SANYO

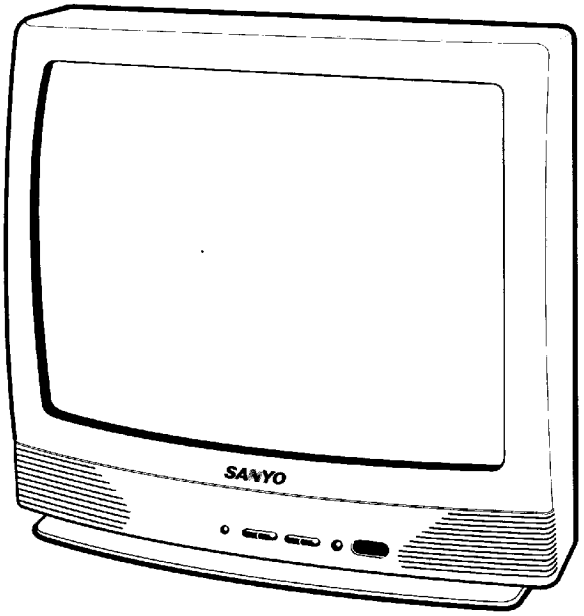
FILE NO.

SERVICE MANUAL

Remote Control Color Television

AVM-2547U (CANADA)

ORIGINAL VERSION



Chassis No. G5Z-2547U0

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual.

If the Original Version Service Manual Chassis No. does not match the unit's, additional Service Literature is required. You **must** refer to "Notices" to the Original Service Manual prior to servicing the unit.

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Specifications

Power Rating 120V, 60Hz
98W (Avg), 2.6A (Max)
Antenna Input Impedance 75Ω
UHF/VHF/CATV
Receiving Channel . . . . . .2 - 13 (VHF),
14 - 69 (UHF),
01, 14-94, 95-125 (CATV)
Remote Ready . . . . . .22 Key Remote Control
Sound Output . . . . . .1.0 W/CH
Intermediate Frequency
Picture IF Carrier 45.75MHz
Sound IF Carrier 41.25MHz
Color Sub Carrier 42.17MHz
Picture Tube A63AHC26X/A63ADG36X
Semiconductors
Integrated Circuits 10
Transistors 23
Except within Tuner
Cabinet Dimensions
Width 624mm
Height 585mm
Depth 520mm

G5ZKX, PRODUCT CODE 111331386

REFERENCE No. SM780030

SERVICE ADJUSTMENTS

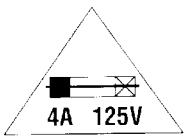
ANTENNA CONNECTIONS

This receiver is designed for UHF/VHF reception. A 75 ohm terminal is provided for UHF and VHF receptions. When connecting the CATV antenna system, connect the 75 ohm coaxial cable directly to the 75 ohm terminal. For 300 ohm VHF antenna, use an adapter (not included with the TV set).

CIRCUIT PROTECTION

Fuse F601 (4A) is included in the AC line. This fuse must be replaced with the proper fuse (see Parts List).

CAUTION



FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH THE SAME TYPE 4A, 125V FUSE.

ATTENTION: POUR MAINTENIR LA PROTECTION CONTRE LES RISQUES D' INCENDIE UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE 4A, 125V.

+B VOLTAGE CHECK

Connect Voltmeter + lead to "TJ1 130V" and - lead to ground (TE7). Connect receiver to AC 120V line. Tune receiver to an active channel. Reset the picture controls to the "FACTORY PRESET" levels (press remote control "RESET" key twice). Voltage must measure between +128.0V and 131.1V. If the voltage is out of this range, the power circuit must be checked. No +B adjustment is provided on this chassis.

VERTICAL SIZE ADJUSTMENT

Tune receiver to an active channel. Adjust Vertical Size control (VR501) for full scan.

VERTICAL CENTERING ADJUSTMENT

Tune receiver to an active channel. Check that picture is in the center of TV screen. If picture center is too low, connect resistor R513 (1K ohm, 1W). If picture center is too high, connect resistor R512 (1K ohm, 1W).

GRAYSCALE ADJUSTMENT

1. Set Red (VR704) and Blue (VR705) Drive Controls to mid position. Set Blue (VR703), Green (VR702) and Red (VR701) Bias Controls to minimum (fully counterclockwise).
2. Set Screen Control (T402) to minimum (fully counterclockwise).
3. Set Service Switch (SW701) to "SERVICE" position on Pix Tube Board.
4. Advance Screen Control clockwise to obtain just visible one color line. If line does not appear, place this control to maximum (fully clockwise).
5. Advance each Bias Control to obtain just visible white line.
6. Set Service Switch (SW701) to "NORMAL" position.
7. Adjust Red and Blue Drive Controls alternately to produce normal black and white picture in highlight areas.
8. Check for proper grayscale at all brightness levels.

Note: If Grayscale Adjustment is made after picture tube replacement, check Brightness Level Adjustment.

FOCUS ADJUSTMENT

Adjust focus control for well defined scanning lines.

RF-AGC ADJUSTMENT

1. Tune receiver to strongest VHF station in your area.
2. Set contrast and brightness controls for maximum.
3. Turn RF-AGC Control (VR141) in the direction which causes snow to appear; then in the opposite direction until the snow just disappears.

BRIGHT LEVEL ADJUSTMENT

Note: AGC, Grayscale and High Voltage Check must be adjusted before attempting Brightness Level Adjustment.

1. Connect a color-bar generator to the antenna terminals.
2. Switch the generator to the crosshatch pattern.
3. Reset the picture controls to the "FACTORY PRESET" levels (press remote control "RESET" key twice).
4. Connect voltmeter (high impedance) + lead to terminal "TP51" and – lead to terminal "TP50" on main board. Set voltmeter for 1.5V ~ 3V range.
5. Turn off the receiver and disconnect the AC power cord (AC 120V line).
6. While pressing the "MENU" key, reconnect the AC power cord. The "SUBBRIGHT ADJUST" display will now appear. (See Figure 1.)
7. Adjust Sub Brightness Level with "+" or "-" key for 685mVDC.
8. Press the "MENU" key to turn off the SUBBRIGHT ADJUST display.
9. Check brightness level on every active channel, readjust (repeat steps 5 ~ 9) if necessary).

Note: Do not set to excessive brightness level, otherwise the contrast level will be suppressed.

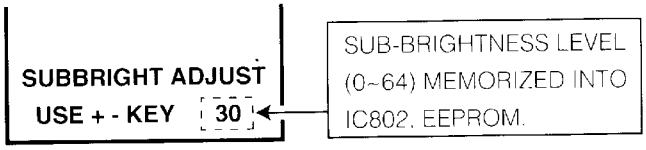


Figure 1. SUBBRIGHT ADJUST Display

HIGH VOLTAGE CHECK

Note: +B (+130V) Voltage Check and Grayscale Adjustment must be completed before attempting High Voltage Check.

1. Connect high voltage voltmeter negative lead to ground, and connect + lead to anode of picture tube.
2. Tune receiver to an active channel and confirm TV is operating properly.
3. Eliminate the beam current by adjusting the contrast and brightness controls to minimum.
4. Confirm high voltage is within 26.9 KV and 30.5 KV. If reading is not within range, check horizontal circuit.

No high-voltage adjustment is provided on this chassis.

HIGH VOLTAGE HOLD-DOWN TEST

Every time the receiver is serviced, the HIGH VOLTAGE HOLD-DOWN circuit must be tested for proper operation by following these steps:

1. Connect receiver to AC 120V line. Tune receiver to active channel. Reset the picture controls to the "FACTORY PRESET" levels (press remote control "RESET" key twice).
2. Check that the voltage measured between "TP7" and "TE7" (ground side) is within 16.5 VDC to 21 VDC. If the voltage is out of this range, the Hold-Down Circuit must be checked.
3. Connect a DC Voltage supply to "TP7" and "TE7" through a 100 ohm 1/4W resistor. Adjust the DC voltage to 23 VDC. The receiver should shutdown, losing raster and sound. Then the receiver should turn off automatically. This reaction indicates that the Hold-Down circuit is functioning properly. If the receiver does not shutdown, a malfunction is indicated and its cause must be found and corrected.
4. To obtain picture again, remove the DC Supply and wait a few minutes. Now turn on the receiver.

AFT FIELD ADJUSTMENT

1. Disconnect the AC power cord. (120V AC line.)
2. Connect voltmeter + lead to "TP113" on main board and – lead to main board ground. Ground "TP113" with a short jumper lead.
3. Press and Hold the "POWER" key on the front control panel while connecting the AC power cord. TV will turn on.
4. Tune the TV set to a good-quality active color channel, using keys 0 ~ 9 on the remote control transmitter. Wait a few seconds until properly tuned, and then remove the short lead from terminal "TP113."
5. Turn AFT centering coil (T161) on main board fully clockwise, and then gradually turn the coil counterclockwise until voltage is at the maximum level (approximately 4.5 volts). Continue to turn the coil counterclockwise until the voltage is at the minimum level (approximately 0.5 volts), and then turn the coil clockwise until voltage indicates 2.5 volts. Voltage change in the coil adjustments is shown in Figure 2.
6. Disconnect voltmeter from chassis. Select every active channel with keys 0 ~ 9 and the scanning keys, and check to be sure the AFT is operating properly.

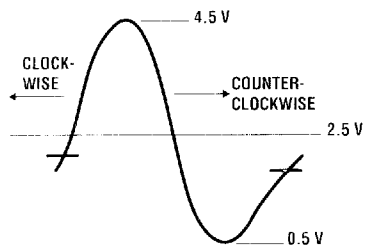


Figure 2. Voltage Change in Coil Adjustment

REMOTE CONTROL TRANSMITTER SERVICE NOTE

To test remote control transmitter, check as follows:

1. Check battery installation and battery voltage. If necessary, replace batteries.
2. Connect oscilloscope to Q9901 "Base" and ground.
3. Check the amplitude of the pulse on the base by pressing the remote control transmitter keys.
4. If pulse does not appear, replace with a new unit.

DISPLAY PLL ADJUSTMENT

1. Connect Voltmeter – to ground and + lead to "TP501" (PLL Filter).
2. Tune receiver to an active channel.
3. Reset the picture controls to the "FACTORY PRESET" levels (press remote control "RESET" key twice).
4. Adjust VC801 for a D.V.M. reading of 2.5 ± 0.5 VDC.

SOUND ADJUSTMENT

1. Tune receiver to an active channel and fine tune to obtain the best picture.
2. Set volume control to middle level.
3. Adjust Sound I.F. Transformer (T131) for the best sound and minimum noise.

MULTI- SOUND SECTION ADJUSTMENT

1.5fH B.P.F. ADJUSTMENT

1. Connect DC supply (+13.8 ± 0.2 VDC) to "TP2" and ground.
2. Connect Signal Generator to "TP301" through Capacitor (10mF, 16V, Non-Polarized Electrolytic) and ground.
3. Ground "TP20" with a jumper lead.
4. Connect an Audio Voltmeter to "TP310" and ground.
5. Set Signal Output to 22.9kHz, 290mVp-p.
6. Adjust 1.5fH B.P.F. Adjustment (VR3403) for a reading of minimum voltage.

STEREO VCO ADJUSTMENT

7. Remove Audio Voltmeter from "TP310."
8. Connect DC Voltmeter to "TP312" and ground.
9. Change Signal Output to 15.734kHz, 140mVp-p.
10. Read DC Voltmeter voltage at "TP312."
11. Change connection of DC Voltmeter to "TP313" and ground.
12. Adjust Stereo VCO Adjustment (VR3406) for "TP313" voltage to conform to "TP312" voltage.

MULTI-SOUND SECTION ALIGNMENT

Variable resistors VR3411 and VR3421 are adjusted for stereo separation and have been preset at the factory. If these parts are to be replaced, first check the resistance values or adjustment positions of the original parts and set the replacement parts to the same values or positions.

If these parts are replaced, check the stereo and bilingual sound on a received broadcast multi-sound program.
If separation is unacceptable, adjust the positions of the replacement parts slightly. Adjust VR3421 (Low Separation) for minimum low frequencies in the right speaker. Adjust VR3411 (High Separation) for minimum high frequencies in the left speaker. Repeat adjustments for best separation.

P.I.F. ALIGNMENT INSTRUCTIONS

GENERAL

Shielding around the P.I.F. circuit must be in place. To prevent possible damage to the TV circuit, the TV set should be OFF when you connect the alignment equipment to the circuit.

P.I.F. ALIGNMENT

Connect the test equipment and set the TV controls as follows:

BIAS SUPPLY

Apply IF AGC +6.0V to "TP12," and +13.8 ± 0.2 VDC supply to "TP2."

SCOPE

Connect scope VERT INPUT to SCOPE VERT on SWEEP/MARKER GENERATOR.
Connect scope EXTERNAL HORIZ IN to scope HORIZ on SWEEP/MARKER GENERATOR.

SWEEP/MARKER GENERATOR

Connect SWEEP OUTPUT to "TP132" through the matching pad as shown in Figure 1. Connect INPUT PROBE to "TP16" through scope input pad as shown in Figure 2.

TELEVISION

Ground TP11 with jumper lead.
Turn on the TV set and tune to an inactive channel.

Align P.I.F. as follows:

STEPS AND MARKERS
P.I.F. detection stage adjustment: 41.67MHz, 42.17MHz, 42.67MHz and 45.75MHz markers ON.
ALIGNMENT PROCEDURES
Response characteristics should be similar to Figure 3. Adjust P.I.F. Detection Transformer (T151) so that the maximum attenuation point of the P.I.F. detection spectrum is at 45.75MHz as shown in Figure 3.

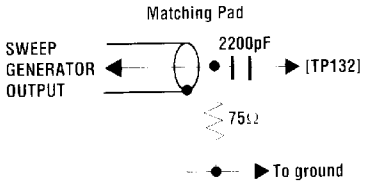


Figure 1. Matching Pad

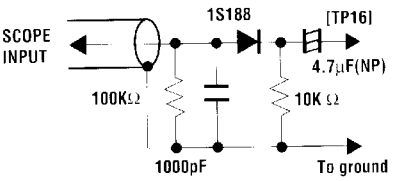


Figure 2. Scope Input Pad

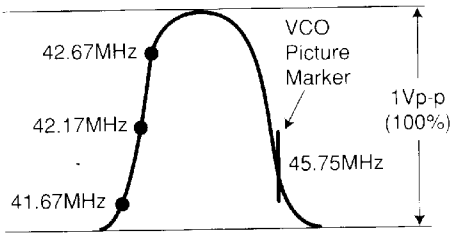


Figure 3. P.I.F. Detection Stage

PURITY AND CONVERGENCE ADJUSTMENTS

CAUTION: The Purity and Convergence adjustments have been made at the factory. Readjustments should be made only after the picture tube or deflection yoke is replaced. Follow the steps below for necessary readjustments.

PURITY ADJUSTMENTS

1. When replacing picture tube or deflection yoke, mount deflection yoke and purity-convergence magnets assembly properly. See Figure 2. Position the picture tube facing east or west. Demagnetize the picture tube and receiver using an external degaussing coil. Set Service Switch SW701 to service position while degaussing.
2. Place the yoke on tube neck fully forward against glass.
3. Place the CPM on the tube neck aligning the center of the purity magnet tabs (2 pole) over center of Focus Gap (G3 & G4) See Figure 3.
4. Connect a color bar generator to the antenna terminal. Switch the generator to a white field. Move yoke backward on the neck until a uniform white field is obtained.
5. Allow 30 minutes warm up on a blank white field (high intensity grayscale).
   Note: If white field cannot be obtained check Grayscale Adjustments on page 3.
6. Reset the picture controls to the "FACTORY PRESET" levels (press remote control "RESET" key twice). Select a green raster, either with the signal generator or by adjusting the bias controls. If a signal generator is used for this step Skip to Step 11. If the bias controls will be used go to step 7.
7. Turn red, blue, and green bias controls to minimum.
8. Set Service Switch to service (no vertical sweep).
9. Adjust the Screen Control counterclockwise until the horizontal scan line is no longer visible. Reset Service Switch to normal.
10. Slowly rotate green bias control clockwise to produce green raster. If retrace lines appear reduce screen control slightly.
11. Pull yoke back on tube neck to obtain three-color raster (blue, green and red).
12. Adjust the angle between the two purity magnet tabs to center the vertical green belt in the picture tube. Do not rotate tabs. See figure 1.
13. Slowly slide the deflection yoke forward until a uniform green screen is obtained.
14. Check the purity of the red and blue screens for uniformity. Turn off other colors to check (use bias controls) or use generator. If necessary, readjust the yoke position until all screens are pure.
15. If bias controls and screen control were used to set purity reset Grayscale and Bright Level. Refer to "Grayscale Adjustment" and "Bright Level" on page 3.
16. Confirm that the yoke is not tilted. Tighten the yoke mounting screw. Adjust convergence next.

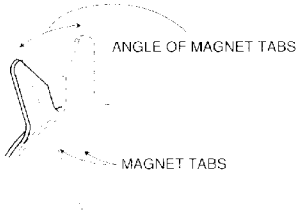


Figure 1. Adjusting Magnet

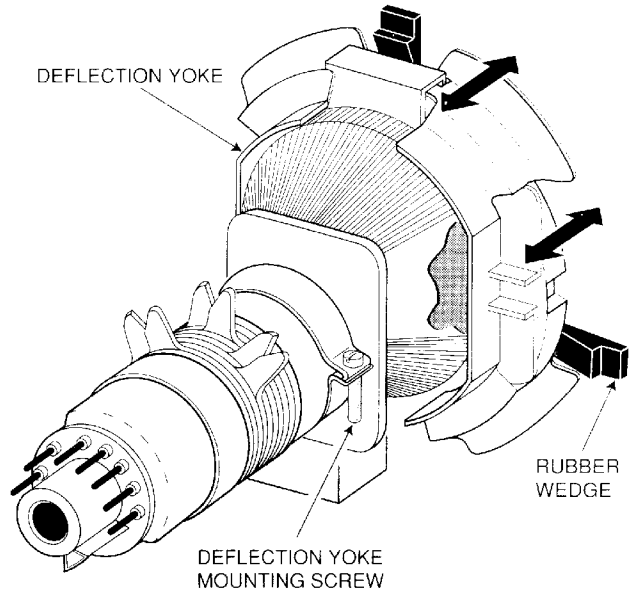


Figure 2. Deflection Yoke Movement

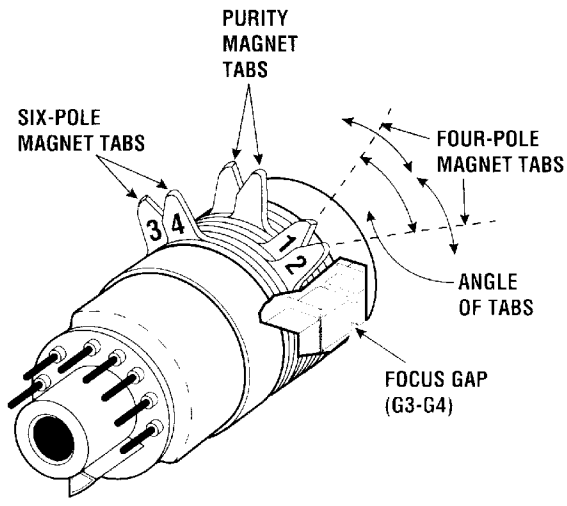


Figure 3. Purity and Convergence Magnets

CONVERGENCE ADJUSTMENT

CENTER CONVERGENCE ADJUSTMENT

1. Connect a crosshatch generator to antenna terminals.
2. Set Contrast control to low level to eliminate "Blooming." Reduce Brightness level to obtain black background if necessary.
3. Adjust the angle between the four-pole magnet tabs 1 and 2 (Figure 3), and superimpose the red and blue vertical lines in the center area of the picture screen. See Figure 4.
4. Keeping the tabs at the same angle, rotate them together to superimpose the blue and red horizontal lines in the center area of the picture screen. See Figure 4.
5. Adjust the six-pole magnet tabs 3 and 4 so the converged red/blue line is superimposed on the green line. This is the same procedure used in Steps 3 and 4. See Figure 5.

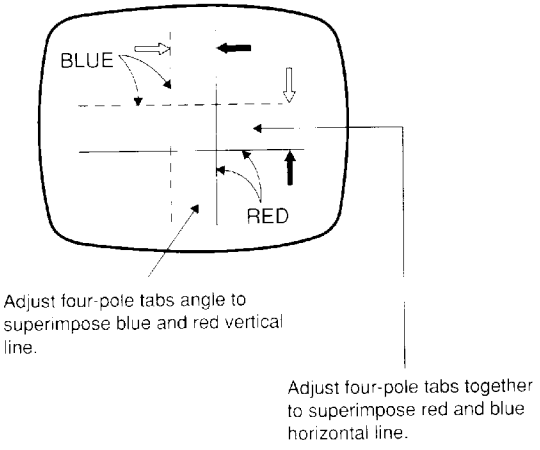


Figure 4. Blue and Red Line Movement

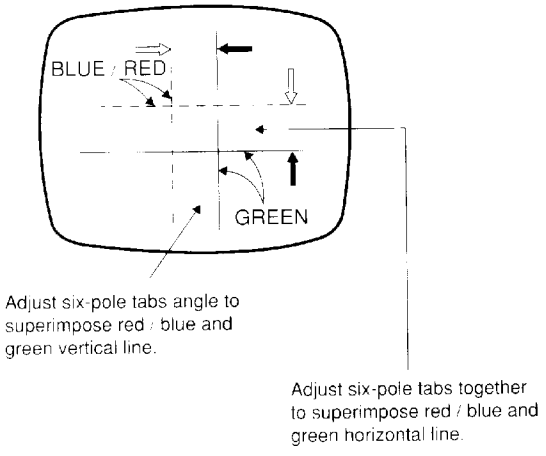


Figure 5. Blue/Red and Green Line Movement

OUTER AREA CONVERGENCE ADJUSTMENT

The outer area convergence is performed by positioning of the yoke as follows:

1. Move the top of the yoke towards or away from the picture tube. This movement will affect the vertical lines at the top and bottom and the horizontal lines at the sides. See Figure 6.
2. Check that splits at 12 O'Clock and 6 O'Clock positions are minimized, adjust yoke for best compromize. Secure with-wedge at 12 O'Clock position. See Figure 2.
3. Move the side of the yoke towards or away from the picture tube to converge the horizontal lines at the top and bottom and the vertical lines at the sides. See Figure 7.
4. Check that splits at 12 O'Clock and 6 O'Clock are minimized, adjust yoke for best compromize. Secure yoke position with the side wedges. See Figure 2.

Note: When re-using the rubber wedges, apply a small amount of silicone rubber adhesive or hot melt to each of the wedges.

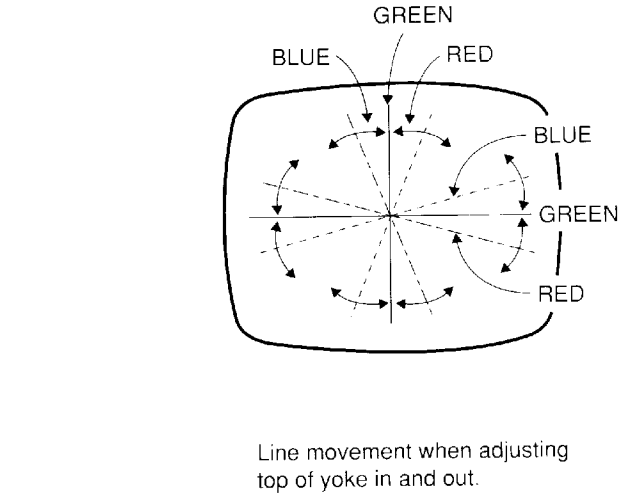


Figure 6. Top of Yoke Movement

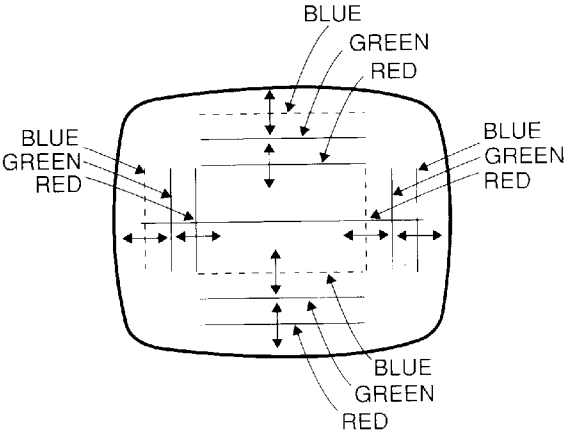


Figure 7. Side of Yoke Movement

TUNER(WITH PLL & BAND SW)

SIGNAL PROCESSOR IC101 LA7675

CPU FS-μA COM. (WITH CAP. DEC) IC801 D32AV0053 (2-9795)

EEPROM IC802

RESET

V-SYNC.

H-SYNC.

VIDEO AMP.

COMP. VIDEO

TIME BASE

LUM. AMP.

CARR-F

OSD SW

RF-AGC

H-DRIVE

H-OUT

V-OUT IC501 LA7838

RAMP GEN

V-SIZE

5V REG.

ON/OFF RELAY DRIVERS

+B REG.

IC601 STR30132

D-COIL L901

AC CORD W601

IC001 TDA7231A AUDIO AMP L

IC021 TDA7231A AUDIO AMP R

A/V BLOCK K1001

VARIABLE AUDIO OUT (L)

VARIABLE AUDIO OUT (R)

SP901

SP902

AUDIO CONTROL IC3601 CXA1279AS

9V REG.

VCA

TONE

CONT & BIAS

MUTE

VCO

L.5FH. BPF.

COMP. AUDIO

MTS IC3401 CXA1534S

HI.SEP.

LOW SEP.

R-OUT Q705

G-OUT Q703

B-OUT Q701

R-DRIVE VR705 <B-200>

G-DRIVE VR704 <B-200>

B-DRIVE VR703 <B-200>

R-BIAS VR708 <B-5K>

G-BIAS VR707 <B-5K>

B-BIAS VR706 <B-5K>

SERVICE SW SW701

CRT

G-CONNECTOR W502

BIPPLE FILTER

IC481

<BRIGHT>

<CONTRAST>

<TINT>

<SHARPNESS>

<COLOR>

<VOLUME>

<TONE>

<ALWAYS 5V>

<POWER FAIL>

<AUDIO +B>

<130V>

<V-PULSE>

<H-PULSE>

<TIME BASE>

<ABL IN>

<POWER ON/OFF>

<5V>

<12V>

<KEY-IN>

<AFT S-CURVE>

<STEREO/MONO>

<PRI/SEC(1)>

<PRI/SEC(2)>

<SAP PILOT IN>

BLOCK DIAGRAM

CAUTION

FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH THE SAME TYPE 4A, 125V FUSE.

IC3401
MTS DECODER

VR3421 LOW SEP.
VR3411 HI SEP.
VR3406 V.C.O.
VR3403 1.5FH B.P.F.

A101
UHF/VHF TUNER
(WITH PLL & BAND SW)

AGC
IF

Q882 HORIZ. SYNC
Q881 VERT. SYNC

IC801
CPU
(WITH CAPTION DECODER)

PR/SC-2
PR/SC-1
ST/MN
ST PILOT IN
SAP PILOT
PLL ENABLE
PLL DATA
PLL CLOCK
RC IN
KEY IN
IIC SCL
IIC SDA
CF1(IN)
CF2(OUT)
LC1(IN)
LC2(OUT)
POWER ON/OFF
MUTE
TONE
VOLUME
COLOR
TINT
CONTRAST
BRIGHTNESS
SHARPNESS
BEAM VOLTAGE
COMPOSITE VIDEO
ON SCREEN DISPLAY (R)
ON SCREEN DISPLAY (G)
ON SCREEN DISPLAY (B/BLANKING)
TIME BASE
AFT S-CURVE

LPF
ACL
BEAM VOLT. DET.

A1901
RC PRE-AMP

SW 1901-1906
CONTROL KEYS

IC802
EEPROM

X801
REF. OSC

DISPLAY PLL

X141
SAW FILTER

VR141 RF AGC

VIDEO DET.
FM DET.
4.5MHz BPF
X153

IC101
SIGNAL PROCESSOR

44 VIDEO & SIF
4.5MHz SOUND TRAP
L164
X161
Q161
1ST VIDEO
TV VIDEO
TV/AV

Q202
VIDEO BUFFER

HF REJ.
-Y(SYNC)
3.58MHz TRAP
Q203
-Y

BPF
BPA
COLOR DEMOD.
OSD SWITCH

SYNC SEP.
HORIZ. DRIVER

Q3431
AUDIO AMP
COMPOSITE AUDIO

IC 3601
AUDIO CONTROL
TONE & VOLUME CONTROL

Q043
MUTE SWITCH

IC001
AUDIO AMP-L
IC021
AUDIO AMP-R
Q016
AUDIO AMP
Q036
AUDIO AMP

SP901
SP902
T016
T036
VARIABLE AUDIO OUT (L)
VARIABLE AUDIO OUT (R)

L902
DEFLECTION YOKE

ABL
H-PULSE
V-PULSE

IC501
VERT. OUTPUT
VR501
VERT. SIZE

T402
HORIZ. OUTPUT TRANS.
AFC
ABL
H.V.
FOCUS
SCREEN
HEATER
LOW +B

Q401
HORIZ. DRIVE
Q402
HORIZ. OUTPUT

HOLD DOWN
HOLD DOWN DET.

VR704
RED DRIVE
R - Y
Q705
RED OUT
-R

G - Y
Q703
GREEN OUT
-G

B - Y
Q701
BLUE OUT
-B

VR705
BLUE DRIVE
VR703 B-BIAS
VR702 G-BIAS
VR701 R-BIAS

(SERV.)
(NORM.)
SW701
SERVICE SWITCH

Q281
VIDEO AMP

Q901
PIX TUBE

+5 ALWAYS
Q622/Q623
5V REG.
Q621
RELAY DRIVE
RL601
ON-OFF RELAY

L901
DEGAUSSING COIL

F601
AC FUSE
C601
AC120V 60Hz
LF601
LINE FILTER
D602-D605
FULL WAVE RECTIFIER
IC601
POWER REG.
+130V

C811
Q831
RESET
+5V ALWAYS
POWER FAIL

D802
AUDIO +B
D801
9V REG.
D429
HOLD DOWN DET.

T161
45/46

9V
IC481
9V REG.
12V
Q491
RIPPLE FILTER
D486
AUDIO +B

IC501 (2) Pin

2.5V VERT

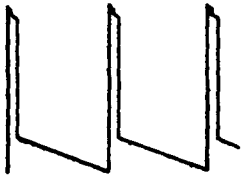
Q401 BASE

0.7V HORIZ

T402 (9) Pin

25V HORIZ

IC501 (12) Pin



50V VERT

Q402 BASE

27V HORIZ

TP16A

1.0V HORIZ

IC101 (18) Pin

1.5V HORIZ

IC101 (19) Pin

0.5V HORIZ

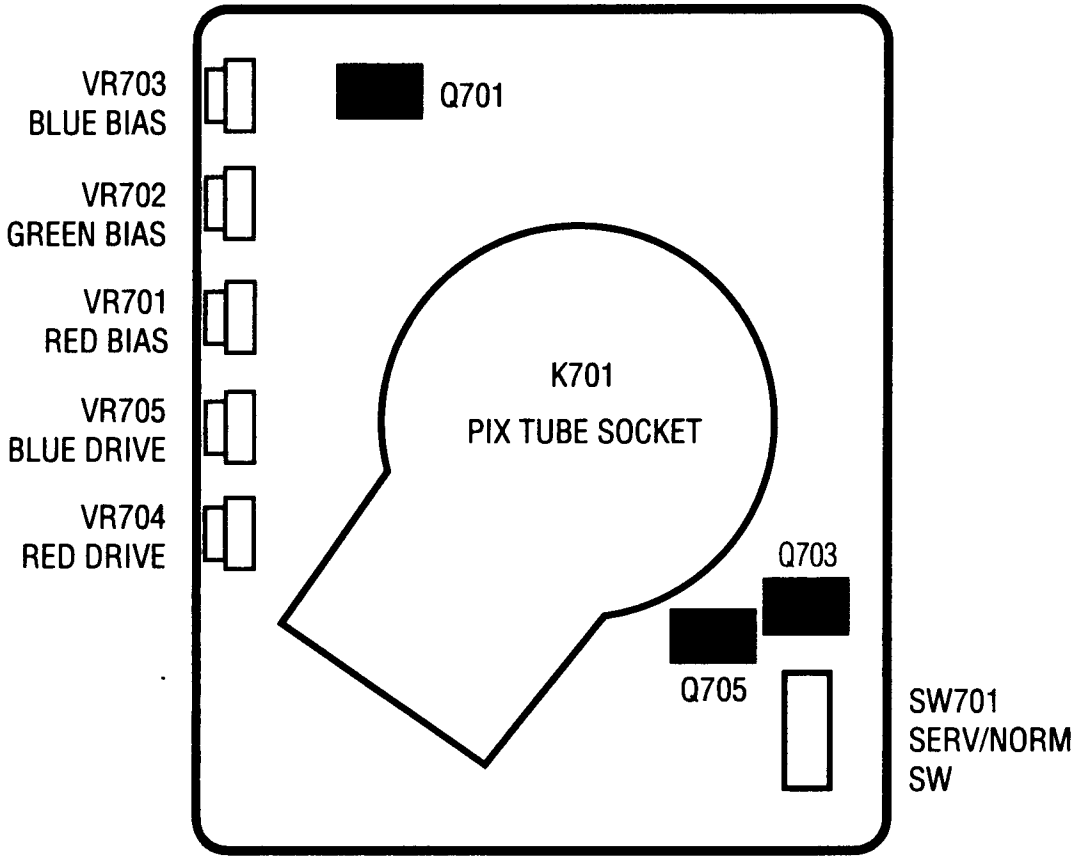
IC101 (20) Pin

1.5V HORIZ

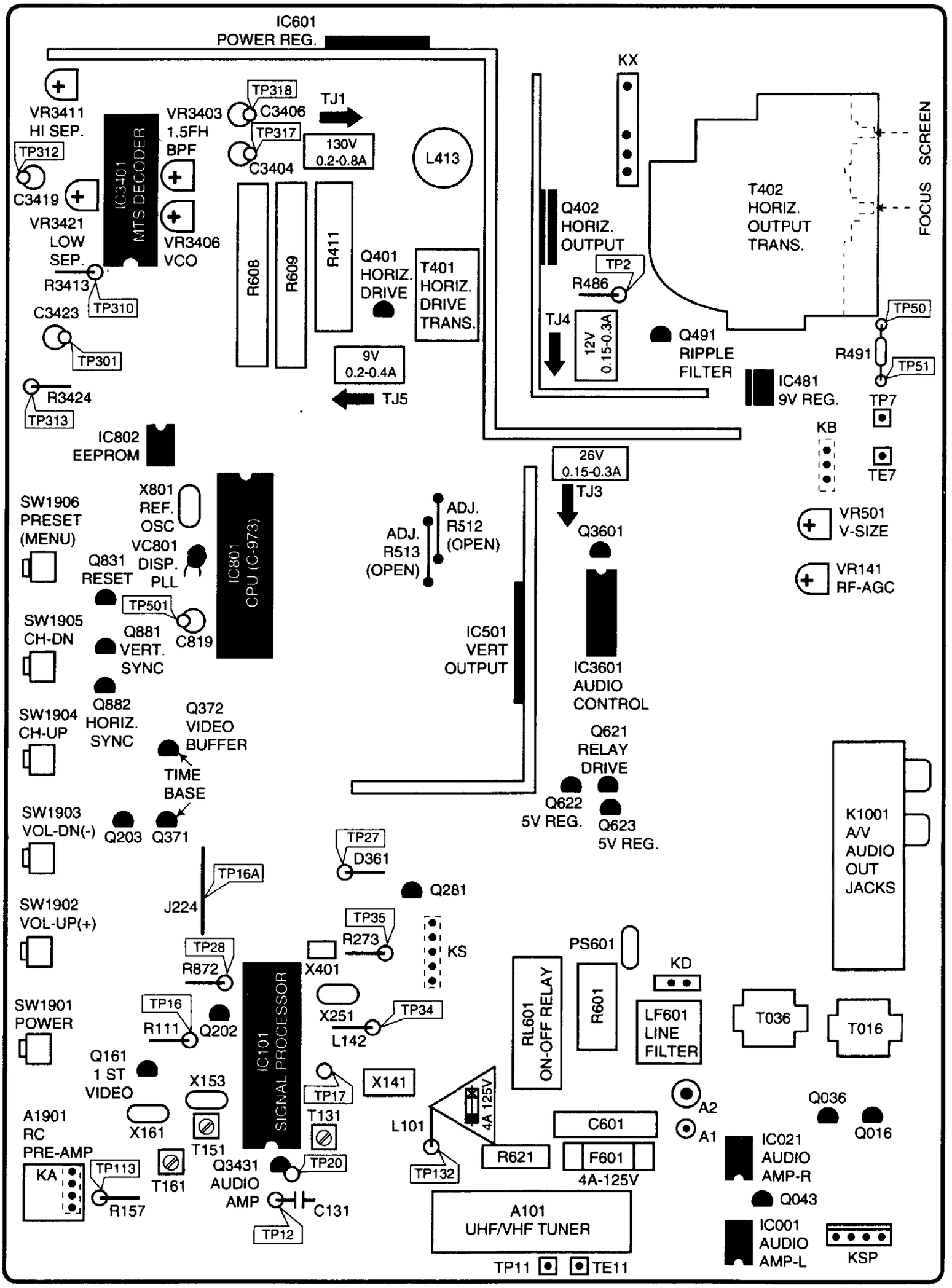
IC101 (21) Pin

7V HORIZ

PICTURE TUBE SOCKET BOARD



COMPONENT AND TESTPOINT LOCATIONS



MECHANICAL DISASSEMBLIES

CABINET BACK REMOVAL

1. Refer to Figure 1, remove 10 screws.
2. Pull off cabinet back and remove.

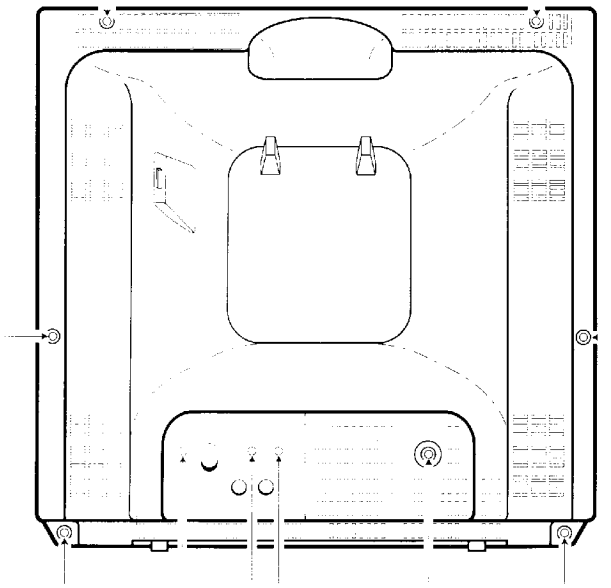


Figure 1. Cabinet Back Removal

CHASSIS REMOVAL

1. Remove cabinet back.
2. Discharge the picture tube anode (2nd anode lead) to the dag coating (picture tube grounding lead).
3. Disconnect Degaussing coil socket (KD), Picture tube socket, Deflection yoke connector (KX), Speakers connector (KSP), picture tube ground leads and 2nd anode lead.
4. Remove chassis completely by sliding it straight back.

PICTURE TUBE REMOVAL

CAUTION: Do not disturb the deflection yoke or magnet assembly on the picture tube neck. Care must be taken to keep these assemblies intact, unless picture tube is being replaced. Discharge the picture tube to the coating before handling the tube.

1. Remove chassis, referring to "Chassis Removal" instructions.
2. Place cabinet's front face down on a soft surface.
3. Remove the screw on each corner of the picture tube and GENTLY lift the picture tube out of the cabinet.
4. Install a replacement picture tube in reverse order. Properly install the degaussing coil and picture tube grounding lead on the picture tube. See Figure 2.

Note: If Picture Tube is being replaced, mount the Degaussing Coil properly on the tube. See Figure 2.

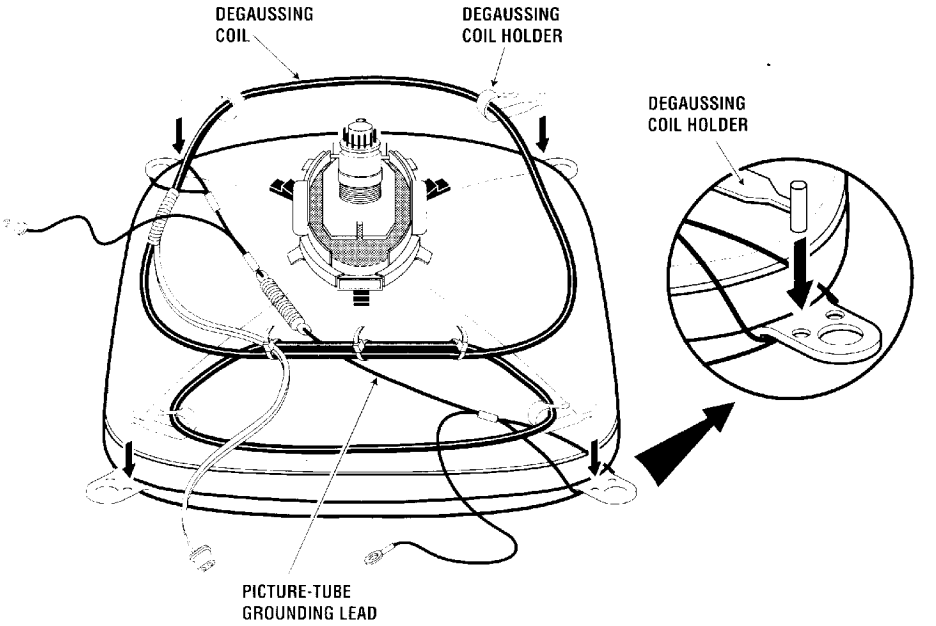
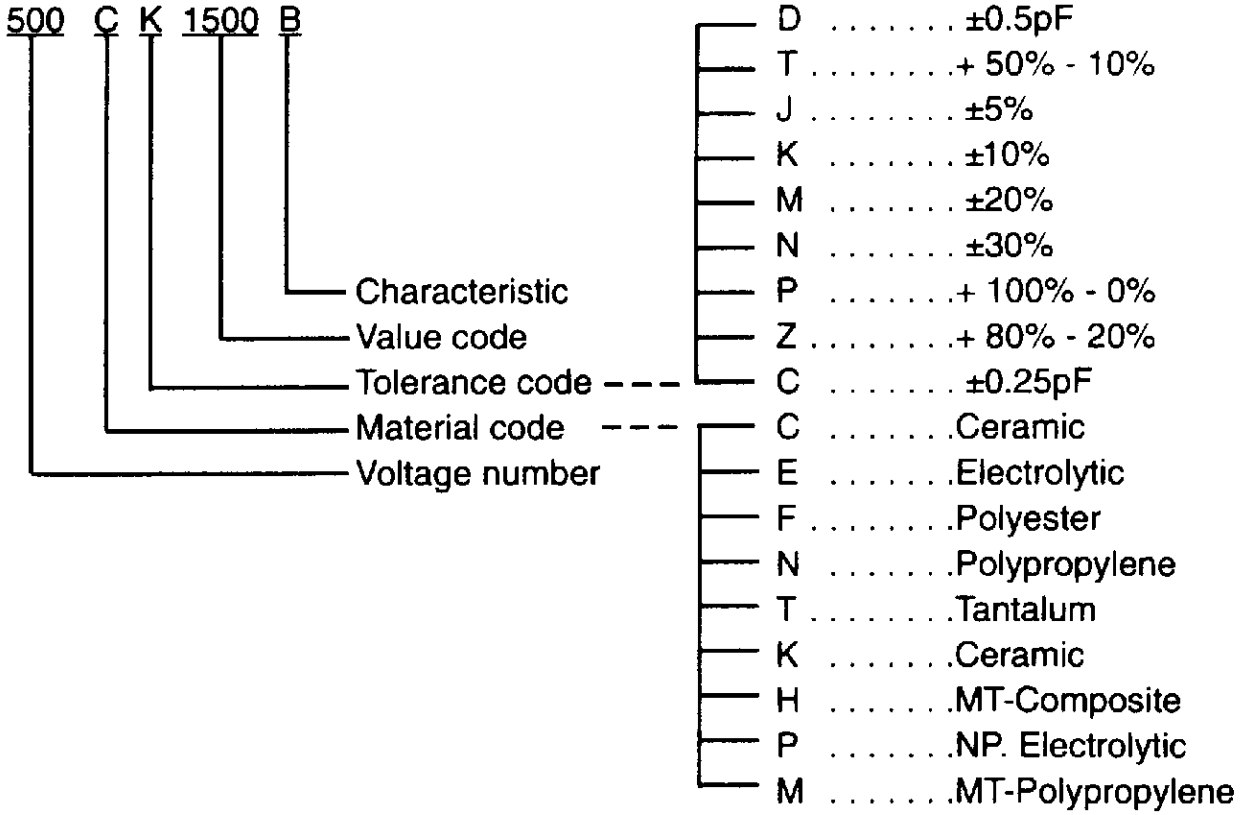


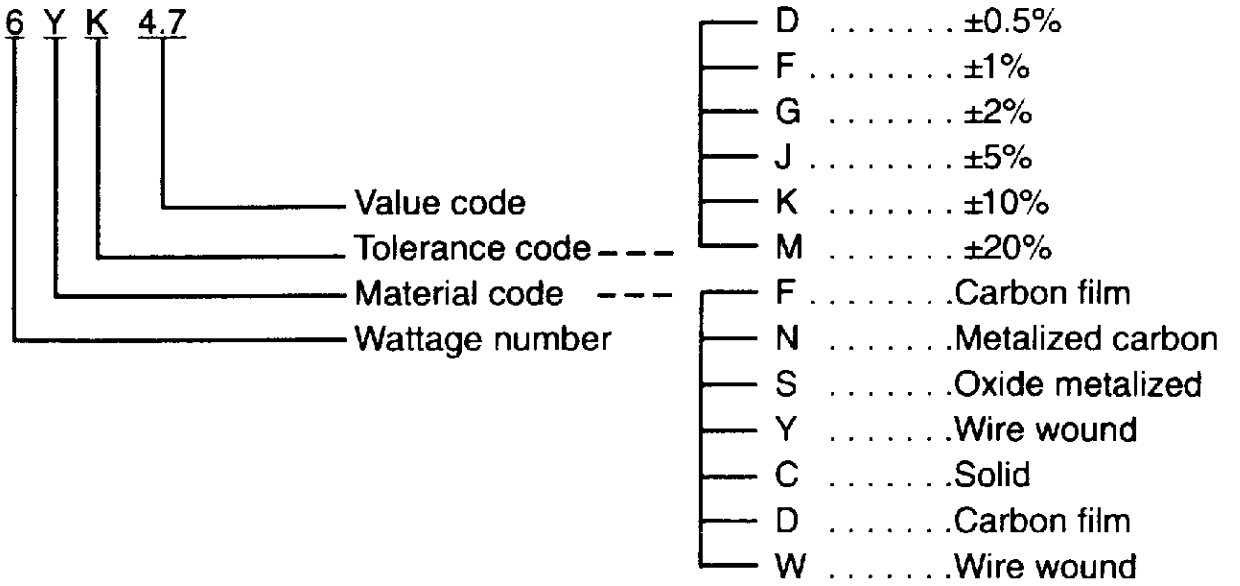
Figure 2. Picture Tube Removal

CAPACITOR AND RESISTOR CODE CHART

CAPACITOR (Example)



RESISTOR (Example)



REMOTE CONTROL TRANSMITTER DISASSEMBLY

1. Press the battery cover downward and slide it in the direction of the arrow to remove it. See Figure 3.
2. Remove the screw located inside the compartment.
3. Starting at the rear of the remote, push the bottom section of the cabinet in and pull up. Proceed by pressing in at the sides of top section, while pulling the bottom from the top. See Figure 4.

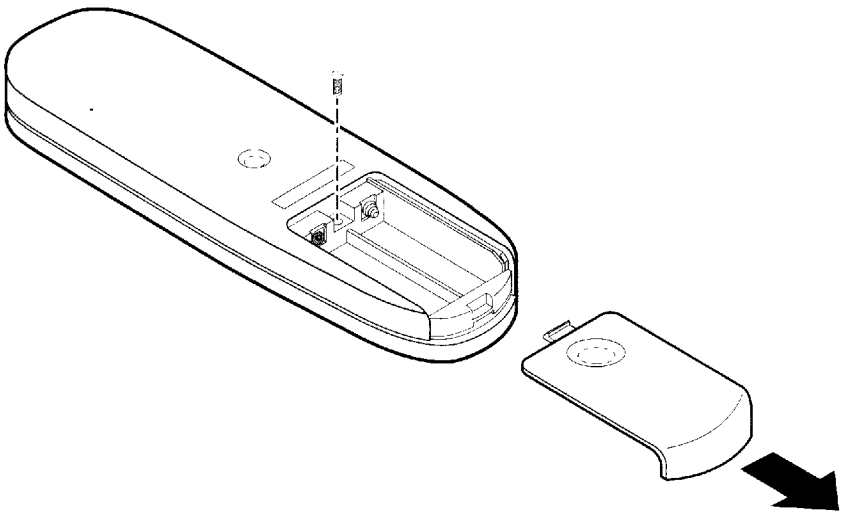


Figure 3.

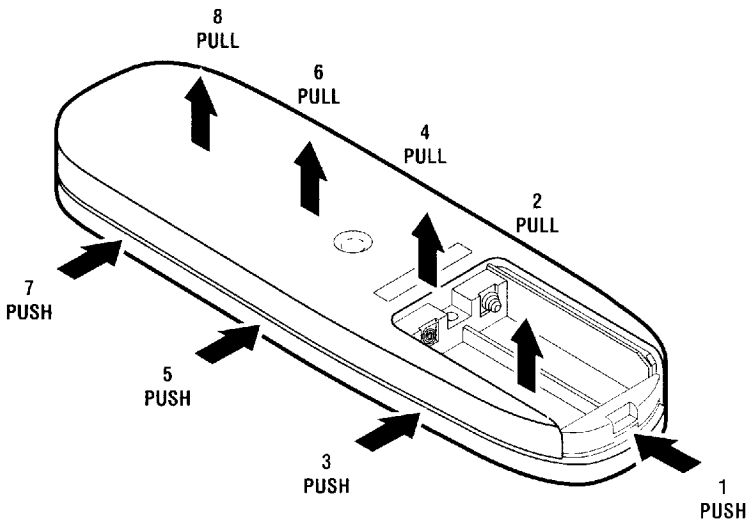


Figure 4.

Remote Control Transmitter Disassembly

SAFETY INSTRUCTIONS

SAFETY PRECAUTIONS

WARNING: The chassis of this receiver has a floating ground with the potential of one half the AC line voltage in respect to earth ground. Service should not be attempted by anyone not familiar with the precautions necessary when working on this type of equipment.

The following precautions must be observed:

1. An isolation transformer must be connected in the power line between the receiver and the AC line before any service is performed on the receiver.

2. Comply with all caution and safety-related notes provided on the side of the cabinet, inside the cabinet, on the chassis, and the picture tube.

3. When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as control knobs, adjustment covers, shields and barriers.

   DO NOT OPERATE THIS TELEVISION RECEIVER WITHOUT THE PROTECTIVE SHIELD IN POSITION AND PROPERLY SECURED.

4. Before replacing the back cover of the set, thoroughly inspect the inside of the cabinet to see that no stray parts or tools have been left inside.
   Before returning any television to the customer, the service technician must perform the following safety checks to be sure that the unit is completely safe to operate without danger of electrical shock.

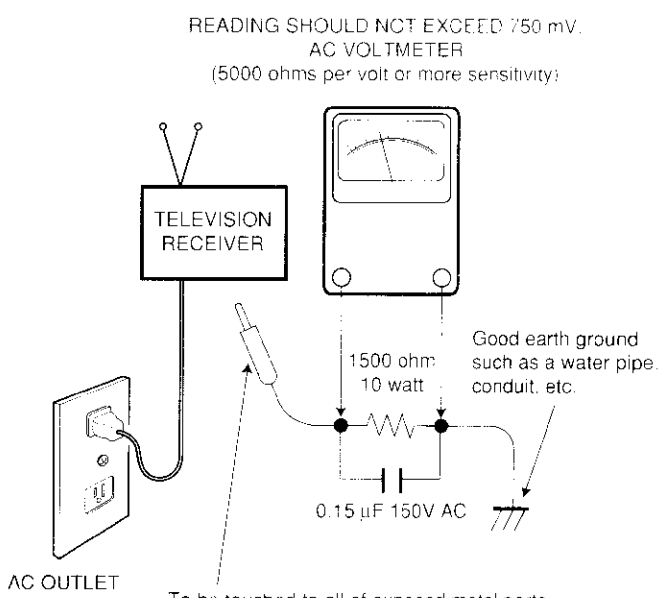
ANTENNA COLD CHECK

Remove AC plug from the 120 VAC outlet and place a jumper across the two blades. Connect one lead of an ohmmeter to the jumpered AC plug, and touch the other lead to each exposed antenna terminal (UHF and VHF antenna terminals). The resistance must measure between 1M ohm and 5.2M ohm. Any resistance value below or above this range indicates an abnormality which requires corrective action.

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120 VAC outlet. (Do not use an isolation transformer for this check.) Use an AC voltmeter, that has 5000 ohms per volt or more sensitivity. Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 µF 150 VAC capacitor, between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of the cabinet (antennas, handle bracket, metal cabinet, screw heads, metal overlays, control shafts, etc.). Measure the AC voltage across the 1500 ohm resistor. The AC voltage should not exceed 750 mV. A reading exceeding 750 mV indicates that a dangerous potential exists. The fault must be located and corrected. Repeat the above test with the receiver power plug reversed.

NEVER RETURN A RECEIVER TO THE CUSTOMER WITHOUT TAKING THE NECESSARY CORRECTIVE ACTION.



Voltmeter Hook-up for Leakage Current Check.

X-RADIATION PRECAUTION

The primary source of X-RADIATION in solid-state receivers is the picture tube. The picture tube is specially constructed to limit X-Ray emission. For continued X-RADIATION protection, the replacement tube must be the same type as the original (including the suffix letter in the part numbers). Excessive high voltage may produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must be maintained within specific limits. Refer to the X-RADIATION WARNING NOTE on the CHASSIS SCHEMATIC in this service manual for specific high voltage limits. If the high voltage exceeds specified limits, check the components specified on the chassis schematic diagram and take the necessary corrective action. Carefully follow the instructions for the +B Voltage Check and the High Voltage Check to maintain the high voltage within the specified limits.

HIGH VOLTAGE HOLD-DOWN TEST

To prevent X-RADIATION from the picture tube due to excessive high voltage, a HOLD-DOWN circuit is provided in the high voltage circuit. Every time the receiver is serviced, the high voltage HOLD-DOWN circuit must be tested for proper operation. Refer to the "HIGH VOLTAGE HOLD-DOWN TEST" in service adjustments.

PRODUCT SAFETY NOTICE

When replacing components in a receiver, always keep in mind the necessary product safety precautions. Pay special attention to the replacement of components marked with a star (★) in the parts list and in the schematic diagrams. To ensure safe product operation, it is necessary to replace those components with the exact same PARTS.

CHASSIS ELECTRICAL PARTS LIST

CAUTION: To Protect against electrical shock and for continued product safety, refer to SAFETY PRECAUTIONS, X-RADIATION PRECAUTIONS, HIGH VOLTAGE HOLD-DOWN TEST and PRODUCT SAFETY NOTICE on Page 2.

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. COMPONENTS INDICATED BY A STAR (★) IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS DESIGNATED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT DESIGNATED BY A STAR. NO DEVIATIONS FROM RESISTANCE, WATTAGE, AND VOLTAGE RATINGS MAY BE MADE FOR REPLACEMENT ITEMS DESIGNATED BY A STAR.

Notes: Parts having Location Number are located on the following boards.

Numbers under 600 Series	On the Main Board.
Numbers 700 Series	On the Picture Tube Socket Board.
Numbers 800 Series	On the Main Board
Numbers 900 Series	On the Antenna Terminal Board and Out of Board.
Numbers 1000 Series	On the Main Board
Numbers 3000 Series	On the Main Board.

Note: Schematic part location numbers may not always match with the part descriptions. The part descriptions are correct and should be used.

Schematic Location	Part No.	Description

CAPACITORS

NOTES:

Read description of the Capacitor as follows:

(Example)

CERAMIC 100P K 50V

- CERAMIC — Material
- 100P — Rated Value: P...Pico Farad U...Micro Farad
- K — Tolerance Symbols:

  less than 10PF

  A . .Not specified
  B . .±0.1PF C . .±0.25PF
  D . .±0.5PF F . .±1PF
  G . .±2PF R . .+0.25 - 0PF
  S . .+0 - 0.25PF E . .+0 - 1PF

  more than 10PF

  A . .Not specified
  B . .±0.1% C . .±0.25%
  D . .±0.5% F . .±1%
  G . .±2% H . .±3%
  J . .±5% K . .±10%
  L . .±15% M . .±20%
  N . .±30% P . .+100 - 0%
  Q . .+30 - 10% T . .+50 - 10%
  U . .+75 - 10% V . .+20 - 10%
  W .+100 - 10% X . .+40 - 20%
  Y . .+150 - 10% Z . .+80 - 20%
- 50V — Rated Voltage

Material:

CERAMIC	Ceramic
MT-PAPER	Metallized Paper
POLYESTER	Polyester
MT-POLYEST	Metallized Polyester
POLYPRO	Polypropylene
MT-POLYPRO	Metallized Polypropylene
COMPO-FILM	Composite Film
MT-COMPO	Metallized Composite
STYRENE	Styrene
TA-SOLID	Tantalum Solid
AL-SOLID	Aluminum Solid
ELECT	Electrolytic
NP-ELECT	Non-Polarized Electrolytic
OS-SOLID	Aluminum Solid with Organic Semiconductive Electrolytic
DL-ELECT	Double Layered Electrolytic

Schematic Location	Part No.	Description		
C001	403 049 0008	ELECT	1U M	50V
C002	403 072 4410	CERAMIC	270P K	50V
C003	403 039 6508	ELECT	100U M	10V
C006	403 044 1703	ELECT	470U M	16V
C007	403 166 6818	MT-POLYEST	0.1U J	63V
	403 067 5603	MT-COMPO	0.1U J	50V
C008	403 069 8315	CERAMIC	0.01U Z	50V
C016	403 049 0008	ELECT	1U M	50V
C017	403 041 8804	ELECT	10U M	16V
C021	403 049 0008	ELECT	1U M	50V
C022	403 072 4410	CERAMIC	270P K	50V
C023	403 039 6508	ELECT	100U M	10V
C026	403 044 1703	ELECT	470U M	16V
C027	403 166 6818	MT-POLYEST	0.1U J	63V
	403 067 5603	MT-COMPO	0.1U J	50V
C036	403 049 0008	ELECT	1U M	50V
C037	403 041 8804	ELECT	10U M	16V
C041	403 044 1703	ELECT	470U M	16V
C101	403 039 9004	ELECT	1000U M	10V
C103	403 069 8315	CERAMIC	0.01U Z	50V
C104	403 038 8602	ELECT	33U M	6.3V
C131	403 166 8218	MT-POLYEST	0.18U J	63V
	403 067 6501	MT-COMPO	0.18U J	50V
C133	403 069 8315	CERAMIC	0.01U Z	50V
C142	403 069 8315	CERAMIC	0.01U Z	50V
C143	403 039 6508	ELECT	100U M	10V
C144	403 040 3701	ELECT	220U M	10V
C150	403 060 8403	POLYESTER	0.033U K	50V
	403 312 1305	POLYESTER	0.033U K	50V
C151	403 048 6308	ELECT	0.47U M	50V
C152	403 041 8804	ELECT	10U M	16V
C153	403 069 8315	CERAMIC	0.01U Z	50V
C154	403 068 9016	CERAMIC	100P K	50V
C155	403 069 0517	CERAMIC	1000P K	50V
C156	403 069 0517	CERAMIC	1000P K	50V
C158	403 069 8315	CERAMIC	0.01U Z	50V
C161	403 028 2019	CERAMIC	56P J	50V
C166	403 019 7412	CERAMIC	27P J	50V
C202	403 069 8315	CERAMIC	0.01U Z	50V
C203	403 009 3110	CERAMIC	100P J	50V
C205	403 033 3315	CERAMIC	82P J	50V

Schematic Location	Part No.	Description		
C206	403 022 6013	CERAMIC	33P J	50V
C214	403 049 0008	ELECT	1U M	50V
C215	403 048 6308	ELECT	0.47U M	50V
C216	403 049 0008	ELECT	1U M	50V
C217	403 012 4111	CERAMIC	15P J	50V
C251	403 040 3701	ELECT	220U M	10V
C252	403 058 3403	POLYESTER	0.015U K	50V
	403 311 9708	POLYESTER	0.015U K	50V
C253	403 049 9803	ELECT	2.2U M	50V
C324	403 069 0517	CERAMIC	1000P K	50V
C351	403 049 0008	ELECT	1U M	50V
C352	403 073 6413	CERAMIC	470P K	50V
C361	403 022 6013	CERAMIC	33P J	50V
C371	403 048 6308	ELECT	0.47U M	50V
C401	403 042 7707	ELECT	22U M	16V
C402	403 049 9803	ELECT	2.2U M	50V
C403	403 060 8403	POLYESTER	0.033U K	50V
	403 312 1305	POLYESTER	0.033U K	50V
C404	403 073 6413	CERAMIC	470P K	50V
C406	403 076 3617	CERAMIC	470P K	500V
C407	403 075 9214	CERAMIC	1500P K	500V
C408	403 055 0504	ELECT	1U M	160V
★ C411	404 066 4109	MT-POLYPRO	0.012U H	1.5K
★ C413	403 082 8415	POLYPRO	0.22U J	200V
★ C414	403 082 8415	POLYPRO	0.22U J	200V
★ C418	403 076 2917	CERAMIC	390P K	500V
C421	403 038 9708	ELECT	330U M	6.3V
C473	403 067 7805	MT-COMPO	0.47U J	50V
C482	403 115 0802	ELECT	22U M	100V
C483	404 069 2102	ELECT	47U M	160V
C484	403 051 0607	ELECT	4.7U M	50V
C487	403 052 8503	ELECT	1000U M	35V
C489	403 044 1703	ELECT	470U M	16V
C491	403 043 0202	ELECT	220U M	16V
C493	404 056 5307	NP-ELECT	2.2U M	100V
C496	403 044 1703	ELECT	470U M	16V
C501	403 043 6006	ELECT	330U M	16V
C502	403 057 0601	POLYESTER	0.01U K	50V
	403 311 8701	POLYESTER	0.01U K	50V
C503	403 204 1802	ELECT	3.3U K	50V
C504	403 046 8007	ELECT	3300U M	25V
C505	403 072 7718	CERAMIC	330P K	50V
C506	403 204 6104	ELECT	1U M	50V
C507	403 053 2104	ELECT	220U M	35V
C508	403 051 0607	ELECT	4.7U M	50V
C509	403 069 0517	CERAMIC	1000P K	50V
C511	403 063 2309	POLYESTER	0.068U K	50V
	403 312 3002	POLYESTER	0.068U K	50V
C556	403 041 8804	ELECT	10U M	16V
★ C601	404 072 7903	MT-POLYEST	0.068U M	250V
	404 073 7506	MT-POLYEST	0.068U M	275V
★ C604	403 075 7111	CERAMIC	1000P K	500V
★ C605	403 075 7111	CERAMIC	1000P K	500V
C606	404 049 4805	ELECT	470U M	200V
C607	403 103 0005	ELECT	4.7U M	160V
C622	403 047 5005	ELECT	470U M	25V
C623	403 039 3507	ELECT	470U M	6.3V
C624	403 069 8315	CERAMIC	0.01U Z	50V
C701	403 070 8440	CERAMIC	1500P K	50V
C703	403 074 8911	CERAMIC	680P K	50V
C705	403 074 8911	CERAMIC	680P K	50V
C707	403 074 8911	CERAMIC	680P K	50V
★ C708	403 175 3419	CERAMIC	1000P P	2K
	403 077 2807	CERAMIC	1000P Z	2K
C801	403 166 6818	MT-POLYEST	0.1U J	63V

Schematic Location	Part No.	Description		
	403 067 5603	MT-COMPO	0.1U J	50V
C802	403 041 8804	ELECT	10U M	16V
C806	403 069 8315	CERAMIC	0.01U Z	50V
C811	403 049 0008	ELECT	1U M	50V
C814	403 023 9716	CERAMIC	39P J	50V
C818	403 071 7412	CERAMIC	2200P K	50V
C819	403 049 9803	ELECT	2.2U M	50V
C821	403 041 8804	ELECT	10U M	16V
C826	403 049 9803	ELECT	2.2U M	50V
C827	403 072 5318	CERAMIC	2700P K	50V
C829	403 049 0008	ELECT	1U M	50V
C831	403 076 0517	CERAMIC	2200P K	500V
C832	403 062 0504	POLYESTER	0.047U K	50V
	403 312 2203	POLYESTER	0.047U K	50V
C834	403 058 3403	POLYESTER	0.015U K	50V
	403 311 9708	POLYESTER	0.015U K	50V
C851	403 041 8804	ELECT	10U M	16V
C856	403 041 8804	ELECT	10U M	16V
C861	403 041 8804	ELECT	10U M	16V
C862	403 069 8315	CERAMIC	0.01U Z	50V
C868	403 041 8804	ELECT	10U M	16V
C871	403 041 8804	ELECT	10U M	16V
C883	403 049 9803	ELECT	2.2U M	50V
C886	403 049 9803	ELECT	2.2U M	50V
C890	403 069 8315	CERAMIC	0.01U Z	50V
C892	403 041 8804	ELECT	10U M	16V
★ C1020	404 008 6802	CERAMIC	2200P M	125V
C1901	403 049 0008	ELECT	1U M	50V
C3401	403 046 9905	ELECT	4.7U M	25V
C3402	403 048 6308	ELECT	0.47U M	50V
C3404	403 046 9905	ELECT	4.7U M	25V
C3406	403 046 9905	ELECT	4.7U M	25V
C3407	403 073 8318	CERAMIC	4700P K	50V
C3408	403 046 9905	ELECT	4.7U M	25V
C3409	403 062 0504	POLYESTER	0.047U K	50V
	403 312 2203	POLYESTER	0.047U K	50V
C3411	403 046 9905	ELECT	4.7U M	25V
C3412	403 046 9905	ELECT	4.7U M	25V
C3413	403 090 6004	TA-SOLID	3.3U K	10V
	403 124 7908	TA-SOLID	3.3U K	10V
C3414	403 049 0008	ELECT	1U M	50V
C3416	403 090 3607	TA-SOLID	10U K	10V
	403 090 3706	TA-SOLID	10U K	10V
C3417	403 046 9905	ELECT	4.7U M	25V
C3418	403 060 0001	POLYESTER	2700P J	50V
	403 312 0605	POLYESTER	2700P J	50V
C3419	403 041 2109	ELECT	47U M	10V
C3422	403 048 6308	ELECT	0.47U M	50V
C3423	403 046 9905	ELECT	4.7U M	25V
C3424	403 138 5600	POLYESTER	5600P J	50V
	403 312 2302	POLYESTER	5600P J	50V
C3426	403 214 5203	POLYESTER	0.012U J	50V
	403 311 9203	POLYESTER	0.012U J	50V
C3436	403 069 8315	CERAMIC	0.01U Z	50V
C3531	403 042 7707	ELECT	22U M	16V
C3601	403 043 9106	ELECT	47U M	16V
C3602	403 058 3403	POLYESTER	0.015U K	50V
C3602	403 311 9708	POLYESTER	0.015U K	50V
C3603	403 048 4205	ELECT	0.33U M	50V
C3604	403 049 0008	ELECT	1U M	50V
C3606	403 049 0008	ELECT	1U M	50V
C3607	403 048 4205	ELECT	0.33U M	50V
C3608	403 058 3403	POLYESTER	0.015U K	50V
	403 311 9708	POLYESTER	0.015U K	50V
C7922	403 041 8804	ELECT	10U M	16V

Schematic Location	Part No.	Description
	DIODES	
D101	407 056 2307	ZENER DIODE RD36EB1 (36V)
	407 163 9503	ZENER DIODE UZ-36BCA (36V)
D102	407 056 8002	ZENER DIODE RD5.1EB2 (5.1V)
	407 056 8200	ZENER DIODE RD5.1EB3 (5.1V)
	407 151 8402	ZENER DIODE UZ-5.1BCB (5.1V)
	407 163 8209	ZENER DIODE UZ-5.1BCC (5.1V)
D351	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D361	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
★ D421	407 158 1307	ZENER DIODE HZ11B2L (11V)
★ D422	407 158 1307	ZENER DIODE HZ11B2L (11V)
D428	407 054 5904	ZENER DIODE RD15EB3 (15V)
	407 164 7102	ZENER DIODE UZ-15BCC (15V)
D429	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D481	407 124 6404	DIODE ERA18-04
	407 007 6606	DIODE ES1
	407 124 5506	DIODE RMPG06G
D482	407 011 4407	DIODE TVR1G
D483	407 124 6404	DIODE ERA18-04
	407 007 6606	DIODE ES1
	407 124 5506	DIODE RMPG06G
D484	407 007 7603	DIODE EU2
D486	407 007 7603	DIODE EU2
D487	407 005 8602	DIODE ERA15-02
	407 088 6502	DIODE MPG06D
	407 011 3004	DIODE S5277B
	408 009 9404	DIODE 1N4002ID
D491	407 005 8602	DIODE ERA15-02
	407 088 6502	DIODE MPG06D
	407 011 3004	DIODE S5277B
	408 009 9404	DIODE 1N4002ID
D501	407 005 8602	DIODE ERA15-02
	407 088 6502	DIODE MPG06D
	407 011 3004	DIODE S5277B
	408 009 9404	DIODE 1N4002ID
★ D602	407 005 7605	DIODE EM2B
	408 008 8606	DIODE GP15G
	407 013 3200	DIODE 1S1887A
★ D603	407 005 7605	DIODE EM2B
	408 008 8606	DIODE GP15G
	407 013 3200	DIODE 1S1887A
★ D604	407 005 7605	DIODE EM2B
	408 008 8606	DIODE GP15G
	407 013 3200	DIODE 1S1887A

Schematic Location	Part No.	Description
★ D605	407 005 7605	DIODE EM2B
	408 008 8606	DIODE GP15G
	407 013 3200	DIODE 1S1887A
★ D621	407 005 8602	DIODE ERA15-02
	407 088 6502	DIODE MPG06D
	407 011 3004	DIODE S5277B
	408 009 9404	DIODE 1N4002ID
D622	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D623	407 056 8002	ZENER DIODE RD5.1EB2 (5.1V)
	407 151 8402	ZENER DIODE UZ-5.1BCB (5.1V)
D801	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D802	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D831	407 056 4707	ZENER DIODE RD4.3EB2 (4.3V)
	407 164 9601	ZENER DIODE UZ-4.3BCB (4.3V)
D834	407 054 7205	ZENER DIODE RD16EB3 (16V)
	407 164 7201	ZENER DIODE UZ-16BCC (16V)
D836	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D843	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D851	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D1021	407 005 4505	DIODE DS442X
	407 007 9904	DIODE GMA01
	408 008 2406	DIODE 1N4148
	407 012 4406	DIODE 1SS133

Schematic Location	Part No.	Description
D1021 (Cont.)	407 012 5809	DIODE 1SS176
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473

INTEGRATED CIRCUITS

IC001	409 343 0409	IC TDA7231A
IC021	409 343 0409	IC TDA7231A
★ IC101	409 274 3302	IC LA7673
IC481	409 367 2809	IC BA178M09T
	409 370 0007	IC MC78M09CT
	409 366 7904	IC UPC78M09AHF
★ IC501	409 173 2802	IC LA7838
★ IC601	409 243 0806	IC STR30130
IC801	410 273 2401	IC LC864124W-****
IC802	409 270 0008	IC ST24C01B1
	409 321 7307	IC XLS24C01AP
	410 243 3803	IC AT24C01A-10PC-2.5
	409 321 0902	IC 24LC01B/P
IC3401	409 272 3205	IC CXA1534S
IC3601	409 279 3109	IC CXA1279AS

COILS

★ LF601	610 031 5938	LINE FILTER
	610 223 1212	LINE FILTER
L164	645 003 9782	INDUCTOR, 22U K
	645 016 2831	INDUCTOR, 22U K
L166	645 003 9812	INDUCTOR, 33U K
	645 016 2985	INDUCTOR, 33U K
L201	610 031 3873	INDUCTOR, 10U K
	645 016 2534	INDUCTOR, 10U K
L203	610 029 7784	PEAKING COIL 56UH J
	645 008 0234	INDUCTOR, 56U J
L401	610 032 4381	FILTER COIL
	610 032 4404	FILTER COIL
	645 021 2727	INDUCTOR, 3.3U, FILTER
L402	610 031 9998	PIPE CORE
L404	645 008 2771	INDUCTOR, 120U K
	645 016 2626	INDUCTOR, 120U K
★ L413	610 000 1046	LINEARITY COIL
L801	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K
L811	610 029 7760	PEAKING COIL 5.6UH J
	645 008 0180	INDUCTOR, 5.6U J
L822	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K
L823	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K
L826	645 008 2771	INDUCTOR, 120U K
	645 016 2626	INDUCTOR, 120U K
L841	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K
L842	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K
★ L901	645 022 8629	COIL, DEGAUSSING
	610 229 3203	DEGAUSSING COIL
★ L902	610 003 4846	DEFLECTION YOKE
	610 003 4853	DEFLECTION YOKE
L1901	645 008 2894	INDUCTOR, 5.6U K
	645 016 3104	INDUCTOR, 5.6U K

Schematic Location	Part No.	Description

TRANSISTORS

Q016	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q036	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q043	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q161	405 001 7407	TR 2SA1015-O(SAN)
	405 001 7605	TR 2SA1015-Y(SAN)
	405 004 3109	TR 2SA564A-Q(CU)
	405 004 3208	TR 2SA564A-R(CU)
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 006 1707	TR 2SA933S-Q
	405 006 1806	TR 2SA933S-R
Q202	405 001 7407	TR 2SA1015-O(SAN)
	405 001 7605	TR 2SA1015-Y(SAN)
	405 004 3109	TR 2SA564A-Q(CU)
	405 004 3208	TR 2SA564A-R(CU)
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 006 1707	TR 2SA933S-Q
	405 006 1806	TR 2SA933S-R
Q203	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA

Schematic Location	Part No.	Description
Q281	405 001 7407	TR 2SA1015-O(SAN)
	405 001 7605	TR 2SA1015-Y(SAN)
	405 004 3109	TR 2SA564A-Q(CU)
	405 004 3208	TR 2SA564A-R(CU)
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 006 1707	TR 2SA933S-Q
	405 006 1806	TR 2SA933S-R
Q371	405 001 7407	TR 2SA1015-O(SAN)
	405 001 7605	TR 2SA1015-Y(SAN)
	405 004 3109	TR 2SA564A-Q(CU)
	405 004 3208	TR 2SA564A-R(CU)
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 006 1707	TR 2SA933S-Q
	405 006 1806	TR 2SA933S-R
Q372	405 001 7407	TR 2SA1015-O(SAN)
	405 001 7605	TR 2SA1015-Y(SAN)
	405 004 3109	TR 2SA564A-Q(CU)
	405 004 3208	TR 2SA564A-R(CU)
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 006 1707	TR 2SA933S-Q
	405 006 1806	TR 2SA933S-R
Q401	405 013 6207	TR 2SC2271-D-CTV
	405 013 6306	TR 2SC2271-E-CTV
★ Q402	405 082 2407	TR 2SD1879-CTV-YB
Q491	405 023 5009	TR 2SD400-E-MP
	405 023 5306	TR 2SD400-F-MP
Q621	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q622	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q623	405 001 7407	TR 2SA1015-O(SAN)
	405 001 7605	TR 2SA1015-Y(SAN)
	405 004 3109	TR 2SA564A-Q(CU)
	405 004 3208	TR 2SA564A-R(CU)
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 006 1707	TR 2SA933S-Q
	405 006 1806	TR 2SA933S-R
Q701	406 000 3605	TR 2SC3620(LB-SAN-1)
	405 066 4304	TR 2SC2621-C-RA
	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA

Schematic Location	Part No.	Description
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q703	406 000 3605	TR 2SC3620(LB-SAN-1)
	405 066 4304	TR 2SC2621-C-RA
	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q705	406 000 3605	TR 2SC3620(LB-SAN-1)
	405 066 4304	TR 2SC2621-C-RA
	405 041 6507	TR 2SC2621-D-RA
	405 041 6705	TR 2SC2621-E-RA
	405 066 9903	TR 2SC2688(1)-K
	405 067 0008	TR 2SC2688(1)-L
	405 067 0107	TR 2SC2688(1)-M
Q831	405 001 7407	TR 2SA1015-O(SAN)
	405 001 7605	TR 2SA1015-Y(SAN)
	405 004 3109	TR 2SA564A-Q(CU)
	405 004 3208	TR 2SA564A-R(CU)
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 006 1707	TR 2SA933S-Q
	405 006 1806	TR 2SA933S-R
Q881	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q882	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q3431	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR
	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA
Q3601	405 011 8401	TR 2SC1740S-Q
	405 011 8500	TR 2SC1740S-R
	405 011 8609	TR 2SC1740S-S
	405 012 2002	TR 2SC1815-GR

Schematic Location	Part No.	Description
Q3601 (Cont.)	405 012 2101	TR 2SC1815-O
	405 012 2309	TR 2SC1815-Y
	405 019 1909	TR 2SC536-E-NP
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	405 020 7907	TR 2SC945A-RA

RESISTORS

NOTES:
Read description of the Resistor as follows:

(Example)
CARBON 4.7K J A 1/4W

- 1/4W — Rated Wattage
- A — Performance Symbols:
  A...General B...Non-flammable
  Z...Low noise
  Other..:Temperature coefficient
- J — Tolerance Symbols:
  A...0.05% B...0.1% C...0.25%
  D...0.5% F...1% G...2%
  J...5% K...10% M...20%
  P...+5 -15%
- 4.7K — Rated Value, ohms:
  K...1,000 M...1,000,000
- CARBON — Material:
  CARBON . . . . . .Carbon
  MT-FILM . . . . . .Metal Film
  OXIDE-MT . . . . . .Oxide Metal Film
  SOLID . . . . . .Composition
  MT-GLAZE . . . . . .Metal Glaze
  WIRE WOUND . . .Wire Wound
  CERAMIC RES . . .Ceramic
  FUSIBLE RES . . . .Fusible

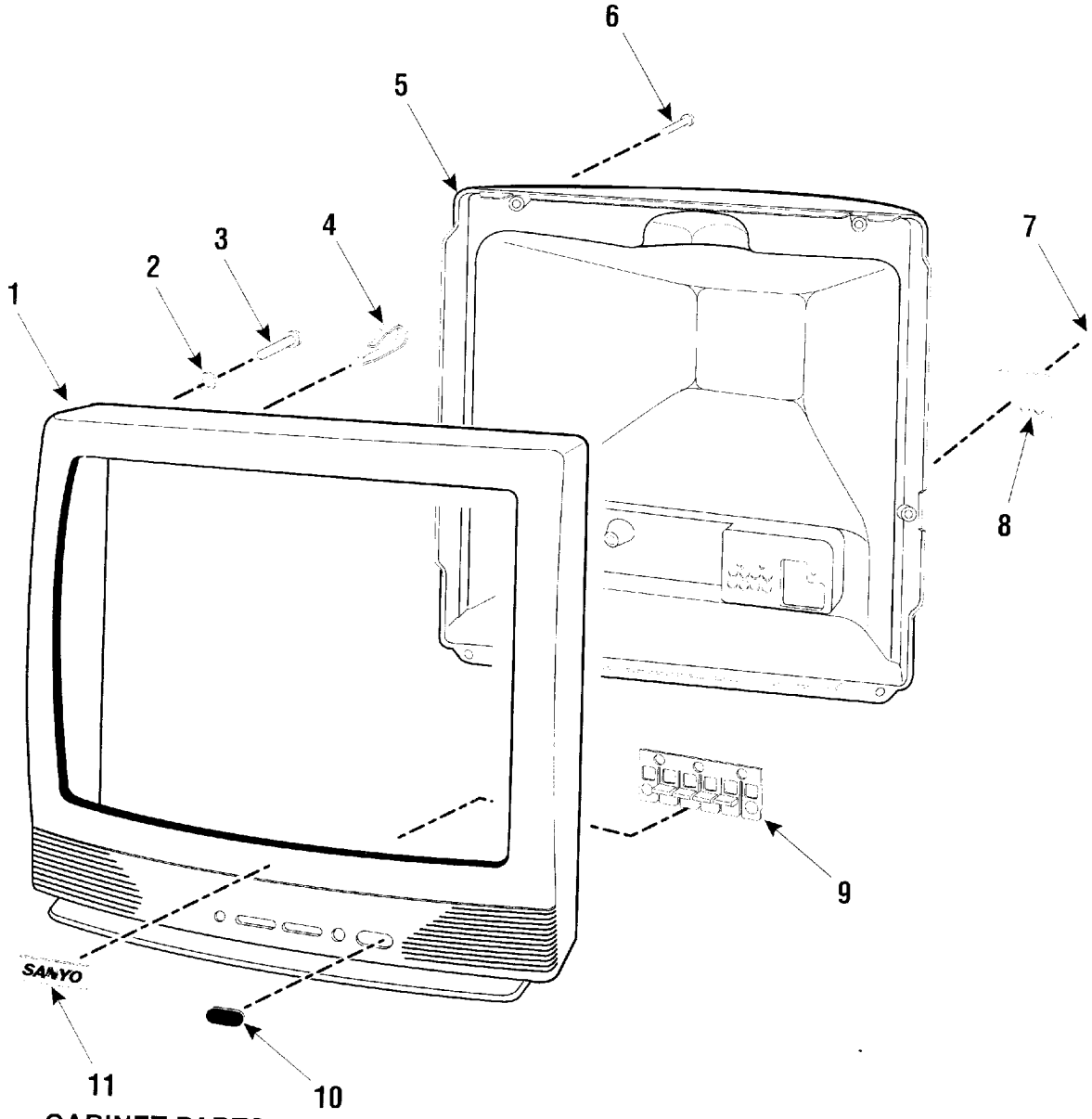
R001	401 026 7408	CARBON	39K JA	1/6W
R002	401 024 7400	CARBON	10K JA	1/6W
R003	401 025 5405	CARBON	2.2 JA	1/6W
R016	401 027 9005	CARBON	82K JA	1/6W
R017	401 025 4606	CARBON	18K JA	1/6W
R018	401 026 6609	CARBON	390 JA	1/6W
R019	401 024 6700	CARBON	100 JA	1/6W
R021	401 026 7408	CARBON	39K JA	1/6W
R022	401 024 7400	CARBON	10K JA	1/6W
R023	401 025 5405	CARBON	2.2 JA	1/6W
R036	401 027 9005	CARBON	82K JA	1/6W
R037	401 025 4606	CARBON	18K JA	1/6W
R038	401 026 6609	CARBON	390 JA	1/6W
R039	401 024 6700	CARBON	100 JA	1/6W
R041	401 027 8305	CARBON	820 JA	1/6W
R042	401 027 8305	CARBON	820 JA	1/6W
R043	401 026 1307	CARBON	27K JA	1/6W
★ R101	401 017 6304	CARBON	3.3 JA	1/4W
★ R104	401 012 4503	CARBON	100 JA	1/4W
R106	401 008 8102	CARBON	22K JA	1/2W
R111	401 024 9008	CARBON	120 JA	1/6W
R112	401 024 9008	CARBON	120 JA	1/6W
R133	401 027 8602	CARBON	8.2K JA	1/6W
R142	401 024 7707	CARBON	100K JA	1/6W

Schematic Location	Part No.	Description		
R151	401 025 1308	CARBON	150 JA	1/6W
R152	401 025 7805	CARBON	2.2K JA	1/6W
R153	401 024 7400	CARBON	10K JA	1/6W
R155	401 026 1604	CARBON	270K JA	1/6W
R156	401 026 1604	CARBON	270K JA	1/6W
R157	401 026 4902	CARBON	330K JA	1/6W
R159	401 025 7409	CARBON	220 JA	1/6W
R161	401 026 1604	CARBON	270K JA	1/6W
R162	401 024 7004	CARBON	1K JA	1/6W
R163	401 026 3905	CARBON	330 JA	1/6W
R164	401 026 1000	CARBON	2.7K JA	1/6W
R204	401 020 0801	CARBON	470 JA	1/4W
R205	401 027 5205	CARBON	680 JA	1/6W
R207	401 025 1605	CARBON	1.5K JA	1/6W
R212	401 025 1308	CARBON	150 JA	1/6W
R213	401 025 7409	CARBON	220 JA	1/6W
R216	401 024 8001	CARBON	1M JA	1/6W
R217	401 024 8001	CARBON	1M JA	1/6W
R251	401 024 7400	CARBON	10K JA	1/6W
R252	401 027 8602	CARBON	8.2K JA	1/6W
R282	401 026 6609	CARBON	390 JA	1/6W
R284	401 026 0409	CARBON	27 JA	1/6W
R351	401 026 9600	CARBON	470 JA	1/6W
R352	401 025 8703	CARBON	220K JA	1/6W
R354	401 024 9701	CARBON	12K JA	1/6W
R355	401 026 4308	CARBON	3.3K JA	1/6W
R358	401 026 1307	CARBON	27K JA	1/6W
R361	401 024 7400	CARBON	10K JA	1/6W
R363	401 027 2600	CARBON	5.6K JA	1/6W
R371	401 026 4605	CARBON	33K JA	1/6W
R372	401 024 7400	CARBON	10K JA	1/6W
R373	401 024 7707	CARBON	100K JA	1/6W
R374	401 027 3003	CARBON	56K JA	1/6W
R375	401 024 7400	CARBON	10K JA	1/6W
★ R401	401 068 8807	OXIDE-MT	5.6K JA	2W
★ R402	401 061 7401	OXIDE-MT	3.9K JA	1W
R403	401 025 7805	CARBON	2.2K JA	1/6W
R404	401 026 3905	CARBON	330 JA	1/6W
R406	401 023 2802	CARBON	8.2K JA	1/4W
★ R407	401 069 8202	OXIDE-MT	8.2K JA	2W
★ R411	402 076 0401	WIRE WOUND	6.8 KA	7W
★ R418	401 009 1607	CARBON	2.7K JB	1/2W
★ R421	401 052 9100	MT-FILM	1.5K FA	1/6W
★ R422	401 052 6802	MT-FILM	10K FA	1/6W
★ R423	401 053 2605	MT-FILM	3.3K FA	1/6W
R426	401 027 5205	CARBON	680 JA	1/6W
R428	401 025 1902	CARBON	15K JA	1/6W
★ R481	401 010 2600	CARBON	47 JB	1/2W
★ R482	401 011 9004	CARBON	1 JB	1/4W
★ R483	401 006 7701	CARBON	1 JB	1/2W
★ R484	401 060 0403	OXIDE-MT	2.7 JA	1W
★ R486	401 065 9609	OXIDE-MT	18 JA	2W
★ R488	401 059 9608	OXIDE-MT	2.2 JA	1W
★ R489	401 068 6209	OXIDE-MT	5.6 JA	2W
R490	401 026 6609	CARBON	390 JA	1/6W
R491	401 012 5708	CARBON	1K JA	1/4W
R492	401 156 8504	MT-FILM	33K FA	1/6W
R493	401 017 3808	CARBON	270K JA	1/4W
R494	401 020 3901	CARBON	470K JA	1/4W
R496	401 025 0004	CARBON	120K JA	1/6W
★ R497	401 064 5701	OXIDE-MT	1.8 JA	2W
R501	401 026 3707	CARBON	33 JA	1/6W
R502	401 027 3003	CARBON	56K JA	1/6W
R503	401 026 1307	CARBON	27K JA	1/6W
R504	401 026 9907	CARBON	4.7K JA	1/6W

Schematic Location	Part No.	Description
TRANSFORMERS		
★ T016	645 009 0035	TRANS. OUTPUT
★ T036	645 009 0035	TRANS. OUTPUT
T131	610 037 7615	S TRANS
T151	645 000 5206	TRANS. OSC, 45.75MHZ
T161	610 037 6564	S TRANS
T401	610 000 7901	DRIVE TRANS
	610 000 7918	DRIVE TRANS
★ T402	645 021 2574	TRANS, FLYBACK
VARIABLE RESISTORS		
VR141	645 006 5422	VR B-10K (RF AGC)
	645 011 6988	VR B-10K
	645 019 6003	VR B-10K
VR501	645 006 5613	VR B-47K (VERT SIZE)
	610 232 8479	VR B-50K
	645 022 9602	VR B-50K
VR701	645 020 2629	VR B-5K (RED BIAS)
VR702	645 020 2629	VR B-5K (GREEN BIAS)
VR703	645 020 2629	VR B-5K (BLUE BIAS)
VR704	645 020 2612	VR B-200 (RED DRIVE)
VR705	645 020 2612	VR B-200 (BLUE DRIVE)
VR3403	645 006 5521	VR B-22K (1.5FH BPF)
	645 008 8247	VR B-20K
	645 022 9541	VR B-20K
VR3406	645 006 5521	VR B-22K (VCO)
	645 008 8247	VR B-20K
	645 022 9541	VR B-20K
VR3411	610 232 8455	VR B-5K (HI SEP)
	645 022 9596	VR B-5K
VR3421	645 006 5422	VR B-10K (LOW SEP)
	645 011 6988	VR B-10K
	645 019 6003	VR B-10K
FILTERS/CRYSTALS		
X141	421 006 3206	SAW F TSF5221P
X153	610 015 2946	CERAMIC FILTER 4.5MHZ
X161	610 015 3059	TRAP, CERAMIC 4.5MHZ
X251	610 204 4195	CRYSTAL OSCILLATOR
	610 245 9746	CRYSTAL OSCILLATOR
	610 012 0655	CRYSTAL OSCILLATOR
X401	645 003 4107	OSC, CERAMIC 503KHZ
	610 012 2970	OSC, CERAMIC 503.5KHZ
X801	645 000 5299	OSC. CERAMIC 12.0MHZ

Schematic Location	Part No.	Description
MISCELLANEOUS		
A100	610 265 0389	ASSY. PWB. MAIN
★ A101	645 020 9208	TUNER. U/V
A101E	610 246 9660	ANT HOLDER
★ A101H	645 011 9682	BLOCK. SPECIAL (ANT)
A700	610 265 4233	ASSY. PWB. SOCKET
A1901	645 021 1041	UNIT. REMOCON RECEIVER
★ F601	423 018 8101	FUSE 125V 4A
	423 007 1601	FUSE 125V 4A
	423 007 1809	FUSE 125V 4A
F601A	645 000 5077	FUSE HOLDER
	645 016 0479	FUSE HOLDER
F601B	645 000 5077	FUSE HOLDER
	645 016 0479	FUSE HOLDER
★ K701	610 010 4181	CRT SOCKET
	645 017 2588	CRT SOCKET
K1001	645 023 8680	TERMINAL. BOARD
★ PS601	408 000 3203	TH PTH631D01BF7R0M140
★ Q901	414 009 1300	CRT A63AHC26X
	414 009 2802	CRT A63ADG36X
Q901A1	610 117 0154	DY SPACER
	610 117 7924	DY SPACER
Q901A2	610 117 0154	DY SPACER
	610 117 7924	DY SPACER
Q901A3	610 117 0154	DY SPACER
	610 117 7924	DY SPACER
Q901C	610 217 7794	CG PURITY MAGNET
★ RL601	645 000 4155	ON/OFF RELAY
	645 011 2713	ON/OFF RELAY
	645 024 7828	ON/OFF RELAY
	645 015 8629	ON/OFF RELAY
SP901	610 055 6614	SPEAKER
SP902	610 055 6614	SPEAKER
VC801	610 003 0381	TRIMMER. 40PF
★ W601	645 023 1667	AC POWER CORD
	610 222 9639	AC POWER CORD
★ W902	610 267 1278	ASSY. WIRE GND CONNECTOR
	610 267 2169	ASSY. WIRE GND CONNECTOR

CABINET PARTS LIST



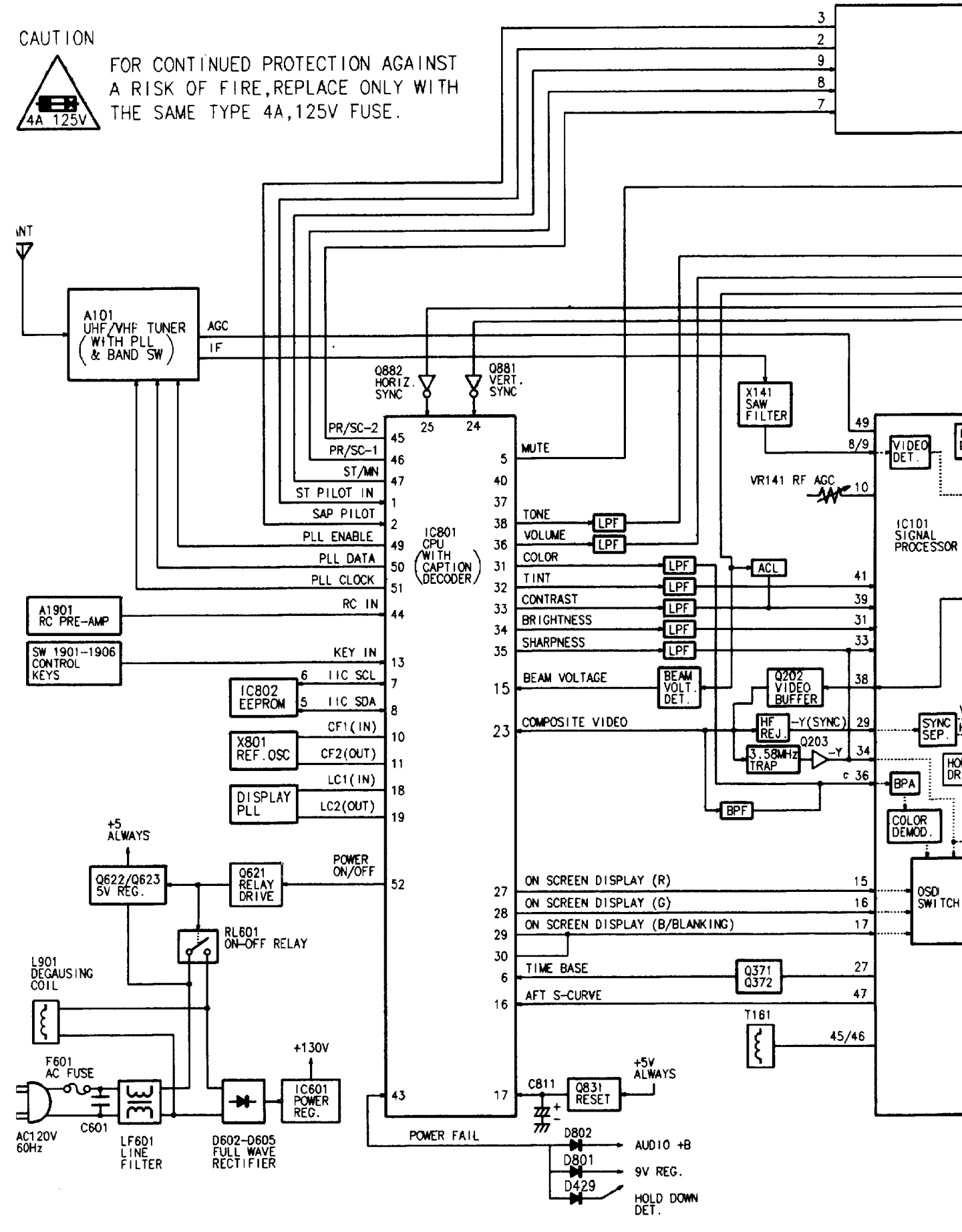
CABINET PARTS LIST

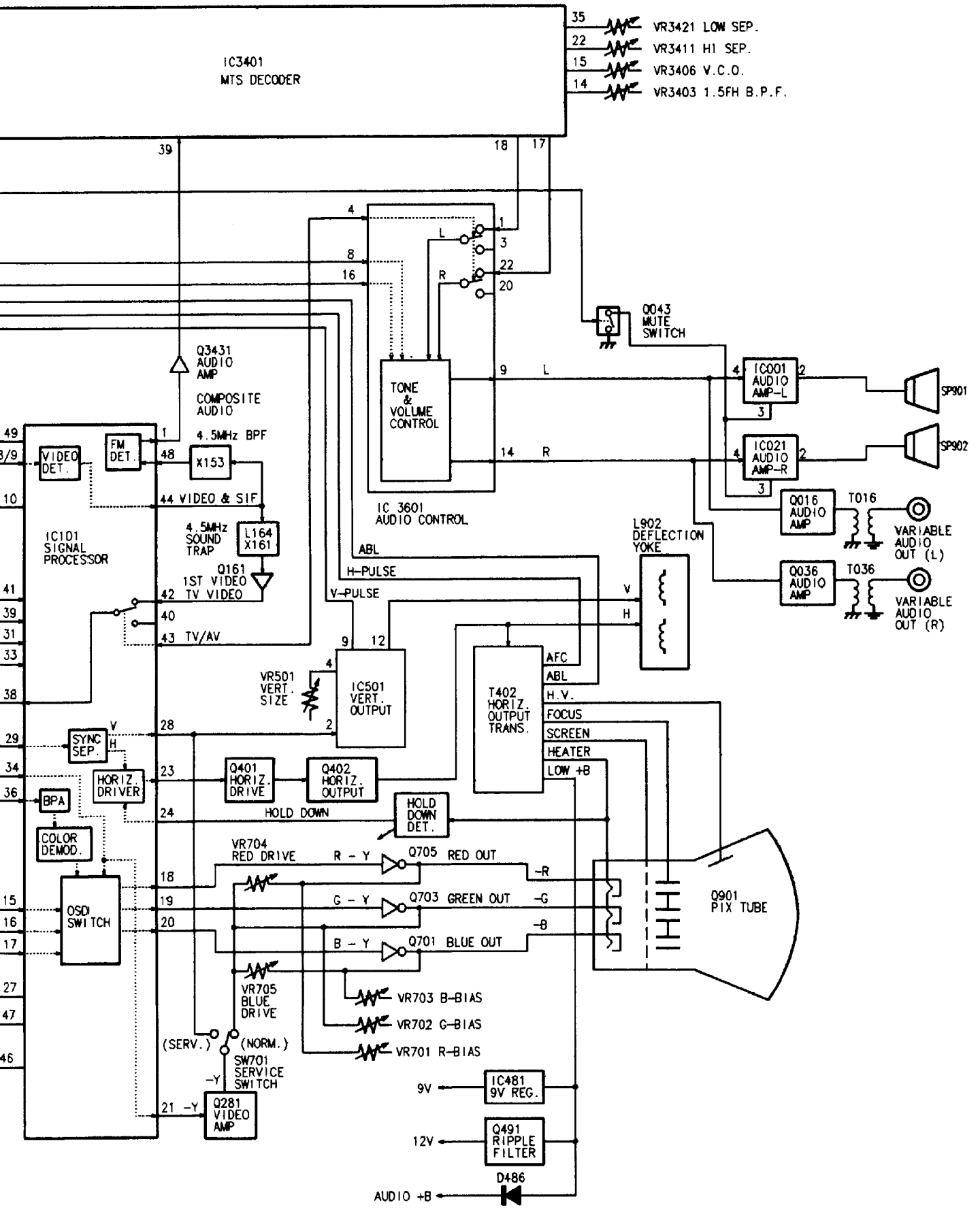
KEY NO.		PARTS NO.	DESCRIPTION
1		610 267 6761	CABINET FRONT ASSY
2		412 046 8405	CRT MTG WASHER (4 USED)
3		412 053 3905	CRT MTG SCREW 6X35 (4 USED)
	OR	412 054 0002	CRT MTG SCREW 6X35 (4 USED)
4		610 102 7151	DC HOLDER (4 USED)
5		610 245 7445	CABINET BACK
	OR	610 254 5531	CABINET BACK
6		412 036 1805	SCREW 4X14 (8 USED)
	OR	411 078 1101	SCREW 4X14 (8 USED)
7		412 018 8402	SCREW 3X10 (2 USED)
8		610 251 5695	AV DEC SHEET
9		610 257 8614	BUTTON UNIT
10		610 248 5766	DEC SHEET
11		610 236 9274	SANYO BADGE

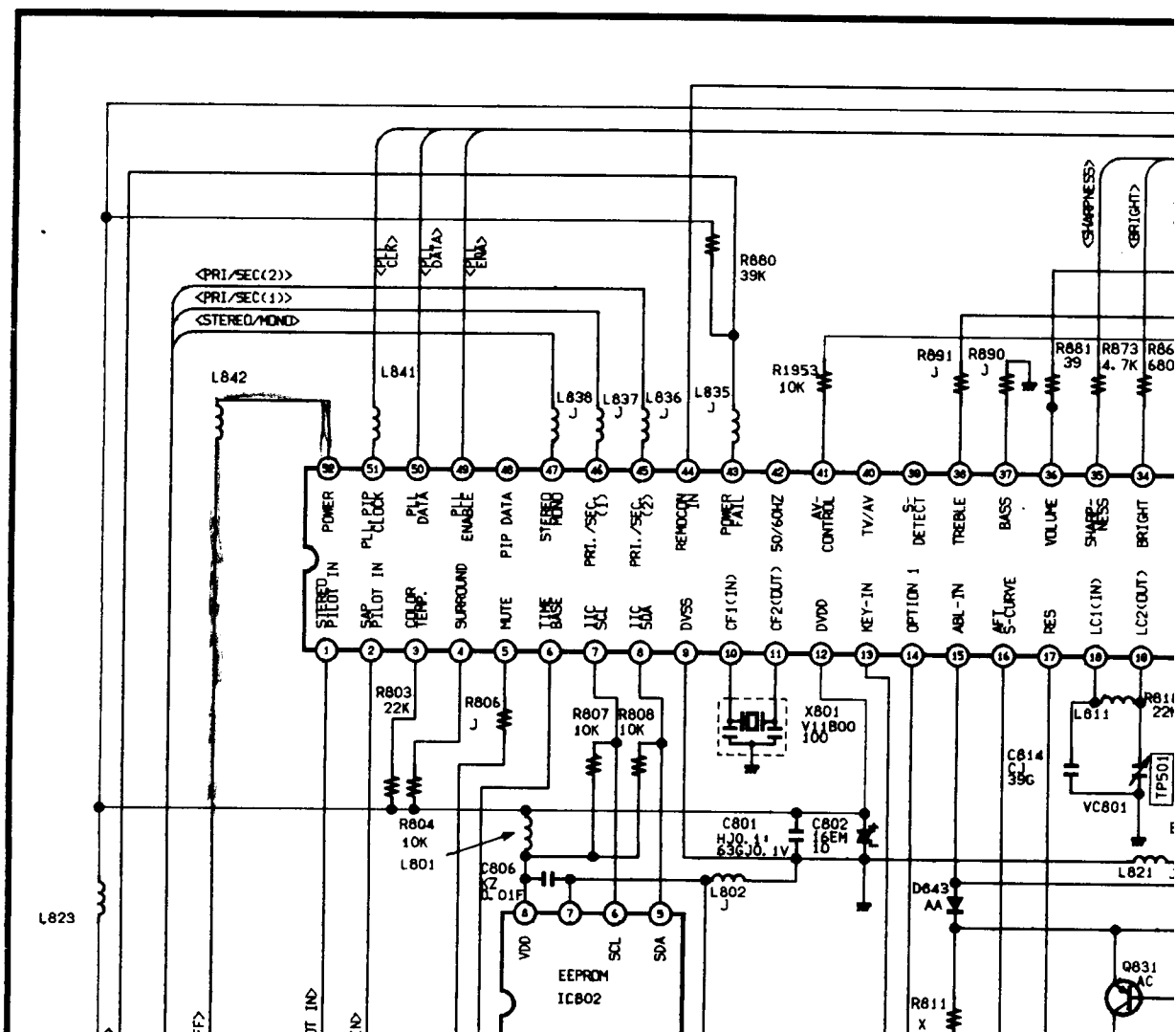
ACCESSORY PARTS LIST

KEY NO.	PARTS NO.	DESCRIPTION
	610 266 0487	OWNER'S MANUAL
	645 012 6413	RC TRANSMITTER
	610 254 0581	RC BATTERY COVER

BLOCK DIAGRAM




IC3401
MTS DECODER
35
22
15
14
VR3421 LOW SEP.
VR3411 HI SEP.
VR3406 V.C.O.
VR3403 1.5FH B.P.F.
39
18
17
4
8
16
L
R
1
3
22
20
Q043
MUTE
SWITCH
Q3431
AUDIO
AMP
COMPOSITE
AUDIO
TONE
&
VOLUME
CONTROL
9
L
14
R
IC001
AUDIO
AMP-L
IC021
AUDIO
AMP-R
SP901
SP902
Q016
AUDIO
AMP
Q036
AUDIO
AMP
T016
T036
VARIABLE
AUDIO
OUT (L)
VARIABLE
AUDIO
OUT (R)
IC 3601
AUDIO CONTROL
L902
DEFLECTION
YOKE
V
H
49
8/9
10
41
39
31
33
38
29
34
36
15
16
17
27
47
46
VIDEO
DET.
FM
DET.
1
48
X153
4.5MHz BPF
44 VIDEO & SIF
4.5MHz
SOUND
TRAP
L164
X161
Q161
1ST VIDEO
42 TV VIDEO
40
43 TV/AV
IC1D1
SIGNAL
PROCESSOR
ABL
H-PULSE
V-PULSE
9
12
4
2
VR501
VERT.
SIZE
IC501
VERT.
OUTPUT
AFC
ABL
H.V.
FOCUS
SCREEN
HEATER
LOW +B
T402
HORIZ.
OUTPUT
TRANS.
28
V
H
SYNC
SEP.
23
HORIZ.
DRIVER
Q401
HORIZ.
DRIVE
Q402
HORIZ.
OUTPUT
BPA
24
HOLD DOWN
HOLD
DOWN
DET.
COLOR
DEMOD.
VR704
RED DRIVE
R - Y
Q705 RED OUT
-R
18
19
20
OSD
SWITCH
G - Y
Q703 GREEN OUT
-G
B - Y
Q701 BLUE OUT
-B
Q901
PIX TUBE
VR705
BLUE
DRIVE
VR703 B-BIAS
VR702 G-BIAS
VR701 R-BIAS
(SERV.)
(NORM.)
SW701
SERVICE
SWITCH
-Y
21 -Y
Q281
VIDEO
AMP
9V
IC481
9V REG.
12V
Q491
RIPPLE
FILTER
D486
AUDIO +B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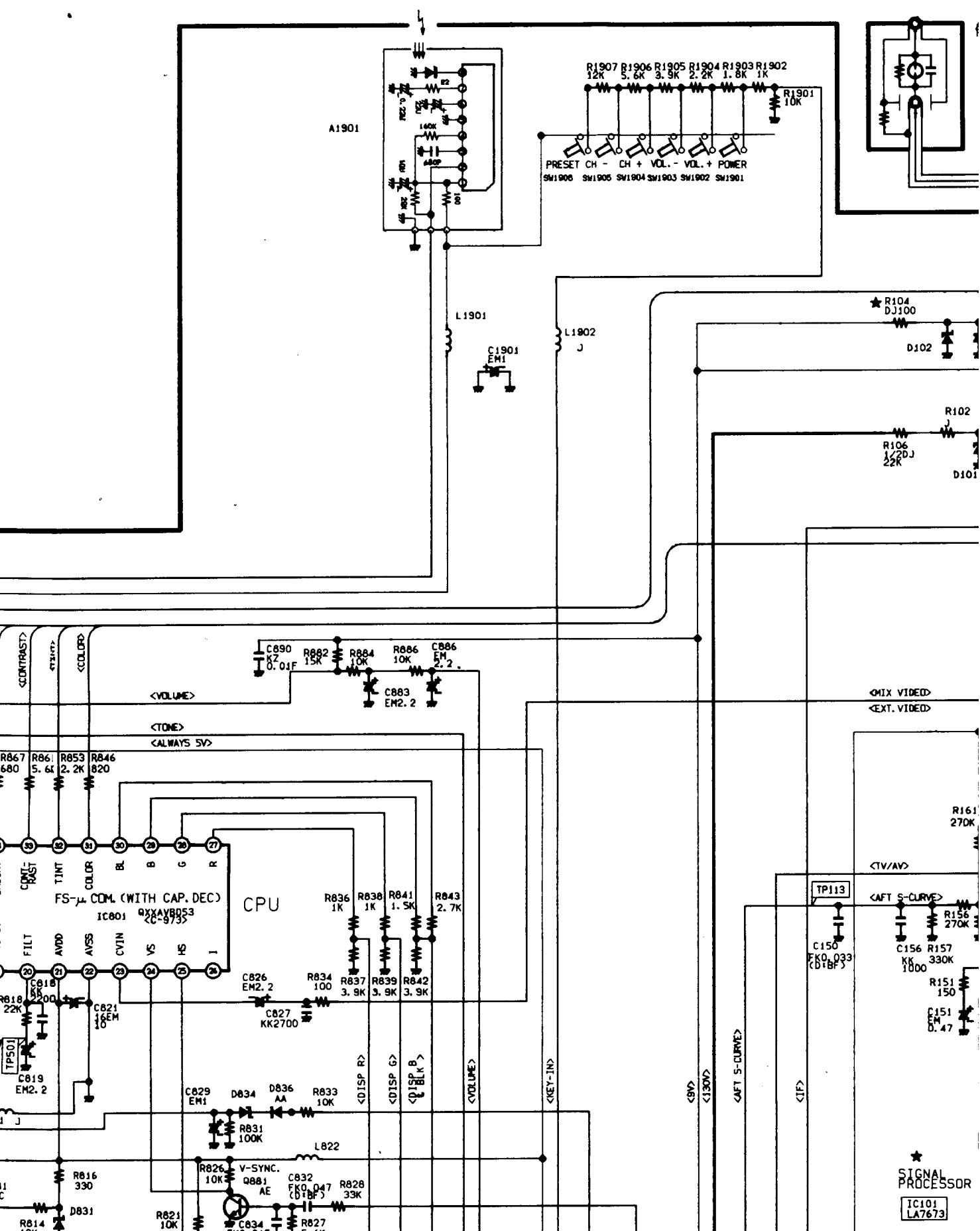
L841
L838
L837
L836
L835
R880 39K
R1953 10K
R891 J
R890 J
R881 39
R873 4.7K
R803 22K
R806 J
R807 10K
R808 10K
R804 10K
L801
X801 Y11800 100
C801 HJ0.1 636J0.1V
C802 16EM 10
C806 P47 .01F
L802 J
L823
L821
C814 39G
VC801
TP501
L811
D643 AA
Q831 AC
R811 x
EEPROM IC802
VDD
SCL
SDA
POWER
PLL PIP CLOCK
PLL DATA
PLL ENABLE
PIP DATA
STEREO MONO
PRI./SEC(1)
PRI./SEC(2)
REMOCON IN
POWER FAIL
50/60HZ
AV-CONTROL
TV/AV
S-DETECT
TREBLE
BASS
VOLUME
SHARP-NESS
BRIGHT
STEREO PILOT IN
SAP PILOT IN
COLOR TEMP.
SURROUND
MUTE
TIME BASE
I2C SCL
I2C SDA
DVSS
CF1(IN)
CF2(OUT)
DVDD
KEY-IN
OPTION 1
ABL-IN
AFT S-CURVE
RES
LC1(IN)
LC2(OUT)


A1901
R1907 12K
R1906 5.6K
R1905 3.9K
R1904 2.2K
R1903 1.8K
R1902 1K
R1901 10K
PRESET SW1906
CH - SW1905
CH + SW1904
VOL. - SW1903
VOL. + SW1902
POWER SW1901
L1901
C1901 EM1
L1902 J
R104 DJ100
D102
R102 J
R106 1/2DJ 22K
D101
C690 KZ 0.01F
R882 15K
R884 10K
R886 10K
C886 EM 2.2
C883 EM2.2
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R861 5.6K
R853 2.2K
R846 820
CONT-RAST
TINT
COLOR
BL
B
G
R
FS-μ COM. (WITH CAP. DEC)
IC801 QXXAYB053 <C-973>
CPU
R836 1K
R838 1K
R841 1.5K
R843 2.7K
FILT
AVDD
AVSS
CVIN
VS
HS
C818 KK 2200
R818 22K
C821 16EM 10
C826 EM2.2
R834 100
C827 KK2700
R837 3.9K
R839 3.9K
R842 3.9K
TP501
C819 EM2.2
C829 EM1
D834
D836 AA
R833 10K
R831 100K
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<DISP B>
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<VOLUME>
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R826 10K
V-SYNC.
Q881 AE
C832 FKO 047 (D:BF)
R828 33K
R816 330
D831
R814
R821 10K
C834
R827
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TP113
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C150 FKO 033 (D:BF)
C156 KK 1000
R157 330K
R156 270K
R151 150
C151 EM 0.47
R161 270K
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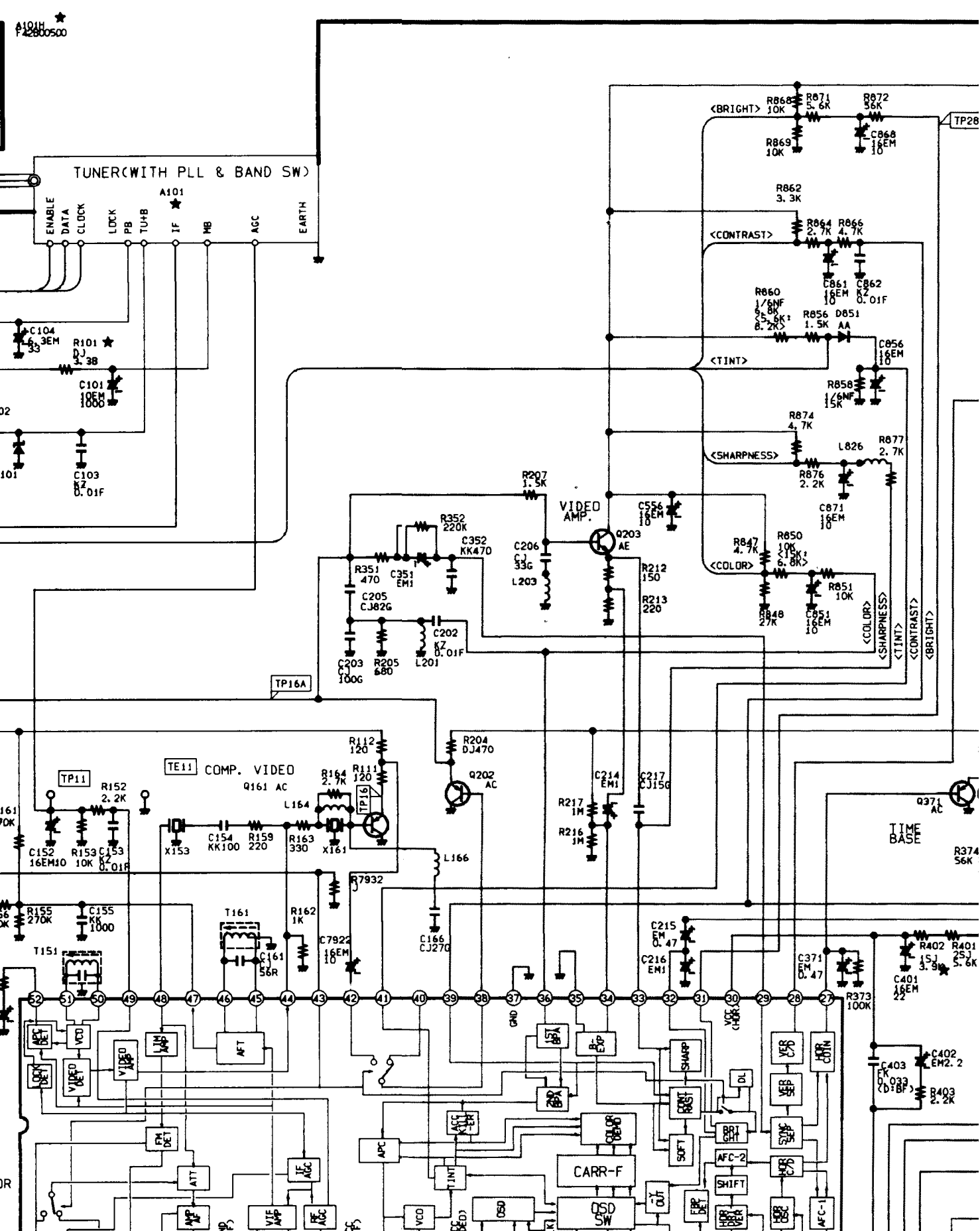
SIGNAL PROCESSOR
IC101 LA7673


TUNER(WITH PLL & BAND SW)
A101
ENABLE
DATA
CLOCK
LOCK
PB
TU+B
IF
MB
AGC
EARTH
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VIDEO AMP.
Q203 AE
Q202 AC
Q161 AC
Q371 AC
TE11 COMP. VIDEO
TP11
TP16A
TP16
TP28
TIME BASE
CARR-F
OSD SW
APC
AFT
VCO
PLL DET
VIDEO DET
LOCK DET
FM DET
ATT
IF AGC
RF AGC
VIF AMP
SIF AMP
ACC
COLOR DEMOD
SOFT
SHARP
CONT BOOST
BRT CNT
SCAN SEP
VCR SEP
VCR C/N
HOR C/N
HOR OSC
HOR DRIVER
FBP DET
AFC-1
AFC-2
SHIFT
DL
OSD
GND
VCR <HOR>
R868 10K
R871 5.6K
R872 56K
R869 10K
C868 16EM 10
R862 3.3K
R864 2.7K
R866 4.7K
C861 16EM 10
C862 KZ 0.01F
R860 1/6NF 9.8K <5.6K: 8.2K>
R856 1.5K
D851 AA
C856 16EM 10
R858 1/6NF 15K
R874 4.7K
R877 2.7K
L826
R876 2.2K
C871 16EM 10
R847 4.7K
R850 10K <15K: 6.8K>
R848 27K
C851 16EM 10
R851 10K
R207 1.5K
C556 16EM 10
R352 220K
C352 KK470
R351 470
C351 EM1
C206 CJ 33G
L203
R212 150
R213 220
C205 CJ82G
C203 CJ 100G
R205 680
C202 KZ 0.01F
L201
R112 120
R204 DJ470
R111 120
R164 2.7K
L164
C214 EM1
C217 CJ15G
R217 1M
R216 1M
R152 2.2K
C152 16EM10
R153 10K
C153 KZ 0.01F
X153
C154 KK100
R159 220
R163 330
X161
L166
R7932
C166 CJ270
R155 270K
C155 KK 1000
T151
T161
R162 1K
C161 56R
C7922 16EM 10
C215 EM 0.47
C216 EM1
C371 EM 0.47
R373 100K
R402 15J 3.9K
R401 2SJ 5.6K
C401 16EM 22
C402 EM2.2
C403 FK 0.033 <0.1BF>
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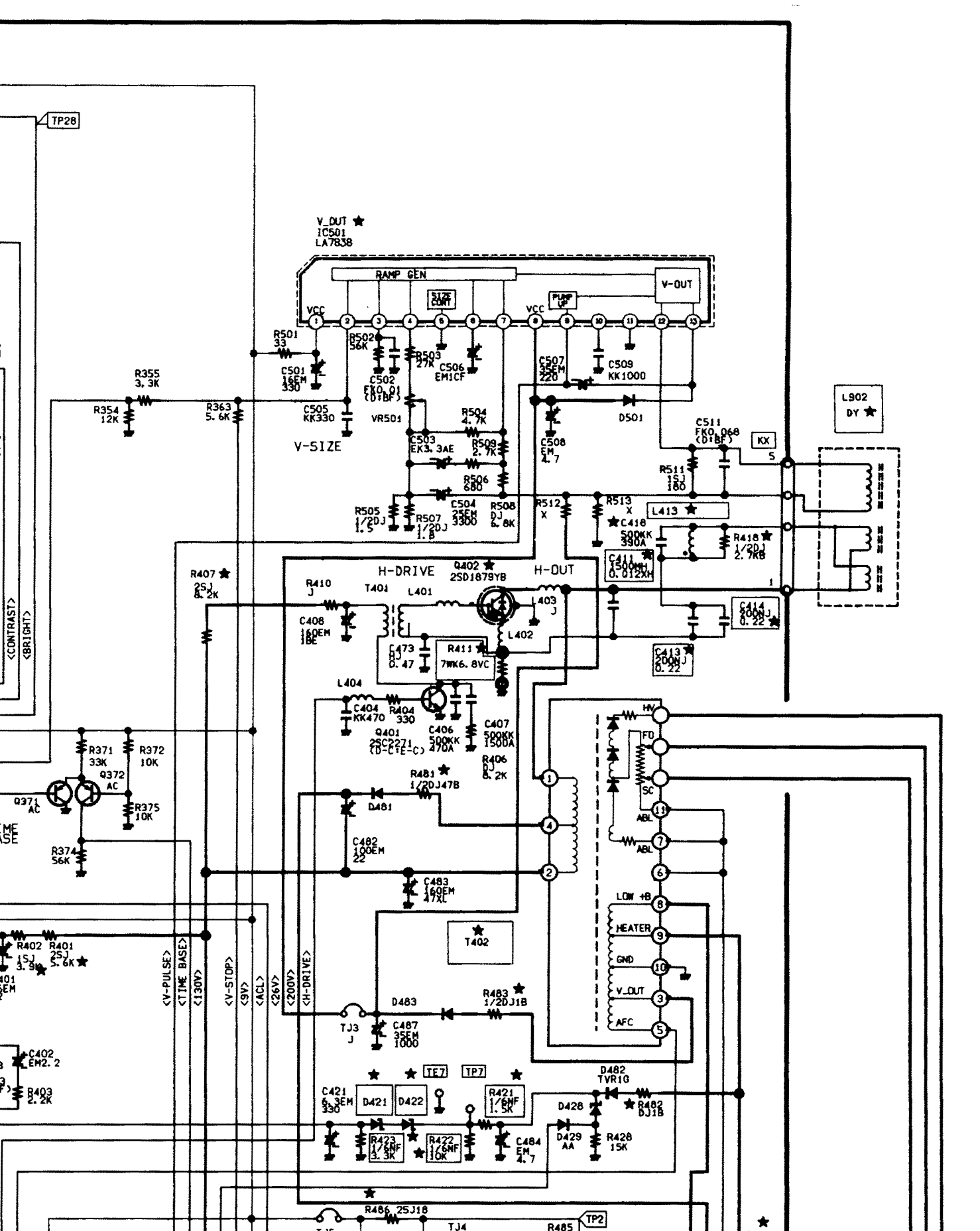
R374 56K
A101H P42800500


TP28
V_OUT ★
IC501
LA7838
RAMP GEN
V-OUT
SIZE CONT
PUMP UP
VCC
R501 33
R502 56K
C501 16EM 330
C502 FK0.01 (D:BF)
R503 27K
C506 EM1CF
C507 35EM 220
C509 KK1000
R355 3.3K
R354 12K
R363 5.6K
C505 KK330
VR501
V-SIZE
R504 4.7K
C503 EK3.3AE
R509 2.7K
R506 680
C508 EM 4.7
D501
C511 FK0.068 (D:BF)
KX
S
L902 DY ★
R511 1SJ 180
R505 1/2DJ 1.5
R507 1/2DJ 1.8
C504 35EM 3300
R508 DJ 6.8K
R512 X
R513 X
L413 ★
C416 500KK 390A
R418 ★ 1/2DJ 2.7KB
C411 ★ 1500MH 0.012KH
R407 ★ 2SJ 8.2K
H-DRIVE
Q402 ★ 2SD1879YB
H-OUT
R410 J
T401
L401
L403 J
C408 16OEM 1BE
L402
C473 DJ 0.47
R411 ★ 7WK6.8VC
C413 ★ 200NJ 0.22
C414 ★ 400NJ 0.22
L404
C404 KK470
R404 330
Q401 2SC2271 (D-E-C)
C406 500KK 470A
C407 500KK 1500A
R406 DJ 8.2K
R481 ★ 1/2DJ47B
D481
C482 100EM 22
C483 16OEM 47XL
R371 33K
R372 10K
Q372 AC
Q371 AC
R375 10K
R374 S6K
T402
HV
FD
SC
ABL
LOW +B
HEATER
GND
V_OUT
AFC
R402 1SJ 3.9K
R401 2SJ 5.6K ★
C402 EM2.2
R403 2.2K
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D483
R483 ★ 1/2DJ1B
TJ3 J
C487 35EM 1000
TE7
TP7
C421 6.3EM 330
D421
D422
R421 1/6NF 1.5K
D482 TVR1G
D428
R482 ★ DJ1B
R423 1/6NF 3.3K
R422 1/6NF 10K
C484 EM 4.7
D429 AA
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TP2
R485
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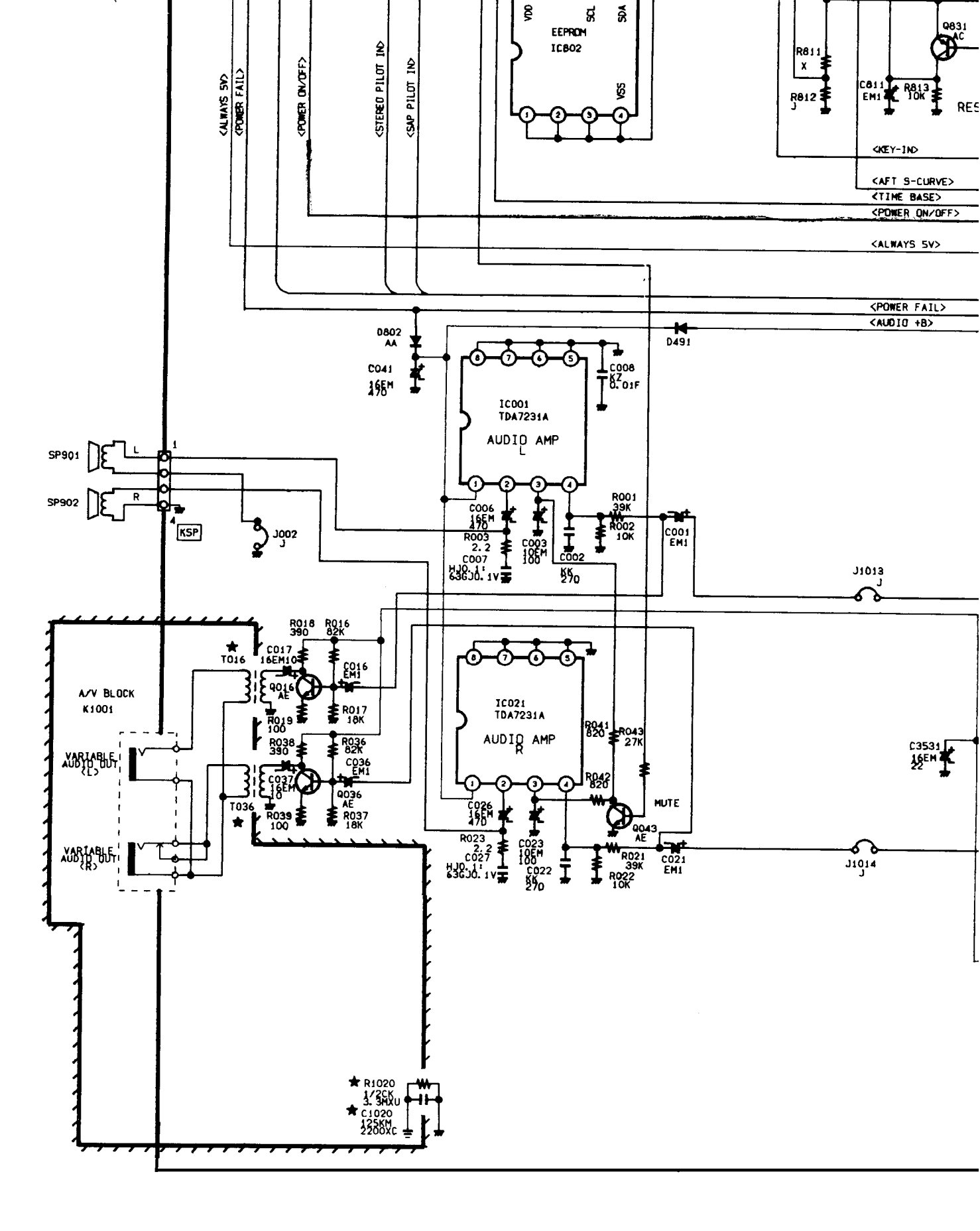
EEPROM
IC802
VDD
SCL
SDA
VSS
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<POWER ON/OFF>
<STEREO PILOT IN>
<SAP PILOT IN>
<KEY-IN>
<AFT S-CURVE>
<TIME BASE>
<POWER ON/OFF>
<ALWAYS 5V>
<POWER FAIL>
<AUDIO +B>
R811
X
R812
J
C811
EM1
R813
10K
Q831
AC
D802
AA
C041
16EM
470
D491
IC001
TDA7231A
AUDIO AMP
L
C008
KZ
0.01F
SP901
SP902
L
R
KSP
J002
J
C006
16EM
470
R003
2.2
C007
HJ0.1
63GJ0.1V
C003
10EM
100
C002
KK
270
R001
39K
R002
10K
C001
EM1
J1013
J
A/V BLOCK
K1001
T016
R018
390
R016
82K
C017
16EM10
C016
EM1
Q016
AE
R019
100
R017
18K
VARIABLE
AUDIO OUT
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390
R036
82K
C037
16EM
10
C036
EM1
Q036
AE
T036
R039
100
R037
18K
VARIABLE
AUDIO OUT
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IC021
TDA7231A
AUDIO AMP
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R041
820
R043
27K
R042
820
MUTE
Q043
AE
C026
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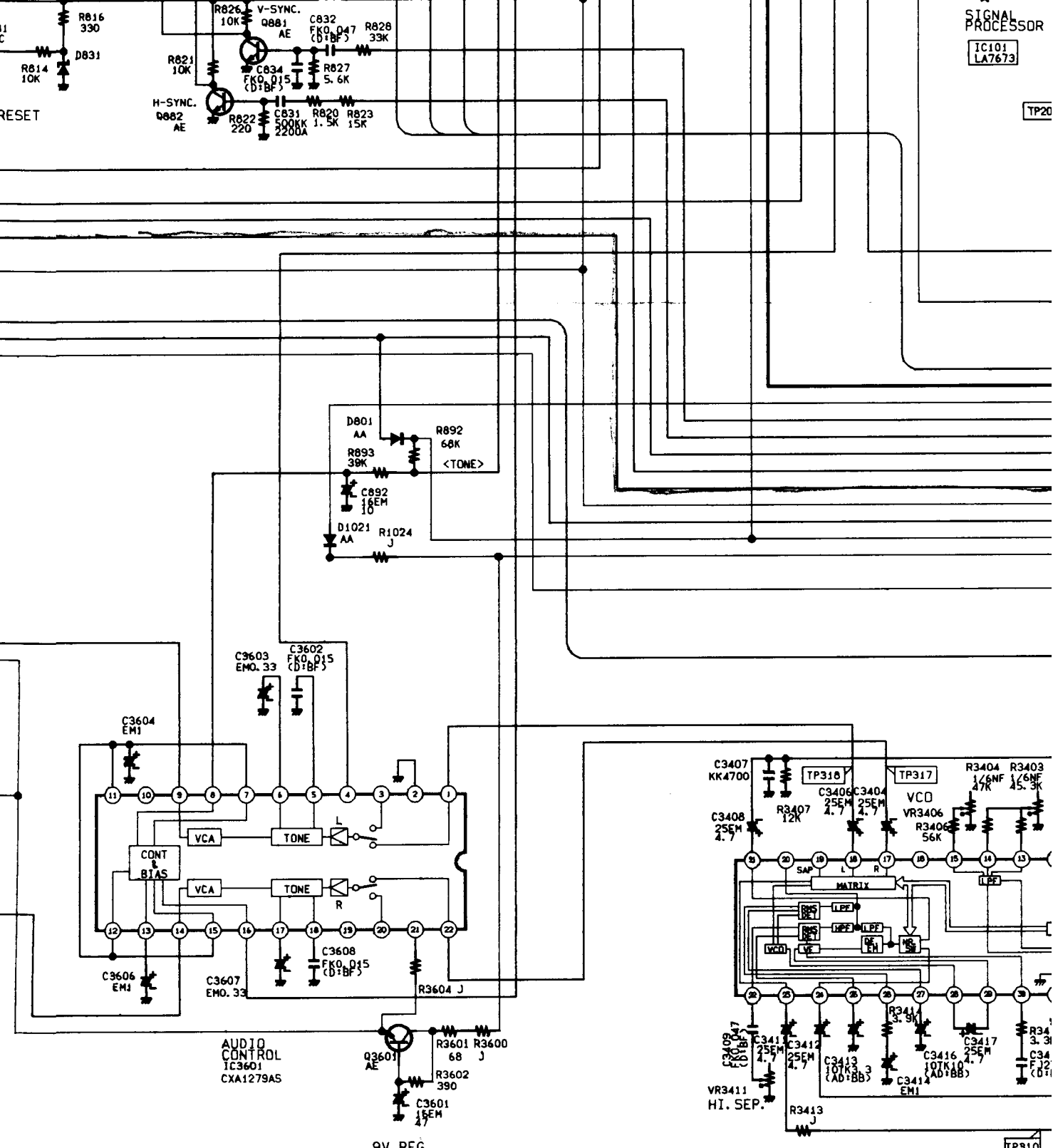
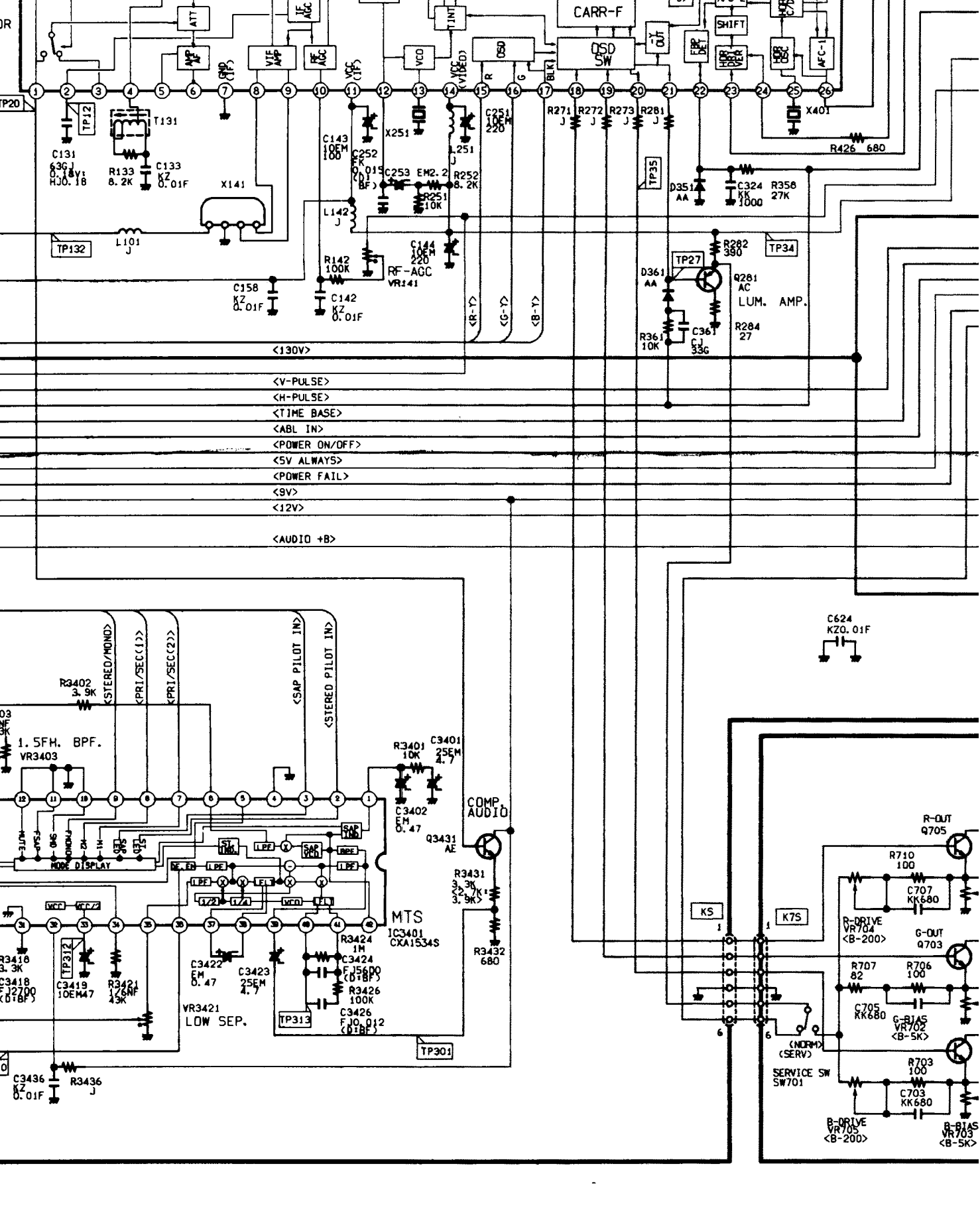
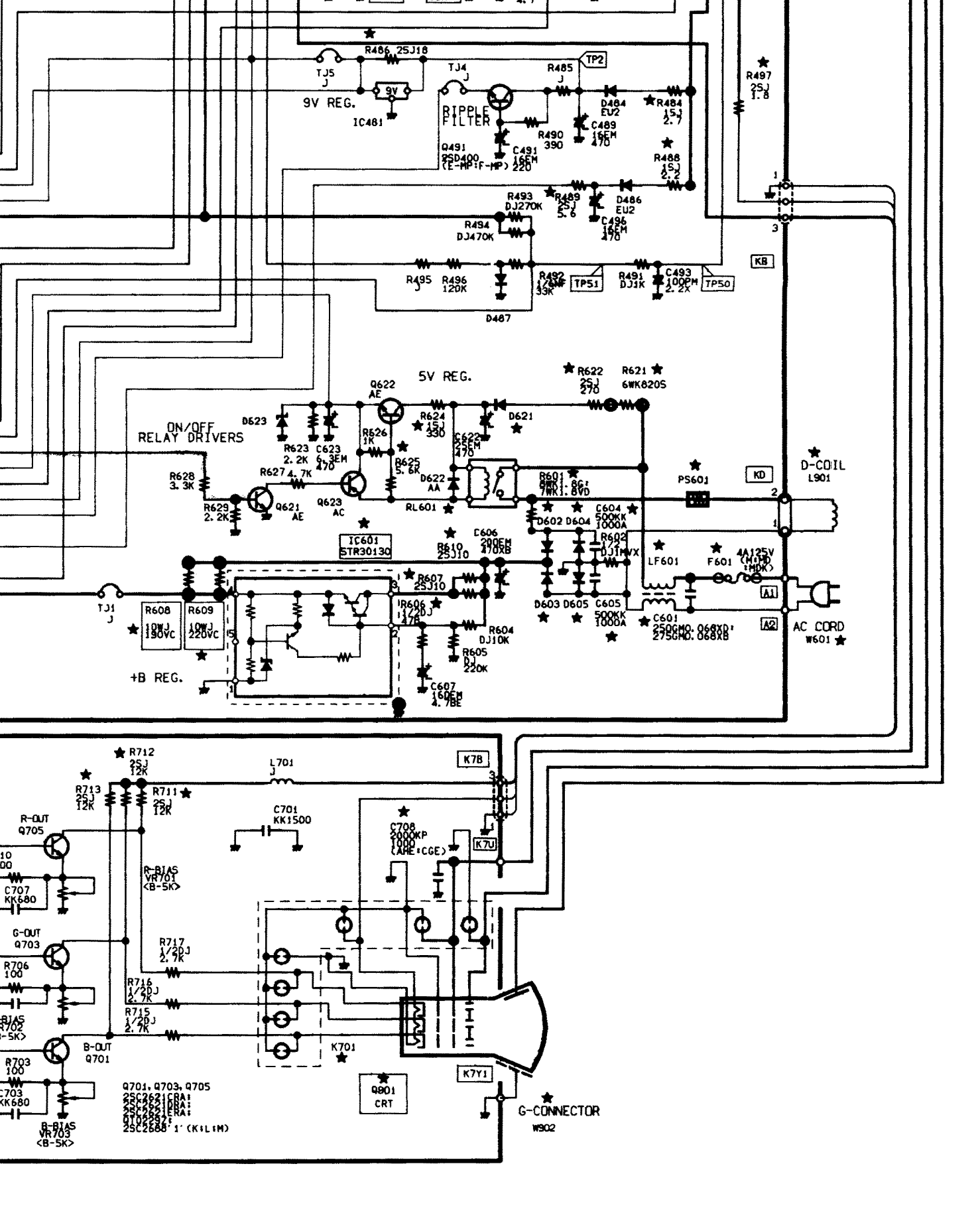
470
R023
2.2
C027
HJ0.1
63GJ0.1V
C023
10EM
100
C022
KK
270
R021
39K
R022
10K
C021
EM1
C3531
16EM
22
J1014
J
R1020
1/2CK
3.3MXU
C1020
125KM
2200XC


R816 330
D831
R814 10K
RESET
R826 10K
V-SYNC.
Q881 AE
C832 FKO 047 (D:BF)
R828 33K
R821 10K
C834 FKO 015 (D:BF)
R827 5.6K
H-SYNC.
Q882 AE
R822 220
C831 500KK 2200A
R820 1.5K
R823 15K
SIGNAL PROCESSOR
IC101 LA7673
TP20
D801 AA
R892 68K
R893 39K
<TONE>
C892 16EM 10
D1021 AA
R1024 J
C3603 EMO. 33
C3602 FKO 015 (D:BF)
C3604 EMJ
VCA
TONE
L
CONT & BIAS
VCA
TONE
R
C3606 EMJ
C3607 EMO. 33
C3608 FKO 015 (D:BF)
R3604 J
AUDIO CONTROL IC3601 CXA1279AS
Q3601 AE
R3601 68 J
R3600 J
R3602 390
C3601 16EM 47
9V REG.
C3407 KK4700
TP318
TP317
C3406 25EM 4.7
C3404 25EM 4.7
VCD
VR3406
R3404 176NF 47K
R3403 176NF 45.3K
C3408 25EM 4.7
R3407 12K
R3406 56K
SAP
L
R
MATRIX
LPF
HPF
VCO
VR3411 HI. SEP.
C3411 25EM 4.7
C3412 25EM 4.7
C3413 10TK3.3 (AD:BB)
C3414 EMJ
C3416 10TK10 (AD:BB)
C3417 25EM 4.7
R3413 J
TP910


CARR-F
OSD SW
SHIFT
TP20
TP12
T131
C131 63G J
R133 8.2K
C133 KZ 0.01F
X141
TP132
L101 J
C143 10EM 100
C252 KK 0.015 (D) BF
X251
C253 EM2.2
R252 8.2K
R251 10K
L251 J
L142 J
C144 10EM 220
R142 100K
RF-AGC VR141
C158 KZ 0.01F
C142 KZ 0.01F
C251 10EM 220
R271 J
R272 J
R273 J
R281 J
X401
R426 680
TP35
D351 AA
C324 KK 1000
R356 27K
TP34
TP27
R282 390
D361 AA
Q281 AC
LUM. AMP.
R361 10K
C361 CJ 33G
R284 27
<R-Y>
<G-Y>
<B-Y>
<130V>
<V-PULSE>
<H-PULSE>
<TIME BASE>
<ABL IN>
<POWER ON/OFF>
<5V ALWAYS>
<POWER FAIL>
<9V>
<12V>
<AUDIO +B>
<STEREO/MONO>
<PRI/SEC(1)>
<PRI/SEC(2)>
<SAP PILOT IN>
<STEREO PILOT IN>
R3402 3.9K
1.5FH. BPF.
VR3403
R3401 10K
C3401 25EM 4.7
C3402 EM 0.47
COMP. AUDIO
Q3431 AE
R3431 3.3K (2.7K) 3.9K
R3432 680
MODE DISPLAY
MTS
IC3401 CXA1534S
R3424 1M
C3424 F.J560D (D·BF)
R3426 100K
C3426 F.J0.012 (D·BF)
C3422 EM 0.47
C3423 25EM 4.7
VR3421 LOW SEP.
TP313
TP301
R3416 3.3K
C3418 J2700 (D·BF)
TP312
C3419 10EM47
R3421 1.5NF 43K
C3436 KZ 0.01F
R3436 J
C624 KZ0.01F
KS
K7S
R-OUT Q705
R710 100
C707 KK680
R-DRIVE VR704 <B-200>
G-OUT Q703
R707 82
R706 100
C705 KK680
G-BIAS VR702 <B-5K>
B-OUT Q701
R703 100
C703 KK680
B-DRIVE VR705 <B-200>
B-BIAS VR703 <B-5K>
(NORM)
(SERV)
SERVICE SW SW701


R486 25J18
TJ5 J
9V REG.
9V
IC481
TJ4 J
R485 J
TP2
RIPPLE FILTER
Q491 2SD400 (E-MP:F-MP) 220
C491 16EM 470
R490 390
C489 16EM 470
D484 EU2
R484 15J 2.7
R488 15J 2.2
R497 25J 1.8
R493 DJ270K
R489 25J 5.6
D486 EU2
C496 16EM 470
R494 DJ470K
R495 J
R496 120K
R492 1/4MF 33K
TP51
R491 DJ1K
C493 100EM 2.2X
TP50
D487
KB
5V REG.
Q622 AE
R622 25J 270
R621 6WK620S
ON/OFF RELAY DRIVERS
D623
R624 15J 330
D621
R626 1K
C622 25EM 470
R623 2.2K
C623 6.3EM 470
R625 5.6K
R627 4.7K
R628 3.3K
R629 2.2K
Q621 AE
Q623 AC
D622 AA
RL601
R601 6WK1.8G 7WK1.8VD
PS601
KD
D-COIL L901
D602 D604
C604 500KK 1000A
R602 1/2 DJ1MVX
IC601 STR30130
C606 200EM 470XB
R610 25J10
LF601
F601 4A125V (M:MD +MDK)
A1
A2
AC CORD W601
TJ1 J
R608 10WJ 150VC
R609 10WJ 220VC
R607 25J10
IR606 1/2DJ 47K
R604 DJ10K
R605 DJ 220K
D603 D605
C605 500KK 1000A
C601 250GMO.068XD 275GMO.068XB
C607 160EM 4.7BE
+B REG.
R712 25J 12K
R713 25J 12K
R711 25J 12K
L701 J
K7B
C701 KK1500
C708 2000KP 1000 (AHE:CGE)
K7U
R-OUT Q705
R-BIAS VR701 <B-5K>
C707 KK680
G-OUT Q703
R706 100
R717 1/2DJ 2.7K
R716 1/2DJ 2.7K
R715 1/2DJ 2.7K
B-OUT Q701
R703 100
C703 KK680
B-BIAS VR703 <B-5K>
K701
K7Y1
Q701, Q703, Q705 2SC2621[RA] 2SC2621[RA] 2SC2621[RA] 2SC2688[1'(K:L:M)]
Q901 CRT
G-CONNECTOR W902