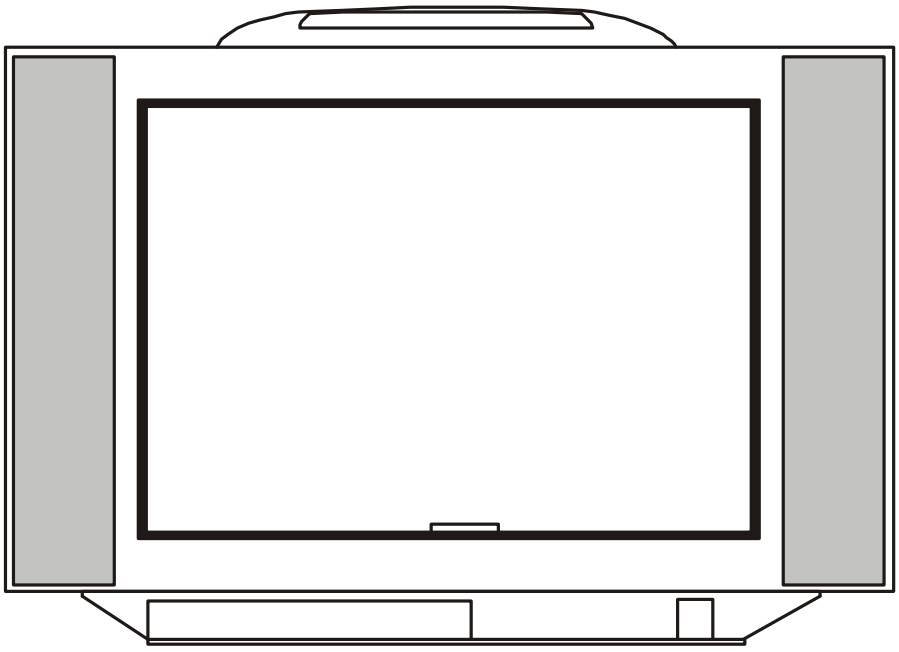
AWA

W6900S/SF

29”(74 CM) COLOUR TV WITH INFRARED REMOTE CONTROL



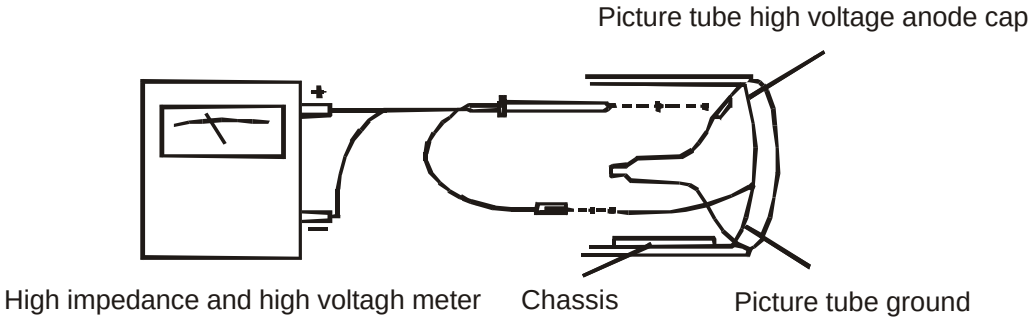
SERVICE MANUAL

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" DESCRIBED BELOW.

X-RAY RADIATION PRECAUTION

1. Extremely high voltage of the picture tube may result in producing potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit.
   The nominal value of the high voltage of this receiver is about 30.4 kV at zero beam current (minimum brightness) under 175-245V AC power source.
   The high voltage must, under any circumstances, not exceed about 36kV.
   Each time this receiver requires servicing, the high voltage should be checked according to the HIGH VOLTAGE CHECK procedure at the back of this manual. it is recommended to record the reading of the high voltage in the service record each time. Using an accurate and reliable high impedance and high voltage meter is quite important.
   Connect the NEGATIVE and POSITIVE probe of a high voltage meter to the "ground" and the high voltage anode cap of the picture tube respectively.



HIGH VOLTAGE CHECK CONNECTION DIAGRAM

2. The only source of **X-RAY RADIATION** in this receiver is the picture tube. For ensuring the intensity of **X-RAY RADIATION** from the picture tube being within the specified safety limit, the replacement picture tube must be exactly the same type specified in the parts list.
3. Some parts in this receiver have special safety-related characteristics which would affect **X-RAY RADIATION** protection. For safety, parts replacement should be carried out only after referring to the **"PRODUCT SAFETY NOTICE"** below.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this receiver have special safety-related characteristics (directly relate to high voltage, high temperature or electric shock) which are not easily seen by visual inspection. Whenever replacing such components, make sure that the replacement parts can provide effective X-RAY RADIATION protection even though their high voltage and wattage can meet the specification of the original design. Such parts can be identified by shading and marking with ⚠ in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. Using substitute parts which do not have the same safety characteristics as the ones specified in the parts list may create excessive **X-RAY RADIATION**.

I^2C BUS CONCEPT

(1). Characteristics

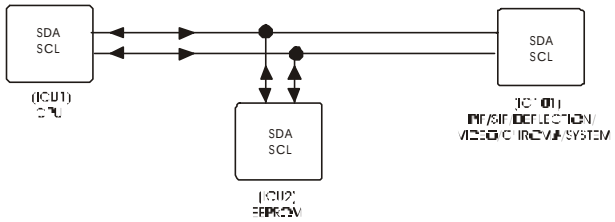
1.1 I^2C Bus consists of clock (SCL) and data (SDA) lines.

1.2 It transmits data among integrated circuits in full duplex mode.

1.3 It is composed of a main IC chip (CPU) and one or more sub-IC chips.

- The CPU mainly operates data transmissions and also generates clock signal.
- The CPU also controls all sub-IC chips, making them work.

(2). I^2C Bus Application in this TV unit



In this TV unit, ICU1 is the main chip while ICU2, IC101 and other chips are regarded as sub-chips.

2.1 ICU1 (CPU) controls the functions of IC101 via the I^2C bus between them.

2.2 The data of channel positions, BT voltage, band, AFT, clear, volume, power on/off, timer, color, etc. are written into, stored in and read out from ICU2 via the I^2C bus.

SAFETY PRECAUTION

1. High voltage of 27-32kV is always present inside this receiver when it is operating, so be cautious of electric shock hazard while removing the back cabinet to process adjustment.
   (A) Servicing should not be attempted by any person who is not very familiar with the required re-cautions when working on this high-voltage equipment.
   (B) Before removing the anode cap of the picture tube, discharge the high voltage potential from the picture tube anode several times by short-circuiting the anode together with its ground to keep off electric shock hazard.
   (C) Perfectly discharge the high voltage potential of the picture tube before handling the picture tube which is highly evacuated. When it is broken, danger may be caused because of the violent burst of its glass fragments.
2. If the fuse in this receiver is blown, replace it with the type specified in the chassis parts list or with the same specifications (never use other types).
3. Whenever replacing with new components, twist the lead wires of the component together with the concerned residual leads before soldering.
4. Whenever replacing with a new high wattage resistor (such as oxide metal film resistor) on any of the circuit boards, keep the body of the resistor 10 mm above the circuit board.
5. Keep all connecting wires away from the components of high voltage or high temperature.
6. This receiver is designed to operate at AC 175-245V~50/60Hz, NEVER connect to DC supply or any other power sources.
7. The main chassis of this receiver is perfectly isolated.

INSTALLATION AND SERVICE ADJUSTMENTS

GENERAL INFORMATION:

Normally, this receiver have been thoroughly checked and adjusted before leaving the factory; therefore it should operate normally and produce perfect color and B/W pictures upon installation. However, several minor adjustments may be required according to the practical situation.

This receiver is packed in a cardboard carton during transportation. Carefully draw it out from the carton and remove all packing materials.

Plug the receiver's power cord into a convenient 175-245V 50/60Hz AC two pin power outlet.

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

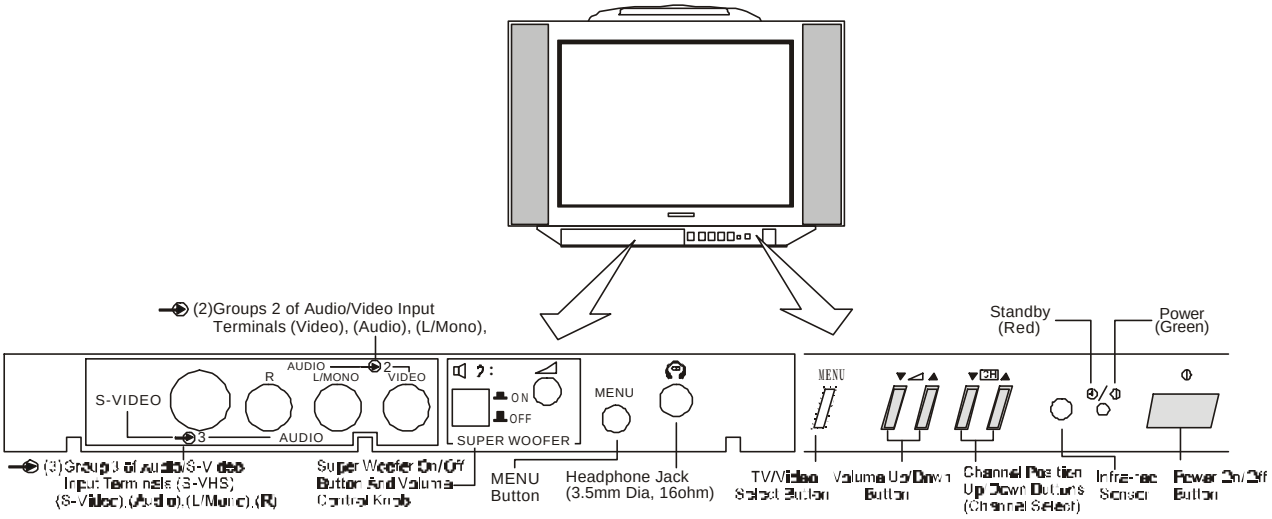
AUTOMATIC DEGAUSSING :

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

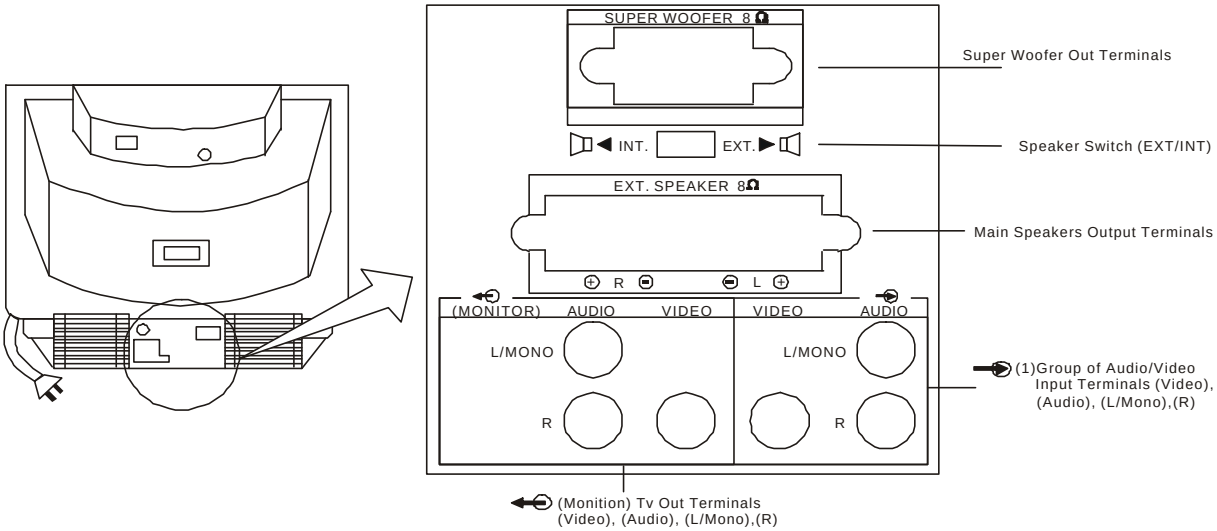
Should the chassis or parts of the cabinet become magnetized to cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the receiver and slowly withdraw the coil to a distance of about 2 meters before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

LOCATION OF CONTROLS AND SWITCHES

Front View (Front Configuration)



Rear View (Back Configuration)

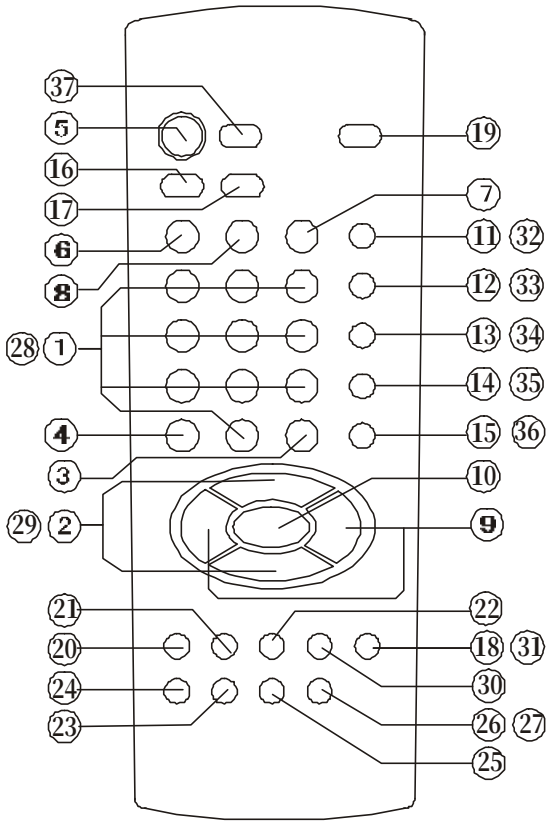


Remote Control Unit

There are 38 buttons on the remote control. It operates with infra-red beam which is not affected by noise or other interferences. Make sure strong light never strikes on the infra-red receiver; otherwise, it would obstruct the remote control working normally with the TV unit.
Do not drop or expose it to high temperature.

*16-17 (FOR GERMAN STEREO ONLY)
*19-36 (FOR TELETEXT ONLY)

1. NUMBER (0-9) BUTTONS
2. PROGRAM (UP/DOWN) BUTTONS
3. AV BUTTON
4. TV BUTTON
5. STANDBY BUTTON
6. PERSONAL PREFERENCE BUTTON (PP)
7. SOUND MUTING BUTTON
8. STATUS BUTTON
9. VOLUME (UP/DOWN) BUTTONS
10. MENU BUTTON
11. RED (PICTURE MENU) BUTTON
12. GREEN (SOUND MENU) BUTTON
13. YELLOW (OTHER MENU) BUTTON
14. CYAN (INSTALL MENU) BUTTON
15. WHITE (TIME MENU) BUTTON
16. STEREO/MONO & DUAL I/II BUTTON
17. EFFECT BUTTON
18. SWAP BUTTON
19. SUBTITLE BUTTON
20. TXT. BUTTON
21. MIX. BUTTON
22. CANCEL BUTTON
23. HOLD BUTTONSIZE BUTTON
24. SIZE BUTTON
25. REVEAL BUTTON
26. TIME BUTTON
27. SUBCODE BUTTON
28. DIGIT ENTRY (0-9) BUTTONS
29. PAGE NUMBER UP / DOWN BUTTONS
30. PREVIOUS BUTTON
31. TOP/FLOP/SIMPLE BUTTON
32-35. COLOR BUTTONS
36. WHITE (INDEX) BUTTON
37. SERVICE BUTTON



HOW TO DISASSEMBLE REMOTE CONTROL HAND UNIT (see Fig. 1)

1. Remove the battery cover and loosen the screws.
2. Open one side of the back cabinet to take it away from the front cabinet.

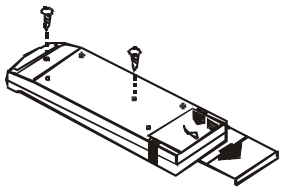


Fig. 1

METHOD OF REMOVING BACK CABINET (see Fig. 2)

Attn.: Before disassembling the back cabinet, first draw the power cord plug of the receiver from AC outlet.

1. Disconnect the antenna cable from the antenna terminal.
2. Loosen the 5 pieces of screw (A) used in fixing the antenna jack plate on the back cabinet.
3. Loosen the 9 pieces of screw (B) used in fixing the back cabinet to the front cabinet; then remove the back cabinet.

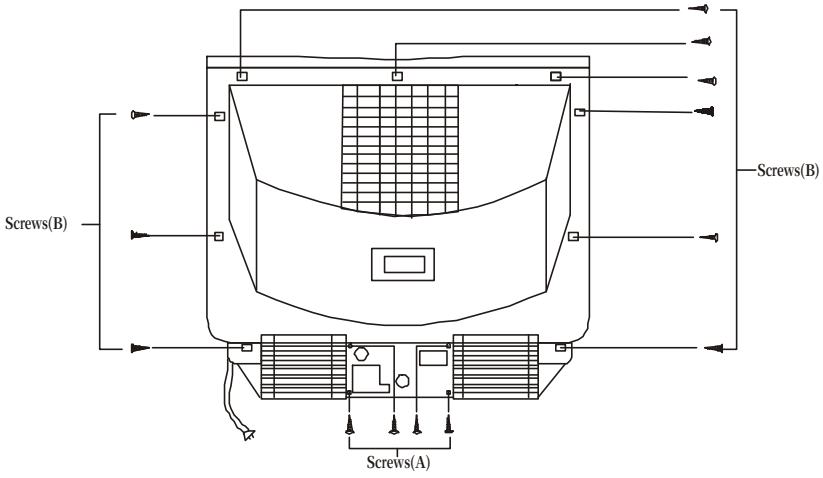


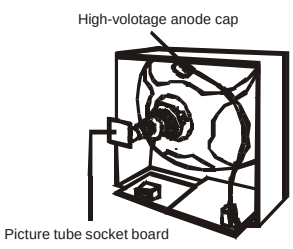
Fig.2

METHOD OF REMOVING MAIN CHASSIS (see Fig. 3 & 4)

After removing the back cabinet, proceed the following procedures accordingly.

1. To avoid electric shock hazard, discharge the high voltage potential from the picture tube anode several times by short-circuiting the positive anode of the picture tube with its ground before detaching the high-voltage anode cap.
2. Unsolder and detach the ground wire of the picture tube from the picture tube socket board.
3. Detach the picture tube socket board.
4. Detach the high-voltage anode cap.
5. Unplug Socket F, U, V, A, B, K or X and P.
6. Take out the chassis from the chassis holder.

Fig.3



METHOD OF REMOVING PICTURE TUBE (see Fig. 4)

After taking out the chassis holder (main chassis), proceed the following procedures accordingly:

1. Turn the receiver down and let the screen of the picture tube face downward, and put it on a soft cushion.
2. Loosen the 4 pieces of nut used in fixing the picture tube on the front cabinet, remove the degaussing coil; then use two hands to hold the edges of the picture tube tightly and draw it out.
3. Detach the ground wire of the picture tube which is attached to the lugs of the picture tube with springs.

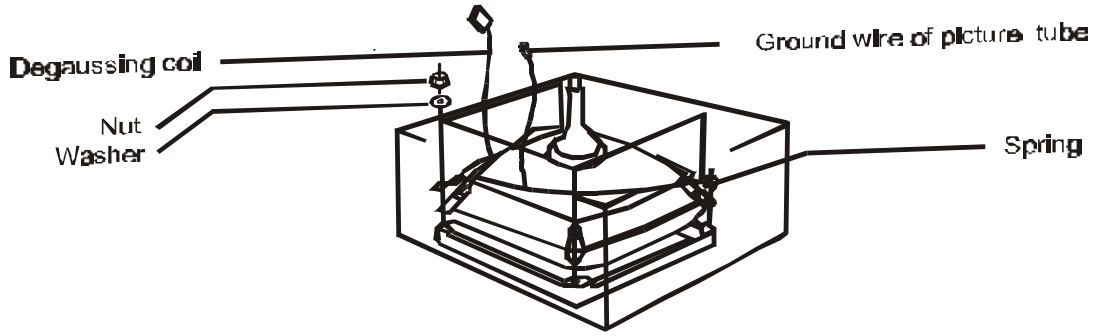


Fig.4

SUGGESTION: Before servicing the chassis, please read through "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" and "PRODUCT SAFETY NOTICE" at Page 2 & 3 of this manual.

GENERAL ADJUSTMENT INSTRUCTIONS

This receiver is transistorized and special care should be taken when servicing. If not necessary, do not attempt any adjustments because the requirements of the procedures are very stringent. Read the following matters before attempting any adjustments.

An isolation transformer should be used during any dynamic service to avoid possible electric shock hazard.

The test equipment specified or their equivalent is required in having proper alignment. Using unsuitable equipment, which do not meet these requirements, may result in improper alignment.

Correct matching of the equipment is essential. Failure of using proper matching will result in responses which cannot show the true operation of the receiver.

Excessive signal by using a sweep generator can cause the receiver circuit overloaded. Overloading should be avoided to obtain a true response curve. Insertion of markers by using the marker generator should not cause the response curve distorted.

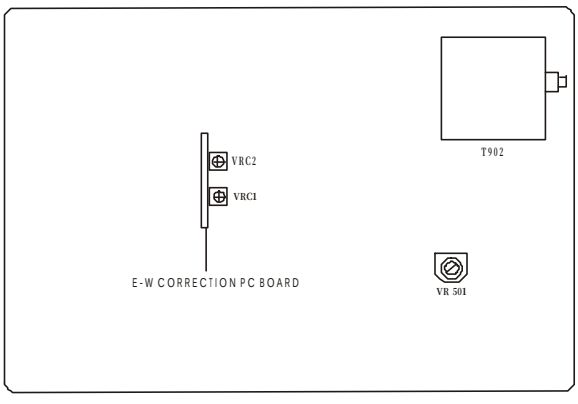
The AC power line voltage should be accurately kept during alignment.

During the process of alignment, the AC voltage should be kept in the range from 215V to 225V (50Hz).

Do not attempt to connect or disconnect any wire while the receiver is in operation. Make sure the power cord is unplugged before replacing any parts in the receiver.

Unless specified, start adjustments after the receiver is turned on for at least 30 seconds.

CHASSIS'S TOP VIEW



MAIN CHASSIS PC BOARD

NOTICE:

1. Resistor

All resistors are of 1/8W Carbon Film type except those listed below. The unit of measure for resistor is OHM (K = 1,000 ohm, M = 1,000,000 ohm).

CARBON FILM RESISTOR
CARBON COMPOSITION RESISTOR
METAL OXIDE RESISTOR +5%
METAL OXIDE RESISTOR +2%
FUSIBLE RESISTOR
NON-INFLAMMABLE RESISTOR
PTC THERMISTOR
VARIABLE RESISTOR

2. Capacitor

All capacitors are of 50V Ceramic type except those listed below. The unit of measure for capacitor is FARAD (F) (UF = 0.000001 F, PF = UUF = 0.000001 UF)

CERAMIC CAPACITOR
TANTALUM CAPACITOR
POLYESTER FILM CAPACITOR
POLYPROPYLENE FILM CAPACITOR
ELECTROLYTIC CAPACITOR
TRIMMER CAPACITOR
METAL POLYESTER FILM CAPACITOR

3. Unit of Measure: UH

4. Test Point

5. Marking of Ground Wire

 : Ground wire of chassis (COLD)

 : Ground wire of external wire (HOT)

6. Voltage Measurement

The voltages at all points should be measured with a digital multi-meter, and the measuring conditions are as follows:
Power Source: AC220V 50Hz
Receiving Signal: Color Bar Signal
All Control Buttons: in Normal Position

7. Waveform

The numeral in the small circle represents the number of waveform, refer to the waveform table.

8. It is easy to locate a connection point in the direction as indicated by arrow (↗).

9. The schematic diagram in this manual is drawn according to the original design. It may be slightly different from the actual circuit of the receiver because of any change in the circuit subject to no prior notice.

Notice: This circuit has a transformer to isolate the power supply circuit from the majority of the other circuit, and they can be identified in the schematic diagram by marking with "HOT" and "COLD". Please note the followings .All circuits are "COLD" except power supply circuit.

(1) To avoid electric shock hazard, never touch the "HOT" and "COLD" circuit simultaneously.
(2) Never short-circuit the "HOT" and "COLD" circuit to prevent the fuse or other components from burning.
(3) Never connect any measuring equipment such as oscilloscope to both the "HOT" and "COLD" circuit at the same time to prevent the fuse from burning. Also, connect the ground of the measuring equipment to the ground of the circuit being tested.
(4) Never fail to unplug the power cord of the receiver before taking out the chassis.

TEST EQUIPMENT :

EQUIPMENT	SPECIFICATION
High Impedance Voltmeter	Having an impedance of at least 100 Kohm.
Oscilloscope	Volt sensitivity over 10mV input impedance over 1 Mohm, below 10PF.
Sweep/Marker Generator	Output adjustable to at least 0.1 volts rms.
Colour Bar Generator	With functions: BAR/DOT/SQUARE/SYSTEM SELECT/VIDEO OUTPUT TERMINAL/CROSS-HATCH/S-VIDEO OUTPUT TERMINAL functions and green or red purity signal.
Power Supply	Source such as a battery or a well regulated and isolated DC bias supply. (Adjust 0-20V)
AC/DC Voltmeter	High sensitive (better use digital voltmeter)
Isolation Transformer	Voltage adjustable type having capacity of more than 200 watts.
Probe	Low-capacitance / High impedance.
FM/AM Signal Generator	National ; MODEL : VP8177A

B+ VOLTAGE ADJUSTMENT

Notice: (A) B+ voltage closely relates to the picture tube's positive high voltage.

(B) To prevent it from producing excessive hazardous X- RAY RADIATION, ensure that B+ voltage must be adjusted to at the 125V (CE-6401/6418/6409/7405)/ 124V(or)140V (CE-7406)/ 145V (CE-8608)/ 115V (CE-8616) POSITIONS.

1. Check the AC line voltage supplied is AC220V +-5% 50 Hz.
2. Turn in an active channel, adjust BRIGHTNESS and CONTRAST controls to obtain a normal picture.
3. Connect test point (C523) on the MAIN CHASSIS PCB with high impedance DC voltmeter.
4. Adjust VR501 (on the MAIN PCB) for B+ 125V +/-0.3V (CE-6401/6418/6409/7405)/ 124V(or)140V +/-0.3V(CE-7406)/ 145V +/-0.3V(CE-8608)/ 115V +/-0.3V(CE-8616) voltage reading.

HIGH VOLTAGE CHECK:

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

a. Connect an accurate high voltage meter to the second anode of the picture tube.
b. Turn on the receiver and set the BRIGHTNESS, COLOUR and CONTRAST Controls to the minimum (zero beam current).
c. High voltage will be measured below 35KV.
d. Adjust the BRIGHTNESS Control to both extremes to ensure the high voltage does not exceed the limit of 34Kv under any circumstances.

FS CIRCUIT CHECK:

a. Push the Power Switch on and adjust all controls for normal operation.
b. Temporarily connect a 18Kohm resistor across R908 on the Main Chassis PC Board. Raster and sound will disappear.
c. The receiver must remain in this state even after removing the resistor. This is the evidence that the Fail Safe circuit is functioning properly.
d. To obtain a picture again, temporarily push the power switch off and allow the Fail Safe circuit move than 30 seconds to reset. Then push the power switch on to produce a normal.

FOCUS ALIGNMENT :

Tune in an active channel or Phillips Pattern. Adjust the Focus control on the FLYBACK TRANSFORMER (T902) for well defined scanning lines in the center area on the screen.

SCREEN VOLTAGE (VG2) ADJUSTMENT

Apply a FULL BLACK signal with a colour bar signal generator.
Connect oscilloscope to measure pin of R132, R133 or R134 (Vbcmp) on the main board. Vbcmp means DC-level of the black current measurement pulse.
Turn the CONTRAST and BRIGHTNESS controls to normal positions.
Turn the SCREEN VR anti-clockwise to get the minimum value.
Then turn the SCREEN VR clockwise slowly to get the reading of the DC-level at the RGB-output is 3.3V.

ATTN.: CE-7407 of SCREEN VOLTAGE adjustment reading of the DC-level at the RGB-output is 3.3V or Screen Voltage is about DC 400V.

HORIZONTAL POSITION ADJUSTMENT

a. Receive the Phillips Pattern. Apply a crosshatch signal.
b. Set the contrast and colour to their minimum, and the brightness to its maximum.
c. Adjust (H-SHIFT) to move the picture at the center.

ATTN.: These settings should be done with separate test signals with a 50 Hz and a 60 Hz field frequency. These parameters are stored in separate groups for 50 Hz and 60 Hz and are recalled or set, depending on the field frequency of the currently received program.

VERTICAL ADJUSTMENT

Apply a crosshatch signal.
Adjust (V-SLOPE) to obtain half picture.
Adjust (V-S.CORR) to obtain a linear picture.
Adjust (V-SHIFT) to move the picture at the center.
Adjust (V-AMPL) to obtain rightful high picture.

ATTN.: These settings should be done with separate test signals with a 50 Hz and a 60 Hz field frequency. These parameters are stored in separate groups for 50 Hz and 60 Hz and are recalled or set, depending on the field frequency of the currently received program.

PICTURE WIDTH AND PINCUSHION DISTORTION ADJUSTMENT :

a. Perform this adjustment after the B+ volts and the Hor. CENTER adjustment are completed.
b. Receive a Phillips Pattern.
c. Set the contrast and colour to the minimum, and the brightness to the maximum.
d. Adjust the H. WIDTH Control (VRC2) for the horizontal width so that the white flags on the left and right of the pattern just hide.
e. Adjust the DPC Control (VRC1) to correct the vertical line on left and right straight.
f. Readjust the WIDTH Control (VRC2) for the precision.

DELAY AGC ADJUSTMENT :

Apply a 60dbu level with standard colour bar signal to the antenna input.
Connect the probes of the high impedance DC voltmeter to C156.
Adjust (AGC-ADJ) to get the reading of 4 - 5V till obtaining a clear picture.

CRT GREY SCALE ADJUSTMENT (WHITE BALANCE ADJUSTMENT):

Apply a white balance alignment signal with the white balance checker.
Adjust brightness and contrast suitable for the adjustment.
Adjust (R-GAIN), (G-GAIN) and (B-GAIN) to obtain a 9300 K colour temperature.

SAFETY PRECAUTION :

Dielectric voltage withstand test :

The following accessible parts should be stressed for a period of one second on each complete appliance before it leaves the factory.

The test potential voltage not less than 3500V, 50Hz should be applied for 1 second between both blades of the attachment plug cap. and the following parts :

	Name of part	Locations
1.	Antenna Terminal	Back Cabinet
2.	AV input Terminals	Front / Back Cabinet
3.	AV output Terminals	Back Cabinet
3.	Enclosure Screws	Back Cabinet
4.	S-Video Sockets	Front Cabinet
5.	Ext. Speaker Terminals	Back Cabinet

SOUND IF ALIGNMENT (BG-38.9MHz)

a. Apply IF signal (38.9 MHz, 10mV) to Pin 1 of D socket.
b. Set a signal generator to colour bar and dual transmission with internal modulation of 3 KHz on channel 1 and 1 KHz on channel 2.
c. Connect oscilloscope to pin 15 of ICF1 (TDA3857).
d. Align the 38.9MHz coil (LF4) for minimum picture contents.

STEREO SOUND AND DUAL SIF ALIGNMENT (BG - 5.5MHZ, DK - 6.5 MHz)

a. Set transmitter to dual sound mode and off the main sound modulation.
b. Adjust (LF5) 5.74MHz tank coil to minimum THD.
c. Set transmitter to BG mono sound mode, connect the dual vertical input of the oscilloscope to RF17 (MAIN SOUND) 5.5MHz and RF15 (SUB SOUND) 5.74MHz.
d. Adjust (LF6) 5.5MHz tank coil to minimum THD.
e. Change the sound to D/K system, adjust (LF7) 6.5MHz tank coil to minimum THD.
f. Re-align LF6 and LF7 to minimum THD both.

GERMAN STEREO FILTER COIL (LF8)

a. Set a signal generator to colour bar, stereo sound mode and off the main sound modulation (5.5 MHz signal).
b. Connect the oscilloscope to Pin 5 of ICF2.
c. Adjust FILTER COIL (LF8) for the maximum reading on the oscilloscope (envelope waveform) with the minimum distortion.

COLOUR PURITY ADJUSTMENT

Note: Before attempting any color purity adjustments, the receiver should be turned on for at least 30 minutes. (see Figure 8). A few rubber wedges should be available for use whenever necessary during the process of color purity adjustment.

a. Demagnetize the picture tube and cabinet using an external degaussing coil.
b. Turn the CONTRAST and BRIGHTNESS controls to maximum.
c. Adjust RED and BULE bias controls (R-GAIN) and (B-GAIN) to provide only a green raster. Advance the GREEN bias control (G-GAIN) is necessary.
d. Loosen the clamp screw holding the yoke and slide the yoke and slide the yoke backward to provide vertical green belt (zone) in the picture screen.
e. Remove the rubber wedges.
f. Rotate and spread the tabs of the purity magnet (See Fig. 9 around the neck of the picture tube until the green belt is in the center of the screen. At the same time center the raster vertically.
g. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
h. Check the purity of the red and blue raster by adjusting the bias controls.
i. Obtain a white raster, referring to "CRT GREY SCALE ADJUSTMENT (White Balance Adjustment).
j. Proceed with convergence adjustment.

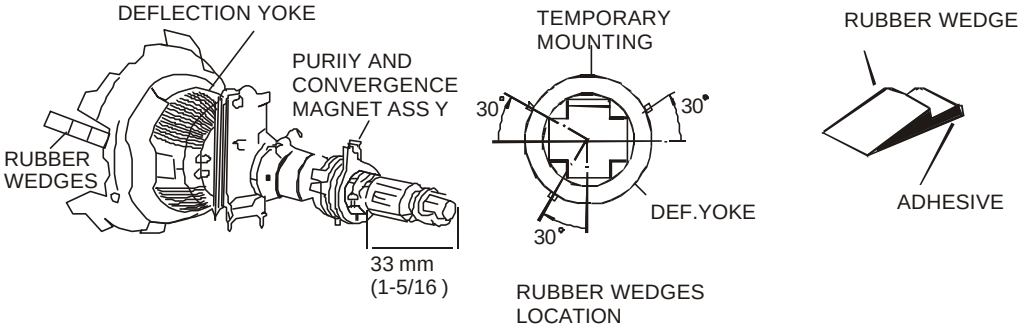
CENTER CONVERGENCE ADJUSTMENT :

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

a. Receive crosshatch pattern with a colour bar signal generator.
b. Adjust the BRIGHTNESS and CONTRAST controls for a well defined pattern.
c. Adjust two tabs of the 4-Pole magnets to change the angle between them (See Fig.9) and superimpose red and blue vertical lines in the center area of the picture screen (See Fig. 10).
d. Turn both tabs at the same time , keeping their angles constant to superimpose red and blue horizontal lines at the center of the screen (See Fig. 10).
e. Adjust two tabs of 6-Pole magnets to superimpose red and blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
f. Repeat adjustments c,d,e, keeping in mind red, green and blue movements because 4-Pole magnets and 6-Pole magnets mutual affection and make dot movement complex.

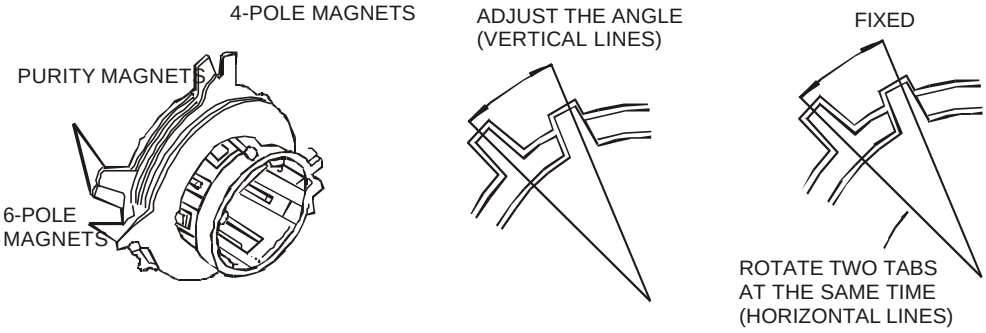
CIRCUMFERENCE CONVERGENCE ADJUSTMENT :

a. Loosen the clamping screw of the deflection yoke to allow the yoke to tilt.
b. Put a wedge as shown in Fig.8 temporarily. (Do not remove the cover paper on the adhesive part of the wedge).
c. Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See Fig.10). Push the mounted wedge into the space between the picture tube and the yoke to hold the yoke temporarily.
d. Put another wedge into bottom space and remove the cover paper to stick.
e. Tilt front of the yoke right or left to obtain better convergence in circumference. (See Fig. 10).
f. Keep the yoke position and put another wedge in either upper space. Remove the cover paper and stick the wedge on picture tube to hold the yoke.
g. Detach the temporarily mounted wedge and put it in another upper space. Stick it on the picture tube to fix the yoke. After fixing three wedges, recheck overall convergence.
h. Tighten the screw firmly to hold the yoke tightly in place. Stick 3 adhesive tapes on wedges as shown in Fig. 8.



RUBBER WEDGES
LOCATION

Figure 8



CONVERGE MAGNET ASSEMBLY

ADJUSTMENT OF MAGNETS

Figure 9

4-Pole Magnets Movement

6-Pole Magnets Movement

Center Convergence by Convergence Magnets

Incline the Yoke up (or down)

Incline the Yoke right (or left)

Circumference Convergence by DEF Yoke

Fig .10 Dot movement Pattern

FACTORY ADJUSTMENT MODE:

General

All available options are devided over 4 option bytes, which can be set in the service menu. To activate the service menu, **RC-5 code 58 with system address 7** should be transmitted to the system. When the Service menu is activated, pressing the **Status-key** will bring up option byte 0. The menu left/right keys will change the value of the option byte down or up respectively. Pressing the Menu Up key will bring up the next option byte, option byte 1.

Note, that the four option bytes are not part of the overall service menu carrousel or even part of an own, "option byte" carrousel. When the last option byte has been entered and menu up is pressed, the first item of the service menu will be activated again. Pressing menu-down, when any of the option bytes 1..3 is active will bring up the previous option byte. Pressing menu-down when option byte 0 is present, will bring up the last item in the service menu carrousel.

Note, that the option bytes are represented in binary notation and that the Least Significant Bit (LSB, bit 0) is the most right-hand bit.

Note, that bits marked as reserved are used by other members of the CTV27X family of TV control systems.

In case the user should forget the password that has been entered, there is a "built-in" password, that will always work: *759*.

Option byte 0

The following options are available in option byte 0.

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
Opt StoreUp	Opt FColorOn		Opt Standby	Opt Tuner		Opt Logo	Opt Stereo
Auto store up (1..99)	Forced Color on	reserv.	Standby after power on	UV1316tuner type	reserv.	Display Logo	Simple Stereo
1=Auto store starts at program 1 0=Autostore starts at program 99	1=Auto Color killing disabled 0=Auto Color killing enabled	-	1=Al. ways goto standby after power on 0=power on mode depends on last status	1=UV1316M K2 0=Old UV1316	-	1=displ ay 0=don't display	1=prese nt 0=not present

Table 5.1 Option byte 0 definitions

The setmaker's logo can only be displayed if memory bank 1 is present. If this bank is present, displaying the logo can disabled by setting bit 1 low. If the memory bank is present and bit 1 is set, then the logo will be displayed for 15 seconds, after a cold start only.

NOTE: If no text is defined for the logo in memory bank 1, this option should always be 0

Option Byte 0 adjustment setting are 10000001.

Option byte 1

The following options are available in option byte 1:

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
	Opt TDA884X		Opt SChannels			Op Chan Table	
not used	Video Chip	reserved	S-channels	not used	not used	Channel Table	
-	1=TDA884X	-	1= S-channels included 0= S-channels not included	-	-		

Table 5.2 Option byte 1 definitions

In option byte 1, the bits 0 and 1 form a number between 0 and 3.

bit 1	bit 0	
Op Chan Table		Not used for VST tuners
0	0	CCIR
0	1	UK
1	0	OIRT
1	1	Illegal

Table 5.3 Option byte 1, bits 0 and 1 determine channel table

Note, that when a VST tuner is installed, the option bits for Channel Table have no meaning.

Option Byte 1 adjustment setting are 01010000.

Option byte 2

Option byte 2 is used entirely to set the available color and sound standards.

Note, that the available systems set here must match the installed Xtal' s for the video one-chip and sound traps.

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
Opt NtscBG	Opt NtscM		Opt SecamDK	Opt SecamBG	Opt Pall	Opt PalDK	Opt PalBG
NTSC-BG	NTSC-M	Not used	SECAM-DK	SECAM-BG	PAL-I	PAL-DK	PAL-BG
1=present 0=not present	1=present 0=not present	-	1=present 0=not present	1=present 0=not present	1=present 0=not present	1present 0=not present	1=present 0=not present

Table 5.4 Option byte 2 definitions

Option Byte 2: 1. Adjustment setting are 01000001 for PAL-BG and NTSC-M.

2. Adjustment setting are 01000011 for PAL-BG/DK and NTSC-M.

3. Adjustment setting are 01011011 for PAL/SECAM-BG/DK and NTSC-M.

Option byte 3

The following tables show the options in the last of the option bytes.

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
	Opt Nr Of AV		Opt Blueback	Opt VhfH	Opt VhfL	Opt Vid Mute	Opt 24Hr
reserved			Blue background	VHF-H band	VHF-L band	Video mute if Chan. change	24 hr clock
-			1=blue background 0=no blue background	1=present 0=not present	1=present 0=not present	1=mute 0=no mute	1=24 hour 0=AM/PM

Table 5.5 Option byte 3 definitions

Bits 5 and 6 form a pair to indicate the number of available AV (external) sources.

bit 6	bit 5	
OptNrOfAV		
0	0	No external source
0	1	AV-1 only
1	0	AV-1 and AV-2
1	1	AV-1 and AV-2 and S-VHS

Table 5.6 Option byte 3, Number of AV sources

Option Byte 3 adjustment setting are 01111111 for AV-1 and AV-2 and S-VHS.
Option Byte 3 adjustment setting are 01011111 for AV-1 and AV-2.

Cathode drive level adjust (CL-ADJ)

For variation of the cathode drive level at he CRT three IIC bits CL2, 1,0 are added. The table below gives a survey of the cathode drive levels:

CL-ADJ	**Variation Cathode Drive**
0	57V
1	63V
2	70V
3	77V
4	84V
5	91V
6	99V
7	107V

Measuring conditions:
Brightness are set to their nominal value. As test signal is used a black field with white block. The measured cathode drive voltages have a tolerance of +/- 3V.

7 Service and Factory mode

Factory mode

When the **service contact** (pin 35) of the microprocessor is shorted to ground for 250 ms but not longer than 500 ms, CTV272V2 will show the service menu. In the service menu, configuration and geometry parameters can be modified (service alignment), using the remote or local keyboard. In service mode, the EVG-bit of the video one-chip is cleared to 0, to avoid RGBOUT blanking when the vertical deflection fails, for easier repair. To indicate that the service menu is active, CTV272V2 will display the following OSD message:

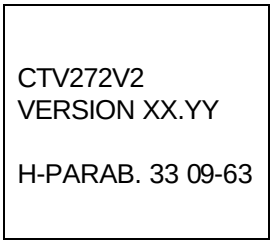


Figure 7.1 Service menu OSD

The OSD shows the identification of the TV system CTV272V2 and it's version number in XX.YY format. An example of a version number is 00.04.The lowest line shows one of the alignment parameters. This is also the position on which the parameters will be shown when the service menu is active. There will only be one alignment parameter active at any given time. The alignment parameter consists of it's name (refer to chapter on the **service menu** for details), it's current value and the range in which the value can be altered.

When the short circuit lasts longer than 500 ms, CTV272V2 will enter Factory mode. The continuous update via the I^2C bus and OSD's are suppressed. A factory computer can then write to the **non-volatile memory**. When a command from the local or remote keyboard is received, all devices are updated and the processor stops again. In this way, all non I^2C bus controlled outputs of the microprocessor can still be controlled.

In factory mode, the setmaker's logo can be set, if the optional memory bank 1 is present. In this memory bank 40 bytes are available for the logo text. The characters for the logo text are NOT packed, like the characters for the program names. Any of the characters as described in the chapter on the **user interface** can be used. The logo text will be printed in two lines, the first line has a maximum of 20 characters, the second line has a maximum of 16 characters. If both lines are to be used, the upper line has to be filled out with ' Space' characters. There is no New Line character available, this will be inserted automatically after 20 characters have been read from the non-volatile memory.
The logo text can be 'ended' by either filling the remainder of the 40 bytes with spaces, or by inserting an EOL (End-Of-Logo) character. When the software reads an EOL character, the logo text will be regarded as finished.

The service line of the microprocessor is also used as a " write protect" line for the non- volatile memory. Any of the non-volatile memory IC's used can either be connected to this line or have their write protect pin (if applicable) fixed to ground. Prior to any write access to the non-volatile memory, the microprocessor will pull the service pin low.

Service Alignment

The service menu can also be activated by sending RC-5 code 58 with system address 7. When the service menu is activated, the Menu Up/Down keys will select the next item, while the Menu Left/Right keys will change the value of the item currently on screen. The following alignments can be set.

RC-5 key	Function	OSD	Range
Status	option byte 0	OPTION 0 10000001	
I/II	option byte 1	OPTION 1 01010000	
EFFECT	option byte 2	OPTION 2 01000001	
HOLD	option byte 3	OPTION 3 01111111	
-	Hotel Mode :Maximum Volume	HM VOL setting is 00	0-63
-	Hotel Mode :Initial Program	HM INI-P setting is 00	0-99
3	Horizontal shift [1])	H-SHIFT setting is 34	0-63
2	E-W width [1])	H-WIDTH setting is 31	0-63
1	E-W parabola [1])	H-PARAB setting is 31	0-63
8	E-W corner [1])	H-CORNER setting is 31	0-63
9	E-W trapezium [1])	H-TRAP setting is 31	0-63
5	Vertical slope [1])	V-SLOPE setting is 25	0-63
6	Vertical amplitude [1])	V-AMPL setting is 41	0-63
4	Vertical S-correction [1])	V-S.CORR setting is 12	0-63
7	Vertical shift [1])	V-SHIFT setting is 36	0-63
Red	Red gain	R-GAIN setting is 31	0-63
Green	Green gain	G-GAIN setting is 31	0-63
Blue	Blue gain	B-GAIN setting is 31	0-63
White	Cathode drive level adjust	CL-ADJ setting is 02-04	0-7
Size	IF-PLL adjust [2])	IF-PLL/AFC setting is 02	0-3
Reveal	AGC adjust)	AGC-ADJ setting is 02-07	0-63
Time	Y-delay system[3])	Y-DELAY setting is 04	0-8
CANCEL	VSD alignment [5])	VSD setting is 00	0-1
PP	Stereo balance	STER BAL setting is 24	0-49
-	VHF-L step size A[4])	VHFL A setting is 78	0-128
-	VHF-L step size B[4])	VHFL B setting is 18	0-128
-	VH F L step size C[4])	VHFL C setting is 06	0-128
-	VHF H step size A[4])	VHFH A setting is 39	0-128
-	VHF H step size B[4])	VHFH B setting is 09	0-128
-	VHF H step size C[4])	VHFH C setting is 03	0-128
-	UHF step size A[4])	UHF A setting is 26	0-128
-	UHF step size B[4])	UHF B setting is 06	0-128
-	UHF step size C[4])	UHF C setting is 02	0-128
-	VHF-L delay time A[4])	VHFL A DL setting is 40	0-128
-	VHF-L delay time B[4])	VHFL B DL setting is 40	0-128
-	VHF-L delay time C[4])	VHFL C DL setting is 40	0-128
-	VHF-H delay time A[4])	VHFH A DL setting is 40	0-128
-	VHF-H delay time B[4])	VHFH B DL setting is 40	0-128
-	VHF-H delay time C[4])	VHFH C DL setting is 40	0-128
-	UHF delay time A[4])	UHF A DL setting is 40	0-128
-	UHF delay time B[4])	UHF B DL setting is 40	0-128
Mute	UHF delay time C[4])	UHF C DL setting is 40	0-128

1) These settings should be done with separate test signals with a 50 Hz and a 60 Hz field frequency. These parameters are stored in separate groups for 50 Hz and 60 Hz and are recalled or set, depending on the field frequency of the currently received program.

2) The TDA884x supports an alignment free IF-PLL.
The required IF- frequency can be set by adjusting the IF- PLL value according the table below:

IF-PLL value	IF- Frequency
0	58.75 MHz
1	45.75 MHz
2	38.90 MHz
3	38.00 MHz

3) This setting should be repeated for any of the possible color standards in the TV – system, since this parameter is recalled or set, depending on the currently selected color standard.

4) VST tuners only.

5) VSD alignment, when there is no vertical deflection, the remaining horizontal line can be used for simplified Vg2 alignment
0: Vertical scan active (normal operation)
1: Vertical scan disabled

6) Stereo balance (STER BAL) setting is adjusted separation of German Stereo.
a. Set a signal generator to colour bar, stereo sound mode and off the main sound modulation (5.5 MHz signal).
b. Connect the high impedance voltmeter to L speaker output.
c. Adjust STER BAL for the maximum reading (unit of dB) on the voltmeter of the stereo separation.

Table 7.1 Basic service alignments

When a VST tuner is used, the search tuning algorithm uses three different step-sizes when searching a transmitter (refer to **VST tuning** for details). These step-sizes are called Step A, Step B and Step C. Step A is the largest step (approximately 1 MHz), Step C is the smallest step (approximately 62.5 kHz). Measured in frequency, these steps should be approximately equal for all three bands. However, the tuning voltage applied to the tuner results in different frequencies for each band. Therefore, the step-sizes should be set for each step in each band individually. Note, that the software will not set default values, after a new non-volatile memory is installed. If a UV1315 VST tuner is used, the following values for the step-sizes will give good tuning results:

Step	Value
VHF-L A	78
VHF-L B	18
VHF-L C	06
VHF-H A	39
VHF-H B	09
VHF-H C	03
UHF A	26
UHF B	06
UHF C	02

Table 7.2 Possible step-sizes for UV1315 VST tuner

For different tuners it may be necessary to obtain different values. In order to stabilize the tuner, the tuning algorithm will wait for a certain time after each step. This time is the tuning delay time, which can be set for each step-size in each band. The delay time set in the non-volatile memory is directly measured in milliseconds. The tuning algorithm itself has an update time of 40 ms, so it is useless to set the delay times to less than 40 ms. Also, for the UV1315 tuner, 40 ms is a value, which will produce good search tuning results. For different tuners it may be necessary to obtain different values.

The four option bytes can also be changed via the service menu. These are however not part of the service parameter carrousel, as shown in the previous table. The following table shows the OSD for the four option bytes.

RC-5 key	**Function**	**OSD**	**Range**
Status	Option byte 0	OPTION 0[1])	0 - 256
Sound channel	Option byte 1	OPTION 1[1])	0 - 256
Spatial	Option byte 2	OPTION 2[1])	0 - 256
Hold	Option byte 3	OPTION 3[1])	0 - 256

Notation is in binary format, so that it is easy to see which option bits are set. Refer to the **option section** for a detailed description of the option bytes.

Table 7.3 Option bytes

Each of the option bytes can also be " stepped to" by means of the Menu Up key, provided the first option byte is at that moment on screen. Pressing Menu Up when the last option byte is active, will step to " Horizontal shift". Using Menu down is also possible when the option bytes are on screen, to step back through the option bytes. If option byte 0 is active when Menu Down is pressed, will step back to UHF delay time C.

When a new non-volatile memory is installed, it' s contents may have random values, which do not fit in the range, as set by table 7.1. The software will also not check on this situation and set appropriate default values. It is up to the service engineer or the factory to bring the service alignment values into range. Once the values have been set to a proper, in range value, it is no longer possible to set a value out of range. The software will check on ranges, when the alignment values are changed.

Hotel Mode

Hotel mode can only be set from within the service menu. The reason for this is that a separate menu with a security code is never safe enough. It is always possible, that either willingly or by accident hotel customers activate the Hotel Mode Menu and change any of the settings. The service menu however can only be activated by a special remote control device or by activating the service pin of the micro-controller.

The parameters that set Hotel Mode are always the first two items in the service menu. Therefore, a hotel technician, setting hotel mode in the service menu does not need to know all the details about the TV alignments. The hotel technician only needs to know that the first two parameters can safely be set and that the service menu should be left after the necessary settings have been made.

When Hotel Mode is active, the micro-controller will not be able to write any of the settings in the system into the non-volatile memory. The only settings that can be written are the Maximum Volume and the Initial Program of hotel mode. The Installation menu is not available in hotel mode. This also means, that programs that have been cleared, prior to setting hotel mode, can not be returned. The lock status of programs will be ignored. Also, in the Others menu, the Password item is not available when hotel mode is ON. Effectively, this means that locked programs are unlocked when hotel mode is on.

Any of the analog settings (volume, balance, brightness, contrast etc.,) can be changed, but these changes will only have effect as long as the TV is switched on. After going to standby, or powering down and up, the settings from the non-volatile memory will be recalled. Therefore, analog settings that the system should start up with should be set and stored as Personal Preset prior to setting hotel mode itself.

Hotel mode will be activated, as soon as the value for the maximum volume (HMVOL) is set to a value unequal to 0. The maximum value the analog volume can have is 63, which in normal operating conditions is visualized by a bargraph, in the most right position. Every dash in the bargraph corresponds to 4 increments in volume. The value for the maximum volume can be set from 0 to 63 and is wrapped around from 0 to 63 with the Menu Left key or wrapped around from 63 to 0 with the Menu Right key. This feature can be used to help setting the maximum volume to an acceptable value.

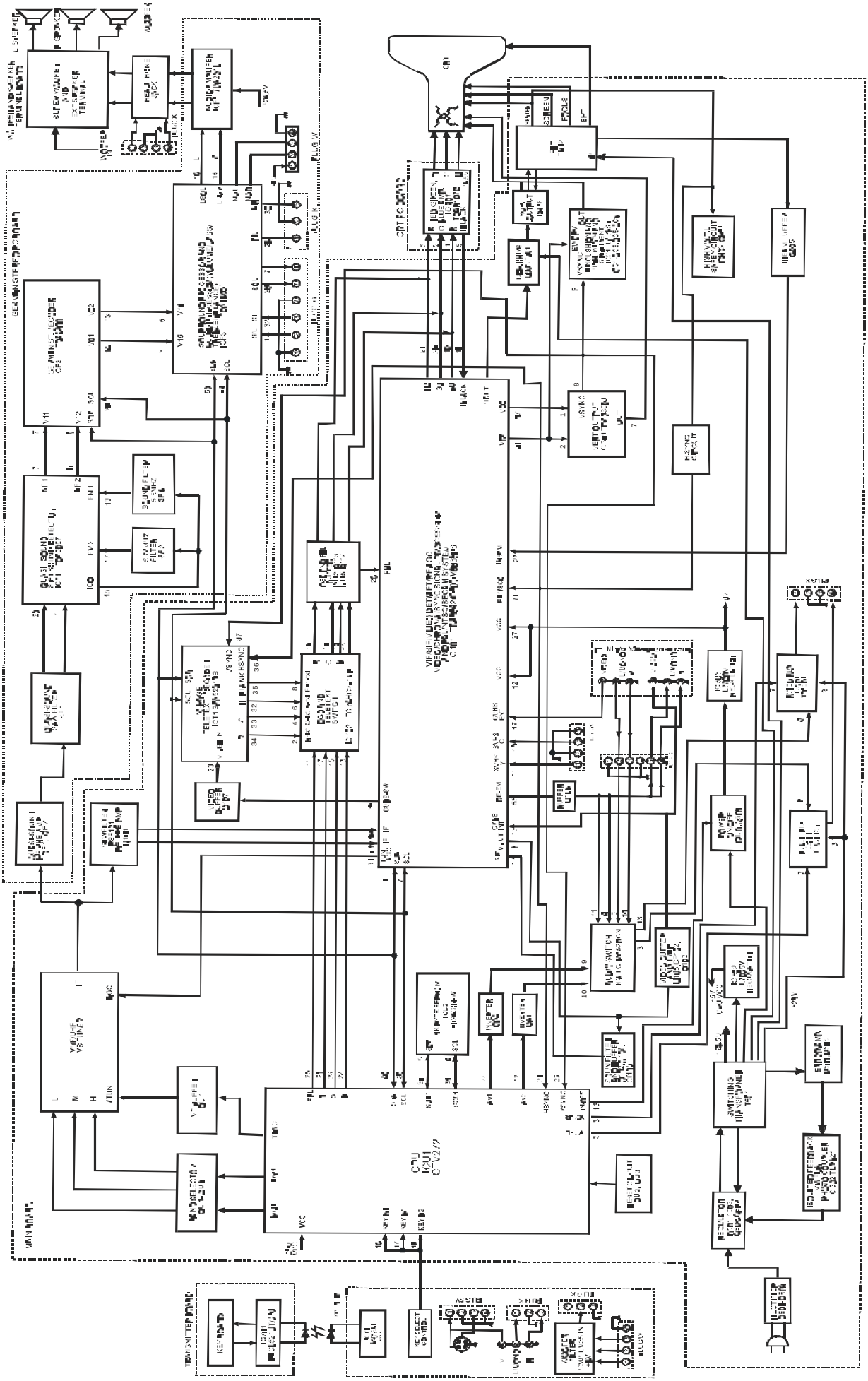
First, make sure the maximum volume is set to 0, which also means hotel mode is off. Set the volume level to an acceptable maximum value, by means of the Sound menu or the Volume + local or remote key. The activate the service menu and start setting the maximum volume by using the Menu Left key. The will start the maximum value at the value of 63 and sets hotel mode active. Continue decrementing the maximum volume, until the volume at the loudspeakers starts to decrease. This is then the maximum level that can be set by the hotel customer. Another way of setting the maximum volume is just by setting a value, without the help of any audible effects.

The initial program is the number of the program. That the TV set will power up with, either from power down or standby. For all versions of the CTV27xxx package, the maximum number that can be set here is 99, also for versions that have less than 99 programs. Care should be taken to select an existing program at this location, because the system will bring value in range if necessary. The initial program in that case is then unequal to the one set at Initial Program.

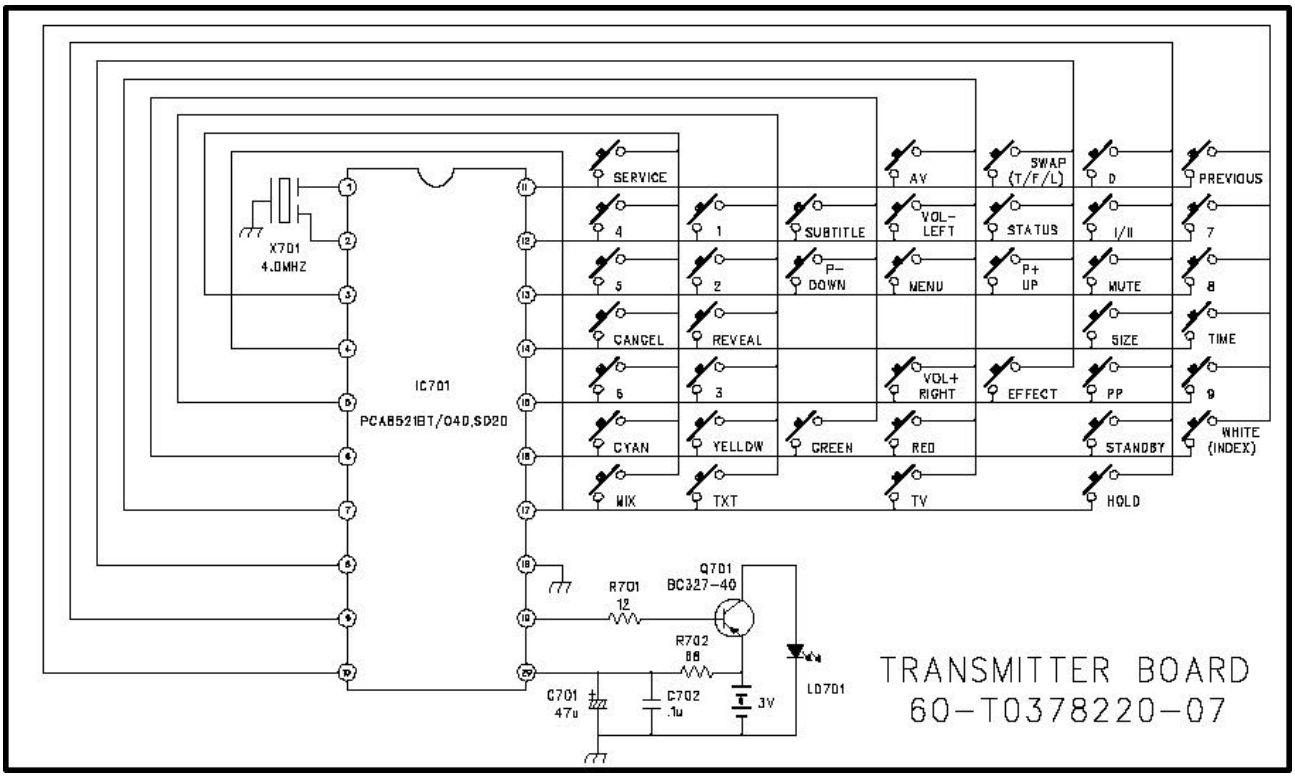
When factory alignment is performed, this can either be done by a factory computer or by hand by a factory technician. In the first case, the microprocessor will have to be put in factory mode, so the factory computer will be able to write to the non-volatile memory without any problems. Make sure however, to write 0 in the HM VOL service parameter to allow analog setting to be written into the non-volatile memory.

In the second case, the factory technician must make sure, that the service parameter HM VOL (Hotel Mode maximum Volume) is set to 0. If this is not the case, also the alignment parameters will NOT be written into non-volatile memory, even though the new setting are written the corresponding components (e.g. video one-chip) of the system! If alignment parameter are changed while the hotel mode is active, powering the system down and up will restore the previous parameters as recalled from non-volatile memory.

BLOCK DIAGRAM



CIRCUIT DIAGRAM (REMOTE CONTROL)



CAUTION:
The international hazard symbols and shaded area in the schematic diagram and parts list designate component which have special characteristics important for safety and should be replaced only with the types identical to those in the original circuit or specified in the parts list. The mounting position of replacement parts should be identical to the originals. Before replacing any of these components, read carefully the "PRODUCT SAFETY NOTICE" at Page 2. Do not degrade the safety of the receiver through improper servicing.

Notice: The part number must be used when ordering spare parts In order to facilitate order processing, be sure to include the model number and description.

＊ mark are for 'THOMSON' 29" SUPERFLAT CRT - A68EGD049X70 WORLD WIDE.
＊ mark are for 'TOSHIBA' 29" PERFECTLY FLAT CRT - A68LQP356X03(Z).
＊ mark are for 'FORTUNE' 29" SUPERFLAT CRT - 73SX732Y22-DC01

ELECTRICAL COMPENONTS LIST

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
C0101	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		C0306	54-A54700DM1-AN	4.7 UF 25V ELECTROLYTIC CAPACITOR
C0102	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		C0308	54-C32200GK1-BP	0.022 UF 100V POLYESTER FILM CAPACITOR
C0103	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		C0310	54-C44700GK1-BF	0.47 UF 100V POLYESTER FILM CAPACITOR
C0105	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		C0311	54-A63300VM1-A	33 UF 63V ELECTROLYTIC CAPACITOR
C0109	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		C0313	54-L35600GJ1-BP	0.056 UF 100V POLYESTER FILM CAPACITOR
C0110	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		C0402	54-B22200LM1-E	2200 PF 500V CERAMIC CAPACITOR
C0111	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		C0403	54-E31000XJ1-Q	0.01 UF 630V POLYPROPYLENE FILM CAPACITOR
C0112	54-C32200GK1-BP	0.022 UF 100V POLYESTER FILM CAPACITOR		C0404	54-A54700JM1-AD	4.7 UF 250V ELECTROLYTIC CAPACITOR
C0113	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		C0405	54-B21000PK1-E	1000 PF 2KV CERAMIC CAPACITOR
C0114	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		C0501	54-B21500PK1-E	1500 PF 2KV CERAMIC CAPACITOR
C0115	54-A71000CM1-O	100 UF 16V ELECTROLYTIC CAPACITOR		C0502	54-B13300PK1-E	330 PF 2KV CERAMIC CAPACITOR
C0116	54-54703-96	0.047 UF 100V POLYESER CAPACITOR		C0503	54-A71000DM1-A	100 UF 25V (105) ELECTROLYTIC CAPACITOR
C0117	54-C32200GK1-BP	0.022 UF 100V POLYESTER FILM CAPACITOR		C0504	54-C41000GK1-BP	0.1 UF 100V POLYESTER FILM CAPACITOR
C0119	54-C42200GJ1-BF	0.22 UF 100V POLYESTER FILM CAPACITOR		C0505	54-C41000GK1-BP	0.1 UF 100V POLYESTER FILM CAPACITOR
C0120	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		C0506	54-B24700LM11E	4700 PF 500V CERAMIC CAPACITOR
C0123	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		C0507	54-P22200KM11BA	2200 PF 400VAC CERAMIC CAPACITOR (VDE)
C0124	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		C0508	54-T41000JK1-BX	0.1 UF 275VAC POLYESTER FILM CAPACITOR
C0125	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		C0509	54-T41000JK1-BX	0.1 UF 275VAC POLYESTER FILM CAPACITOR
C0126	54-C23300GJ1-BP	3300 PF 100V POLYESTER FILM CAPACITOR		C0511	54-B24700NM1-E	4700 PF 1KV CERAMIC CAPACITOR
C0127	54-B32200FZ1-BN	0.022 UF 50V CERAMIC CAPACITOR		C0512	54-B24700NM1-E	4700 PF 1KV CERAMIC CAPACITOR
C0128	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		C0513	54-B24700NM1-E	4700 PF 1KV CERAMIC CAPACITOR
C0129	54-C41000GJ1-BF	0.1 UF 100V POLYESTER FILM CAPACITOR		C0514	54-B24700NM1-E	4700 PF 1KV CERAMIC CAPACITOR
C0130	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		C0515	54-A61000FM1-AN	10 UF 50V ELECTROLYTIC CAPACITOR
C0131	54-A54700DM1-AN	4.7 UF 25V ELECTROLYTIC CAPACITOR		C0516	54-A72200CM1-AN	220 UF 16V ELECTROLYTIC CAPACITOR
C0132	54-B24700FK2-AA	4700 PF 50V CERAMIC CAPACITOR		C0519	54-B24700PZ1-E	4700 PF 2KV CERAMIC CAPACITOR
C0133	54-A51000FM1-O	1 UF 50V ELECTROLYTIC CAPACITOR		C0520	54-B24700LM11E	4700 PF 500V CERAMIC CAPACITOR
C0134	54-B22200LK2-AA	2200 PF 500V CERAMIC CAPACITOR		C0521	54-B13900LK1-AT	390 PF 500V CERAMIC CAPACITOR
C0136	54-C42200GJ1-BF	0.22 UF 100V POLYESTER FILM CAPACITOR		C0525	54-A74700EM1-AF	470 UF 35V ELECTROLYTIC CAPACITOR
C0137	54-A61000CM1-AN	10 UF 16V ELECTROLYTIC CAPACITOR		C0526	54-A73300HM1-AF	330 UF 160V ELECTROLYTIC CAPACITOR
C0138	54-B23300LK1-E	3300 PF 500V CERAMIC CAPACITOR		C0527	54-A73300KM1-AP	330 UF 400V ELECTROLYTIC CAPACITOR
C0139	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		C0528	54-T41000JK1-BX	0.1 UF 275VAC POLYESTER FILM CAPACITOR
C0140	54-B32200FZ1-BN	0.022 UF 50V CERAMIC CAPACITOR		C0529	54-C41000GK1-BP	0.1 UF 100V POLYESTER FILM CAPACITOR
C0141	54-A71000BM1-A	100 UF 10V ELECTROLYTIC CAPACITOR		C0530	54-A72200CM1-AN	220 UF 16V ELECTROLYTIC CAPACITOR
C0142	54-B01800FJ2-AA	18 PF 50V CERAMIC CAPACITOR		C0532	54-A72200BM1-AF	220 UF 10V ELECTROLYTIC CAPACITOR
C0145	54-B01500FJ1-E	15 PF 50V CERAMIC CAPACITOR		C0533	54-B13900LK1-AT	390 PF 500V CERAMIC CAPACITOR
C0148	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		C0534	54-A74700FM1-AF	470 UF 50V ELECTROLYTIC CAPACITOR
C0149	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		C0536	54-P14700KK11BA	470 PF 400VAC CERAMIC CAPACITOR (VDE)
C0150	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		C0537	54-A64700CM1-AN	47 UF 16V ELECTROLYTIC CAPACITOR
C0151	54-B22200LK2-AA	2200 PF 500V CERAMIC CAPACITOR		C0538	54-B13900LK1-AT	390 PF 500V CERAMIC CAPACITOR
C0152	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		C0539	54-P14700KK11BA	470 PF 400VAC CERAMIC CAPACITOR (VDE)
C0153	54-A74700BM1-AF	470 UF 10V ELECTROLYTIC CAPACITOR		C0540	54-A73300CM1-AF	330 UF 16V ELECTROLYTIC CAPACITOR
C0155	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		C0701	54-A64700BM1-AF	47 UF 10V ELECTROLYTIC CAPACITOR
C0156	54-A72200BM1-AF	220 UF 10V ELECTROLYTIC CAPACITOR		C0702	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR
C0159	54-A74700BM1-AF	470 UF 10V ELECTROLYTIC CAPACITOR		C0901	54-B16800LK1-E	680 PF 500V CERAMIC CAPACITOR
C0160	54-A74700BM1-AF	470 UF 10V ELECTROLYTIC CAPACITOR		C0902	54-B22200LK2-AA	2200 PF 500V CERAMIC CAPACITOR
C0161	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		C0903	54-C32200FK1-E	0.022 UF 50V POLYESTER FILM CAPACITOR
C0303	54-B22200LK2-AA	2200 PF 500V CERAMIC CAPACITOR		C0904	54-L21500FJ1-BP	1500 PF 50V POLYESTER FILM CAPACITOR
C0304	54-B22200LK2-AA	2200 PF 500V CERAMIC CAPACITOR		C0905	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
C0305	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		C0908	54-B21000PK1-BN	1000 PF 2KV CERAMIC CAPACITOR
C0912	54-A72200DM1-BY	220 UF 25V ELECTROLYTIC CAPACITOR		CF0015	54-A54700CM1-AN	4.7 UF 16V ELECTROLYTIC CAPACITOR
C0914	54-B21500LM1-BN	1500 PF 500V CERAMIC CAPACITOR		CF0016	54-EI8200GJ1-Q	820 PF 100V POLYPROPYLENE FILM CAPACITOR
C0915	54-A61000JM1-AF	10 UF 250V ELECTROLYTIC CAPACITOR		CF0017	54-B21000FK1-BN	1000 PF 50V CERAMIC CAPACITOR
C0916	54-B12200LK2-AA	220 PF 500V CERAMIC CAPACITOR		CF0018	54-B21000FK1-BN	1000 PF 50V CERAMIC CAPACITOR
C0917	54-A64700HM1-AS	47 UF 160V ELECTROLYTIC CAPACITOR		CF0019	54-EI6800GJ1-Q	680 PF 100V POLYPROPYLENE FILM CAPACITOR
C0918	54-E35600IK1-BP	0.056 UF 200V POLYPROPYLENE FILM CAPACITOR		CF0021	54-A71000BM1-AF	100 UF 10V ELECTROLYTIC CAPACITOR
C0919	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		CF0022	54-A61000CM1-AN	10 UF 16V ELECTROLYTIC CAPACITOR
C0920	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		CF0023	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR
C0921	54-A61000FM1-AN	10 UF 50V ELECTROLYTIC CAPACITOR		CF0024	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR
C0922	54-A63300CM1-AF	33 UF 16V ELECTROLYTIC CAPACITOR		CF0025	54-S23300FJ1-BY	3300 PF 50V CERAMIC CAPACITOR (NPO)
C0923	54-B22200LK2-AA	2200 PF 500V CERAMIC CAPACITOR		CF0026	54-B04700FJ2-AA	47 PF 50V CERAMIC CAPACITOR
C0925	54-M32200KJ1-BS	0.022 UF 400V POLYPROP. FILM CAPACITOR		CF0027	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
C0926	54-B15600PK1-AA	560 PF 2KV CERAMIC CAPACITOR		CF0028	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
C0929	54-E43300IJ1-BE	0.33 UF 200V POLYPROPYLENE FILM CAPACITOR		CF0029	54-C31000GJ1-BF	0.01 UF 100V POLYESTER FILM CAPACITOR
C0930	54-M28200WJ11BL	8200 PF 2.5KV POLYPROPYLENE FILM CAPACITOR		CF0030	54-A62200CM1-AF	22 UF 16V ELECTROLYTIC CAPACITOR
C0931	54-M28200WJ11BL	8200 PF 2.5KV POLYPROPYLENE FILM CAPACITOR		CF0031	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR
C0932	54-E43900IK1-BP	0.39 UF 200V POLYPROPYLENE FILM CAPACITOR		CF0032	54-C31000GJ1-BF	0.01 UF 100V POLYESTER FILM CAPACITOR
C0934	54-B11000LK1-BN	100 PF 500V CERAMIC CAPACITOR (T. P.)		CF0033	54-A61000CM1-AN	10 UF 16V ELECTROLYTIC CAPACITOR
C0935	54-L26800GJ1-AH	6800 PF 100V POLYPROPYLENE FILM CAPACITOR		CF0034	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR
CA0010	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		CF0035	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR
CA0011	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		CF0036	54-A64700CM1-AN	47 UF 16V ELECTROLYTIC CAPACITOR
CC0001	54-A51000FM1-O	1 UF 50V ELECTROLYTIC CAPACITOR		CF0037	54-A61000CM1-AN	10 UF 16V ELECTROLYTIC CAPACITOR
CC0002	54-A71000CM1-O	100 UF 16V ELECTROLYTIC CAPACITOR		CF0038	54-A61000CM1-AN	10 UF 16V ELECTROLYTIC CAPACITOR
CC0003	54-C41000GJ1-BF	0.1 UF 100V POLYESTER FILM CAPACITOR		CF0039	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CC0004	54-L36800GJ1-AH	0.068 UF 100V POLYESTER FILM CAPACITOR		CF0040	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CC0005	54-A64700FM1-AF	47 UF 50V ELECTROLYTIC CAPACITOR		CF0041	54-A71000BM1-AF	100 UF 10V ELECTROLYTIC CAPACITOR
CC0006	54-A74700BM1-AF	470 UF 10V ELECTROLYTIC CAPACITOR		CF0042	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CC0008	54-C41000GJ1-BF	0.1 UF 100V POLYESTER FILM CAPACITOR		CF0043	54-C36800GJ1-BP	0.068 UF 100V POLYESTER FILM CAPACITOR
CC0009	54-A71000FM1-AF	100 UF 50V ELECTROLYTIC CAPACITOR		CF0044	54-C41500GK1-BP	0.15 UF 100V POLYESTER FILM CAPACITOR
CC0010	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		CF0045	54-E25600GJ1-Q	5600 PF 100V POLYPROPYLENE FILM CAPACITOR
CC0011	54-G54700FM1-BS	4.7 UF 50VAC ELECTROLYTIC CAPACITOR		CF0046	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CC0012	54-A64700CM1-AN	47 UF 16V ELECTROLYTIC CAPACITOR		CF0047	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CC0013	54-A63300CM1-AF	33 UF 16V ELECTROLYTIC CAPACITOR		CF0048	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CC0014	54-L36800GJ1-AH	0.068 UF 100V POLYESTER FILM CAPACITOR		CF0049	54-C41500GK1-BP	0.15 UF 100V POLYESTER FILM CAPACITOR
CC0015	54-L32200FJ1-AH	0.022 UF 50V POLYESTER FILM CAPACITOR		CF0050	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CF0001	54-B21000FK1-BN	1000 PF 50V CERAMIC CAPACITOR		CF0051	54-C41500GK1-BP	0.15 UF 100V POLYESTER FILM CAPACITOR
CF0002	54-B24700FK2-AA	4700 PF 50V CERAMIC CAPACITOR		CF0052	54-C36800GJ1-BP	0.068 UF 100V POLYESTER FILM CAPACITOR
CF0003	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		CF0053	54-C41500GK1-BP	0.15 UF 100V POLYESTER FILM CAPACITOR
CF0004	54-B21000FK1-BN	1000 PF 50V CERAMIC CAPACITOR		CF0054	54-E25600GJ1-Q	5600 PF 100V POLYPROPYLENE FILM CAPACITOR
CF0005	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		CF0055	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CF0006	54-B21000FK1-BN	1000 PF 50V CERAMIC CAPACITOR		CF0056	54-A71000BM1-AF	100 UF 10V ELECTROLYTIC CAPACITOR
CF0007	54-A62200CM1-AF	22 UF 16V ELECTROLYTIC CAPACITOR		CF0057	54-A44700FM1-AF	0.47 UF 50V ELECTROLYTIC CAPACITOR
CF0008	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		CF0058	54-A51000FM1-AF	1 UF 50V ELECTROLYTIC CAPACITOR
CF0009	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		CF0059	54-C32200GK1-BP	0.022 UF 100V POLYESTER FILM CAPACITOR
CF0010	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		CF0060	54-C24700FK1-E	4700 PF 50V POLYESTER FILM CAPACITOR
CF0011	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		CF0061	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CF0012	54-B04700FJ2-AA	47 PF 50V CERAMIC CAPACITOR		CF0062	54-C24700FK1-E	4700 PF 50V POLYESTER FILM CAPACITOR

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
CF0013	54-K06800FJ1-E	68 PF 50V T. P. CERAMIC CAPACITOR (N150)		CF0063	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR
CF0014	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		CF0064	54-A72200FM1-AF	220 UF 50V ELECTROLYTIC CAPACITOR
CF0065	54-C32200GK1-BP	0.022 UF 100V POLYESTER FILM CAPACITOR		D0401	51-03062-05	DIODE BAV21
CF0066	54-C32200GK1-BP	0.022 UF 100V POLYESTER FILM CAPACITOR		D0402	51-03062-05	DIODE BAV21
CF0067	54-A74700DM1-AN	470 UF 25V ELECTROLYTIC CAPACITOR		D0403	51-03062-05	DIODE BAV21
CF0068	54-A74700DM1-AN	470 UF 25V ELECTROLYTIC CAPACITOR		D0501	51-03021-41	DIODE SJ5295J
CF0069	54-A82200EM1-AN	2200 UF 35V ELECTROLYTIC CAPACITOR		D0502	51-03021-41	DIODE SJ5295J
CF0070	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		D0503	51-02027-40	ZENER DIODE CH05W9.1 - 9.1V 0.5W
CF0102	66-55001-03	CERAMIC TRAP 5.5MHZ (TPS5.5MB)		D0504	51-03021-41	DIODE SJ5295J
CK0001	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		D0505	51-03005-48	DIODE FR104
CK0002	54-A64700BM1-AF	47 UF 10V ELECTROLYTIC CAPACITOR		D0506	51-03058-41	DIODE 1N4007
CK0006	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		D0507	51-03058-41	DIODE 1N4007
CK0007	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		D0508	51-03058-41	DIODE 1N4007
CK0008	54-B21000FK2-BN	1000 PF 50V CERAMIC CAPACITOR		D0509	51-03058-41	DIODE 1N4007
CT0002	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		D0510	51-03051-05	RECTIFIER DIODE BYD33D
CT0003	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		D0512	51-03053-05	RECTIFIER DIODE BYW95C
CT0004	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		D0513	51-02001-40	ZENER DIODE - GZA6.2Y (6.00 - 6.35V)
CT0005	54-42200-75	22 PF 50V CERAMIC CAPACITOR		D0515	51-03051-05	RECTIFIER DIODE BYD33D
CT0006	54-42200-75	22 PF 50V CERAMIC CAPACITOR		D0516	51-02007-40	DIODE CH05W5.6
CT0007	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		D0517	51-08001-23	DIODE 1N4148
CU0001	54-A71000BM1-A	100 UF 10V ELECTROLYTIC CAPACITOR		D0901	51-02002-40	ZENER DIODE - GZA7.5Y (7.34 - 7.70V)
CU0002	54-A74700BM1-AF	470 UF 10V ELECTROLYTIC CAPACITOR		D0902	51-03018-41	DIODE 1S2775
CU0003	54-B02200FJ2-AA	22 PF 50V CERAMIC CAPACITOR		D0903	51-03018-41	DIODE 1S2775
CU0007	54-A51000FM1-O	1 UF 50V ELECTROLYTIC CAPACITOR		D0904	51-03048-05	HIGH-SPEED SILICON DIODE BAW62
CU0008	54-C41000GK1-BP	0.1 UF 100V POLYESTER FILM CAPACITOR		D0905	51-02023-40	ZENER DIODE CH05W5.1 - 5.1V 0.5W
CU0009	54-A61000FM1-AN	10 UF 50V ELECTROLYTIC CAPACITOR		D0907	51-03005-48	DIODE FR104
CU0010	54-C41000GK1-BP	0.1 UF 100V POLYESTER FILM CAPACITOR		D0908	51-03005-48	DIODE FR104
CU0011	54-B01800FJ2-AA	18 PF 50V CERAMIC CAPACITOR		D0909	51-03001-48	RECTIFIER DIODE FR155
CU0012	54-B01800FJ2-AA	18 PF 50V CERAMIC CAPACITOR		D0910	51-03001-48	RECTIFIER DIODE FR155
CU0013	54-B02700FJ1-AA	27 PF 50V CERAMIC CAPACITOR		D0913	51-03057-05	RECTIFIER DIODE BY228
CU0014	54-B02700FJ1-AA	27 PF 50V CERAMIC CAPACITOR		DF0001	51-08001-23	DIODE 1N4148
CU0015	54-L22700GJ1-BP	2700 PF 100V POLYESTER FILM CAPACITOR		DF0002	51-08001-23	DIODE 1N4148
CU0016	54-L22700GJ1-BP	2700 PF 100V POLYESTER FILM CAPACITOR		DF0003	51-08001-23	DIODE 1N4148
CU0017	54-B04700FJ2-AA	47 PF 50V CERAMIC CAPACITOR		DU0002	51-08001-23	DIODE 1N4148
CU0018	54-B02700FJ1-AA	27 PF 50V CERAMIC CAPACITOR		DU0005	51-02060-56	ZENER DIODE 4A2 (3.6V, 0.5W)
CU0019	54-B02700FJ1-AA	27 PF 50V CERAMIC CAPACITOR		DU0006	51-08001-23	DIODE 1N4148
CU0020	54-B02700FJ1-AA	27 PF 50V CERAMIC CAPACITOR		F0501	72-01100-01	CERAMIC FUSE T5A/250V
CU0021	54-B02700FJ1-AA	27 PF 50V CERAMIC CAPACITOR		FB0001	65-03003-32	**FERRITE BEAD 4B1 "PHILIPS"
CU0022	54-A64700CM1-AN	47 UF 16V ELECTROLYTIC CAPACITOR		FB0002	65-03003-32	**FERRITE BEAD 4B1 "PHILIPS"
CU0023	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		IC0101	67-AF008838-01	I.C. OM8838PS
CU0024	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		IC0102	67-32705-02	I.C. - TC74HC241AP
CU0025	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		IC0301	67-AF08359J-01	I.C. TDA8359J
CU0026	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		IC0401	67-AF006107-01	I.C. TDA6107Q
CU0027	54-B31000FZ1-BN	0.01 UF 50V CERAMIC CAPACITOR		IC0501	69-02006-04	PHOTOCOUPLER - LTV817C
CU0028	54-A61000CM1-AE	10 UF 16V ELECTROLYTIC CAPACITOR		IC0502	67-CJ007805-01	I.C. MC7805CT
D0101	51-02003-40	ZENER DIODE - GZA8.2X (7.70 - 8.10V)		IC0503	67-CJ007808-01	I.C. MC7808CT
D0102	51-08001-23	DIODE 1N4148		IC0701	67-AF008521-01	I.C. PCA8521BT/040,SO20
D0301	51-02028-40	DIODE CH05W15V (14.25-15.75)		ICC0001	67-AL007950-01	I.C. LA 7950

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D0302	51-03048-05	HIGH-SPEED SILICON DIODE BAW62		ICF0001	67-AF003857-01	I.C. TDA3857
D0303	51-02055-01	ZENER DIODE HZ24 (3) 25V		ICF0002	67-AF009840-01	I.C. TDA9840
D0304	51-02055-01	ZENER DIODE HZ24 (3) 25V		ICF0003	67-AF009860-01	I.C. TDA9860
ICF0004	67-00120-01	I.C. TDA2616		PLUG I	73-6EEF601M-01C	6-POLE MODULAR WIRE (L=600MM)
ICK0001	69-02015-09	INFRARED DETECTING UNIT (GP1U281Q)		PLUG K	73-3DFF421M-01C	3-POLE MODULAR WIRE (L=420MM)
ICT0001	67-AF005261-01	I.C. SAA5261PS/117		PLUG M	73-2AEF301F-01C	2-POLE MODULAR WIRE (L=300MM)
ICU0001	67-AFP83C05-01	CPU P83C055BBP/314 (W/CTV272SV2V1.03)		PLUG P	61-W0001-02H	2-POLE WAFER - (TYPE NO.: TJC1-2A)
ICU0002	67-BA024C04-01	EEPROM I.C. BR24C04-W		PLUG SP	73-4AEF421M-03C	4-POLE MODULAR WIRE (L=420MM)
ICU0003	67-90430-01	I.C. UPC574J		PLUG SV	73-4EEF341M-01C	4-POLE MODULAR WIRE (L=340MM)
L0101	59-06411-01	0.56 UH PEAKING COIL		PLUG T	61-W0001-02H	2-POLE WAFER - (TYPE NO.: TJC1-2A)
L0105	59-72916-01	4.7 UH PEAKING COIL		PLUG T	73-2GDF241N-01C	2-POLE MODULAR WIRE (L=240MM)
L0106	59-72917-01	10 UH PEAKING COIL		PLUG V	73-3AEF481M-01C	3-POLE MODULAR WIRE (L=480MM)
L0107	59-08001-02	10 UH PEAKING COIL		PSF0101	68-18001-33	SAW FILTER TSF5315 -38.9MHZ (VIDEO CHANNEL)
L0108	59-08001-02	10 UH PEAKING COIL		Q0101	50-40725-06	TRANSISTOR 2SC2717
L0109	59-06411-01	0.56 UH PEAKING COIL		Q0103	50-AI001815-01	TRANSISTOR 2SC1815-Y
L0501	65-03005-32	FERRITE BEAD FB02		Q0105	50-AI001815-01	TRANSISTOR 2SC1815-Y
L0502	65-03005-32	FERRITE BEAD FB02		Q0106	50-AI001815-01	TRANSISTOR 2SC1815-Y
L0504	59-06412-01	1 UH CHOKE COIL		Q0107	50-AI001815-01	TRANSISTOR 2SC1815-Y
L0505	59-03401-02	100 UH INDUCTOR COIL		Q0112	50-AG002369-01	TRANSISTOR PH2369
L0506	65-03005-32	FERRITE BEAD FB02		Q0113	50-AI001815-01	TRANSISTOR 2SC1815-Y
L0507	65-03005-32	FERRITE BEAD FB02		Q0115	50-AI001815-01	TRANSISTOR 2SC1815-Y
L0508	58-77492-02	LINE FILTER ET-28 - 85MH +-15% (LB01120B)		Q0117	50-AI001815-01	TRANSISTOR 2SC1815-Y
L0509	58-78676-02	LINE FILTER - 8MH - (JLF-29-UF16)		Q0301	50-AI001015-02	TRANSISTOR 2SA1015-Y
L0902	59-08001-39	CHOKE COIL		Q0501	50-AP004237-01	TRANSISTOR 2SC4237
L0903	59-08001-47	10 MH PEAKING COIL		Q0502	50-32237-07	TRANSISTOR 3CG1013-Y
*L0904	59-03001-14	LINEARITY COIL (LS-14C-07)		Q0503	50-40750-06	TRANSISTOR 2SC2655-Y
LD0001	69-01014-53	LED - LTL-58EFJ (DUAL COLOR: GREEN/ RED)		Q0504	50-AI001015-02	TRANSISTOR 2SA1015-Y
LD0701	69-01014-52	LED TL-IR503C		Q0505	50-AI001015-02	TRANSISTOR 2SA1015-Y
LF0001	59-06401-06	10 UH PEAKING COIL		Q0506	50-30737-08	TRANSISTOR 2SA1013-O
LF0002	59-06411-02	1 UH PEAKING COIL		Q0508	50-AI001815-01	TRANSISTOR 2SC1815-Y
LF0003	59-06401-06	10 UH PEAKING COIL		Q0509	50-40750-06	TRANSISTOR 2SC2655-Y
LF0004	59-08701-02	COIL (7 MM) KS1705N		Q0701	50-AG032740-01	TRANSISTOR BC32740
LF0005	59-06505-05	SOUND DEMODULATOR COIL (7 MM) KS1727N		Q0901	50-40756-05	TRANSISTOR 2SC1569
LF0006	59-06505-05	SOUND DEMODULATOR COIL (7 MM) KS1727N		Q0902	50-40223-01	TRANSISTOR BU2520AX
LF0008	59-X3250J001-L	2.5 MH (7.5X7.5)MM IFT FILTER COIL (7M1A1859N)		Q0903	50-AI001815-01	TRANSISTOR 2SC1815-Y
LF0010	59-06401-06	10 UH PEAKING COIL		Q0904	50-AI001015-02	TRANSISTOR 2SA1015-Y
LF0011	59-06401-06	10 UH PEAKING COIL		Q0905	50-AI001015-02	TRANSISTOR 2SA1015-Y
LF0012	59-08001-29	8.2 UH PEAKING COIL		QC0001	50-AI001815-01	TRANSISTOR 2SC1815-Y
LF0013	59-08001-29	8.2 UH PEAKING COIL		QC0002	50-AI001815-01	TRANSISTOR 2SC1815-Y
LF0014	59-08001-17	160 UH CHOKE COIL		QC0003	50-AI001815-01	TRANSISTOR 2SC1815-Y
LK0001	59-08001-03	12 UH PEAKING COIL		QC0005	50-AI001815-01	TRANSISTOR 2SC1815-Y
LK0002	59-08001-05	68 UH PEAKING COIL		QC0006	50-50704-11	TRANSISTOR 2SK30ATM-GR
LT0001	65-03005-32	FERRITE BEAD FB02		QC0007	50-AI001015-02	TRANSISTOR 2SA1015-Y
LU0001	65-03005-32	FERRITE BEAD FB02		QC0008	50-40755-07	TRANSISTOR 2SD880-Y
LU0002	59-72910-01	22 UH PEAKING COIL		QF0001	50-AI001815-01	TRANSISTOR 2SC1815-Y
LU0003	59-06401-06	10 UH PEAKING COIL		QF0002	50-40725-06	TRANSISTOR 2SC2717
PLUG A	73-5AEF321M-01C	5-POLE MODULAR WIRE (L=320MM)		QF0003	50-AI001815-01	TRANSISTOR 2SC1815-Y
PLUG B	73-3EEF461M-01C	3-POLE MODULAR WIRE (L=460MM)		QF0004	50-AI001815-01	TRANSISTOR 2SC1815-Y

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
PLUG D	73-2EEF181M-01C	2-POLE MODULAR WIRE (L=180MM)		QF0005	50-AI001815-01	TRANSISTOR 2SC1815-Y
PLUG E	73-5AEF161M-03C	5-POLE MODULAR WIRE (L=160MM)		QF0006	50-AI001815-01	TRANSISTOR 2SC1815-Y
PLUG G	73-6DFF141M-01C	6-POLE MODULAR WIRE (L=140MM)		QF0007	50-AI001015-02	TRANSISTOR 2SA1015-Y
PLUG H	73-4AEM501M-02C	4-POLE MODULAR WIRE (L=500MM)		QF0008	50-40763-02	TRANSISTOR 2SC2878B
QK0001	50-AI001815-01	TRANSISTOR 2SC1815-Y		R0155	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
QK0002	50-AI001815-01	TRANSISTOR 2SC1815-Y		R0156	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
QK0003	50-AI001815-01	TRANSISTOR 2SC1815-Y		R0157	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
QK0004	50-AI001815-01	TRANSISTOR 2SC1815-Y		R0158	52-A2330EJ12-AP	330 OHM 1/6W CARBON FILM RESISTOR
QU0001	50-AG002369-01	TRANSISTOR PH2369		R0159	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
QU0002	50-AI001015-02	TRANSISTOR 2SA1015-Y		R0160	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
QU0003	50-AI001015-02	TRANSISTOR 2SA1015-Y		R0169	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
QU0004	50-AI001815-01	TRANSISTOR 2SC1815-Y		R0170	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR
QU0005	50-AI001815-01	TRANSISTOR 2SC1815-Y		R0171	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
QU0006	50-AI001815-01	TRANSISTOR 2SC1815-Y		R0172	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR
QU0009	50-AI001815-01	TRANSISTOR 2SC1815-Y		R0173	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
R0101	52-A2180EJ12-AP	180 OHM 1/6W CARBON FILM RESISTOR		R0174	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR
R0102	52-A3120EJ12-AP	1.2 KOHM 1/6W CARBON FILM RESISTOR		R0175	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR
R0103	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR		R0176	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
R0104	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		R0177	52-A2560EJ12-AP	560 OHM 1/6W CARBON FILM RESISTOR
R0107	52-A1270EJ12-AP	27 OHM 1/6W CARBON FILM RESISTOR		R0178	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0108	52-A1100GJ12-AP	10 OHM 1/2W CARBON FILM RESISTOR		R0179	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0112	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		R0180	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0113	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		R0181	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0114	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		R0182	52-A2560EJ12-AP	560 OHM 1/6W CARBON FILM RESISTOR
R0115	52-A1470EJ12-AP	47 OHM 1/6W CARBON FILM RESISTOR		R0194	52-B2390GJ11-B	390 OHM 1/2W METAL OXIDE RESISTOR
R0118	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		R0195	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
R0119	52-A2180EJ12-AP	180 OHM 1/6W CARBON FILM RESISTOR		R0196	52-A4330EJ12-AP	33 KOHM 1/6W CARBON FILM RESISTOR
R0120	52-A0470EJ12-AP	4.7 OHM 1/6W CARBON FILM RESISTOR		R0197	52-A4220EJ12-AP	22 KOHM 1/6W CARBON FILM RESISTOR
R0125	52-A2390EJ12-AP	390 OHM 1/6W CARBON FILM RESISTOR		R0301	52-A1100EJ12-AP	10 OHM 1/6W CARBON FILM RESISTOR
R0126	52-A2330EJ12-AP	330 OHM 1/6W CARBON FILM RESISTOR		R0302	52-A1100EJ12-AP	10 OHM 1/6W CARBON FILM RESISTOR
R0127	52-A2330EJ12-AP	330 OHM 1/6W CARBON FILM RESISTOR		R0303	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR
R0128	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		R0304	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR
R0130	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR		R0306	52-A5750EJ12-AP	750 KOHM 1/6W CARBON FILM RESISTOR
R0131	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		R0307	52-A1220GJ12-AI	22 OHM 1/2W CARBON FILM RESISTOR
R0132	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		R0308	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0133	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR	*	R0309	52-B0150JJ11-AP	1.5 OHM 2W METAL OXIDE FILM RESISTOR
R0134	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR	*	R0310	52-B0270JJD1-AI	2.7 OHM 2W METAL OXIDE RESISTOR
R0138	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		R0311	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR
R0139	52-A3120EJ12-AP	1.2 KOHM 1/6W CARBON FILM RESISTOR		R0313	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0140	52-A3120EJ12-AP	1.2 KOHM 1/6W CARBON FILM RESISTOR		R0314	52-A2220GJ12-AP	220 OHM 1/2W CARBON FILM RESISTOR
R0141	52-A3680EJ12-AP	6.8 KOHM 1/6W CARBON FILM RESISTOR	*	R0315	52-B2270JJE1-AQ	270 OHM 2W METAL OXIDE FILM RESISTOR
R0142	52-A2680EJ12-AP	680 OHM 1/6W CARBON FILM RESISTOR		R0316	52-A3270EJ12-AP	2.7 KOHM 1/6W CARBON FILM RESISTOR
R0143	52-A4390EJ12-AP	39 KOHM 1/6W CARBON FILM RESISTOR		R0401	52-D0150IJ11-AQ	1.5 OHM 1W FUSIBLE RESISTOR
R0144	52-A6220EJ12-AP	2.2 MOHM 1/6W CARBON FILM RESISTOR		R0402	52-B3150GJB1-AI	1.5 KOHM 1/2W METAL OXIDE RESISTOR
R0145	52-A6470EJ12-AP	4.7 MOHM 1/6W CARBON FILM RESISTOR		R0403	52-B3150GJB1-AI	1.5 KOHM 1/2W METAL OXIDE RESISTOR
R0146	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR		R0404	52-B3150GJB1-AI	1.5 KOHM 1/2W METAL OXIDE RESISTOR
R0147	52-A4270EJ12-AP	27 KOHM 1/6W CARBON FILM RESISTOR		R0405	52-B3150GJB1-AI	1.5 KOHM 1/2W METAL OXIDE RESISTOR
R0149	52-A4150EJ12-AP	15 KOHM 1/6W CARBON FILM RESISTOR		R0406	52-B1470GJB1-AI	47 OHM 1/2W METAL OXIDE FIXED RESISTOR

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
R0150	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		R0408	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
R0151	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		R0409	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
R0152	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		R0410	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
R0153	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		R0500	52-C0180NJ11-B	1.8 OHM 5W WIRE WOUND RESISTOR (CEMENT)
R0154	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		R0501	52-Q6560GJ12-BF	5.6 MOHM 1/2W METAL GLAZE FILM RESISTOR
R0502	52-B4820LJE1-B	82 KOHM 3W METAL OXIDE RESISTOR		R0925	52-B2150JJE1-AQ	150 OHM 2W METAL OXIDE FILM RESISTOR
R0503	52-B4820LJE1-B	82 KOHM 3W METAL OXIDE RESISTOR		R0926	52-B3100IJD1-AP	1 KOHM 1W METAL OXIDE RESISTOR
R0504	52-B0033JJD1-AI	0.33 OHM 2W METAL OXIDE RESISTOR		R0927	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR
R0505	52-C1390TJ11-AI	39 OHM 10W CEMENT RESIS0RTOR		RA0017	52-A2330EJ12-AP	330 OHM 1/6W CARBON FILM RESISTOR
R0506	52-C0560NJ11-AI	5.6 OHM 5W CEMENT RESIST0R		RA0018	52-A2330EJ12-AP	330 OHM 1/6W CARBON FILM RESISTOR
R0507	52-A3680FJ12-AP	6.8 KOHM 1/4W CARBON FILM RESISTOR		RA0025	52-A1750EJ12-AP	75 OHM 1/6W CARBON FILM RESISTOR
R0508	52-A3470FJ12-AP	4.7 KOHM 1/4W CARBON FILM RESISTOR		RA0026	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
R0509	52-C0680QJ11-AI	6.8 OHM 7W CEMENT RESIST0R		RA0027	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
R0510	52-A2150FJ12-AP	150 OHM 1/4W CARBON FILM RESISTOR		RA0028	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
R0511	52-A4100FJ12-AP	10 KOHM 1/4W CARBON FILM RESISTOR		RA0032	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
R0512	52-B0150JJD1-AI	1.5 OHM 2W METAL OXIDE FILM RESISTOR		RA0033	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
R0513	52-K7100GJ12-C	10 MOHM 1/2W METAL GLAZED FILM RESISTOR		RA0035	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
R0514	52-A3470FJ12-AP	4.7 KOHM 1/4W CARBON FILM RESISTOR		RC0001	52-A3390EJ12-AP	3.9 KOHM 1/6W CARBON FILM RESISTOR
R0515	52-B0150JJD1-AI	1.5 OHM 2W METAL OXIDE FILM RESISTOR		RC0002	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
R0516	52-A3100FJ12-AP	1 KOHM 1/4W CARBON FILM RESISTOR		RC0003	52-A3120EJ12-AP	1.2 KOHM 1/6W CARBON FILM RESISTOR
R0517	52-I0700AR411L	7 OHM 240VAC 3-PIN PTC (VDE APPROVED)		RC0004	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR
R0518	52-N4470IJ11-AQ	47 KOHM 1W METAL FILM RESISTOR		RC0005	52-A3150EJ12-AP	1.5 KOHM 1/6W CARBON FILM RESISTOR
R0519	52-N4470IJ11-AQ	47 KOHM 1W METAL FILM RESISTOR		RC0006	52-A4120EJ12-AP	12 KOHM 1/6W CARBON FILM RESISTOR
R0520	52-Q5100GJ11-AQ	100 KOHM 1/2W GLASS GLAZED RESISTOR		RC0007	52-A5150EJ12-AP	150 KOHM 1/6W CARBON FILM RESISTOR
R0521	52-A3390FJ12-AP	3.9 KOHM 1/4W CARBON FILM RESISTOR		RC0008	52-A5270EJ12-AP	270 KOHM 1/6W CARBON FILM RESISTOR
R0522	52-A3180FJ12-AP	1.8 KOHM 1/4W CARBON FILM RESISTOR		RC0009	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR
R0523	52-A3820FJ12-AP	8.2 KOHM 1/4W CARBON FILM RESISTOR		RC0010	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0524	52-A3680FJ12-AP	6.8 KOHM 1/4W CARBON FILM RESISTOR		RC0011	52-A4330EJ12-AP	33 KOHM 1/6W CARBON FILM RESISTOR
R0527	52-B0100GJB1-AI	1 OHM 1/2W METAL OXIDE RESISTOR		RC0012	52-A4220EJ12-AP	22 KOHM 1/6W CARBON FILM RESISTOR
R0530	52-A3270FJ12-AP	2.7 KOHM 1/4W CARBON FILM RESISTOR		RC0013	52-A4240EJ12-AP	24 KOHM 1/6W CARBON FILM RESISTOR
R0531	52-D1100IJ11-AQ	10 OHM 1W FUSIBLE RESISTOR		RC0014	52-A4220EJ12-AP	22 KOHM 1/6W CARBON FILM RESISTOR
R0701	52-A1120EJ12-AP	12 OHM 1/6W CARBON FILM RESISTOR		RC0016	52-A4120EJ12-AP	12 KOHM 1/6W CARBON FILM RESISTOR
R0702	52-A1680EJ12-AP	68 OHM 1/6W CARBON FILM RESISTOR		RC0017	52-A5180EJ12-AP	180 KOHM 1/6W CARBON FILM RESISTOR
R0901	52-Q3270GJ12-BF	2.7 KOHM 1/2W METAL GLAZE FILM RESISTOR		RC0018	52-A5220EJ12-AP	220 KOHM 1/6W CARBON FILM RESISTOR
R0902	52-B0100GJB1-AI	1 OHM 1/2W METAL OXIDE RESISTOR		RC0019	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
R0903	52-A1470GJ12-AP	47 OHM 1/2W CARBON FILM RESISTOR		RC0020	52-A3390EJ12-AP	3.9 KOHM 1/6W CARBON FILM RESISTOR
R0904	52-A4220FJ12-AP	22 KOHM 1/4W CARBON FILM RESISTOR		RC0021	52-A4180EJ12-AP	18 KOHM 1/6W CARBON FILM RESISTOR
R0905	52-A3180EJ12-AP	1.8 KOHM 1/6W CARBON FILM RESISTOR		RC0023	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR
R0906	52-A3560EJ12-AP	5.6 KOHM 1/6W CARBON FILM RESISTOR		RC0025	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR
R0907	52-A3360EJ12-AP	3.6 KOHM 1/6W CARBON FILM RESISTOR		RC0026	52-A3270EJ12-AP	2.7 KOHM 1/6W CARBON FILM RESISTOR
R0908	52-A3680EJ12-AP	6.8 KOHM 1/6W CARBON FILM RESISTOR		RC0027	52-N3390GJ12-AQ	3.9 KOHM 1/2W METAL FILM RESISTOR
R0911	52-A3390EJ12-AP	3.9 KOHM 1/6W CARBON FILM RESISTOR		RC0028	52-B1180JJD1-AI	18 OHM 2W METAL OXIDE RESISTOR
R0912	52-A2220EJ12-AP	220 OHM 1/6W CARBON FILM RESISTOR		RC0029	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0913	52-A5220EJ12-AP	220 KOHM 1/6W CARBON FILM RESISTOR		RC0030	52-A5200EJ12-AP	200 KOHM 1/6W CARBON FILM RESISTOR
R0914	52-A4120EJ12-AP	12 KOHM 1/6W CARBON FILM RESISTOR		RC0031	52-A4390EJ12-AP	39 KOHM 1/6W CARBON FILM RESISTOR
R0915	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		RC0032	52-A3750EJ12-AP	7.5 KOHM 1/6W CARBON FILM RESISTOR
R0916	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		RC0033	52-A4150EJ12-AP	15 KOHM 1/6W CARBON FILM RESISTOR
R0917	52-A3470GJ12-AP	4.7 KOHM 1/2W CARBON FILM RESISTOR		RC0034	52-A4220EJ12-AP	22 KOHM 1/6W CARBON FILM RESISTOR

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
R0918	52-N3470GJ12-AQ	4.7 KOHM 1/2W METAL FILM RESISTOR		RC0035	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR
R0919	52-C3330NJ12-C	3.3 KOHM 5W WIREWOUND RESISTOR		RCA0001	61-00155-01	2-PIN RCA PIN JACK W/SWITCH (WHITE/RED)
R0920	52-D0270JJ11-AQ	2.7 OHM 2W FUSIBLE RESISTOR		RCA0002	61-00155-01	2-PIN RCA PIN JACK W/SWITCH (WHITE/RED)
R0921	52-A4470GJ12-AP	47 KOHM 1/2W CARBON FILM RESISTOR		RCA0003	61-00155-05	1-PIN RCA PIN JACK (YELLOW)
R0922	52-D0043JJ11-AQ	0.43 OHM 2W FUSIBLE RESISTOR		RCA0004	61-00155-05	1-PIN RCA PIN JACK (YELLOW)
R0923	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RF0001	52-A4560EJ12-AP	56 KOHM 1/6W CARBON FILM RESISTOR
RF0002	52-A4330EJ12-AP	33 KOHM 1/6W CARBON FILM RESISTOR		RF0051	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR
RF0003	52-A2270EJ12-AP	270 OHM 1/6W CARBON FILM RESISTOR		RF0052	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
RF0004	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR		RF0053	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
RF0005	52-A3120EJ12-AP	1.2 KOHM 1/6W CARBON FILM RESISTOR		RF0054	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR
RF0006	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR		RF0055	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0007	52-A3120EJ12-AP	1.2 KOHM 1/6W CARBON FILM RESISTOR		RF0056	52-A0820EJ12-AP	8.2 OHM 1/6W CARBOM FILM RESISTOR
RF0008	52-A1100GJ12-AP	10 OHM 1/2W CARBON FILM RESISTOR		RF0057	52-A0820EJ12-AP	8.2 OHM 1/6W CARBOM FILM RESISTOR
RF0009	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR		RK0001	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
RF0010	52-A1220EJ12-AP	22 OHM 1/6W CARBON FILM RESISTOR		RK0002	52-A4150EJ12-AP	15 KOHM 1/6W CARBON FILM RESISTOR
RF0011	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR		RK0003	52-A4150EJ12-AP	15 KOHM 1/6W CARBON FILM RESISTOR
RF0012	52-A2560EJ12-AP	560 OHM 1/6W CARBON FILM RESISTOR		RK0004	52-A4150EJ12-AP	15 KOHM 1/6W CARBON FILM RESISTOR
RF0013	52-A2560EJ12-AP	560 OHM 1/6W CARBON FILM RESISTOR		RK0005	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
RF0014	52-A3130EJ12-AP	1.3 KOHM 1/6W CARBON FILM RESISTOR		RK0006	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
RF0015	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR		RK0007	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
RF0016	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RK0008	52-A4150EJ12-AP	15 KOHM 1/6W CARBON FILM RESISTOR
RF0017	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR		RK0009	52-A4220EJ12-AP	22 KOHM 1/6W CARBON FILM RESISTOR
RF0018	52-A3200EJ12-AP	2 KOHM 1/6W CARBON FILM RESISTOR		RK0010	52-A4270EJ12-AP	27 KOHM 1/6W CARBON FILM RESISTOR
RF0019	52-A2680EJ12-AP	680 OHM 1/6W CARBON FILM RESISTOR		RK0011	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
RF0020	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RK0012	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR
RF0021	52-A4300EJ12-AP	30 KOHM 1/6W CARBON FILM RESISTOR		RK0013	52-A4220EJ12-AP	22 KOHM 1/6W CARBON FILM RESISTOR
RF0022	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RK0014	52-A2220EJ12-AP	220 OHM 1/6W CARBON FILM RESISTOR
RF0023	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		RK0015	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
RF0024	52-A3510EJ12-AP	5.1 KOHM 1/6W CARBON FILM RESISTOR		RK0016	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
RF0025	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		RK0017	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
RF0026	52-A3510EJ12-AP	5.1 KOHM 1/6W CARBON FILM RESISTOR		RK0018	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
RF0027	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		RK0019	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
RF0028	52-A3180EJ12-AP	1.8 KOHM 1/6W CARBON FILM RESISTOR		RK0020	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
RF0029	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RK0021	52-A1820EJ12-AP	82 OHM 1/6W CARBON FILM RESISTOR
RF0030	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR		RK0022	52-A2150GJ12-AP	150 OHM 1/2W CARBON FILM RESISTOR
RF0031	52-A4150EJ12-AP	15 KOHM 1/6W CARBON FILM RESISTOR		RK0023	52-A2150GJ12-AP	150 OHM 1/2W CARBON FILM RESISTOR
RF0032	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RT0001	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0033	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		RT0002	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0034	52-A3180EJ12-AP	1.8 KOHM 1/6W CARBON FILM RESISTOR		RT0003	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0035	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RT0004	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0036	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR		RT0005	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0037	52-A4150EJ12-AP	15 KOHM 1/6W CARBON FILM RESISTOR		RT0006	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0038	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RT0007	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0039	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RT0008	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0040	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RT0009	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0041	52-A4120EJ12-AP	12 KOHM 1/6W CARBON FILM RESISTOR		RT0011	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0042	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RT0012	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0043	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RT0013	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
RF0044	52-A4120EJ12-AP	12 KOHM 1/6W CARBON FILM RESISTOR		RT0016	52-A3270EJ12-AP	2.7 KOHM 1/6W CARBON FILM RESISTOR
RF0045	52-A4330EJ12-AP	33 KOHM 1/6W CARBON FILM RESISTOR		RT0017	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR
RF0046	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR		RT0018	52-A4270EJ12-AP	27 KOHM 1/6W CARBON FILM RESISTOR
RF0047	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RT0021	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0048	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RT0022	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RF0049	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RT0027	52-A2220EJ12-AP	220 OHM 1/6W CARBON FILM RESISTOR
RF0050	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		RT0028	52-A2220EJ12-AP	220 OHM 1/6W CARBON FILM RESISTOR
RT0029	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RU0065	52-A4330EJ12-AP	33 KOHM 1/6W CARBON FILM RESISTOR
RT0030	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		RU0066	52-A4330EJ12-AP	33 KOHM 1/6W CARBON FILM RESISTOR
RU0001	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		RU0067	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
RU0002	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR		RU0068	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR
RU0006	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR		RU0069	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR
RU0008	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR		RU0070	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
RU0009	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR		RU0071	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
RU0010	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR		RU0072	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR
RU0013	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RU0073	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR
RU0014	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RU0074	52-A4120EJ12-AP	12 KOHM 1/6W CARBON FILM RESISTOR
RU0015	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR		RU0078	52-B3360LJE1-AI	3.6 KOHM 3W METAL OXIDE RESISTOR
RU0016	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RU0079	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR
RU0019	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		RU0080	52-A3390EJ12-AP	3.9 KOHM 1/6W CARBON FILM RESISTOR
RU0020	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR		RU0081	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR
RU0022	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		SF0001	68-18001-32	SAW FILTER TSB5301- 38.9 MHZ(QUASI-SOUND)
RU0023	52-A2220EJ12-AP	220 OHM 1/6W CARBON FILM RESISTOR		SF0002	66-57401-02	CERAMIC FILTER SFT5.74MA
RU0024	52-A5180EJ12-AP	180 KOHM 1/6W CARBON FILM RESISTOR		SF0004	66-55001-02	CERAMIC FILTER 5.5 MHZ (SFE5.5MB)
RU0025	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		SK0001	64-30101-37	1-KEY TACT SWITCH 1P1T (L=15.85MM)
RU0026	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		SK0002	64-30101-48	1-KEY TACT SWITCH 1P1T (L=3.85MM)
RU0027	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		SK0003	64-30101-48	1-KEY TACT SWITCH 1P1T (L=3.85MM)
RU0028	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		SK0004	64-30101-48	1-KEY TACT SWITCH 1P1T (L=3.85MM)
RU0029	52-A5470EJ12-AP	470 KOHM 1/6W CARBON FILM RESISTOR		SK0005	64-30101-48	1-KEY TACT SWITCH 1P1T (L=3.85MM)
RU0030	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		SK0006	64-30101-48	1-KEY TACT SWITCH 1P1T (L=3.85MM)
RU0031	52-A4430EJ12-AP	43 KOHM 1/6W CARBON FILM RESISTOR		SK0007	61-00141-02	3-PIN JACK (AUDIO/VIDEO)(UIC-032-35D-03C)
RU0032	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		SK0008	61-00141-02	3-PIN JACK (AUDIO/VIDEO)(UIC-032-35D-03C)
RU0033	52-A1100EJ12-AP	10 OHM 1/6W CARBON FILM RESISTOR		SK0009	61-00141-02	3-PIN JACK (AUDIO/VIDEO)(UIC-032-35D-03C)
RU0034	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR		SK0010	61-10094-08	S-VIDEO JACK (TYPE NO.: SW-013)
RU0036	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		SK0050	61-00097-01	HEADPHONE JACK 3.5MM (W/O NUT)
RU0037	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR	*	SW0501	64-30202-75	POWER SWITCH - 2P2T (VDE APPROVED)
RU0038	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		SW1101	64-20202-71	VERTICAL SLIDE SWITCH 2P2T
RU0039	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR	*	T0501	58-97489-01	29" SWITCHING TRANSFORMER (KB54C808)
RU0040	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR	*	T0901	58-27196-01	HORIZONTAL DRIVE TRANSFORMER - HB01228
RU0042	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR	*	T0902	58-67407-01	29" FLYBACK TRANSFORMER (BSC29-0117D)
RU0043	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		TU0001	68-09046-29	HYPERBAND TUNER - EWT-5V3K1-E01W (38.9MHZ)
RU0044	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		VR0501	53-30320-05	3 KOHM VARIABLE RESISTOR
RU0045	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR		VRC0001	53-30420-02	30 KOHM B SEMI-FIXED RESISTOR
RU0046	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		VRC0002	53-50320-32	5 KOHM VARIABLE RESISTOR
RU0047	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		W0151	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
RU0048	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		WC0001	61-00123-02	8-PIN ANGLED WAFER (DP25-08WL)
RU0055	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		X0101	66-44331-16	CRYSTAL 4.433619MHZ
RU0056	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		X0102	66-35801-07	CRYSTAL 3.579545MHZ

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
RU0057	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR		X0701	66-40001-09	RESONATOR (TYPE : CST4. 00MGW)
RU0058	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		XF0001	66-10002-01	CRYSTAL 10MHZ
RU0059	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR		XT0001	66-12002-03	CRYSTAL 12 MHZ
RU0060	52-A4220EJ12-AP	22 KOHM 1/6W CARBON FILM RESISTOR		XU0001	66-12002-08	CRYSTAL 12MHZ
RU0061	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR	*	CRT	69-01118-19	29" PERFECTLY FLAT CRT (A68LQP356X03)
RU0062	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR	*	CRT	69-01118-35	29" SUPERFLAT CRT A68EGD049X70 WORLD WIDE
RU0063	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR	*	CRT	69-01118-33	29" SUPER FLAT CRT (73SX732Y22-DC01)
RU0064	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR	*	IC101	67-AF008842-01	I.C. TDA8842

SOUND IF (DK) SYSTEM UNIT

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
CF0101	66-65001-11	CERAMIC FILTER 6.5 MHZ (SFE6.5MB)		RU0041	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
CF0103	66-65001-10	CERAMIC TRAP 6.5 MHZ (TPS6.5MF)		RU0049	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
DU0003	51-08001-23	DIODE 1N4148		RU0050	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR
DU0004	51-08001-23	DIODE 1N4148		RU0051	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR
QU0007	50-AI001815-01	TRANSISTOR 2SC1815-Y		RU0052	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
QU0008	50-AI001815-01	TRANSISTOR 2SC1815-Y		RU0053	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
R0111	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR		RU0054	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
RU0035	52-A3470EJ12-AP	4.7 KOHM 1/6W CARBON FILM RESISTOR				

AUDIO VIDEO IN/OUT, SWITCH AND AUDIO AMPLIFIER UNIT

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
C0106	54-B21000FK2-BN	1000 PF 50VCERAMIC CAPACITOR		CF0100	66-55001-02	CERAMIC FILTER 5.5 MHZ (SFE5.5MB)
C0107	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		D0511	51-03051-05	RECTIFIER DIODE BYD33D (FOR FAST SPEED)
C0108	54-A61000CM1-AN	10 UF 16V ELECTROLYTIC CAPACITOR		D0601	51-02001-40	ZENER DIODE - GZA6.2Y (6.00 - 6.35V)
C0121	54-B04700FJ2-AA	47 PF 50V CERAMIC CAPACITOR		D0602	51-08001-23	DIODE 1N4148
C0122	54-B04700FJ2-AA	47 PF 50V CERAMIC CAPACITOR		D0603	51-02001-40	ZENER DIODE - GZA6.2Y (6.00 - 6.35V)
C0522	54-B13900LK1-AT	390 PF 500V CERAMIC CAPACITOR		D0604	51-08001-23	DIODE 1N4148
C0524	54-A74700EM1-AF	470 UF 35V ELECTROLYTIC CAPACITOR		D0605	51-08001-23	DIODE 1N4148
C0601	54-A74700DM1-AN	470 UF 25V ELECTROLYTIC CAPACITOR		IC0601	67-00118-04	I.C. TDA1013B
C0602	54-C41000GK1-BP	0.1 UF 100V POLYESTER FILM CAPACITOR		IC0602	67-00118-04	I.C. TDA1013B
C0603	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		ICA0001	67-CF004052-01	I.C. CD4052BCN
C0604	54-A74700EM1-AF	470 UF 35V ELECTROLYTIC CAPACITOR		L0102	59-08002-02	3.3 UH PEAKING COIL
C0605	54-A51000FM1-AF	1 UF 50V ELECTROLYTIC CAPACITOR		L0103	59-08001-45	3.3UH PEAKING COIL
C0606	54-C32200GK1-BP	0.022 UF 100V POLYESTER FILM CAPACITOR		L0104	59-08002-05	12 UH PEAKING COIL
C0607	54-A62200CM1-AF	22 UF 16V ELECTROLYTIC CAPACITOR		L0503	65-03005-32	FERRITE BEAD FB02
C0608	54-C21000FK1-E	1000 PF 50V POLYESTER FILM CAPACITOR		PLUG J	73-2CEF221M-01C	2-POLE MODULAR WIRE
C0609	54-A61000CM1-AN	10 UF 16V ELECTROLYTIC CAPACITOR		PLUG K	73-3DFF421M-01C	3-POLE MODULAR WIRE
C0610	54-A74700DM1-AN	470 UF 25V ELECTROLYTIC CAPACITOR		PLUG X	73-4AEF601N-01C	4-POLE MODULAR WIRE
C0611	54-C41000GK1-BP	0.1 UF 100V POLYESTER FILM CAPACITOR		Q0102	50-AI001815-01	TRANSISTOR 2SC1815-Y
C0612	54-B41000FZ1-BN	0.1 UF 50V CERAMIC CAPACITOR		Q0104	50-AI001815-01	TRANSISTOR 2SC1815-Y
C0613	54-A74700EM1-AF	470 UF 35V ELECTROLYTIC CAPACITOR		Q0601	50-AI001815-01	TRANSISTOR 2SC1815-Y
C0614	54-A51000FM1-AF	1 UF 50V ELECTROLYTIC CAPACITOR		Q0602	50-AI001015-02	TRANSISTOR 2SA1015-Y
C0615	54-C32200GK1-BP	0.022 UF 100V POLYESTER FILM CAPACITOR		QA0001	50-AI001815-01	TRANSISTOR 2SC1815-Y
C0616	54-A62200CM1-AF	22 UF 16V ELECTROLYTIC CAPACITOR		QA0004	50-AI001815-01	TRANSISTOR 2SC1815-Y

SYMBOL NO.	PART NUMBER	PART DESCRIPTION		SYMBOL NO.	PART NUMBER	PART DESCRIPTION
C0617	54-C21000FK1-E	1000 PF 50V POLYESTER FILM CAPACITOR		R0109	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
C0618	54-A61000CM1-AN	10 UF 16V ELECTROLYTIC CAPACITOR		R0110	52-A2100EJ12-AP	100 OHM 1/6W CARBON FILM RESISTOR
C0619	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		R0116	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR
C0620	54-A64700DM1-AN	47 UF 25V ELECTROLYTIC CAPACITOR		R0117	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
CA0001	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		R0121	52-A1470EJ12-AP	47 OHM 1/6W CARBON FILM RESISTOR
CA0002	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		R0123	52-A2560EJ12-AP	560 OHM 1/6W CARBON FILM RESISTOR
CA0003	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		R0124	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
CA0004	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		R0129	52-A4100EJ12-AP	10 KOHM 1/6W CARBON FILM RESISTOR
CA0005	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		R0601	52-A0330EJ12-AP	3.3 OHM 1/6W CARBON FILM RESISTOR
CA0006	54-A72200CM1-AN	220 UF 16V ELECTROLYTIC CAPACITOR		R0602	52-B0100GJ12-AP	1 OHM 1/2W METAL OXIDE RESISTOR
CA0007	54-A52200FM1-AF	2.2 UF 50V ELECTROLYTIC CAPACITOR		R0603	52-A5220EJ12-AP	220 KOHM 1/6W CARBON FILM RESISTOR
CA0008	54-A71000CM1-AF	100 UF 16V ELECTROLYTIC CAPACITOR		R0604	52-A5220EJ12-AP	220 KOHM 1/6W CARBON FILM RESISTOR
R0605	52-A3150EJ12-AP	1.5 KOHM 1/6W CARBON FILM RESISTOR		RA0005	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
R0606	52-A3270EJ12-AP	2.7 KOHM 1/6W CARBON FILM RESISTOR		RA0006	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
R0607	52-A0330EJ12-AP	3.3 OHM 1/6W CARBON FILM RESISTOR		RA0009	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR
R0608	52-B0100GJ12-AP	1 OHM 1/2W METAL OXIDE RESISTOR		RA0010	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR
R0609	52-A5220EJ12-AP	220 KOHM 1/6W CARBON FILM RESISTOR		RA0012	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
R0610	52-A5220EJ12-AP	220 KOHM 1/6W CARBON FILM RESISTOR		RA0013	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
R0611	52-A3270EJ12-AP	2.7 KOHM 1/6W CARBON FILM RESISTOR		RA0014	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0612	52-A3150EJ12-AP	1.5 KOHM 1/6W CARBON FILM RESISTOR		RA0015	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
R0613	52-A2470EJ12-AP	470 OHM 1/6W CARBON FILM RESISTOR		RA0016	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR
R0614	52-A4220EJ12-AP	22 KOHM 1/6W CARBON FILM RESISTOR		RA0046	52-A3100EJ12-AP	1 KOHM 1/6W CARBON FILM RESISTOR
R0615	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR		RU0003	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR
R0616	52-A5100EJ12-AP	100 KOHM 1/6W CARBON FILM RESISTOR		RU0004	52-A3240EJ12-AP	2.4 KOHM 1/6W CARBON FILM RESISTOR
RA0001	52-A4470EJ12-AP	47 KOHM 1/6W CARBON FILM RESISTOR		RU0005	52-A3240EJ12-AP	2.4 KOHM 1/6W CARBON FILM RESISTOR
RA0004	52-A3220EJ12-AP	2.2 KOHM 1/6W CARBON FILM RESISTOR		RU0007	52-A3330EJ12-AP	3.3 KOHM 1/6W CARBON FILM RESISTOR

Specifications:

<table>
<tr><td>Model</td><td colspan="5">Refer to the Back Plate of the TV unit</td></tr>
<tr><td>Power Rating</td><td colspan="5">Refer to the Back Plate of the TV unit</td></tr>
<tr><td>Power Consumption
(at 220V 50Hz)</td><td colspan="5">Refer to the Back Plate of the TV unit</td></tr>
<tr><td>CRT</td><td colspan="2">25” (640mm)
110° Deflection Angle</td><td colspan="2">29” (740mm)
110° Deflection Angle</td><td>34” (840mm)
110° Deflection Angle</td></tr>
<tr><td>Tuning System</td><td colspan="5">Voltage Synthesizing Style</td></tr>
<tr><td>Antenna Impedance</td><td colspan="5">75 Ohm, Unbalanced</td></tr>
<tr><td>Color System</td><td colspan="5">PAL/ SECAM/ NTSC3.58/ NTSC4.43 (option)</td></tr>
<tr><td rowspan="5">System (RF) (option)</td><td>System</td><td>Channel</td><td>VHF</td><td>UHF</td><td>CATV</td></tr>
<tr><td>PAL B/G</td><td>CCIR</td><td>2 – 12</td><td>21 – 69</td><td>X-Z+2, S1– S41</td></tr>
<tr><td>PAL D/K</td><td>CHINA</td><td>1 – 12</td><td>13 – 57</td><td>Z-1 – Z-38</td></tr>
<tr><td>SECAM B/G</td><td>CCIR</td><td>2 – 12</td><td>21 – 69</td><td>X – Z+2, S1 – S41</td></tr>
<tr><td>SECAM D/K</td><td>OIRT</td><td>1 – 12</td><td>21 – 69</td><td>---</td></tr>
<tr><td>Video/Audio Input Terminals</td><td colspan="5">Video Input: RCA type - 1Vp-p, 75 Ohm
S-Video: Y/1.0V, 75 Ohm
C/0.3V, 75 Ohm
Audio Input: RCA type – 400mV</td></tr>
<tr><td>Monitor Output Terminals</td><td colspan="5">Video Output: RCA type - 1Vp-p, 75 Ohm
Audio Output: RCA type – 400Mv</td></tr>
<tr><td>Audio Output:</td><td colspan="5">Main Speaker: 4+4W; Woofer: 4.5W (option)</td></tr>
</table>

Attn.: All designs and specifications are subject to change without any prior notice; dimensions and net weight are of approximate values.
Do not attempt to fix or disassemble the unit; otherwise, you may be electrically shocked or it would catch fire easily.

SCHEMATIC DIAGRAM

CE-6401/CE-6409/CE-6418
CE-7405/CE-7406/CE-7419
CE-8608/CE-8616

MAIN CHASSIS PCB
60-L0860720-01B

SERVICING PRECAUTION:

THE AREAS ENCLOSED BY THE DOTTED LINE AND MARKED WITH A WORD (HOT) ARE DIRECTLY CONNECTED TO AC MAINS. WHEN SERVICING THIS AREAS, CONNECT AN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AND AC MAINS TO AVOID HAZARD OF ELECTRIC SHOCK

POWER SUPPLY UNIT

NOTICE:

SINCE THIS IS A BASIC CIRCUIT DIAGRAM THE VALUE OF COMPONENTS ARE SUBJECT TO BE CHANGE FOR IMPROVEMENT

WARNING:

BEFORE SERVICING THIS CHASSIS, READ THE X-RAY RADIATION PRECAUTION & PRODUCTS SAFETY NOTICE OF THIS MANUAL .

CAUTION:

THE WARNING SYMBOLS IN THE SCHEMATIC DIAGRAM AND THE PARTS LIST DESIGNATE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST. BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE PRODUCTS SAFETY NOTICE OF THE MANUAL. DO NOT DEGRADE THE SAFETY OF THE RECEIVER THROUGH IMPROPER SERVICING

NOTE:

1 VOLTAGES ARE MEASURED WITH DVM FROM POINT INDICATED TO CHASSIS GROUND, USING COLOUR BAR SIGNAL WITH ALL CONTROLS AT NORMAL POSITION .

2 WAVEFORMS ARE MEASURED WITH SYNCHROSCOPE FROM POINT INDICATED TO CHASSIS GROUND, USING COLOUR BAR SIGNAL WITH ALL CONTROLS AT NORMAL POSITION.

3 ALL RESISTORS ARE 1/6W +/-5% CARBON FLIM RESISTOR UNLESS OTHERWIS LISTED . RESISTANCE UNIT IS IN OHM. M=1,000,000 K=1,000

4 ALL CAPACITORS ARE 50WV CERAMIC CAPACITOR UNLESS OTHERWISE LISTE. CAPACITANCE UNIT IS UFD, UNLESS OTHERWISE LISTED.

RESISTOR TYPES	SYMBOL
CARBON FILM	
CARBON COMPOSITION	P
METAL OXIDE +/-5%	M, G
METAL OXIDE +/-2%	M
FUSIBLE	F
NON INFLAMMABLE	
PTC THERMISTOR	
VARIABLE	
CAPACITOR TYPES	**SYMBOL**
CERAMIC	
TANTALUM	
POLYESTER FILM	
POLYPROPYLENE FLIM	
METAL POLYESTER FILM	
POLY POLYESTER FILM	
ELECTROLYTIC	
TRIMMER	

KEY PC BOARD
60-L0640120-03/60-L0640620-03
60-L0740120-03/60-L0860620-03
60-L0860720-03/60-L7419P-05

(OPTIONAL)

GERMAN STEREO PC BOARD
60-L0740720-05A
(OPTIONAL)

(OPTIONAL)
TELETEXT UNIT IN
MAIN CHASSIS PCB

(OPTIONAL) AV PC BOARD
60-L0640120-06

(OPTIONAL)
EXTERNAL SPEAKER PC BOARD
60-L0860720-06

60-L0740720-02A
E-W CORRECTION PC BOARD

CRT PC BOARD
60-L0740720-04A