAP is received, check that "ST/SA" is displayed on the screen.
- (2) Stereo broadcast receiving check
 - (a) Select MTS mode and press cursor button ► to display "STEREO" on the screen.
 - (b) When only Lch signal is received, Lch sound comes out from the left speaker.
 - (c) When only Rch signal is received, Rch sound comes out from the right speaker.
 - (d) And when monaural signal is received, monaural sound comes out from both the right and left speakers.
- (3) SAP broadcast receiving check
 - (a) Select MTS mode. Press cursor button ► to display "SAP" on screen.
 - (b) SAP signal comes out from both of the right and left speakers.
 - (c) When no SAP signal, the sound on "MAIN" side (refer to (3)) comes out.

Note: When the channel selection is performed or RECALL button is operated "ST/SA" is shown below the channel no. (approx. for 8 sec.)

2. MTS MODE CHECK

Adjustment Preparation

- (1) Set the TV set so that an MTS broadcast (STEREO/SAP) can be received.
- (2) Set BALANCE to the center.

Adjustment Procedure

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

3. STEREO SEPARATION CHECK

Adjustment Preparation

- (1) Set the TV set so that an MTS broadcast (STEREO/SA) can be received.
- (2) Set MTS MODE to "STEREO".
- (3) 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:

When L only is received (100% modulation)

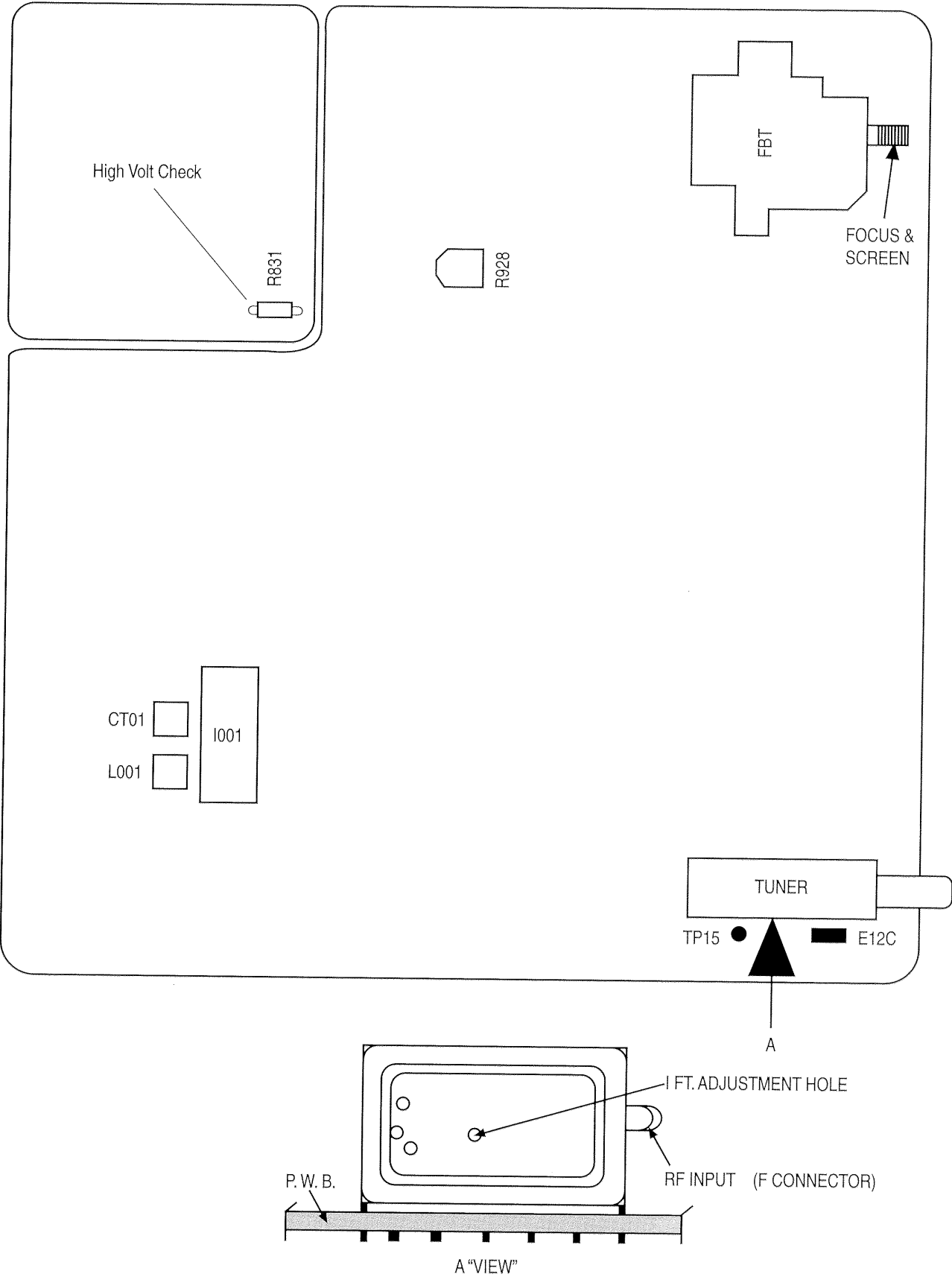
CH	Output Level
L	1.2 Vpp
R	0.21 Vpp or less

XII. SETTING FOR DELIVERY

NAME	SPECIFICATIONS BY MODEL
	C767
SIGNAL SOURCE	ANTENNA
RECEPTION CHANNEL	CH 03
SOUND (VOLUME)	10" ON-SCREEN DISPLAY
INPUT SELECT	TV Mode
CONTRAST	Maximum
COLOR	Center
TINT	Center
BRIGHTNESS	Center
SHARPNESS	Center
COLOR TEMP	COOL
BALANCE	Center
BASS	Center
TREBLE	Center
MTS MODE	STEREO
LOUDNESS	OFF
INTERNAL SPEAKERS	ON
P IN P	OFF
CLOSED CAPTION	OFF
CLOSED CAPTION MODE	C.C.
CLOSED CAPTION CHANNEL	1
MENU LANGUAGE	ENGLISH

XIII. ADJUSTMENT POSITION LIST

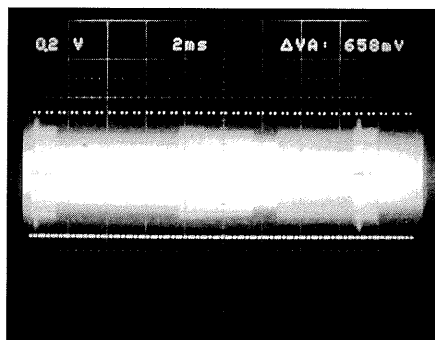
1. M3LXU2 CHASSIS



WAVEFORMS AT EACH SECTIONS

Numbers inside  correspond to locations shown in the circuit diagram

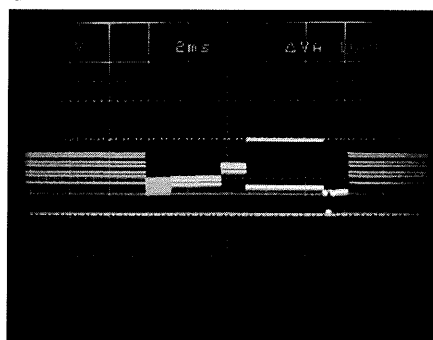
① U101 Pin 7(IF Out)



0.2V/div.

2ms/div.

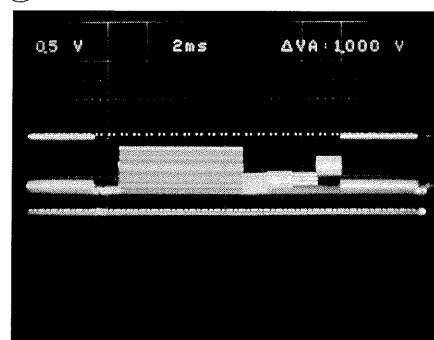
⑤ E301 Pin 8(Y - Out)/I201 Pin 37(TV - In)



0.5V/div.

2ms/div.

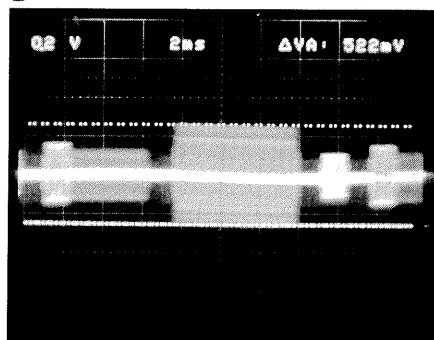
⑨ I301 Pin 3 Video Switch/Q242 Emitter



0.5V/div.

2ms/div.

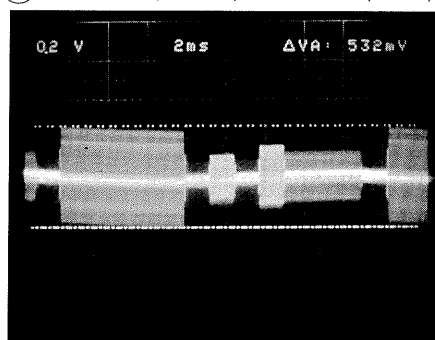
② I501 Pin 3(C - In)/201 Pin 45(C - In)



0.2V/div.

2ms/div.

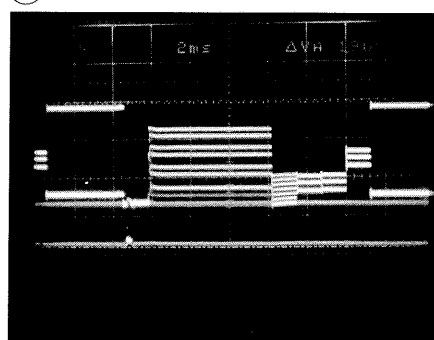
⑥ E301 Pin 6(C - Out)/I201 Pin 45(C - In)



0.2V/div.

2ms/div.

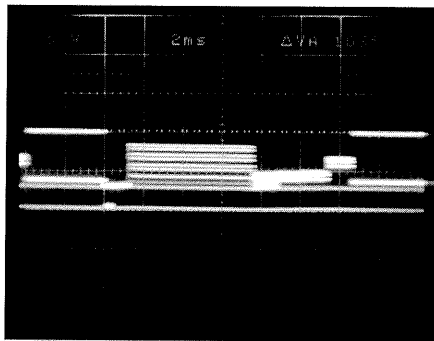
⑩ I201 Pin 41 Video Out



0.5V/div.

2ms/div.

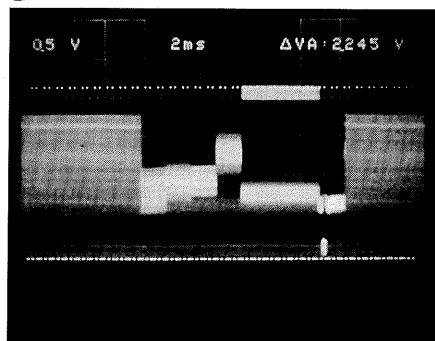
③ I301 Pin 12(C - In)/I201 Pin 43(C - In)



0.5V/div.

2ms/div.

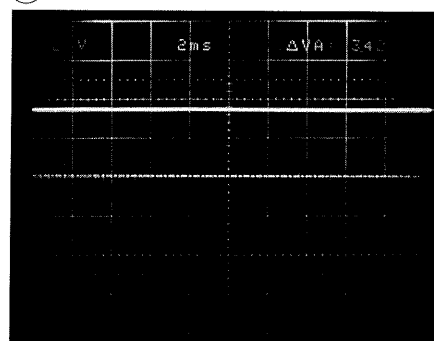
⑦ E301 Pin 4 V(TV)/Q241 Emitter



0.5V/div.

2ms/div.

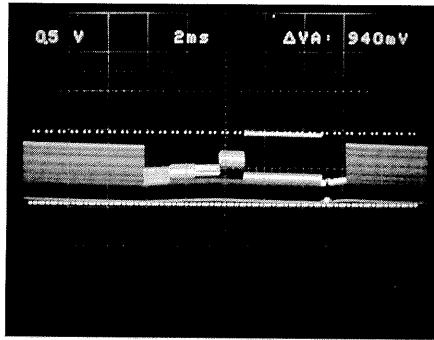
⑪ I201 Pin 44 AFC Out



0.2V/div.

2ms/div.

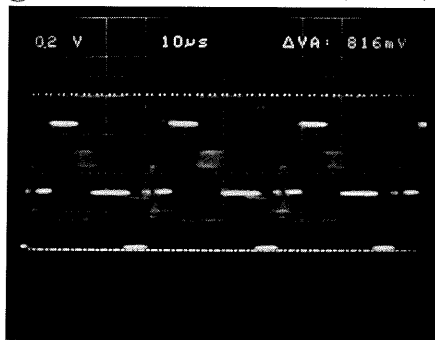
④ E301 Pin 10(C - In)/I201 Pin 45(C - In)



0.5V/div.

2ms/div.

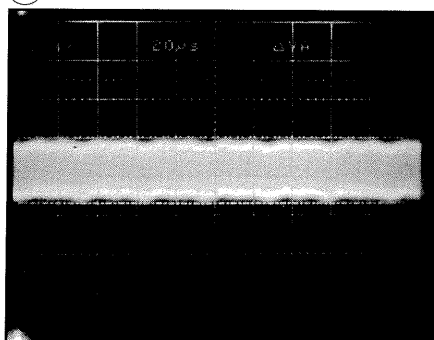
⑧ E301 Pin 2 V(AUX)/I201 Pin 39(AUX - In)



0.2V/div.

10μs/div.

⑫ I201 Pin 52 SIF In



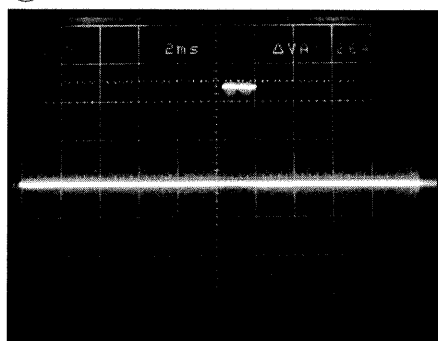
50mV/div.

20μs/div.

WAVEFORMS AT EACH SECTIONS

Numbers inside ○ correspond to locations shown in the circuit diagram

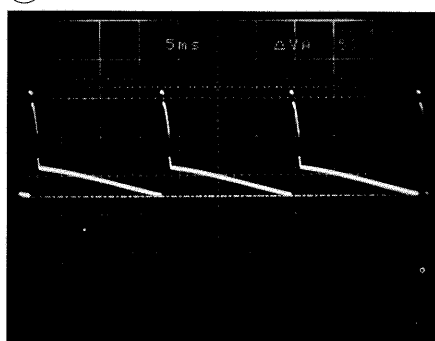
⑬ I201 Pin 14 OSD - BLK



1V/div.

2ms/div.

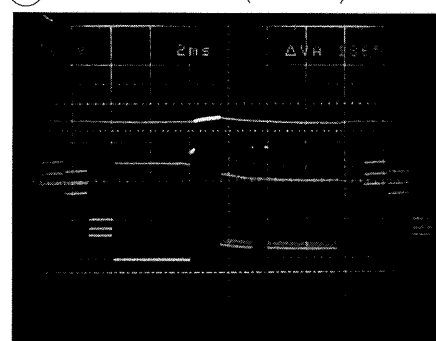
⑰ I601 Pin 2 V - Out



20V/div.

5ms/div.

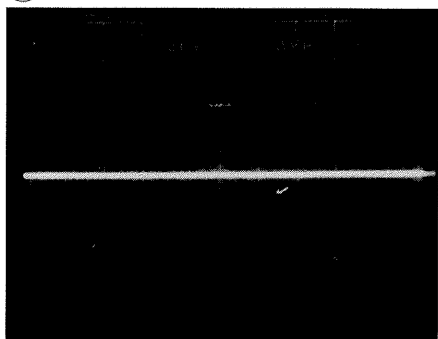
⑳ Q802 Collector (G - Out)



50V/div.

2ms/div.

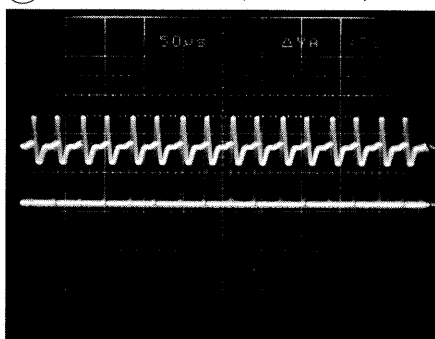
⑭ I201 Pin 15 OSD - BLK R - In



1V/div.

2ms/div.

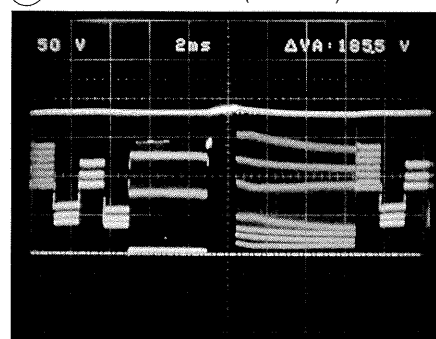
⑱ Q701 Collector (Hor. Drive)



20V/div.

50μs/div.

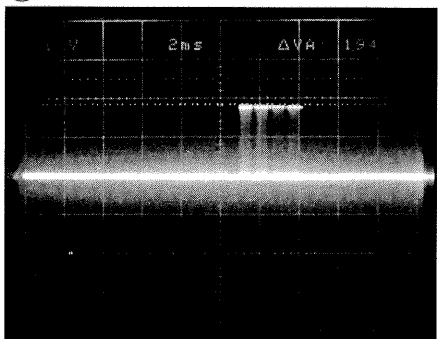
㉑ Q803 Collector (B - Out)



50V/div.

2ms/div.

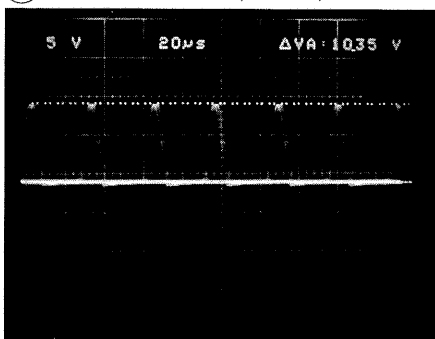
⑮ I201 Pin 16 OSD - BLK G - In



1V/div.

2ms/div.

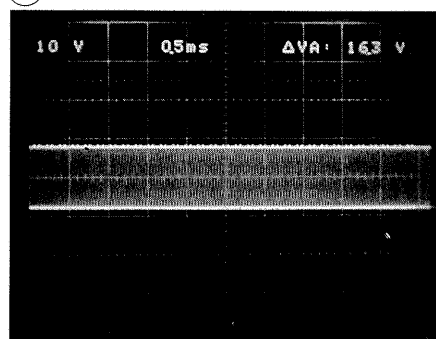
⑲ Q702 Collector (H.O.T.)



5V/div.

20μs/div.

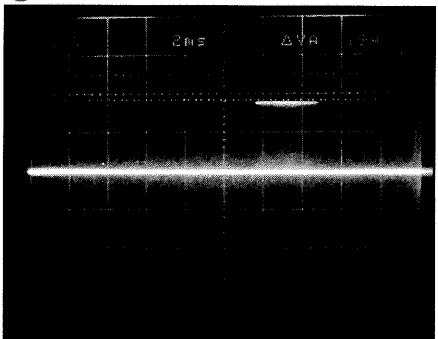
㉓ I401 Pin 12 R Audio Out



10V/div.

0.5ms/div.

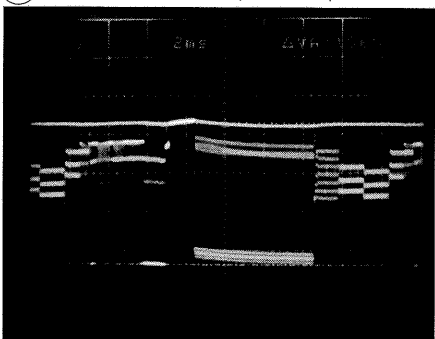
⑯ I201 Pin 17 OSD - BLK B - In



1V/div.

2ms/div.

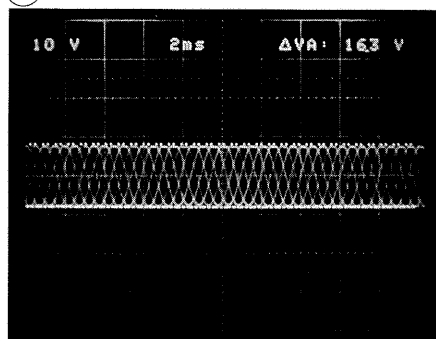
㉔ Q801 Collector (R - Out)



50V/div.

2ms/div.

㉕ I401 Pin 12 L Audio Out



10V/div.

2ms/div.

TROUBLESHOOTING

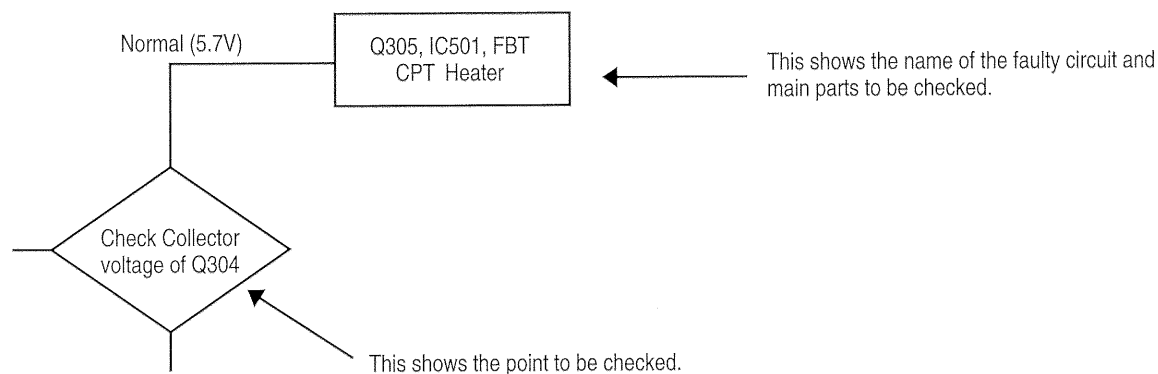
PRODUCT SAFETY NOTE

The shaded and $\triangle$ 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.



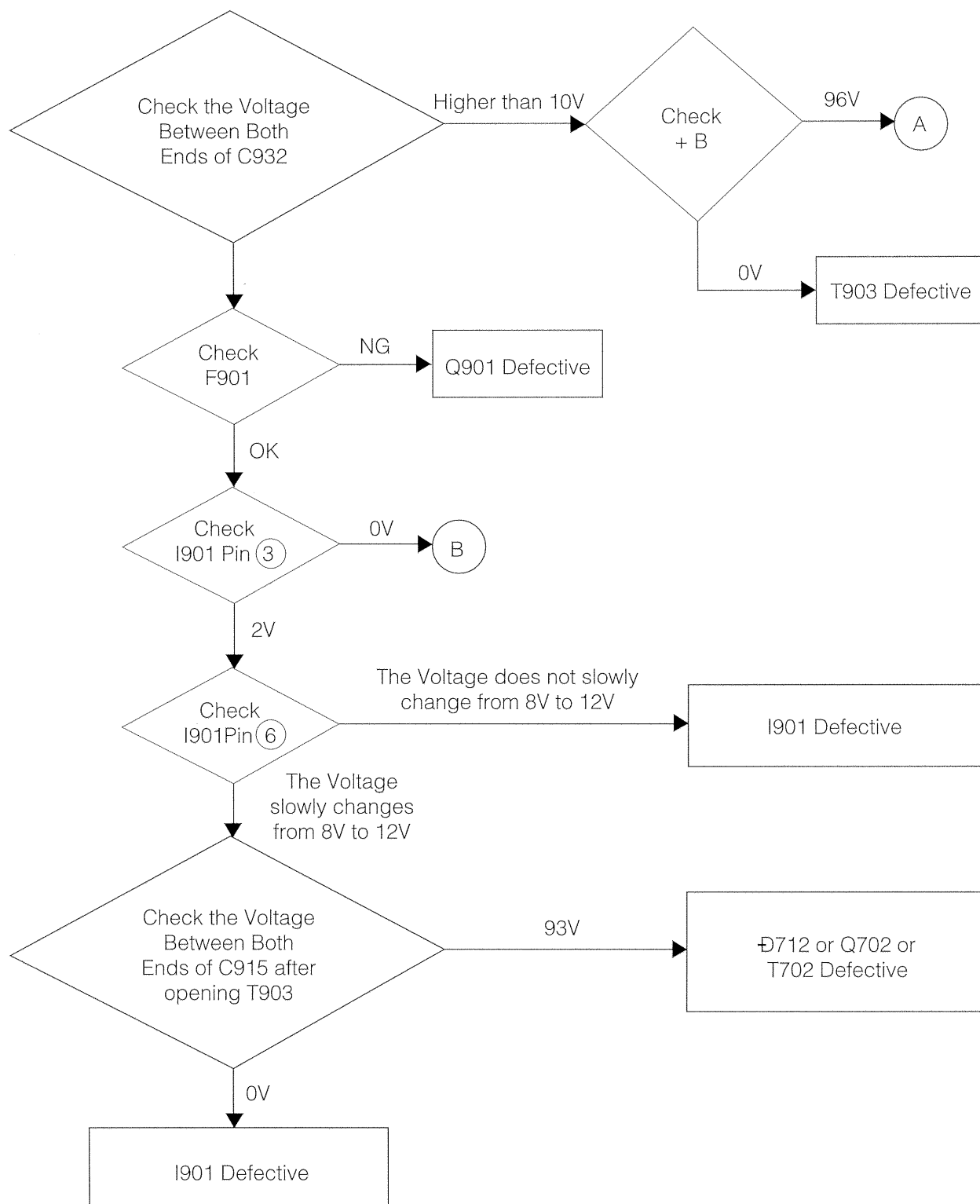
- (2) The voltage shown in the chart may differ to some extent depending on the condition of the set and tester.

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.

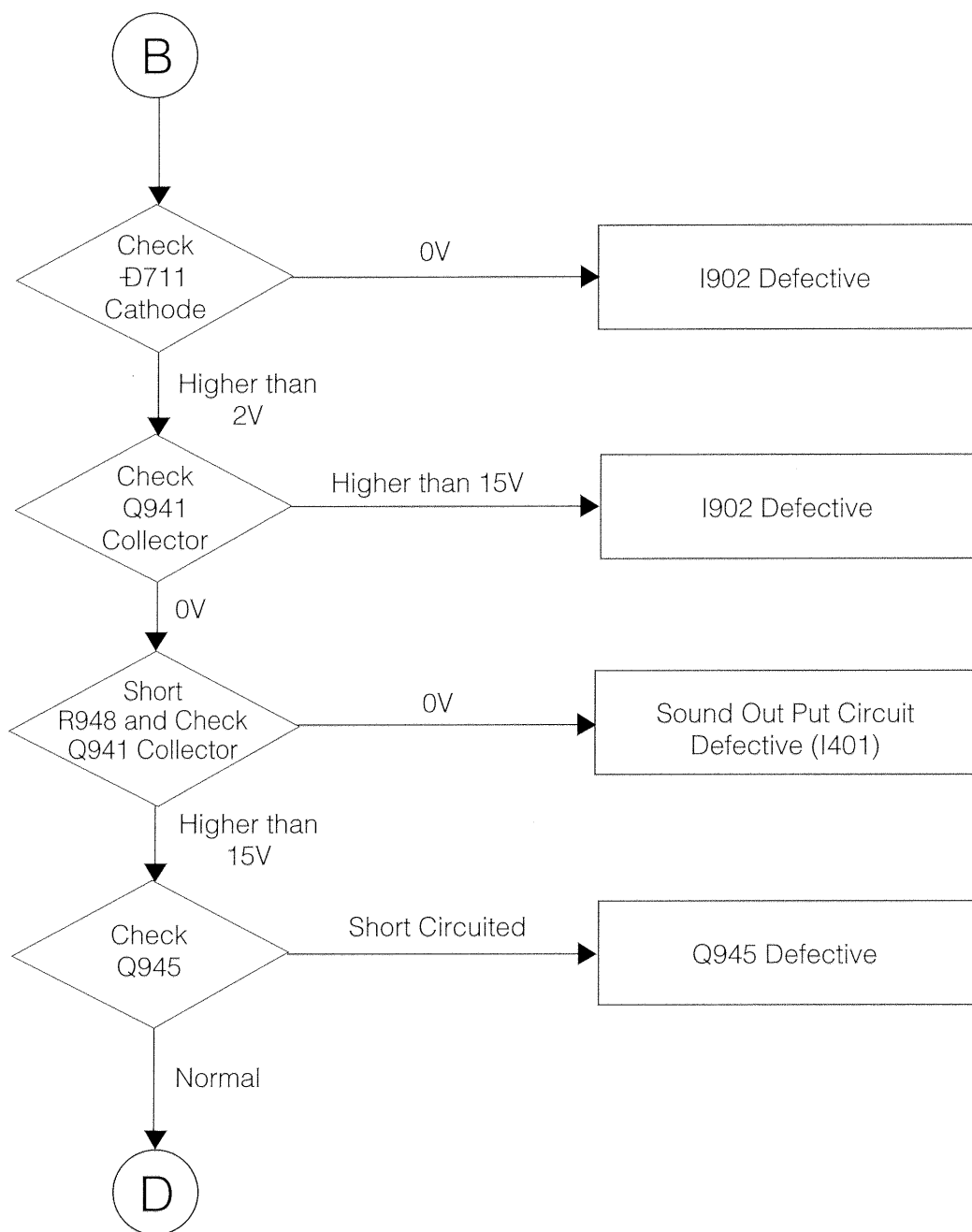
M3LXU2 CHASSIS TROUBLESHOOTING

1. No Raster and Sound



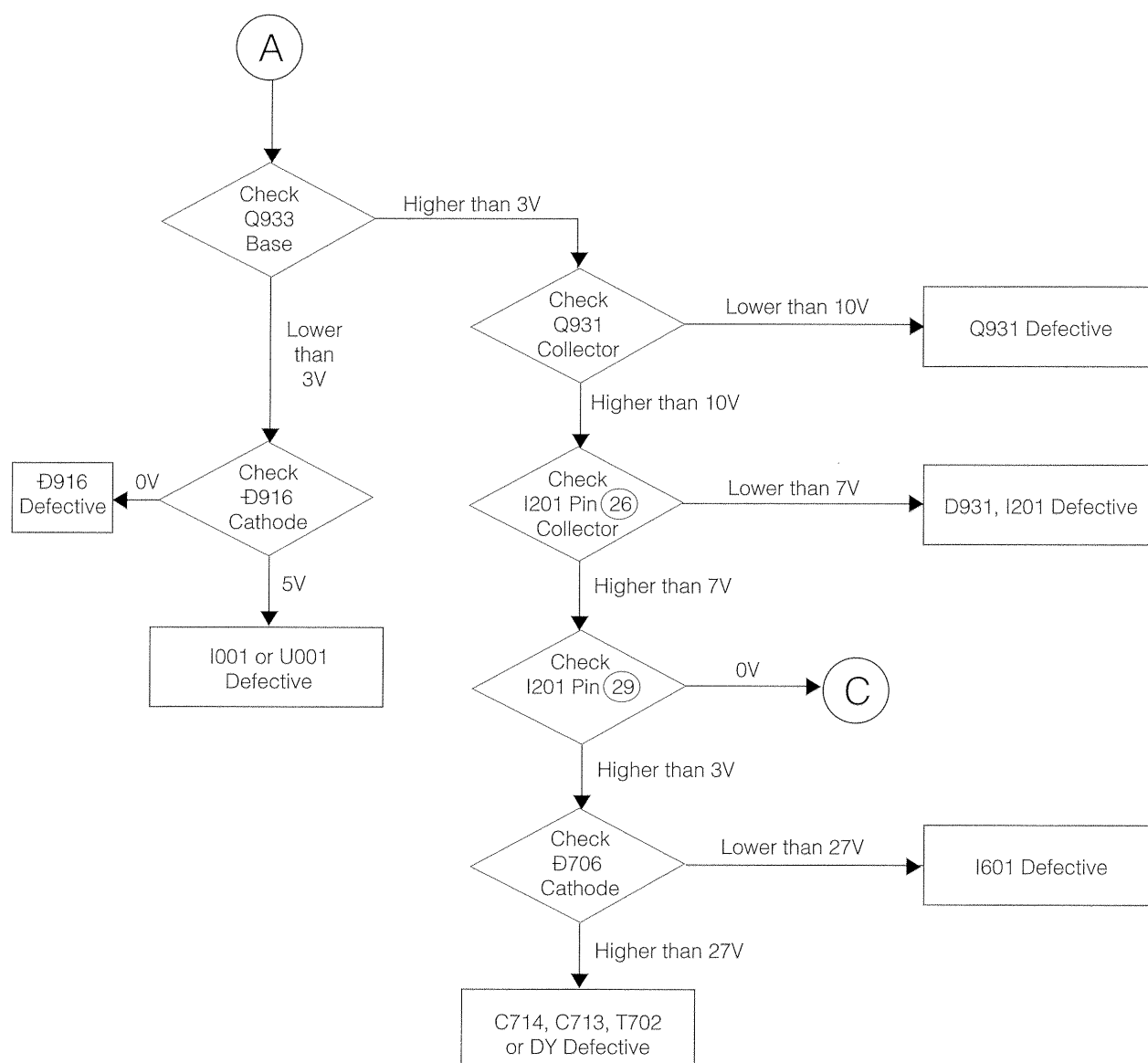
M3LXU2 CHASSIS TROUBLESHOOTING

1. No Raster and Sound



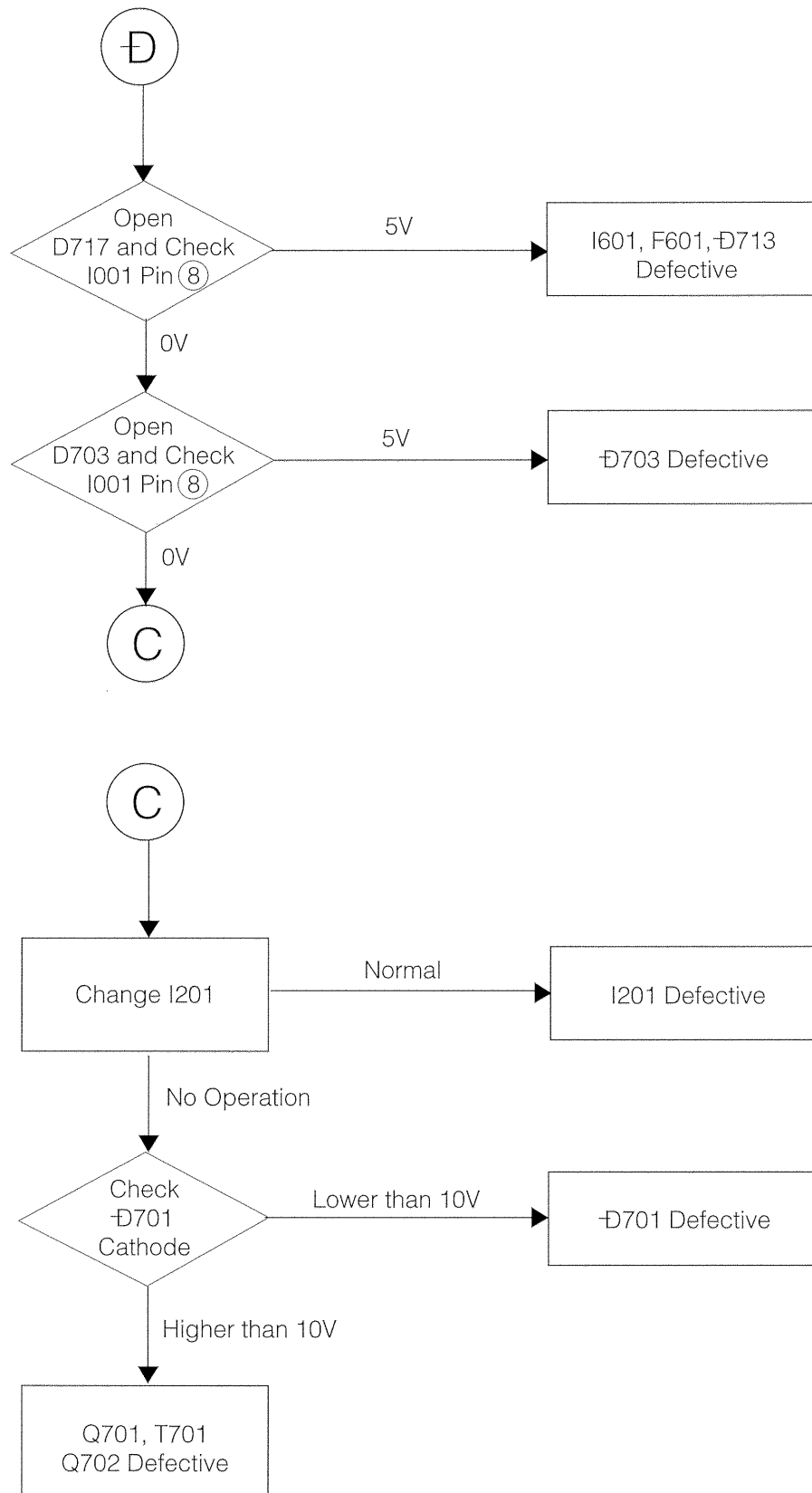
M3LXU2 CHASSIS TROUBLESHOOTING

1. No Raster and Sound



M3LXU2 CHASSIS TROUBLESHOOTING

1. No Raster and Sound



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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	SYMBOL NO.	PART NO.	PART DESCRIPTION
		CAPACITORS			
C001	0800072R	EL 470UF-M 6.3V	C336	0890087R	CD 1000PF-K 50V
C002	0800005R	EL 2.2UF-M 50V	C401	0880044R	PF 0.01UF-KEB 50V
C003	0880057R	PF 0.1UF-KEB 50V	C402	0880044R	PF 0.01UF-KEB 50V
C004	0800047R	EL 100UF-M 6.3V	C403	0800012R	EL 4.7UF-M 50V
C005	0880048R	PF 0.022UF-KEB 50V	C404	0800012R	EL 4.7UF-M 50V
C006	0880051R	PF 0.033UF-KEB 50V	C405	0800047R	EL 100UF-M 6.3V
C007	0890089R	CD 1500PF-K 50V	C406	0244105R	CD 2200PF-K 50V TAPE
C008	0890089R	CD 1500PF-K 50V	C407	0800059R	EL 220UF-M 25V
C009	0880057R	PF 0.1UF-KEB 50V	C408	0244105R	CD 2200PF-K 50V TAPE
C010	0800003R	EL 1.0UF-M 50V	C409	0800059R	EL 220UF-M 25V
C011	0890121R	CD 33PF-J CH 50V	C410	0800059R	EL 220UF-M 25V
C012	0890121R	CD 33PF-J CH 50V	C411	0800075F	EL 470UF-M 25V
C013	0890118R	CD 22PF-J CH 50V	C412	0800075F	EL 470UF-M 25V
C014	0890114R	CD 10PF-D CH 50 V	C413	0880057R	PF 0.1UF-KEB 50V
C015	0890087R	CD 1000PF-K 50V	C414	0800075F	EL 470UF-M 25V
C016	0248692R	CD 220PF-JB SL 50V	C415	0880057R	PF 0.1UF-KEB 50V
C017	0890074R	CD 100PF-J 50V	C416	0800047R	EL 100UF-M 6.3V
C018	0890074R	CD 100PF-J 50V	C417	0800016R	EL 10UF-M 25V
C019	0890074R	CD 100PF-J 50V	C418	0800041R	EL 47UF-M 16V
C020	0800009R	EL 4.7UF-M 25V	C419	0800074N	EL 470UF-M 16V
C021	0800009R	EL 4.7UF-M 25V	C422	0800041R	EL 47UF-M 16V
C022	0800009R	EL 4.7UF-M 25V	C423	0800015R	EL 10UF-M 16V
C023	0800009R	EL 4.7UF-M 25V	C424	0253942R	EL 0.22UF-M 50V
C025	0800015R	EL 10UF-M 16V	C425	0880048R	PF 0.022UF-KEB 50V
C026	0248700R	CD 680PF-J SL 50V	C426	0800058R	EL 220UF-M 16V
C027	0890074R	CD 100PF-J 50V	C428	0800003R	EL 1.0UF-M 50V
C028	0890074R	CD 100PF-J 50V	C429	0800015R	EL 10UF-M 16V
C030	0890074R	CD 100PF-J 50V	C430	0253942R	EL 0.22UF-M 50V
C031	0890074R	CD 100PF-J 50V	C431	0880048R	PF 0.022UF-KEB 50V
C040	0880057R	PF 0.1UF-KEB 50V	C438	0800042R	EL 47UF-M 25V
C051	0890079R	CD 270PF-K 50V	C439	0800042R	EL 47UF-M 25V
C052	0890074R	CD 100PF-J 50V	C440	0800001R	EL 0.47UF-M 50V (SME)
C053	0890083R	CD 470PF-K 50V	C441	0800009R	EL 4.7UF-M 25V
C060	0880057R	PF 0.1UF-KEB 50V	C442	0880057R	PF 0.1UF-KEB 50V
C100	0800015R	EL 10UF-M 16V	C443	0880053R	PF 0.047UF-KEB 50V
C101	0800047R	EL 100UF-M 6.3V	C444	0800101R	EL 0.1UF-M 50V
C102	0244105R	CD 2200PF-K 50V TAPE	C445	0800003R	EL 1.0UF-M 50V
C103	0800082F	EL 1000UF-M 16V	C446	0800009R	EL 4.7UF-M 25V
C104	0244141R	CD 0.01UF-KB B 50V	C447	0880057R	PF 0.1UF-KEB 50V
C105	0244141R	CD 0.01UF-KB B 50V	C448	0800023R	EL 22UF-M 16V
C203	0880053R	PF 0.047UF-KEB 50V	C450	0800003R	EL 1.0UF-M 50V
C204	0890089R	CD 1500PF-K 50V	C451	0800003R	EL 1.0UF-M 50V
C205	0890089R	CD 1500PF-K 50V	C452	0800003R	EL 1.0UF-M 50V
C206	0890089R	CD 1500PF-K 50V	C453	0292712F	TA 3.3UF-K 16V
C207	0890069R	CD 47PF-J 50V	C454	0292714F	TA 10UF-K 16V
C240	0890067R	CD 33PF-J 50V	C455	0800003R	EL 1.0UF-M 50V
C241	0890067R	CD 33PF-J 50V	C456	0800003R	EL 1.0UF-M 50V
C245	0880044R	PF 0.01UF-KEB 50V	C457	0800015R	EL 10UF-M 16V
C248	0800001R	EL 0.47UF-M 50V (SME)	C458	0800015R	EL 10UF-M 16V
C301A	0800015R	EL 10UF-M 16V	C462	0800009R	EL 4.7UF-M 25V
C303	0244141R	CD 0.01UF-KB B 50V	C463	0800009R	EL 4.7UF-M 25V
C304	0800000R	EL 0.47UF-M 50V	C471	0800009R	EL 4.7UF-M 25V
C305	0800005R	EL 2.2UF-M 50V	C472	0800009R	EL 4.7UF-M 25V
C306	0800015R	EL 10UF-M 16V	C503	0800003R	EL 1.0UF-M 50V
C330	0880057R	PF 0.1UF-KEB 50V	C504	0800003R	EL 1.0UF-M 50V
C331	0800015R	EL 10UF-M 16V	C505	0800015R	EL 10UF-M 16V
			C506	0800009R	EL 4.7UF-M 25V
			C507	0880057R	PF 0.1UF-KEB 50V

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C508	0800009R	EL 4.7UF-M 25V	C806	0890085R	CD 680PF-K 50V
C509	0244105R	CD 2200PF-K 50V TAPE	C807	0800066R	EL 330UF-M 16V
C510	0800001R	EL 0.47UF-M 50V (SME)	C809	0890084R	CD 560PF-K 50V
C511	0890114R	CD 10PF-D CH 50 V	C8H1	0880048R	PF 0.022UF-KEB 50V
C512	0880048R	PF 0.022UF-KEB 50V	$\triangle$ C901	AN00144S	PF (0.1UF250V)
C513	0800001R	EL 0.47UF-M 50V (SME)	$\triangle$ C902	AN00144S	PF (0.1UF250V)
C515	0880057R	PF 0.1UF-KEB 50V	$\triangle$ C903	0248593F	CD 4700PF-Z 250V
C516	0880057R	PF 0.1UF-KEB 50V	$\triangle$ C904	0248593F	CD 4700PF-Z 250V
C517	0880057R	PF 0.1UF-KEB 50V	C905	AL00342	EL 820UF 200V(USR)
C518	0244105R	CD 2200PF-K 50V TAPE	C907	0244541F	CD 0.01MF-K B 500V
C519	0800049R	EL 100UF-M 16V	$\triangle$ C908	0249392F	CD 2200PF 125V
C520	0244105R	CD 2200PF-K 50V TAPE	$\triangle$ C909	0249392F	CD 2200PF 125V
C521	0800074N	EL 470UF-M 16V	C913	0244721F	CD 470PF 2KV
C523	0244105R	CD 2200PF-K 50V TAPE	C914	0880062R	PF 0.22UF-KEB 50V
C524	0800082F	EL 1000UF-M 16V	C915	0253862	EL 220UF-M 160V
C525	0800005R	EL 2.2UF-M 50V	C916	0880042R	PF 0.0068UF-KEB50V
C526	0244505R	CD 0.0022UF-K 500V	C917	0244230R	CD. 220PF-B 50V
C527	0800074N	EL 470UF-M 16V	C918	0800047R	EL 100UF-M 6.3V
C550	0244141R	CD 0.01UF-KB B 50V	C919	0244721F	CD 470PF 2KV
C551	0800049R	EL 100UF-M 16V	C920	0800049R	EL 100UF-M 16V
C553	0244141R	CD 0.01UF-KB B 50V	C922	0244105R	CD 2200PF-K 50V TAPE
C554	0244141R	CD 0.01UF-KB B 50V	C923	0800074N	EL 470UF-M 16V
C555	0244141R	CD 0.01UF-KB B 50V	C924	0880039R	PF 0.0047UF-KEB50V
C601	0880044R	PF 0.01UF-KEB 50V	C925	0253952R	EL 1.0UF-M 160V
C602	0800005R	EL 2.2UF-M 50V	C926	0880062R	PF 0.22UF-KEB 50V
C603	0800015R	EL 10UF-M 16V	C930	0800003R	EL 1.0UF-M 50V
C604	0890071R	CD 56PF-J 50V	C932	0254524F	EL 2200UF-M 25V(KME)
C606	0800052R	EL 100UF-M 35V	C934	0890081R	CD 330PF 50V
C609	0800087F	EL 2200UF-M 16V	C936	0800059R	EL 220UF-M 25V
C610	0880048R	PF 0.022UF-KEB 50V	C937	0244141R	CD 0.01UF-KB B 50V
C611	0279859	PF FILM 0.1MF-K 200V	C938	0800015R	EL 10UF-M 16V
C612	0880057R	PF 0.1UF-KEB 50V	C939	0880057R	PF 0.1UF-KEB 50V
C613	0800005R	EL 2.2UF-M 50V	C940	0800015R	EL 10UF-M 16V
C702	0800015R	EL 10UF-M 16V	C942	0800056R	EL 220UF-M 6.3V
C705	0255524F	EL 4.7MF-M 250V(KME)	C944	0800047R	EL 100UF-M 6.3V
C706	0800074N	EL 470UF-M 16V	CA01	0890086R	CD 820PF-K 50V
C707	0243508F	CD 390PF(B) 500WV	CA02	0880057R	PF 0.1UF-KEB 50V
C710	0244501R	CD 1000PF-K 500V	CA03	0880057R	PF 0.1UF-KEB 50V
C711	0800076F	EL 470UF-M 35V	CA04	0800049R	EL 100UF-M 16V
$\triangle$ C713	0262432F	PP 15000PF-J 1800V	CA05	0880044R	PF 0.01UF-KEB 50V
$\triangle$ C714	0244716	CD 220P-K 2KV	CA07	0880044R	PF 0.01UF-KEB 50V
C715	0243512R	CD 820PF-K 500V TAPE	CA08	0800049R	EL 100UF-M 16V
C716	0262801F	PF 0.56UF-J 200V	CA09	0880044R	PF 0.01UF-KEB 50V
C718	0800064F	EL 330UF-M 6.3V	CA10	0880044R	PF 0.01UF-KEB 50V
C719	0243504R	CD 180PF-K 500V TAPE	CA11	0800041R	EL 47UF-M 16V
C720	0244505R	CD 0.0022UF-K 500V	CA12	0800049R	EL 100UF-M 16V
C721	0890067R	CD 33PF-J 50V	CA13	0880044R	PF 0.01UF-KEB 50V
$\triangle$ C722	0800019R	EL 10UF-M 63V	CA14	0890078R	CD 220PF-K 50V
C723	0254823G	EL100UF-M 160V	CA15	0880044R	PF 0.01UF-KEB 50V
C724	0880019R	PF 0.33UF-KB 50V	CA16	0800003R	EL 1.0UF-M 50V
C725	0880057R	PF 0.1UF-KEB 50V	CA17	0800001R	EL 0.47UF-M 50V (SME)
C728	0800064R	EL 330UF-M 6.3V	CA18	0246445R	CD 16PF-J CH 50V
C729	0800075F	EL 470UF-M 25V	CA19	0890085R	CD 680PF-K 50V
$\triangle$ C730	0243508R	CD 390PF-K 500V	CA20	0800001R	EL 0.47UF-M 50V (SME)
C731	0243508R	CD 390PF-K 500V	CA21	0880044R	PF 0.01UF-KEB 50V
C732	0880031R	PF 1000PF-K 50V	CA22	0890078R	CD 220PF-K 50V
C732A	0890084R	CD 560PF-K 50V	CA25	0800003R	EL 1.0UF-M 50V
C743	0890089R	EL 1500PF-K 50V	CA26	0880044R	PF 0.01UF-KEB 50V
C745	0880044R	PF 0.01UF-KEB 50V	CA27	0800005R	EL 2.2UF-M 50V
C747	0890089R	CD 1500PF-K 50V	CA28	0880044R	PF 0.01UF-KEB 50V
C751	0880051R	PF 0.033UF-KEB 50V	CA29	0880044R	PF 0.01UF-KEB 50V
C752	0800003R	EL 1.0UF-M 50V	CA30	0880044R	PF 0.01UF-KEB 50V
$\triangle$ C753	0800015R	EL 10UF-M 16V	CA31	0800041R	EL 47UF-M 16V
C754	0890074R	CD 100PF-J 50V	CA32	0880057R	PF 0.1UF-KEB 50V
C756	0800066R	EL 330UF-M 16V	CA35	0800058R	EL 220UF-M 16V
C757	0880044R	PF 0.01UF-KEB 50V	CA37	0880057R	PF 0.1UF-KEB 50V
C760	0800009R	EL 4.7UF-M 25V	CA38	0880044R	PF 0.01UF-KEB 50V
C771	0800049R	EL 100UF-M 16V	CA40	0800049R	EL 100UF-M 16V
C772	0243508F	CD 390PF(B) 500WV	CA41	0880044R	PF 0.01UF-KEB 50V
C781	0880044R	PF 0.01UF-KEB 50V	CA42	0800049R	EL 100UF-M 16V
C801	0244723F	CD 680P-K 2KV	CA43	0880044R	PF 0.01UF-KEB 50V
C804	0890083R	CD 470PF-K 50V	CA44	0800041R	EL 47UF-M 16V
			CA48	0880057R	PF 0.1UF-KEB 50V

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
CA49	0880057R	PF 0.1UF-KEB 50V	D801	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC
CA52	0880044R	PF 0.01UF-KEB 50V	D802	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC
CA53	0880044R	PF 0.01UF-KEB 50V	D803	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC
CA54	0880044R	PF 0.01UF-KEB 50V	D804	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC
CA55	0800049R	EL 100UF-M 16V	D805	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
CAZ1	0890084R	CD 560PF-K 50V	D806	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
CAZ2	0800015R	EL 10UF-M 16V	D807	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
CE25	0244105P	CD 2200PF-K 50V TAPE	$\triangle$ D901	2342062	DI D3SBA60-4103
COM1	0890076R	CD 150PF-K 50V	D908	2349571M	DI SM-1XP2TP
CT01	0283127	TRIMMER CAPACITOR (RED)	D909	2344071	DI ERC20M-04
		DIODES	D910	2339551M	DI ED14(V1) SI 5MA 45
D001	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	D915	2349571M	DI SM-1XP2TP
D002	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	D916	2339837M	ZD HZS-5C1 TAPE
D003	2339812M	ZD HZS3A2 TA (SI.200MA)	D918	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC
D004	2339812M	ZD HZS3A2 TA (SI.200MA)	D931	2339865M	ZD DI HZS9 (B2)
D005	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	D933	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC
D006	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	DA01	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
D007	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	DA02	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)
D008	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	DA03	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)
D009	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	DA04	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)
D010	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	DA05	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
D014	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	DA06	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)
D015	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	DA07	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
D016	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	DA08	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
D018	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	DA09	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
D019	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	DA10	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
D020	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	DA11	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC
D021	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	DA15	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)
D022	2398611M	DI 15S254 TAPE (35V) SI 4NSEC			REMOTE CONTROLS
D101	2339837M	ZD HZS-5C1 TAPE	E301	HL00234	R/C UNIT CLU-418U
D102	2339971M	ZD HZS33-1 TA			FUSES
D301	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	$\triangle$ F601	2722382	FUSE-DC0.75A-J/UL(L)
D401	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	$\triangle$ F901	2722358	FUSE AC05A
D404	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC			SURGE PROTECTOR
D405	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	$\triangle$ G901	2340741	SURGE PROTECTOR DSP-301N-S00B
D406	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC			FILTERS
D407	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	H001	2791754R	CONDENSER WITH 3 TERMINAL 100PF
D408	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	H002	2791754R	CONDENSER WITH 3 TERMINAL 100PF
D501	2339819M	ZD HZS3C3 TA	$\triangle$ H701	2793313	CP-EXN-G131P365L
D502	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	$\triangle$ H901	2793313	CP-EXN-G131P365L
D503	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	HA01	2151041	DELAY LINE AND BAND PASS FILTER
D504	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	HA02	2791754	FX-DSS306B101M
D510	2339836M	ZD HZS-5 B3	HA03	2791754	FX-DSS306B101M
D511	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	HA07	2791759	FX-DSS306B102M
D512	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	HA08	2791759	FX-DSS306B102M
D513	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	HA09	2791762	FX-DSS306FZ103M
D604	2339491M	DI AM01Z (200 TAPE) 1A	HA10	2791762	FX-DSS306FZ103M
D605	2339222M	ZD HZS27-2L			INTEGRATED CIRCUITS
D606	2339222M	ZD HZS27-2L	I001	CP03131	DIGITAL MONOLITHIC IC LC8641648-5A77
D701	2339491M	DI AM01Z (200 TAPE)1A	I002	CP01991U	DIGITAL MONOLITHIC IC ST24C02F86
D702	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC	I003	2003522R	IC PST572D-2 (ANALOG IC)
D703	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	$\triangle$ I201	CP00961	TA1201AN
D704	2339867M	ZD HZS-9-C1 TAPE (SI.200MA)	I301	2020341	IC MM1111XS
D705	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC	I401	2004022	IC AN7147N
$\triangle$ D706	2339222M	ZD HZS27-2L	I402	CP00812	ANALOG MONOLITHIC IC
D709	2339868M	ZD HZS9C2 TAPE	I404	2004362	IC CXA1279AS
D710	2344071	DI ERC20M-04	I501	2020341	IC MM1111XS
D711	2339842M	ZD HZS6A2 TA	I601	2913981	IC AN5521
$\triangle$ D712	2348511	DI RS3FS	$\triangle$ I901	2020392	IC TDA4605-3
D713	CH00031M	DI AU02V1(280V)	$\triangle$ I902	2369711	IC TLP541G
D714	CH00031M	DI AU02V1(280V)	IA01	2020341	IC MM1111XS
D715	CH00031M	DI AU02V1(280V)	IA02	CP00841	ANALOG MONOLITHIC IC M52694P
D716	2339491M	DI AM01Z (200 TAPE) 1A			
D717	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC			
$\triangle$ D725	2339481M	DI AS01Z (200 TAPE) SI 0.6A			
D726	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC			
D730	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC			
D731	2398611M	DI 1SS254 TAPE (35V)SI 4NSEC			
D732	2339481M	DI AS01Z (200 TAPE)SI 0.6A			
D751	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC			
$\triangle$ D752	2398611M	DI 1SS254 TAPE (35V) SI 4NSEC			

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
IA03	CP00831	DIGITAL MONOLITHIC IC M65607SP	 Q702	2315272	TRS. 2SC4589-03
IA04	CP00851	DIGITAL MONOLITHIC IC (HM53461-10)	Q704	2320647M	TRS. 2SC1213 (C21TZ/D21TZ)
IA05	2366361	IC.AN7805			SI 80MHZ4
		INDUCTORS/COILS	Q705	2323434	TRS. 2SC1983 (O/Y)
L001	BH00101	OSC COIL	Q706	2326862R	TRS.DTA 114ES-TAPE
L003	2123781	FILTER COIL EL 100UH-K	Q801	2315491	TRS. 2SC4544
L010	2123781R	FILTER COIL 101K	Q802	2315491	TRS. 2SC4544
L101	2123781R	FILTER COIL 101K	Q803	2315491	TRS. 2SC4544
L201	BJ00131	VCO TANK COIL 52.37MHZ	Q804	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
L240	2122949M	COIL-AXIAL 33UHKM BELTING			SI 80MHZ
L242	2122944M	COIL-AXIAL 12UHKM BELTING	Q901	CF00151	TRS. 2SK2255-01M (250V)
L243	2122948M	COIL-AXIAL 27UHKM BELTING	Q931	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
L301	2123781R	FILTER COIL 101K			SI 80MHZ
L502	2123781R	FILTER COIL 101K	Q933	2326872R	TRS.-DTC114ES TAPE
L503	2123781R	FILTER COIL 101K	Q941	2320596M	TRS. 2SC458 (C TZ/D TZ)
L550	2123781R	FILTER COIL 101K			SI 230MHZ
L601	2122653M	FERRITE CORE 1.65UH TAPE	Q945	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
L701	2125766R	HLL-470MRLT(LHLC06)			SI 80MHZ
L702	2124513	COIL-H.LINEARITY M1LXU1	QA01	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
L704	2122652M	FERRITE CORE	QA02	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
L705	2122652M	FERRITE CORE	QA03	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
L706	2122652M	FERRITE CORE			SI 80MHZ
L751	2123747R	RADIAL COIL 4R7M EL0405	QA04	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
L804	2122801	FIXED COIL FL-11Z 24UH-K	QA05	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
 L901	2169462	LINE FILTER COIL FX--7355-60	QA06	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
 L902	2169462	LINE FILTER COIL FX--7355-60	QA07	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
L904	2123461M	FERRITE BEADS B 0.8 MH			SI 80MHZ
L905	2123461M	FERRITE BEADS B 0.8 MH	QA08	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
L906	2123461M	FERRITE BEADS B 0.8 MH	QA09	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
L931	2220583	COIL-CHOKE TSL0707 270K	QA10	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
L932	2123461M	FERRITE BEADS B 0.8 MH	QA11	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
L955	2165747	COIL-DEGAUSSING	QA12	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
LA01	2123781R	FILTER COIL 101K	QA13	2320637M	TRS. 2SA673
LA02	2123781R	FILTER COIL 101K			SI 80MHZ
LA03	2122253M	COIL-AXIAL 100UH-K	QA14	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
LA04	2123781R	FILTER COIL 101K	QA15	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
LA07	2122934M	COIL-AXIAL 2.2UH-M	QA17	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
LA09	2122934M	COIL-AXIAL 2.2UH-M	QA19	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
LAZ1	2122944M	COIL-AXIAL 12UHKM BELTING	QA20	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
		INSTRUCTION MANUAL	QAZ1	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
			QC01	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ
		TRANSISTORS			RESISTORS
N201	QR02351	INSTRUCTION MANUAL M3LXU/M3XU	R001	0700042M	CF 1/16W 1.2K-JB
			R002	0700041M	CF 1/16W 1.0K-JB
Q001	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R003	0700043M	CF 1/16W 1.5K-JB
Q002	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R004	0700046M	CF 1/16W 2.7K-JB
Q003	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R005	0700049M	CF 1/16W 4.7K-JB
Q004	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R006	0700054M	CF 1/16W 10K-JB
Q005	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R007	0700058M	CF 1/16W 22K-JB
Q006	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R008	0700058M	CF 1/16W 22K-JB
Q240	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R009	0700061M	CF 1/16W 33K-JB
Q241	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ	R010	0700054M	CF 1/16W 10K-JB
Q242	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R011	0700064M	CF 1/16W 56K-JB
Q301	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R012	0700049M	CF 1/16W 4.7K-JB
Q401	2320647M	TRS. 2SC1213 (C 21 TZ/D 21 TZ) SI 80MHZ4	R013	0700027M	CF 1/16W 100-JB
Q402	2320647M	TRS. 2SC1213 (C 21 TZ/D 21 TZ) SI 80MHZ4	R014	0700027M	CF 1/16W 100-JB
Q407	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ	R015	0700051M	CF 1/16W 5.6K-JB
Q408	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R016	0700051M	CF 1/16W 5.6K-JB
Q409	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ	R017	0700041M	CF 1/16W 1.0K-JB
Q410	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R018	0700041M	CF 1/16W 1.0K-JB
Q591	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R019	0700041M	CF 1/16W 1.0K-JB
Q592	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R020	0700041M	CF 1/16W 1.0K-JB
Q593	2320596M	TRS. 2SC458 (C TZ/D TZ) SI 230MHZ	R021	0700041M	CF 1/16W 1.0K-JB
Q701	2323526M	TRS. 2SD789 D/E TAPE	R022	0700041M	CF 1/16W 1.0K-JB
			R023	0700041M	CF 1/16W 1.0K-JB
			R024	0700041M	CF 1/16W 1.0K-JB
			R025	0700041M	CF 1/16W 1.0K-JB
			R026	0700054M	CF 1/16W 10K-JB
			R027	0700041M	CF 1/16W 1.0K-JB
			R028	0700041M	CF 1/16W 1.0K-JB
			R029	0700053M	CF 1/16W 8.2K-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R030	0700041M	CF 1/16W 1.0K-JB	R242	0700037M	CF 1/16W 560-JB
R031	0700054M	CF 1/16W 10K-JB	R242A	0700033M	CF 1/16W 270-JB
R032	0700056M	CF 1/16W 15K-JB	R243	0700043M	CF 1/16W 1.5K-JB
R033	0700058M	CF 1/16W 22K-JB	R246	0700034M	CF 1/16W 330-JB
R034	0700045M	CF 1/16W 2.2K-JB	R247	0100057M	CF 1/8W 470-JB
R035	0700045M	CF 1/16W 2.2K-JB	R248	0700041M	CF 1/16W 1.0K-JB
R036	0700056M	CF 1/16W 15K-JB	R301	0700054M	CF 1/16W 10K-JB
R037	0700059M	CF 1/16W 27K-JB	R302	0700061M	CF 1/16W 33K-JB
R038	0700056M	CF 1/16W 15K-JB	R303	0700031M	CF 1/16W 180-JB
R039	0700059M	CF 1/16W 27K-JB	R305	0700041M	CF 1/16W 1.0K-JB
R040	0700055M	CF 1/16W 12K-JB	R306	0700051M	CF 1/16W 5.6K-JB
R041	0700058M	CF 1/16W 22K-JB	R307	0700048M	CF 1/16W 3.9K-JB
R042	0700044M	CF 1/16W 1.8K-JB	R330	0100041M	CF 1/8W 100-JB
R043	0700044M	CF 1/16W 1.8K-JB	R332	0100041M	CF 1/8W 100-JB
R044	0700044M	CF 1/16W 1.8K-JB	R333	0100038M	CF 1/8W 75-JB
R045	0700041M	CF 1/16W 1.0K-JB	R401	0700051M	CF 1/16W 5.6K-JB
R050	0700048M	CF 1/16W 3.9K-JB	R402	0700067M	CF 1/16W 100K-JB
R051	0700048M	CF 1/16W 3.9K-JB	R403	0700045M	CF 1/16W 2.2K-JB
R052	0700041M	CF 1/16W 1.0K-JB	R404	0700045M	CF 1/16W 2.2K-JB
R053	0700041M	CF 1/16W 1.0K-JB	R405	0700041M	CF 1/16W 1.0K-JB
R054	0700041M	CF 1/16W 1.0K-JB	R406	0700041M	CF 1/16W 1.0K-JB
R055	0700045M	CF 1/16W 2.2K-JB	R407	0700048M	CF 1/16W 3.9K-JB
R056	0700049M	CF 1/16W 4.7K-JB	R408	0700048M	CF 1/16W 3.9K-JB
R057	0700049M	CF 1/16W 4.7K-JB	R409	0700034M	CF 1/16W 330-JB
R060	0700041M	CF 1/16W 1.0K-JB	R410	0100077M	CF 1/8W 3.3K-JB
R062	0700041M	CF 1/16W 1.0K-JB	R411	0100077M	CF 1/8W 3.3K-JB
R063	0700041M	CF 1/16W 1.0K-JB	R412	0700034M	CF 1/16W 330-JB
R064	0700041M	CF 1/16W 1.0K-JB	R413	0100113M	CF 1/8W 100K-JB
R065	0700041M	CF 1/16W 1.0K-JB	R414	0700063M	CF 1/16W 47K-JB
R066	0700041M	CF 1/16W 1.0K-JB	R415	0700054M	CF 1/16W 10K-JB
R067	0700041M	CF 1/16W 1.0K-JB	R416	0700041M	CF 1/16W 1.0K-JB
R068	0700036M	CF 1/16W 470-JB	R417	0700054M	CF 1/16W 10K-JB
R069	0700027M	CF 1/16W 100-JB	R418	0700054M	CF 1/16W 10K-JB
R070	0700041M	CF 1/16W 1.0K-JB	R419	0100051M	CF 1/8W 270-JB
R071	0700041M	CF 1/16W 1.0K-JB	R440	0700049M	CF 1/16W 4.7K-JB
R072	0700041M	CF 1/16W 1.0K-JB	R441	0700049M	CF 1/16W 4.7K-JB
R073	0700041M	CF 1/16W 1.0K-JB	R447	0700065M	CF 1/16W 68K-JB
R074	0100065M	CF 1/8W 1K-JB	R448	0700041M	CF 1/16W 1.0K-JB
R075	0100065M	CF 1/8W 1K-JB	R449	0187076M	CF 1/16W 3.0K-JB
R076	0100065M	CF 1/8W 1K-JB	R450	0187082M	CF 1/16W 5.1K-JB
R077	0100065M	CF 1/8W 1K-JB	R451	0119636M	MF 1/8W 16K-FB
R080	0100065M	CF 1/8W 1K-JB	R451A	0119601M	MF 1/8W 560-FB
R081	0700041M	CF 1/16W 1.0K-JB	R452	0700036M	CF 1/16W 470-JB
R082	0700054M	CF 1/16W 10K-JB	R453	0700036M	CF 1/16W 470-JB
R083	0700041M	CF 1/16W 1.0K-JB	R454	0700058M	CF 1/16W 22K-JB
R084	0700042M	CF 1/16W 1.2K-JB	R455	0700041M	CF 1/16W 1.0K-JB
R085	0700063M	CF 1/16W 47K-JB	R456	0700041M	CF 1/16W 1.0K-JB
R086	0700054M	CF 1/16W 10K-JB	R457	0700041M	CF 1/16W 1.0K-JB
R087	0700054M	CF 1/16W 10K-JB	R458	0700039M	CF 1/16W 820-JB
R089	0700041M	CF 1/16W 1.0K-JB	R459	0700054M	CF 1/16W 10K-JB
R090	0700054M	CF 1/16W 10K-JB	R460	0700058M	CF 1/16W 22K-JB
R091	0700042M	CF 1/16W 1.2K-JB	R461	0700054M	CF 1/16W 10K-JB
R092	0700054M	CF 1/16W 10K-JB	R462	0700041M	CF 1/16W 1.0K-JB
R093	0700041M	CF 1/16W 1.0K-JB	R463	0700041M	CF 1/16W 1.0K-JB
R094	0700041M	CF 1/16W 1.0K-JB	R464	0700041M	CF 1/16W 1.0K-JB
R095	0700045M	CF 1/16W 2.2K-JB	R465	0700039M	CF 1/16W 820-JB
R096	0700049M	CF 1/16W 4.7K-JB	$\triangle$ R466	0119505G	MF 2.2-J
R097	0700041M	CF 1/16W 1.0K-JB	$\triangle$ R467	0119505G	MF 2.2-J
R098	0100065M	CF 1/8W 1K-JB	$\triangle$ R468	0119505G	MF 2.2-J
R099	0100036M	CF 1/16W 470-JB	R469	0700041M	CF 1/16W 1.0K-JB
R100	0700058M	CF 1/16W 22K-JB	R472	0100113M	CF 1/8W 100K-JB
R101	0100065M	CF 1/8W 1K-JB	R473	0100065M	CF 1/8W 1K-JB
R103	0114131M	CF 1/4W 100-JB	R474	0100113M	CF 1/8W 100K-JB
R206	0700036M	CF 1/16W 470-JB	R475	0100065M	CF 1/8W 1K-JB
R207	0700036M	CF 1/16W 470-JB	R476	0100065M	CF 1/8W 1K-JB
R208	0700027M	CF 1/16W 100-JB	R477	0100113M	CF 1/8W 100K-JB
R209	0700045M	CF 1/16W 2.2K-JB	R478	0100065M	CF 1/8W 1K-JB
R210	0100121M	CF 1/8W 220K-JB	R479	0100113M	CF 1/8W 100K-JB
R212	0100131M	CF 1/8W 560K-JB	R489	0100121M	CF 1/8W 220K-JB
R213	0700051M	CF 1/16W 5.6K-JB	R490	0100133M	CF 1/8W 680K-JB
R216	0700043M	CF 1/16W 1.5K-JB	R491	0700027M	CF 1/16W 100-JB
R240	0700036M	CF 1/16W 470-JB	R492	0700027M	CF 1/16W 100-JB
R241	0700027M	CF 1/16W 100-JB	R501	0100133M	CF 1/8W 680K-JB

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R502	0700035M	CF 1/16W 390-JB	R765	0100047M	CF 1/8W 180-JB
R503	0700038M	CF 1/16W 680-JB	R771	0110197S	MF 2W 10-JS
R504	0700027M	CF 1/16W 100-JB	R801	AT00387S	MF 3W 12K OHM
R505	0700047M	CF 1/16W 3.3K-JB	R802	0113750M	CF 1/2W 1K-JB
R506	0114141M	CF 1/4W 270-JB	R803	AT00387S	MF 3W 12K OHM
R507	0100073M	CF 1/8W 2.2K-JB	R804	0700043M	CF 1/16W 1.5K-JB
R508	0100073M	CF 1/8W 2.2K-JB	R805	0187046M	CF 1/16W 160-JB
R509	0100073M	CF 1/8W 2.2K-JB	R806	0700027M	CF 1/16W 100-JB
R515	0700066M	CF 1/16W 82K-JB	R809	0113750M	CF 1/2W 1K-JB
R516	0700066M	CF 1/16W 82K-JB	R810	0700054M	CF 1/16W 10K-JB
R550	0100038M	CF 1/8W 75-JB	R811	0100049M	CF 1/8W 220-JB
R551	0100038M	CF 1/8W 75-JB	R812	0100049M	CF 1/8W 220-JB
R552	0100041M	CF 1/8W 100-JB	R813	0700054M	CF 1/16W 10K-JB
R553	0700041M	CF 1/16W 1.0K-JB	R814	0700043M	CF 1/16W 1.5K-JB
R554	0700041M	CF 1/16W 1.0K-JB	R815	0187046M	CF 1/16W 160-JB
R555	0700041M	CF 1/16W 1.0K-JB	R816	0700027M	CF 1/16W 100-JB
R556	0700036M	CF 1/16W 470-JB	R819	AT00387S	MF 3W 12K OHM
R557	0700034M	CF 1/16W 330-JB	R820	0113750M	CF 1/2W 1K-JB
R558	0700034M	CF 1/16W 330-JB	R823	0100073M	CF 1/8W 2.2K-JB
R559	0700044M	CF 1/16W 1.8K-JB	R825	0700043M	CF 1/16W 1.5K-JB
R560	0700044M	CF 1/16W 1.8K-JB	R827	0700027M	CF 1/16W 100-JB
R561	0700044M	CF 1/16W 1.8K-JB	R828	0187046M	CF 1/16W 160-JB
R562	0700027M	CF 1/16W 100-JB	R829	0700054M	CF 1/16W 10K-JB
R563	0700034M	CF 1/16W 330-JB	R830	0100049M	CF 1/8W 220-JB
R591	0700032M	CF 1/16W 220-JB	R831	0100043M	CF 1/8W 120-JB
R592	0700032M	CF 1/16W 220-JB	 R900	0139026	CC RC1/2W 8.2M-KF HIGH VOL
R593	0700032M	CF 1/16W 220-JB	 R901	2341261	THERMISTOR
R601	0187094M	CF 1/16W 16K-JB	 R902	0144151	WW 33-J
R602	0700027M	CF 1/16W 100-JB	R903	0147811	WW 15W 1.5-KM
R603	0700027M	CF 1/16W 100-JB	R905	0110253S	MF 2.2K-JS
R605	0700067M	CF 1/16W 100K-JB	R906	0110253S	MF 2.2K-JS
R608	0113748M	CF 1/2 P-B 820-JB	R907	0110253S	MF 2.2K-JS
R609	119732	MF 1.2-K 1W	R908	0110281S	MF 33K-JS
R611	0700056M	CF 1/16W 15K-JB	R909	0140931S	WW 7W 3.3K(BSR-Z)
R612	0700041M	CF 1/16W 1.0K-JB	 R910	0139015G	CC RC1/2W1M-KFHIGHVOLT
R614	0700061M	CF 1/16W 33K-JB	R911	0100041M	CF 1/8W 100-JB
R615	0700051M	CF 1/16W 5.6K-JB	R912	0700044M	CF 1/16W 1.8K-JB
R616	0700054M	CF 1/16W 10K-JB	R914	0100009M	CF 1/8W 4.7-JB
R617	0113735M	CF 1/2W 270-JB	R915	0179554M	MG 1/4P330K-J
R618	0700059M	CF 1/16W 27K-JB	R916	0179554M	MG 1/4P330K-J
R701	0114212M	CF SRD 1/4 P 30K-JB	R917	0113798M	CF SRD1/2P-B 91K-J
 R703	0119651M	MF 1/8W 68K-FB	R918	0700067M	CF 1/16W 100K-JB
 R704	0119648M	MF 1/8W 51K-FB	R920	0179552M	MG 220K-JTAPE
R705	0100049M	CF 1/8W 220-JB	R921	0700054M	CF 1/16W 10K-JB
R706	0700042M	CF 1/16W 1.2K-JB	R922	0110129S	MF 220-JS
R707	0100089M	CF 1/8W 10K-JB	R923	0119591M	MF 1/8W 220-FB
R708	0100049M	CF 1/8W 220-JB	R924	0119619M	MF 1/8W 3.3K-FB
R719	0113750M	CF 1/2W 1K-JB	R925	119640	MF 1/8W 24K-F
R720	0113709M	CF SRD1/2P-B 22-J	R926	119640	MF 1/8W 24K-F
R721	0110215S	MF 56-JS	R927	0119619M	MF 1/8W 3.3K-FB
R721	0110219S	MF 82-JS	R928	1502135	VR R-0814 2K-B
R722	147821	WW 15W 3.9-JF	R932	0700053M	CF 1/16W 8.2K-JB
R723	0700041M	CF 1/16W 1.0K-JB	R933	0700053M	CF 1/16W 8.2K-JB
R724	0113748M	CF 1/2 P-B 820-JB	R935	0110225S	MF 150-JS 2W
R726	0100077M	CF 1/8W 3.3K-JB	R940	0700059M	CF 1/16W 27K-JB
R728	0113758M	CF 1/2W 2.2K-JB	R942	0700056M	CF 1/16W 15K-JB
 R730	0119505G	MF 2.2-J	R943	0700045M	CF 1/16W 2.2K-JB
R734	0100089M	CF 1/8W 10K-JB	R944	0114151M	CF SRD 1/4 P 680-J
R735	0700047M	CF 1/16W 3.3K-JB	R946	0700049M	CF 1/16W 4.7K-JB
R736	0700041M	CF 1/16W 1.0K-JB	R947	0700041M	CF 1/16W 1.0K-JB
R745	0100037M	CF 1/8W 68-JB	R948	119695	MF 1W 0.47-F
R746	0113729M	CF 1/2W 150-JB	R949	0110133S	MF 330-JS
R749	0700045M	CF 1/16W 2.2K-JB	RA02	0700027M	CF 1/16W 100-JB
R751	0700034M	CF 1/16W 330-JB	RA03	0700027M	CF 1/16W 100-JB
R752	0700045M	CF 1/16W 2.2K-JB	RA06	0700037M	CF 1/16W 560-JB
R753	0700034M	CF 1/16W 330-JB	RA07	0700041M	CF 1/16W 1.0K-JB
 R754	0700063M	CF 1/16W 47K-JB	RA08	0700054M	CF 1/16W 10K-JB
R756	0700034M	CF 1/16W 330-JB	RA09	0700054M	CF 1/16W 10K-JB
R757	0100029M	CF 1/8W 33-JB	RA10	0700027M	CF 1/16W 100-JB
R760	0700058M	CF 1/16W 22K-JB	RA11	0700027M	CF 1/16W 100-JB
R761	0700058M	CF 1/16W 22K-JB	RA12	0700041M	CF 1/16W 1.0K-JB
R762	0100051M	CF 1/8W 270-JB	RA13	0700041M	CF 1/16W 1.0K-JB
R764	0700053M	CF 1/16W 8.2K-JB	RA14	0700041M	CF 1/16W 1.0K-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RA15	0700041M	CF 1/16W 1.0K-JB	RAZ1	0700036M	CF 1/16W 470-JB
RA16	0700062M	CF 1/16W 39K-JB	RAZ2	0700036M	CF 1/16W 470-JB
RA17	0700054M	CF 1/16W 10K-JB	RAZ4	0700027M	CF 1/16W 100-JB
RA18	0700027M	CF 1/16W 100-JB	RC01	0700039M	CF 1/16W 820-JB
RA19	0700036M	CF 1/16W 470-JB	RC02	0700033M	CF 1/16W 270-JB
RA20	0700034M	CF 1/16W 330-JB	RC03	0700032M	CF 1/16W 220-JB
RA21	0700036M	CF 1/16W 470-JB	RE04	0100041M	CF 1/8W 100-JB
RA22	0700054M	CF 1/16W 10K-JB	RE05	0100041M	CF 1/8W 100-JB
RA23	0700034M	CF 1/16W 330-JB	RE06	0100041M	CF 1/8W 100-JB
RA24	0700033M	CF 1/16W 270-JB	RE20	0700059M	CF 1/16W 27K-JB
RA25	0700063M	CF 1/16W 47K-JB	RE21	0700059M	CF 1/16W 27K-JB
RA26	0700054M	CF 1/16W 10K-JB	RE22	0700063M	CF 1/16W 47K-JB
RA27	0700054M	CF 1/16W 10K-JB	RE23	0700059M	CF 1/16W 27K-JB
RA28	0700038M	CF 1/16W 680-JB	RE24	0700059M	CF 1/16W 27K-JB
RA29	0700035M	CF 1/16W 390-JB	RE25	0700045M	CF 1/16W 2.2K-JB
RA30	0700042M	CF 1/16W 1.2K-JB	RE26	0700042M	CF 1/16W 1.2K-JB
RA31	0700054M	CF 1/16W 10K-JB	RJG1	0700027M	CF 1/16W 100-JB
RA34	0700063M	CF 1/16W 47K-JB	RJG2	0700027M	CF 1/16W 100-JB
RA35	0700058M	CF 1/16W 22K-JB	ROA2	0700046M	CF 1/16W 2.7K-JB
RA36	0700054M	CF 1/16W 10K-JB	ROA3	0700032M	CF 1/16W 220-JB
RA37	0700058M	CF 1/16W 22K-JB			
RA38	0700054M	CF 1/16W 10K-JB			SWITCHES/RELAYS
RA39	0700035M	CF 1/16W 390-JB	S001	2632851	5KEY TACT SWITCH
RA40	0700054M	CF 1/16W 10K-JB	S002	2632901	1P TACT SWITCH
RA41	0700054M	CF 1/16W 10K-JB	S003	2632901	1P TACT SWITCH
RA43	0700067M	CF 1/16W 100K-JB	! S901	2641222	POWER RELAY
RA44	0700063M	CF 1/16W 47K-JB			
RA45	0700039M	CF 1/16W 820-JB			SPEAKERS
RA46	0110209S	MF 33-JS			
RA47	0110209S	MF 33-JS			
RA48	0187038M	CF 1/16W 75-J	SP451	GK00061	SPEAKER 5X9
RA49	0187038M	CF 1/16W 75-J	SP452	GK00061	SPEAKER 5X9
RA50	0700028M	CF 1/16W 120-JB			
RA51	0700032M	CF 1/16W 220-JB			TRANSFORMERS
RA53	0100041M	CF 1/8W 100-JB			
RA55	0700027M	CF 1/16W 100-JB	T201	2143672	IF COIL WITH 7 CASE 1:3 INCORE
RA56	0100041M	CF 1/8W 100-JB	$\triangle$ T701	2274353	TRANS.-H.DRIVE
RA58	0700027M	CF 1/16W 100-JB	$\triangle$ T702	2436777	HFL1532G ASS
RA59	0700037M	CF 1/16W 560-JB	T901	2124361	DC NOISE FILTER
RA60	0700066M	CF 1/16W 82K-JB	$\triangle$ T902	BT00457	COIL(C756)
RA61	0700036M	CF 1/16W 470-JB	T903	2124362	DC.NOISE FILTER(C756/C755/C750)
RA62	0700028M	CF 1/16W 120-JB			
RA63	0179536M	MG 1M J TAPE			COLOR PICTURE TUBE
RA64	0700043M	CF 1/16W 1.5K-JB			
RA65	0187034M	CF 1/16W 51-J	$\triangle$ V1	DE00831	CPT A68ADT25X02 (DARK TINT)
RA66	0700034M	CF 1/16W 330-JB			
RA67	0100059M	CF 1/8W 560-JB			CRYSTALS
RA68	0700062M	CF 1/16W 39K-JB			
RA70	0700054M	CF 1/16W 10K-JB	X001	2168931	CRYSTAL HC-49/U-120MHZ
RA71	0700054M	CF 1/16W 10K-JB	X201	2300477	SAW FILTER HW2267
RA72	0700032M	CF 1/16W 220-JB	X241	2167311	FILTER CERAMIC (4.5MHZ)
RA73	0700032M	CF 1/16W 220-JB	X242	2167201	TRAP CERAMIC (4.5MHZ)
RA74	0700032M	CF 1/16W 220-JB	X243	BN00031	CERAMIC DISCRIMINATOR
RA75	0100059M	CF 1/8W 560-JB	X301	HP00151	COMB FILTER UNIT
RA76	0700032M	CF 1/16W 220-JB	X501	2791505	CRYSTAL HC-491U 3.58MHZ
RA77	0700054M	CF 1/16W 10K-JB	X751	2168771	X'TAL CSB503F30
RA78	0100059M	CF 1/8W 560-JB	XA01	BP00171	X'TAL 14R3X16THC-49/U
RA80	0700041M	CF 1/16W 1.0K-JB	XAZ1	2167201	TRAP CERAMIC (4.5MHZ)
RA81	0700052M	CF 1/16W 6.8K-JB			
RA82	0700041M	CF 1/16W 1.0K-JB			MISCELLANEOUS PARTS
RA83	0100059M	CF 1/8W 560-JB			
RA84	0700054M	CF 1/16W 10K-JB	#003	3739671	BS CORD HOLDER NYLON 6
RA85	0700063M	CF 1/16W 47K-JB	#041	QD01805	FRAME SASS'Y 27CX7B/75B
RA86	0700054M	CF 1/16W 10K-JB	#051	QD01781	FRAME 27CX7B/75B
RA87	0100065M	CF 1/8W 1K-JB	#081	QD01771	BACK COVER
RA89	0700058M	CF 1/16W 22K-JB	#111	8781646	SCREW 4 X 16 TAPPING
RA90	0700054M	CF 1/16W 10K-JB	#115	4159427	3X10 SCREW WITH WASHER STEEL
RA91	0700054M	CF 1/16W 10K-JB	#152B	4528351	M6X30 TAP SCREW WITH WASHER SAE1
RA92	0700054M	CF 1/16W 10K-JB	#181	PC01183	BUTTON 27CX7B/75B
RA93	0700054M	CF 1/16W 10K-JB	#182	8781646	SCREW 4 X 16 TAPPING
RA94	0700041M	CF 1/16W 1.0K-JB	#201	8781646	SCREW 4 X 16 TAPPING
RA95	0700053M	CF 1/16W 8.2K-JB	#203	8781646	SCREW 4 X 16 TAPPING
RA96	0700056M	CF 1/16W 15K-JB	#204	4519508	SCREW 3X20 TAPPING SCREW

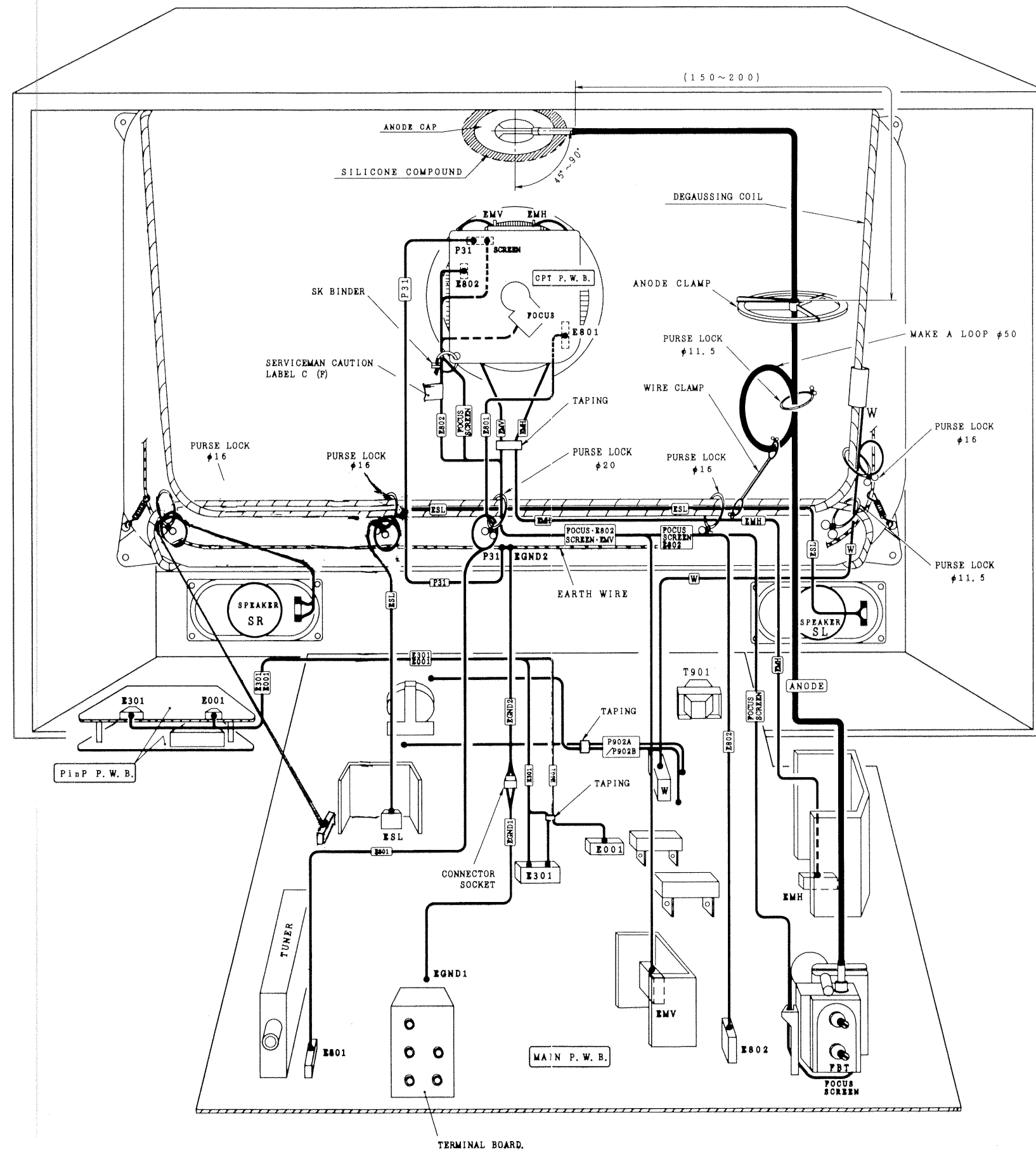
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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
#205	4519503	3X12 B TAPPING SCREW SWCH15A	NQ91A	4520881	M3*8 SCREW WITH WASHER
#211	8781646	SCREW 4 X 16 TAPPING	NT1	4518742	M2.3X12 SCREW WITH WASHER STEEL
#212	4286585H	PVC WASHER	NT2	4243445	G51 INSULATION WASHER PL-11T
#253	KQ00211	R/C LENS 27CX7B/75B	NT3	4518753	M2.3 NUT SWRM3
#254	8781646	SCREW 4 X 16 TAPPING	P001	2675287	PLUG PIN (PH 8P)
#311	NX00561	P IN P FIXED PIECE 27V	P12C	2902264	PLUG PIN SUB MINI 5P
#350	QX00101	POWER CORD COVER 27V	P301	2902252	12P PLUG PIN
#400	8441615	HIMERON SHEET	P31	2663131	2P PLUG PIN WITH BASE
#401	4349912	MX5000 B/C HIMELON	P901	2782611	CENTER PIN
#601	3727972	POWER CORD HANGER	P902	2782611	CENTER PIN
#650	3876121	FBT SUPPORT CMT2195 PA	PA01	2902248	PLUG PIN SUB MINI9P
#686	H461171	PATENT AND TELESONICS LABEL(27V)	PA02	2902247	PLUG PIN SUB MINI 8P
#802	4693491	CANADA COVER LABEL CCT(C750)	 PMH	2665279	4P PLUG PIN
#900	3810102	PCB SUPPORT	 PMV	2663132	3P PLUG PIN WITH BASE
E001	2909238	CONN.W/WIRE 08C-B2R0 L470	PSL	2902261	PLUGPIN SUB MINI 2P
E203	2784243	DRY BATTERY SUM-3 (G)	PSR	2902262	PLUG PIN SUB MINI 3P
E301	2976661	CONN. W/WIRE SEH 12J (L300)	 PW	2661753	4P PLUG PIN WITH BASE
E602	2908403	CPT GND WIRE(RCA1R)	TP001	EU00281	TERMINAL PIN(C053)
E801	EF02502	CONNECTOR 06B-B2R5-561#5NC	U001	2574881	REMOCON RECEIVER UNIT(GP1U781Q)
E802	EF02512	CONNECTOR 04B-B2R5-471#2NC	 U101	HJ00081	ET452A
E851	2953344	CPT SOCKET	W91	9374575	UL CSA1007-24HP CODE GREEN
 E901	2745411	AC POWER CORD	Z057	9451164	UL TUBE #10
E902A	EF02491	CONNECTOR 01A-A0R0-181BROWN	Z0A2	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW
E902B	EF02492	CONNECTOR 01A-A0R0-181RED	Z101	9413945	SILICON KE-1300 (WHITE)
EA01	2974231S	CONN. W/WIRE SEH 9J L60 (C-B)	Z103	9449503	ADHESIVE TAPE (SCOTCH NO. 3 W=9)
EA02	2974201S	CONN. W/WIRE SEH 8J L60 (C-B)	Z104	9449916	NITTO TAPE W19MM
EF901	2720641	FUSE HOLDER	Z127	9449603	NITTOH TAPE #747
EGND2	EF02881	CONNECTOR	Z201	9542102	STAPLE (MAX. 10)
EMH	2992233	CONNECTOR 04C-N5R0-431-1,3	Z501	9316403	RESIN FLUX CORED WIRE SOLDER (CRH50-2.3-A)
EMV	2967059	W/WIRE 3J MINI CONN	Z401	9414017	SILICONE COMPOUND(G-746)
ETP	2122652M	FERRITE CORE	Z513	9485158	HOT MELT (AX-1503C)
J301	2693841	TERMINAL BOARD M3XU	Z559	9451104	VARNISH CLOTH TUBE 0.8X1.8 YEL.
JSIN	2983122	S-SOCKET(C756/C755/C750)	Z560	9451104	VARNISH CLOTH TUBE 0.8X1.8 YEL.
JSL	2976644	CONNECTOR 02C-N2R5-821	Z561	9451104	VARNISH CLOTH TUBE 0.8X1.8 YEL.
JSR	2976654	CONNECTOR 03C-N2R5-471-1,3	Z601	9414017	SILICONE COMPOUND(G-746)
N101	3701202	PWB HOLDER G7-A PA	Z618	9451136	UL CSA TUBE NO.8
N101	3785511	V LOCK 16	Z701	9371901	SCA COPPER WIRE 0.65
N101	544510	TERMINAL PIECE	Z702	9414017	SILICONE COMPOUND(G-746)
N102B	HW92011	CHASSIS MODEL LABEL	Z760	9451104	VARNISH CLOTH TUBE 0.8X1.8 YEL.
N102	3785522	V LOCK 20	Z764	9451136	UL CSA TUBE NO.8
N104	3785511	V LOCK 16(C756/C755/C750)	Z765	9451136	UL CSA TUBE NO.8
N105	3705232	ANODE CLAMPER 94V0 (101)(C756/C755/C750)	Z781	9451104	VARNISH CLOTH TUBE 0.8X1.8 YEL.
N106	3785511	V LOCK 16	Z9	9413926	SILICON RUBBER
N108	3785511	V LOCK 16	Z901A	9413926	SILICON RUBBER
N110	3785502	V LOCK 11.5	Z925	9451104	VARNISH CLOTH TUBE 0.8X1.8 YEL.
N111	3785502	V LOCK 11.5	Z933	9413926	SILICON RUBBER
N112	9374506	WIRE UL1007 CSATR64 AWG22 1/0.64 FR-1 GR	ZA01	3787482	PCB HOLDER (16L)
N113	3763751	SK BINDER	ZA02	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW
N130	3700342	WIRE CLAMP V0	ZA03	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW
N150	3728273	PURSE LOCK (8)	ZC301	9374575	UL CSA1007-24HP CODE GREEN
N202	H461702	WARRANTY CARD	ZC301B	9485158	HOT MELT (AX-1503C)
N205	3611877	POLYETHYLENE COVER	ZC310A	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW
N209	H461901	HITACHI EXT. SERVICE CARD	ZE9	9449603	NITTOH TAPE #747
N401	QN00328	SERVICEMAN WARNING LABEL A(27CX6B)	ZE9B	9563445	EXCEED GLASS TUBE HG-2E 3.5
N401A	4520881	M3*8 SCREW WITH WASHER	ZK16	9413926	SILICON RUBBER
N401B	8821234	NUT-3	ZK17	9413926	SILICON RUBBER
N403	QN00329	SERVICEMAN WARNING LABEL A	ZK51	9413926	SILICON RUBBER
N601	3446864	V.HEAT SINK M3LXU	ZKA21	9374575	UL CSA1007-24HP CODE GREEN
N601A	4520881	M3*8 SCREW WITH WASHER	ZKA22	9374575	UL CSA1007-24HP CODE GREEN
N605	649009	HOOK-30	ZQ91	9414017	SILICONE COMPOUND(G-746)
N606	3330941	EARTH SPRING	ZR030	9485158	HOT MELT (AX-1503C)
N609	3763751	SK BINDER	ZR057	9451104	VARNISH CLOTH TUBE 0.8X1.8 YEL.
N611	2772981	FERRITE SHEET ASS'Y	ZRA	9449506	SCOTCH TAPE NO.29 19MM
N702	3445542	H.HEAT SINK HY09 A11DOP-H2	ZRA73	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW
N702A	4514061	SCREW FLANGED 3*12	ZRAZ3	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW
N702B	8821234	NUT-3	ZRAZ4	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW
N702C	8813124	SPRING WASHER-3	ZRC03	9451104	VARNISH CLOTH TUBE 0.8X1.8 YELLOW
N702D	4284311	2000 EARTH PIN	ZD022	9485158	HOT MELT (AX-1503C)
N702E	4159411	SCREW 3*8 KNURLED TAPPINGSWRM	ZR099	9485158	HOT MELT (AX-1503C)
NA01	MD01161	M3 PIP SHIELD CASE A			
NA02	MD01171	M3 PIP SHIELD CASE B			
NE901	3772201	AC CORD HOLDER NYLON			
NQ91	4276993	VERTICAL HEAT SINK			

NOTES:

NOTES:

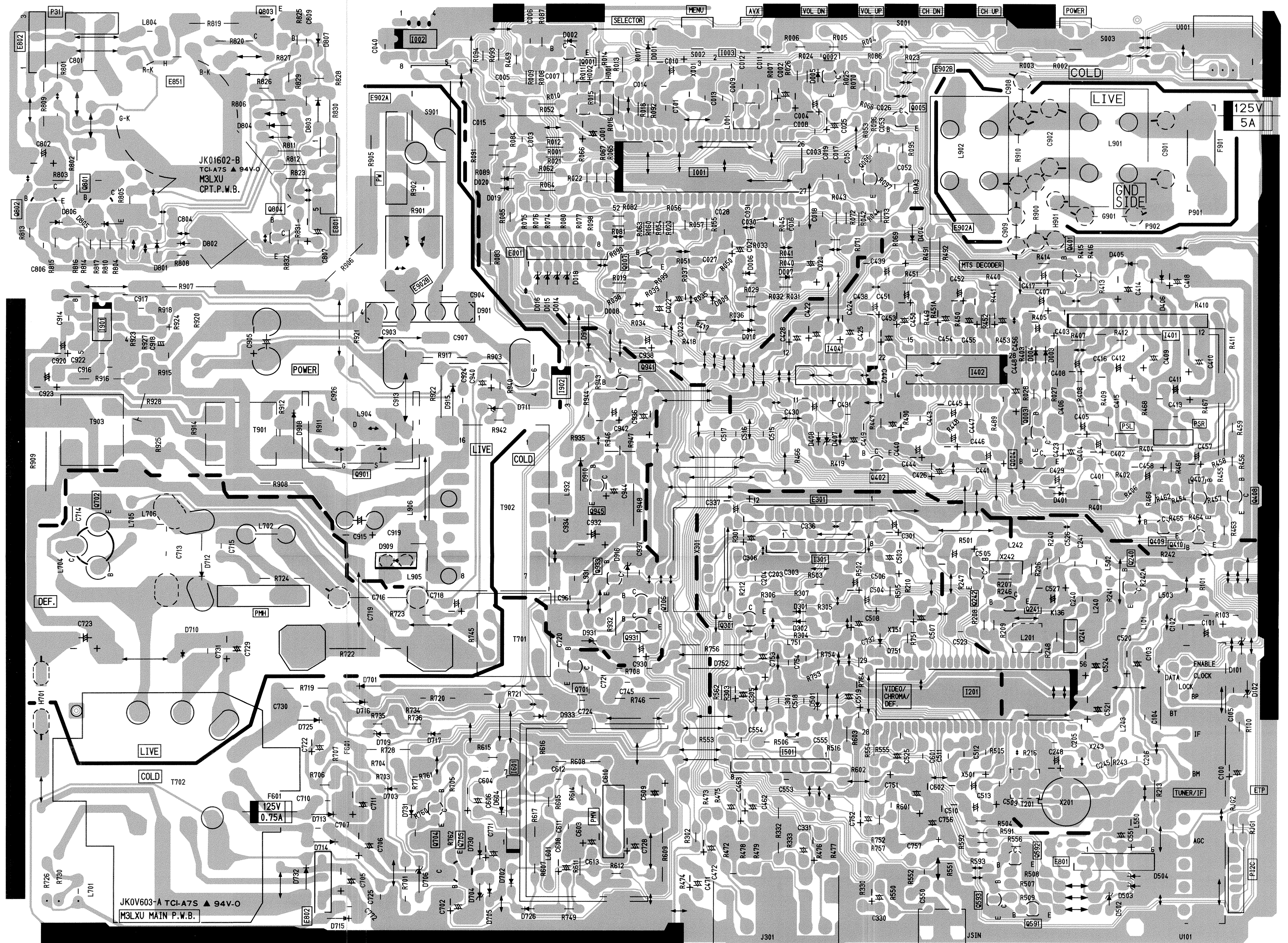
WIRING DRAWING OF 27CX5B/C755 FINAL ASSEMBLY



PRINTED WIRING BOARD FOIL PATTERN

M3LXU2 MAIN P.W.B.

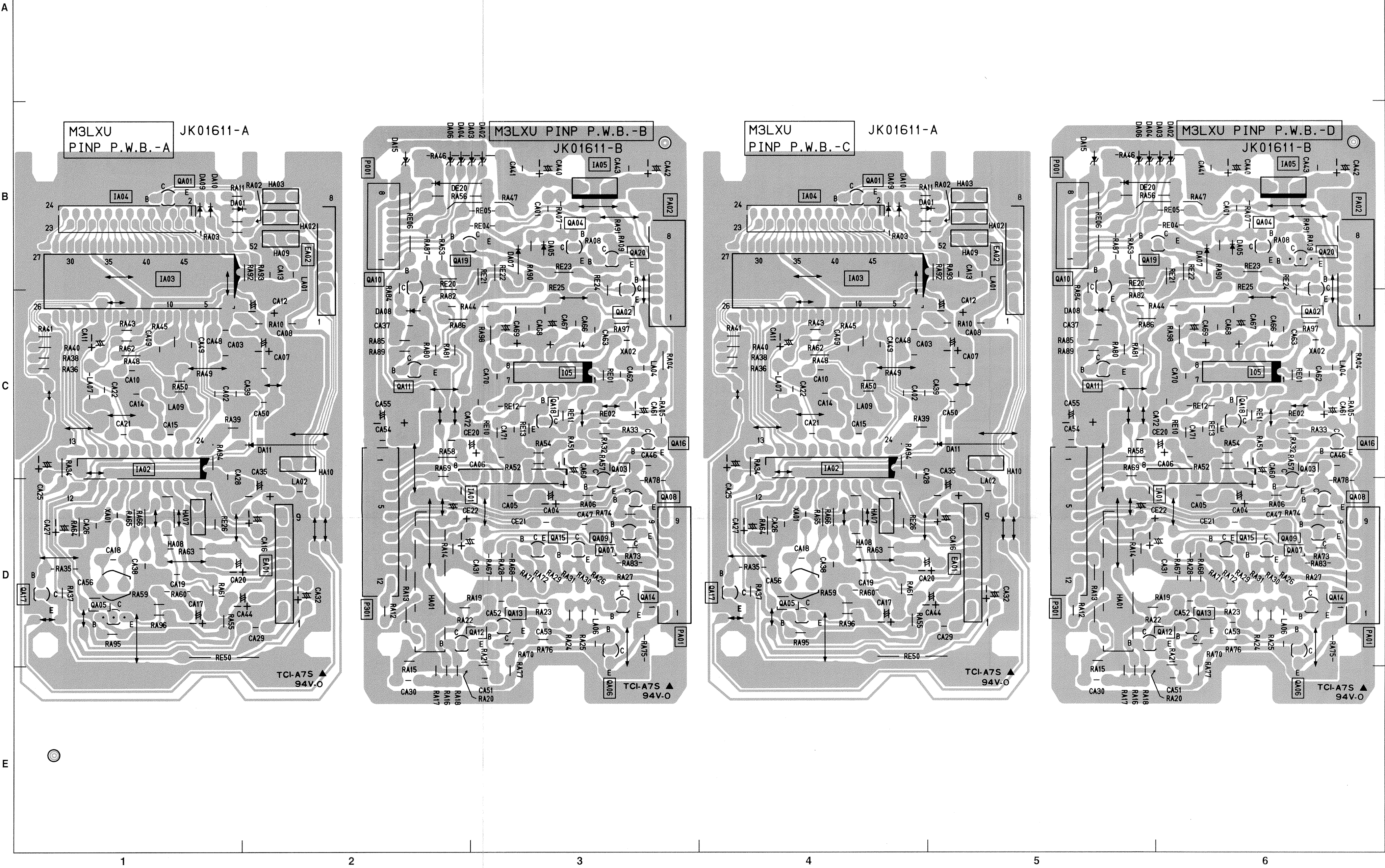
M3LXU2 CPT PWB



PRINTED WIRING BOARD FOIL PATTERN

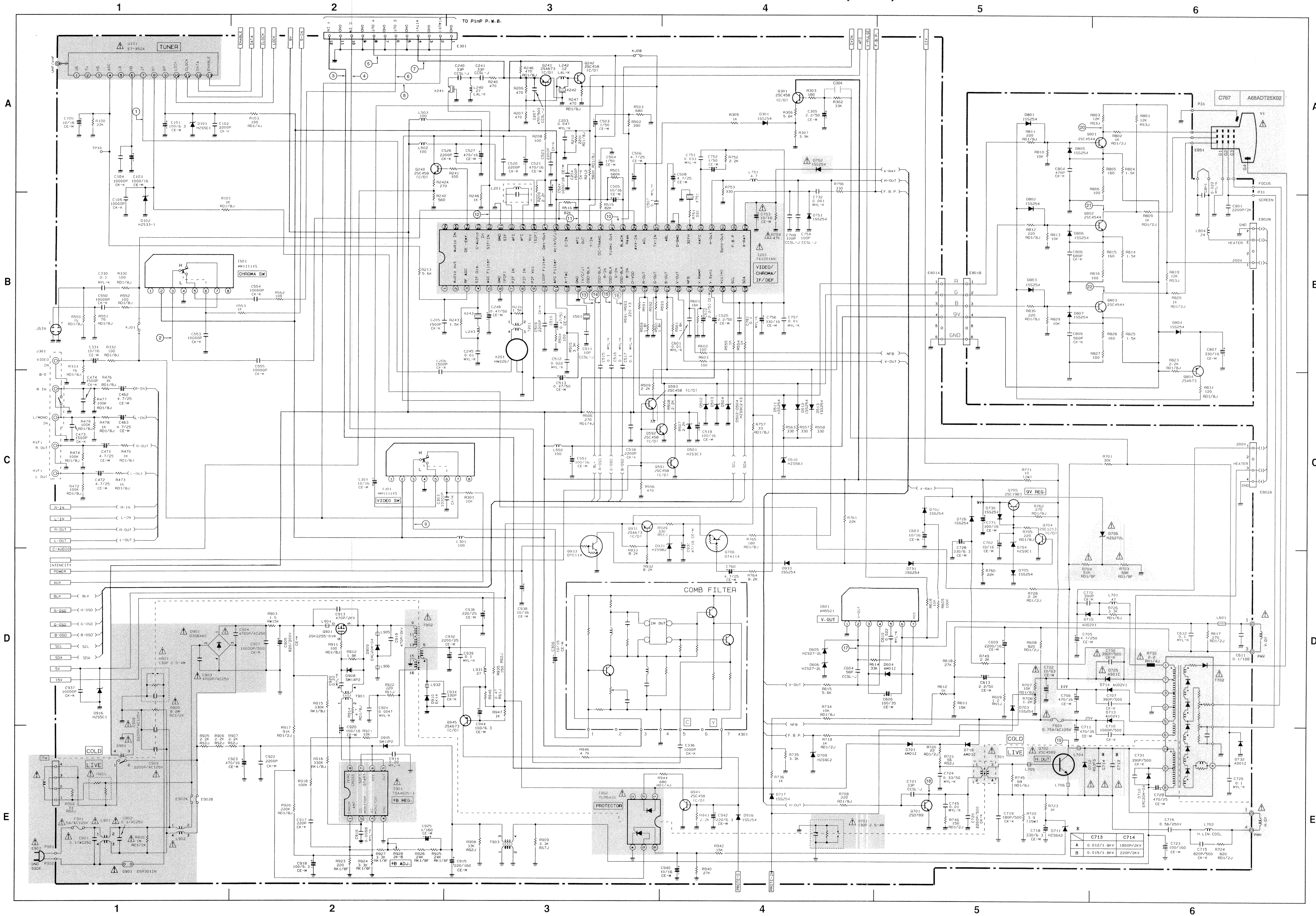
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M3LXU2 P in P P.W.B.



• 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 SCHEMATIC DIAGRAM OF 27CX7B/27CX75B (C767)



• 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.	DC Voltage Vdc
I001	1	4.9
	2	4.9
	3	5.1
	4	0.9
	5	0.9
	6	0.9
	7	5.2
	8	5.1
	9	0
	10	2.5
	11	2.7
	12	5.3
	13	3.2
	14	5.3
	15	0.4
	16	0.2
	17	5.3
	18	2.5
	19	2.5
	20	2.6
	21	5.3
	22	0
	23	2.9
	24	5
	25	4.3
	26	0
	27	0.1
	28	0.1

Circuit No.	Pin No.	DC Voltage Vdc
I001	29	0.1
	30	0.1
	31	0.3
	32	1.6
	33	5.4
	34	5.5
	35	0.2
	36	0
	37	0.1
	38	0.1
	39	0.1
	40	0.1
	41	0
	42	5.3
	43	5.2
	44	5.2
	45	5.2
	46	5.2
	47	0.1
	48	0.1
	49	0
	50	0.3
	51	5.1
	52	5.1

Circuit No.	Pin No.	DC Voltage Vdc
I002	1	0
	2	0
	3	0
	4	0
	5	5
	6	5
	7	0
I003	1	5.3
	2	0
	3	5.3
I201	1	4.1
	2	4.1
	3	3.3
	4	3.3
	5	4.5
	6	0
I201	7	2.1
	8	2.1
	9	9.3
	10	4.6
	11	6
	12	5
	13	0
	14	0.9
	15	4.9
	16	4.8
	17	4.8

Circuit No.	Pin No.	DC Voltage Vdc
I201	18	3.8
	19	2.4
	20	2.5
	21	2.7
	22	0.8
	23	4.6
	24	4.6
	25	5.7
	26	8.2
	27	5
	28	5
I201	29	0.7
	30	1.6
	31	0.1
	32	1
	33	6.8
	34	5.3
	35	0
	36	3.2
	37	3.3
	38	4.1
	39	1.6

Circuit No.	Pin No.	DC Voltage Vdc
I201	40	5.3
	41	2.9
	42	4.8
	43	4.7
	44	3.3
	45	2.7
	46	9.2
	47	4
	48	9.3
	49	8.2
	50	8.2
I201	51	0
	52	0
	53	2.9
	54	4
	55	2.9
	56	2.9

Circuit No.	Pin No.	DC Voltage Vdc
I301	1	0
	2	9.1
	3	4.6
	4	0
	5	5.1
	6	0.1
	7	4
I401	1	1.3
	2	0
	3	16.9
	4	0
	5	0
I401	6	1.3
	7	8.9
	8	16
	9	0
	10	17.2
	11	0
	12	8.9
I402	1	9.1
	2	4.6
	3	4.6
	4	0.1
	5	4.6
	6	4.6
	7	4.6
	8	4.4
	9	5.7
	10	0.1
	11	3.3
	12	4.6

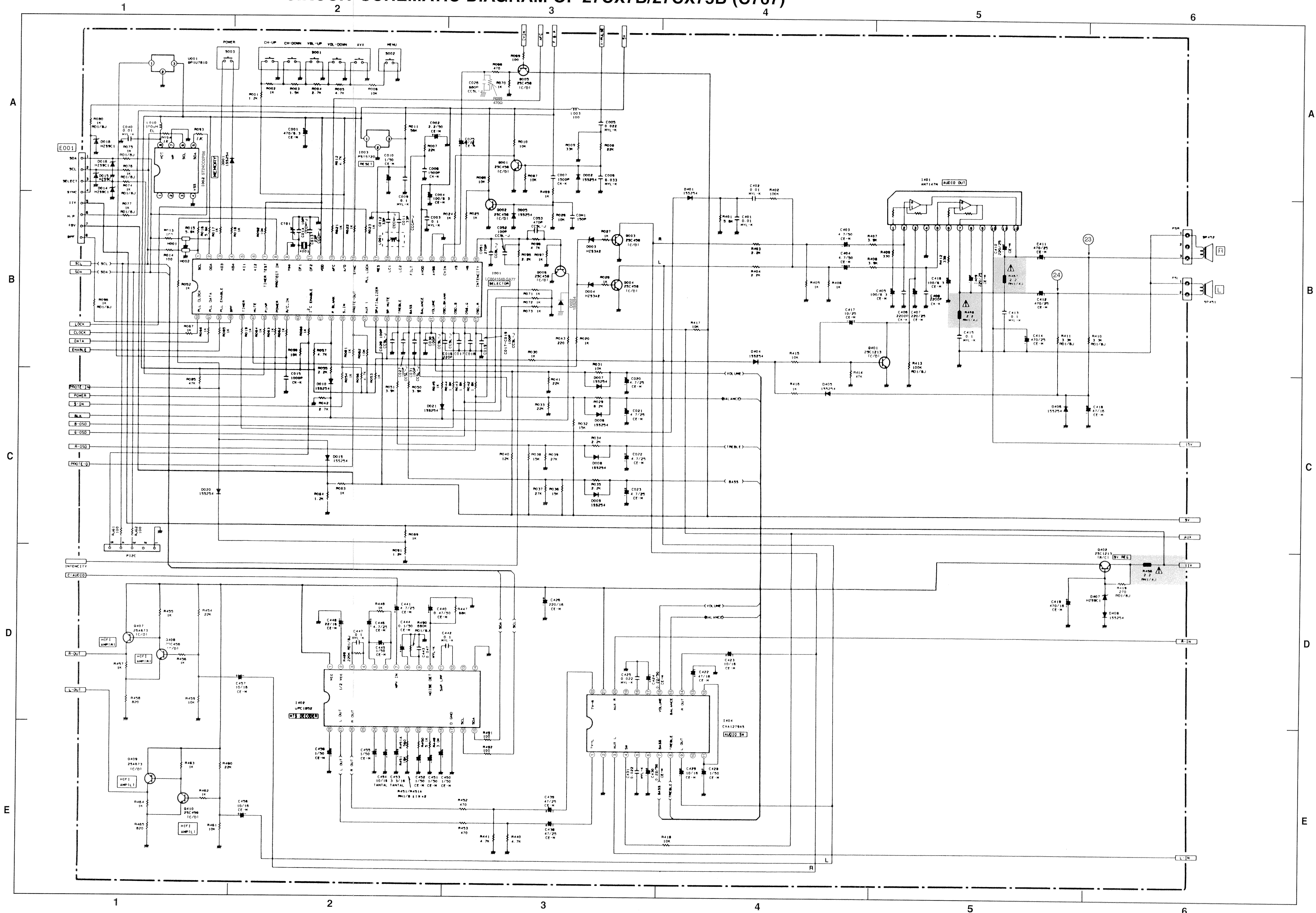
Circuit No.	Pin No.	DC Voltage Vdc
I402	13	4.6
	14	0
	15	2.5
	16	0.1
	17	0
	18	4.6
	19	4.6
	20	4.7
	21	1.3
	22	5.2
	23	5.2
I402	24	4.6
	25	4.6
	26	4.6
	27	4.6
	28	4.9

Circuit No.	Pin No.	DC Voltage Vdc
I404	1	0
	2	9.3
	3	4.6
	4	0.1
	5	4.7
	6	4.7
	7	0.1
	8	0.1
	9	4.6
	10	0.1
	11	2.6
	12	2.6
I404	13	0.1
	14	4.1
	15	2.5
	16	0.1
	17	4.7
	18	4.7
	19	0.1
	20	4.6
	21	9.1
	22	4.6

Circuit No.	Pin No.	DC Voltage Vdc
I501	1	0
	2	9.3
	3	4.6
	4	0.1
	5	5.2
	6	0
	7	0
	8	0
I601	1	0
	2	12.5
	3	26.8
	4	0.8
	5	0
	6	2.1
	7	25.9

Circuit No.	Pin No.	DC Voltage Vdc
I901	1	0.4
	2	1.2
	3	1.8
	4	0
	5	6.1
	6	13.1
	7	1.8
	8	0.3
I902	1	17.3
	2	16.7
	3	0
	4	14.7
	5	82
	6	-14.7

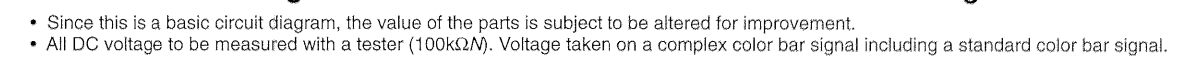
CIRCUIT SCHEMATIC DIAGRAM OF 27CX7B/27CX75B (C767)



• 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). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No	DC Voltage Vdc	Circuit No.	Pin No	DC Voltage Vdc	Circuit No.	Pin No	DC Voltage Vdc	Circuit No.	Pin No	DC Voltage Vdc
Q001	B	0	Q301	B	9.8	Q593	B	0	Q804	B	9.2
	C	5		C	9.2		C	3.4		C	-0.4
	E	0		E	9.2		E	0		E	9.2
Q002	B	0	Q401	B	0	Q701	B	0.4	Q901	G	102
	C	4.4		C	16.9		C	15.9		D	168
	E	0		E	0		E	0		S	96.8
Q003	B	0	Q402	B	9.8	Q702	B	3	Q931	B	16.5
	C	0		C	11.1		C	116.3		C	17.2
	E	0		E	9.1		E	3.4		E	17.3
Q004	B	0	Q407	B	8.4	Q704	B	0.3	Q933	B	4.7
	C	0		C	4.2		C	0		C	0.1
	E	0		E	9.1		E	0		E	0
Q005	B	2.9	Q408	B	2.8	Q705	B	9.9	Q941	B	0
	C	9.2		C	8.4		C	11.3		C	17.1
	E	2.2		E	2.2		E	0		E	0
Q006	B	0	Q409	B	8.4	Q706	B	17.2	Q945	B	17.3
	C	0.9		C	4.2		C	1		C	0
	E	0		E	9.1		E	17.2		E	17.3
Q240	B	3.9	Q410	B	2.8	Q801	B	3			
	C	9.2		C	8.4		C	154.5			
	E	3.2		E	2.2		E	2.6			
Q241	B	4	Q591	B	0	Q802	B	3.2			
	C	0		C	2.9		C	148.6			
	E	4.6		E	0		E	2.7			
Q242	B	2.4	Q592	B	0	Q803	B	3.2			
	C	9.2		C	0.6		C	144.3			
	E	1.7		E	0		E	2.8			

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



Circuit No.	Pin No.	DC Voltage Vdc
QAZ1	B	4
	C	9.3
	E	4.6
QC01	B	0.7
	C	7.2
	E	1.4

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