SERVICE DATA
FILE NO. 050-549
4-SYSTEM

TOSHIBA

COLOUR TELEVISION

1720RF



SPECIFICATIONS

Input Power Rating:	60 watts, AC 220 volts, 50 Hz
Aerial Input Impedance:	75 ohm unbalanced type for VHF and UHF
Receiving Channels:	**SECAM–L Standard:** VHF ..... channels B to C, 1 to 6, B to Q (70 to 86) UHF ..... channels 21 to 69 **PAL B/G Standard, SECAM B/G Standard:** VHF ..... channels 2 to 4, 5 to 12 and S1 to S41 UHF ..... channels 21 to 69 **PAL I Standard:** UHF ..... channels 21 to 68 **PAL, SECAM 50 Hz/60 Hz (For Video Disk playback)**
Intermediate Frequencies:	Picture I-F carrier frequency: L ..... 38.9 MHz (VH, U) 34.47 MHz (VL) B/G, I ..... 38.9 NHz Sound I-F carrier frequency: L ..... 32.4 MHz (VH, U) 40.97 MHz (VL) B/G ..... 33.4 MHz I ..... 32.9 MHz
Picture Tube:	17 inches, A41EAM11X01, 410 mm (measured on diagonal of viewable picture area), 90° deflection
Sound Output:	2 watts (at 10% harmonic distortion)
Speakers:	77 mm round
Aux. Terminals:	Headphone Jack, 21 pin socket (FULL)
Cabinet:	Plastic portable type
Dimensions:	Height 413 mm, Width 450 mm, Depth 398 mm
Weight:	13.4 kg

Specifications are subject to change without notice.

Printed in Japan Sep. 1992 (So)

SAFETY INSTRUCTIONS

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

X-RAY RADIATION PRECAUTION

1. The E.H.T. must be checked every time the receiver is serviced to ensure that the C.R.T. does not emit X-ray radiation as result of excessive E.H.T. voltage. The nominal E.H.T. for this receiver is 25.5 kV at zero beam current (minimum brightness) operating at 220V a.c. The maximum E.H.T. voltage permissible in any operating circumstances must not exceed 27.5 kV. When checking the E.H.T., use the 'High Voltage Check' procedure in this manual using an accurate E.H.T. voltmeter.
2. The only source of X-RAY radiation in this receiver is the C.R.T. To prevent X-ray radiation, the replacement C.R.T. must be identical to the original fitted as specified in the Parts List.
3. Some components used in this receiver have safety related characteristics preventing the C.R.T. from emitting X-ray radiation.
   For continued safety, replacement component should only be made after referring the Product Safety Notice below.

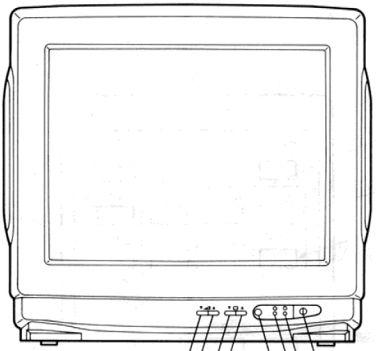
SAFETY PRECAUTION

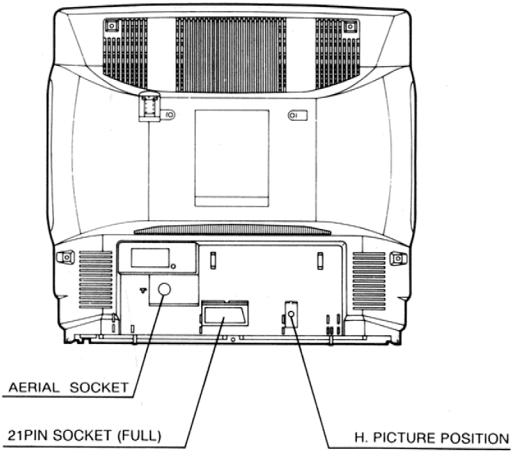
1. This receiver has a nominal working E.H.T. voltage of 23.0 kV. Extreme caution should be exercised when working on the receiver with the back removed.
   Do not attempt to service this receiver if you are not conversant with the precautions and procedures for working on high voltage equipment.
   When handling or working on the C.R.T., always discharge the anode to the receiver chassis before removing the anode cap
   The C.R.T., if broken, will violently expel glass fragments. Use shatter proof goggles and take extreme care while handling.
   Do not hold the C.R.T. by the neck as this is a very dangerous practice.
2. It is essential that to maintain the safety of the customer all cable forms be replaced exactly as supplied from factory.
3. A small part of the chassis used in this receiver is, when operating, at approximately half mains potential at all times. It is therefore essential in the interest of safety that when serving or connecting any test equipment the receiver should be supplied via a suitable isolating transformer of adequate rating.
4. Replace blown fuses within the receiver with the fuse specified in the parts list.
5. When replacing wires or components to terminals or tags, wind the leads around the terminal before soldering. When replacing safety components identified by the international hazard symbols on the circuit diagram and parts list, it must be a Toshiba approved type and must be mounted as the original.
6. Keep wires away from high temperature components.

PRODUCT SAFETY NOTICE

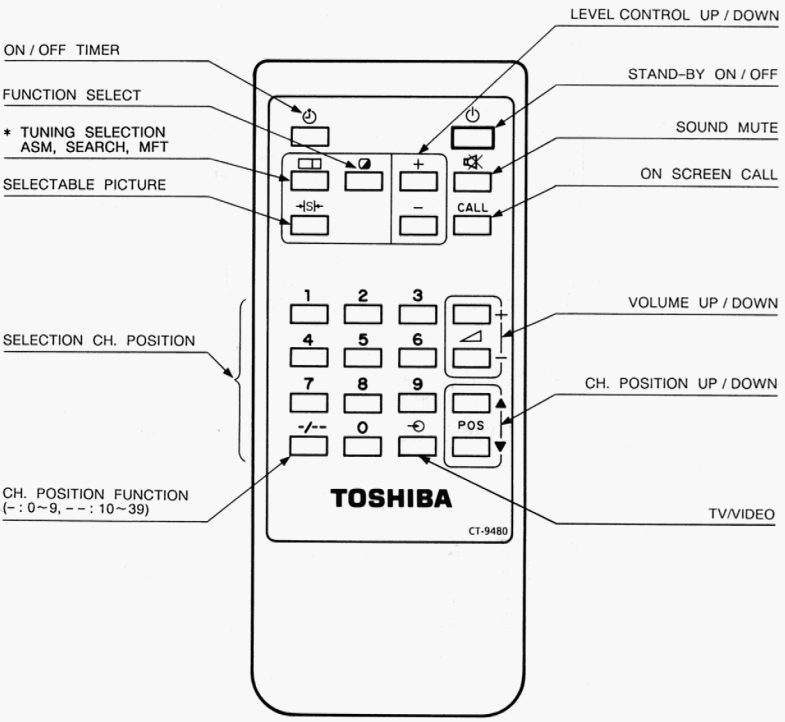
Many electrical and mechanical components in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-ray radiation protection afforded by them cannot necessarily be obtained by using replacements rated at higher voltages or wattage, etc. Components which have these special safety characteristics in this manual and its supplements are identified by the international hazard symbols on the schematic diagram and parts list. Before replacing any of these components read the parts list in this manual carefully. Substitute replacement components which do not have the same safety characteristics as specified in the parts list may create X-ray radiation.

FRONT CONTROLS AND REAR VIEWS





REMOTE HAND HELD UNIT



WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

INSTALLATION AND SERVICE ADJUSTMENTS

GENERAL INFORMATIONS

All adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W pictures upon installation. However, several minor adjustments may be required depending on the particular location in which the receiver is operated.
This receiver is shipped completely in cardboard carton. Carefully draw out the receiver from the carton and remove all packing materials.
Plug the power cord into a convenient 220 volts 50 Hz AC two pin power outlet. Turn the receiver ON. Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour 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. 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 m before disconnecting it from AC source. If colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures.

+112 VOLT POWER SUPPLY ADJUSTMENT (R851)

CAUTION: +B voltage closely relates to the high voltage. To prevent hazardous X-RAY RADIATION, the +B voltage must be properly adjusted to +112 volts.

1. Tune in an active channel. Adjust the BRIGHTNESS and CONTRAST Controls for normal picture.
2. Check that the AC power Line voltage is normal. (AC 220 volts, 50 Hz)
3. Connect a digital voltmeter to both leads of C451.
4. Adjust R851 for 112V reading on the meter.
5. Remove the digital voltmeter.

HIGH VOLTAGE CHECK

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

1. Connect an accurate high voltage meter to the second anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST Controls to minimum (zero beam current).
3. High voltage will be measured below 27.5 kV.
4. Rotate the BRIGHTNESS Control to both extremes to be sure the high voltage does not exceed the limit of 27.5 kV under any conditions.

HEIGHT ADJUSTMENT

1. Receive the WG PHILIPS pattern, and set the contrast and colour to minimum, and the brightness to centre.
2. Change the VERT POSITION SW (S301) so the round shape in the pattern is located in the centre of screen.
3. HEIGHT Control (R351) changes the size of the picture or pattern, having an equal effect on the top and bottom. Make final adjustment to overscan the mask 2 cm at top and bottom.

HORIZONTAL CENTRE ADJUSTMENT

1. Receive the WG PHILIPS pattern.
2. Set the contrast and colour to minimum, and the bringhtness to centre.
3. Adjust H. CENTRE USER Control (R452) to the click (centre) position.
4. Adjust H. CENTRE SUB Control (R451) so the pattern centre can be located at the screen centre.

FOCUS ADJUSTMENT

Adjust FOCUS Control on FLYBACK TRANS.(T461) for well defined scanning lines in the centre area on the screen.

PAL MATRIX ADJUSTMENT

1. Tune in the colour programme of the Philips pattern.
2. Set the COLOUR Control to obtain the proper colour.
3. If the PAL MATRIX adjustment is incorrect, the Venetian Blind would appear in the colour bars area. This case needs the adjustment.
4. At the first, adjust DL PHASE ADJ. Coil (L551) to minimize the Venetian Blind.
5. Next adjust 1H-DL ADJ. VR (R551) to minimize the Blind.
6. If the Venetian Blind still remains, adjust 1H-DL PHASE ADJ. Coil (L551) to minimize the Blind again.
7. Repeat the item 5 and 6 procedures, adjust the R551 and L551 until the Blind does not appear.

BELL COIL (LM01) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Connect the synchroscope to the terminal pin 2 of LM01.
3. Adjust LM01 for the flat level of amplitude in each colour bar waveform on the scope. (See figure 1.)

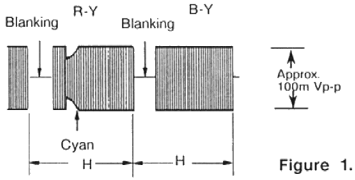


Figure 1.

IDENT COIL (LM04) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Connect the DC voltmeter (Digital Voltmeter) to the pin 23 of IC501.
3. Adjust LM04 for the maximum indication (approx. DC10V) on the meter.

B-Y, R-Y DEMOD COIL (LM02, LM03) ADJUSTMENT

1. Receive SECAM colour bar signal.
2. Set the COLOUR, BRIGHTNESS and CONTRAST Controls free.
3. Connect the synchroscope to the pin 62 of IC501.
4. Adjust LM02 so that the white level in picture part reaches to the vertical retrace line. (See figure 2.)
5. Then change the connection of synchroscope from the pin 62 to the pin 60 of IC501.
6. Adjust LM03 so that the white level in picture part reaches to the vertical retrace line. (See figure 3.)

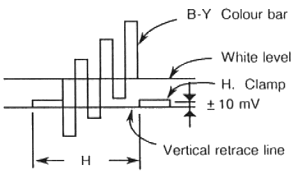


Figure 2.

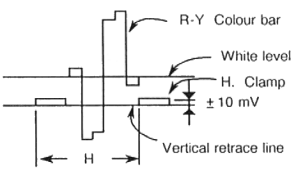


Figure 3.

RF AGC ADJUSTMENT

1. Tune the set in the strongest station in your area.
2. Turn RF AGC Control (R151) on PIF Board to fully counterclockwise position.
3. Adjust RF AGC Control clockwise until noise (snow) just disappears on the screen.

CRT GREY SCALE ADJUSTMENT

1. Tune in an active channel.
2. Turn the SCREEN Control (on T461) fuly counter-clockwise.
3. Set the RED, GREEN and BLUE CUT OFF Controls (R557, R558, R559) to the mid position.
4. Set the GREEN and BLUE DRIVE Controls (R252, R253) to the mid position.
5. Set the CUT OFF SW. (S202) in the H. line position.
6. Set the CONTRAST, COLOUR Controls to minimum and BRIGHTNESS Control to centre.
7. Rotate the SCREEN Control gradually clockwise until the first horizontal line of a colour (RED, GREEN or BLUE) appears slightly on the screen. Set the SCREEN Control to this position.
8. Adjust the CUT OFF Controls to obtain the slightly lighted horizontal lines in the same levels of three colours (RED, GREEN and BLUE). The lines may look like white if the CUT OFF Controls are adjusted properly.
9. Return the CUT OFF SW. (S202) in the receiving position.
10. Set the BRIGHTNESS Control to the maximum.
11. Adjust the BLUE and GREEN DRIVE Controls (R252/R253) to obtain proper white-balanced picture in high light areas.
12. Set the BRIGHTNESS and CONTRAST Controls to obtain dark grey raster. Then check the white balance in low brightness. If the white balance is not proper, retouch the CUT OFF Controls and DRIVE Controls to obtain a good white balance in both low and high light areas.

SUB-BRIGHTNESS ADJUSTMENT

1. Tune in a colour programme.
2. Set the CONTRAST Control to the maximum and the BRIGHTNESS Control to the centre.
3. Set the COLOUR Control to the minimum.
4. Set the SUB-BRIGHT. Control (R255) to the centre and leave the receiver for five minutes in this state.
5. Watching the picture well, adjust the SUB-BRIGHT. Control in the position where the picture does not show evidence of blooming in high bright area and not appear too dark in low bright portion.
6. Check the proper picture variation by rotating the CONTRAST and BRIGHTNESS Controls to both extremes.
7. If the picture does not appear dark with the CONTRAST and BRIGHTNESS Controls turned to the minimum, or not appear bright with the controls turned to the maximum, adjust the SUB-BRIGHT. Control again for the acceptable picture.

PICTURE I-F TRAP ALIGNMENT

GENERAL ..... Refer to figure 4 for the equipment connection.
PRELIMINARY STEPS ..... 1. Supply +12 volts to the PIF Board.
2. Connect pin 12 of P101 to +12V.
3. Connect pin 10 of P101 to ground.
SWEEP/MARKER GENERATOR..... Connect to pin 6 of P101 on the PIF Board as shown in figure 4. Set to 30 to 40 MHz sweep with signal level of 75 to 85 dBμ.
OSCILLOSCOPE..... Connect through the detector (See figure 6.) to the emitter of QN01.

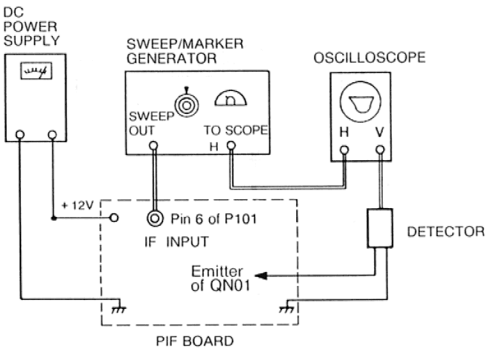


Figure 4.

STEP	SWEEP/MARKER GENERATOR	ADJUST	PROCEDURE
TRAP ALIGNMENT Control the sweep output for easy alignment. Set the IF markers for 42.47MHz and 32.97MHz.			
Trap coil (TN01)	42.47MHz Marker "ON"	TN01	Adjust L162 so the 42.47MHz marker point is placed at bottom of response. (See figure 5.)
Trap coil (TN02)	32.97MHz Marker "ON"	TN02	Adjust L163 so the 32.97MHz marker point is placed at bottom of response. (See figure 5.)



Figure 5. Trap Response

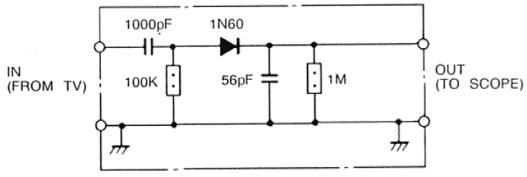


Figure 6. Detector Diagram

PICTURE I-F TRAP ALIGNMENT

GENERAL ..... Refer to figure 7 for the equipment connection.
PRELIMINARY STEPS ..... 1. Supply +12 volts to the PIF Board.
2. Connect pin 12 of P101 to +12V.
3. Connect pin 10 of P101 to +12V.
SWEEP/MARKER GENERATOR..... Connect to pin 6 of P101 on the PIF Board as shown in figure 7. Set to 30 to 40 MHz sweep with signal level of 75 to 85 dBμ.
OSCILLOSCOPE..... Connect through the detector (See figure 9.) to the emitter of QN01.

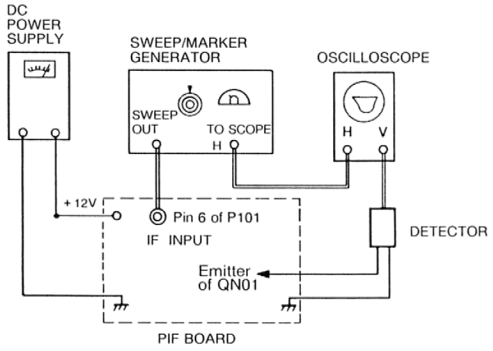


Figure 7.

STEP	SWEEP/MARKER GENERATOR	ADJUST	PROCEDURE
TRAP ALIGNMENT Control the sweep output for easy alignment. Set the IF markers for 40.4MHz and 30.9MHz.			
Trap capacitor (CN32)	40.4MHz Marker "ON"	CN32	Adjust CN32 so the 40.4MHz marker point is placed at bottom of response. (See figure 8.)
Trap capacitor (CN46)	30.9MHz Marker "ON"	CN46	Adjust CN46 so the 30.9MHz marker point is placed at bottom of response. (See figure 8.)

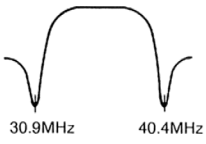


Figure 8. Trap Response

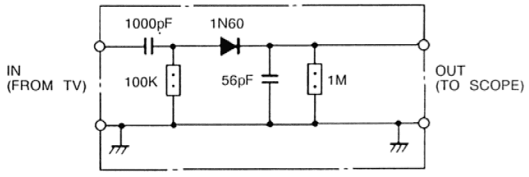


Figure 9. Detector Diagram

PICTURE I-F SWEEP ALIGNMENT

GENERAL ..... Refer to figure 10 for test equipment connection.

PRELIMINARY STEPS ..... 1. Supply +12 volts to the IF Board.
2. Connect the pin 12 of P101 to +12 V.
3. Connect pin 24 of IC101 to ground through capacitor 10 μF.
4. Connect pin 29 of IC101 to ground.

SWEEP/MARKER GENERATOR..... Connect to the point 6 as shown in figure 10 on the IF Board. Set to 30 ~ 40 MHz sweep with signal level of 75 ~ 85 dBμ.

OSCILLOSCOPE ..... Connect to pin 1 of IC101 on the IF Board.

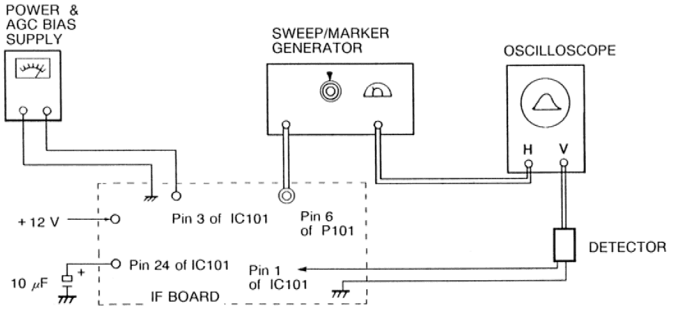


Figure 10. Picture IF Sweep Alignment

STEP	SWEEP/MARKER GENERATOR	ADJUST	REMARKS
1. Detector Coil	38.9 MHz Marker "ON"	L151	• Connect the pin 10 of P101 on the IF Board to +12 V. • Supply +2 to +3 volts to pin 3 of IC101 to set the output level for 0.4 Vp-p on the scope. • Adjust L151 so that the marker (38.9 MHz) on the response can get zero beat with free-run frequency. (See figure 11.) • Remove the short of the pin 10 of P101. • After completing CN51 adjustment, repeat this step again.
2. Detector Capacitor	34.47 MHz Marker "ON"	CN51	• Connect the pin 10 of P101 on IF Board to ground. • Supply +2 to +3 volts to pin 3 of IC101 to set the detection output for 0.4 Vp-p on the scope. • Adjust CN51 so that the marker (34.47 MHz) on the response can get zero beat with free-run frequency. (See figure 11.) • Remove the short of pin 10 of P101. • After completing L151 adjustment, repeat the step again.
After completing the above steps, disconnect the equipment and re-solder the solder links, and adjust the AGC Delay Control (R151) following RF AGC ADJUSTMENTS.			

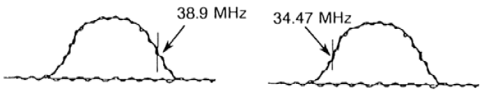


Figure 11. Magnified Response Curve

AFC ALIGNMENT

GENERAL ..... Refer to figure 12 for test equipment connection.

PRELIMINARY STEPS .....
1. Disconnect the IF Board from the Main Board.
2. Disconnect the solder links on the foil side of IF Board.
3. Supply + 12 volts to the IF Board. (See figure 12.)
4. Short pin 29 of IC101 to ground.
5. Turn AGC DELAY Control (R151) on the IF Board fully clockwise.
6. Connect pin 12 of P101 to + 12 V.

DVM ..... Connect to the resistor R128 (ⓔ in figure 12) and ground.

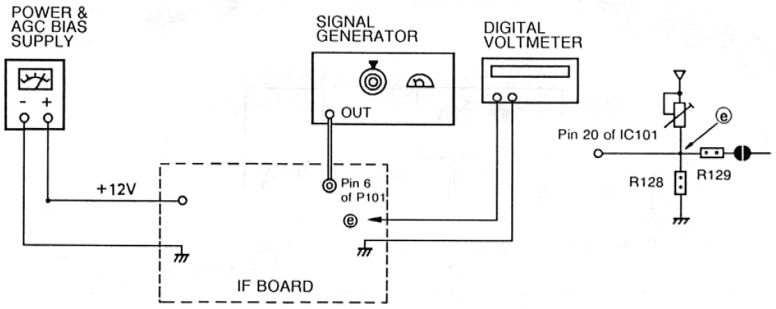


Figure 12. AFC Alignment

STEP	SIGNAL GENERATOR	ADJUST	REMARKS
1. AFC Balance (R153)	NO SIGNAL	R153	• Short the pin 3 of IC101 to ground. • Adjust R153 for 4.5 volts at the point ⓔ in figure 12.
2. AFC Coil (L153)	38.9 MHz CARRIER WAVE (Level : 75 to 85 dBμ)	L153	• Remove the short of pin 3 of IC101. • Apply + 12 V to pin 10 of P101. • Connect IF carrier wave to the pin 6 of P101 in figure 12. • Adjust L153 for 4.3 volts on the meter at the point ⓔ. • After completing L152 adjustment, repeat this step again.
3. AFC Coil (L152)	34.47 MHz CARRIER WAVE (Level : 75 to 85 dBμ)	L152	• Connect pin 10 of P101 to ground. • Connect IF carrier wave to pin 6 of P101 in figure 12. • Adjust L152 for 4.3 volts on the meter at the point ⓔ. • After completing L153 adjustment, repeat this step again.

SECAM DET-OUT & SOUND IF ALIGNMENT

L SECAM DET-OUT (R152) ADJUSTMENT

1. Disconnect the IF Board from the Main Board.
2. Supply + 12 V to the IF Board.
   2-1 Short the base of QN15 to ground.
   2-2 Connect pin 12 of P101 to ground.
3. Set AGC to Self AGC condition.
4. Connect synchroscope to the emitter of Q103 through 10:1 probe.
5. Connect the 2-signal generator to IF input, and set up the generator as described below.
   IF frequency : 38.9 MHz
   Signal level : 75 to 85 dBμ
   Video modulation
   Positive modulation : 97%
   Video signal fH : 15.625 kHz
   Picture : Pattern with 100% white
6. Adjust the AC LEVEL Control (R152) for 2.0Vp-p on the scope.

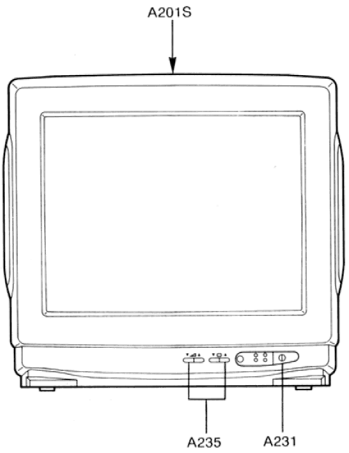
I-PAL SIF DET (L652) ADJUSTMENT

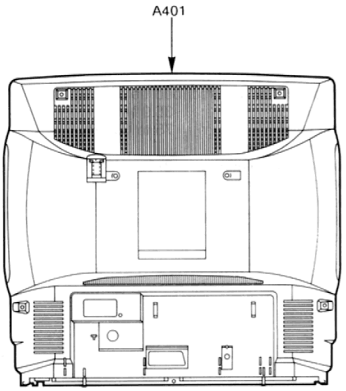
1. Supply + 12V to pin 11 of P601 on SIF Board.
2. Supply + 12V to pin 1 of P601.
3. Connect SIF generator to base of Q602 through 0.01μF capacitor
4. Connect the oscilloscope to pin 3 of P601.
5. Set up the SIF generator as described below.
   Sound carrier frequency : 6.0 MHz
   Modulation frequency : 1000 Hz
   Frequency deviaiton : ± 15 kHz
   Signal level : 80 dBμ
   (50 ohm load)
6. Adjust L652 for the maximum response of 1000 Hz det-out on scope.

B/G-PAL SOUND DET (L651) ADJUSTMENT

1. Connect pin 11 of P601 to ground.
2. Supply + 12V to pin 1 of P601.
3. Connect the SIF generator to base of Q602 through 0.01μF capacitor.
4. Connect the oscilloscope to pin 3 of P601.
5. Set up the SIF generator as described below.
   Sound carrier frequency : 5.5 MHz
   Modulation frequency : 1000 Hz
   Frequency deviaiton : ± 15 kHz
   Signal level : 80 dBμ
   (50 ohm load)
6. Adjust L651 for the maximum response of 1000 Hz det-out on scope.

CABINET REPLACEMENT PARTS LIST





Location No.	Part No.	Description
A201S	23419627	Front Cover
A216	23416501	Speaker grille
A231	23443649	Button, POWER
A235	23443653	Button, UP-DOWN
A401	23424847	Back Cover
A411	23568096	Label, Model No., B/C
A701	23524073	Carton Box
A702	23935092	Packing, Bottom
A703	23935093	Packing, Top
A710	23568097	Label, Model No., Carton

CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION" , "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

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

NOTICE: The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.

ABBREVIATIONS:

Capacitors..... CD : Ceramic Disk PF : Plastic Film EL : Electrolytic
Resistors..... CF : Carbon Film CC : Carbon Composition MF : Metal Film
OMF : Oxide Metal Film VR : Variable Resistor FR : Fusible Resistor
(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Model: 1720RF

Location No.	Part No.	Description
CAPACITORS		
C101	24815102	Chip, 1000pF, ±10%
C102	24815102	Chip, 1000pF, ±10%
C103	24781330	Chip, 33pF
C104	24797220	EL, 22μF, ±20%, 50V
C105	24814103	Chip, 0.01μF, +80%, –20%
C106	24797229	EL, 2.2μF, ±20%, 50V
C107	24590473	PF, 0.047μF
C108	24797010	EL, 1μF, ±20%, 50V
C109	24814103	Chip, 0.01μF, +80%, –20%
C110	24814103	Chip, 0.01μF, +80%, –20%
C111	24797229	EL, 2.2μF, ±20%, 50V
C112	24781390	Chip, 39pF
C113	24797478	EL, 0.47μF, ±20%, 50V
C114	24794470	EL, 47μF, ±20%, 16V
C115	24814103	Chip, 0.01μF, +80%, –20%
C116	24814103	Chip, 0.01μF, +80%, –20%
C117	24085939	EL, 4.7μF, ±20%, 25V, Non-Polar
C119	24814103	Chip, 0.01μF, +80%, –20%
C120	24815222	Chip, 2200pF, ±10%
C121	24085988	EL, 1μF, ±20%, 50V, Non-Polar
C122	24590153	PF, 0.015μF
C123	24797478	EL, 0.47μF, ±20%, 50V
C124	24794101	EL, 100μF, ±20%, 16V
C125	24814103	Chip, 0.01μF, +80%, –20%
C126	24815152	Chip, 1500pF, ±10%
C127	24794471	EL, 470μF, ±20%, 16V
C160	24285102	Chip, 1000pF, ±10%
C162	24815102	Chip, 1000pF, ±10%
C163	24285102	Chip, 1000pF, ±10%
C164	24814103	Chip, 0.01μF, +80%, –20%
C165	24815102	Chip, 1000pF, ±10%
C166	24436470	CD, 47pF
C169	24232103	CD, 0.01μF, +80%,–20%
C170	24212102	CD, 1000pF, ±10%
C180	24815102	Chip, 1000pF, ±10%
C181	24285102	Chip, 1000pF, ±10%
C182	24815102	Chip, 1000pF, ±10%
C183	24815102	Chip, 1000pF, ±10%

Location No.	Part No.	Description
C184	24814103	Chip, 0.01μF, +80%, –20%
C185	24815102	Chip, 1000pF, ±10%
C201	24797100	EL, 10μF, ±20%, 50V
C202	24795101	EL, 100μF, ±20%, 25V
C203	24232103	CD, 0.01μF, +80%,–20%
C204	24797220	EL, 22μF, ±20%, 50V
C205	24797478	EL, 0.47μF, ±20%, 50V
C208	24212102	CD, 1000pF, ±10%
C209	24232103	CD, 0.01μF, +80%,–20%
C210	24797100	EL, 10μF, ±20%, 50V
C211	24474561	CD, 560pF, ±10%
C212	24538224	PF, 0.22μF
C213	24590104	PF, 0.1μF
C240	24538474	PF, 0.47μF
C241	24794100	EL, 10μF, ±20%, 16V
C301	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
C302	24212152	CD, 1500pF, ±10%
C303	24617912	EL, 2.2μF, ±10%, 50V
C307	24232103	CD, 0.01μF, +80%,–20%
C312	24590153	PF, 0.015μF
C313	24668101	EL, 100μF, ±20%, 35V
C314	24796102	EL, 1000μF, ±20%, 35V
C315	24214221	CD, 220pF, ±10%, 500V
C316	24667332	EL, 3300μF, ±20%, 25V
C317	24617912	EL, 2.2μF, ±10%, 50V
C318	24214332	CD, 3300pF, ±10%, 500V
C319	24693104	PF, 0.1μF, 100V
C321	24214391	CD, 390pF, ±10%, 500V
C328	24082257	PF, 2700pF, 100V
C368	24590104	PF, 0.1μF
C402	24353271	CD, 270pF
C403	24797339	EL, 3.3μF, ±20%, 50V
C405	24590203	PF, 0.02μF
C406	24590203	PF, 0.02μF
C407	24590243	PF, 0.024μF
C408	24797100	EL, 10μF, ±20%, 50V
C409	24232103	CD, 0.01μF, +80%,–20%
C412	24590182	PF, 1800pF
C413	24590182	PF, 1800pF
C414	24474151	CD, 150pF, ±10%

Location No.	Part No.	Description
C416	24214271	CD, 270pF, ±10%, 500V
C423	24814103	Chip, 0.01μF, +80%, −20%
C424	24795470	EL, 47μF, ±20%, 25V
C425	24794101	EL, 100μF, ±20%, 16V
⚠C440	24095892	PF, 6800pF, ±3%, 1250V
C441	24214221	CD, 220pF, ±10%, 500V
C443	24214221	CD, 220pF, ±10%, 500V
C445	24095903	PF, 0.056μF, ±10%, 250V
C447	24700479	EL, 4.7μF, ±20%, 250V
C448	24795222	EL, 2200μF, ±20%, 25V
C449	24794471	EL, 470μF, ±20%, 16V
C451	24640908	EL, 33μF, ±20%, 160V
⚠C463	24212222	CD, 2200pF, ±10%
C465	24095949	PF, 0.33μF, 200V
C470	24212102	CD, 1000pF, ±10%
C502	24797100	EL, 10μF, ±20%, 50V
C503	24474101	CD, 100pF, ±10%
C504	24474101	CD, 100pF, ±10%
C505	24590273	PF, 0.027μF
C506	24232103	CD, 0.01μF, +80%,−20%
C507	24590103	PF, 0.01μF
C508	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
C510	24232103	CD, 0.01μF, +80%,−20%
C511	24232103	CD, 0.01μF, +80%,−20%
C512	24353200	CD, 20pF
C513	24353330	CD, 33pF
C515	24797220	EL, 22μF, ±20%, 50V
C516	24590104	PF, 0.1μF
C517	24590104	PF, 0.1μF
C518	24232103	CD, 0.01μF, +80%,−20%
C519	24232103	CD, 0.01μF, +80%,−20%
C520	24797478	EL, 0.47μF, ±20%, 50V
C521	24538474	PF, 0.47μF
C522	24538474	PF, 0.47μF
C523	24538474	PF, 0.47μF
C524	24232103	CD, 0.01μF, +80%,−20%
C525	24474820	CD, 82pF, ±10%
C526	24474820	CD, 82pF, ±10%
C527	24474820	CD, 82pF, ±10%
C530	24796220	EL, 22μF, ±20%, 35V
C531	24794100	EL, 10μF, ±20%, 16V
C532	24436101	CD, 100pF
C533	24436101	CD, 100pF
C534	24436101	CD, 100pF
C535	24797100	EL, 10μF, ±20%, 50V
C540	24436151	CD, 150pF
C541	24436151	CD, 150pF
C542	24436151	CD, 150pF
C551	24212102	CD, 1000pF, ±10%
C590	24794101	EL, 100μF, ±20%, 16V
C591	24797478	EL, 0.47μF, ±20%, 50V
C601	24815102	Chip, 1000pF, ±10%
C603	24232103	CD, 0.01μF, +80%,−20%
C604	24794470	EL, 47μF, ±20%, 16V
C605	24598911	PF, 910pF
C606	24598821	PF, 820pF
C607	24590104	PF, 0.1μF
C608	24797100	EL, 10μF, ±20%, 50V
C609	24232103	CD, 0.01μF, +80%,−20%
C610	24232103	CD, 0.01μF, +80%,−20%
C611	24232103	CD, 0.01μF, +80%,−20%
C612	24436470	CD, 47pF
C613	24436470	CD, 47pF

Location No.	Part No.	Description
C614	24232103	CD, 0.01μF, +80%,−20%
C615	24590473	PF, 0.047μF
C616	24590473	PF, 0.047μF
C617	24232103	CD, 0.01μF, +80%,−20%
C663	24590183	PF, 0.018μF
C664	24797010	EL, 1μF, ±20%, 50V
C665	24795221	EL, 220μF, ±20%, 25V
C666	24590104	PF, 0.1μF
C667	24474101	CD, 100pF, ±10%
C668	24797478	EL, 0.47μF, ±20%, 50V
C670	24795100	EL, 10μF, ±20%, 25V
C672	24815102	Chip, 1000pF, ±10%
C673	24814103	Chip, 0.01μF, +80%, −20%
C697	24590104	PF, 0.1μF
C699	24795470	EL, 47μF, ±20%, 25V
⚠C801	24098999	PF, 0.1μF, ±20%, AC250V
C805	24094656	CD, 2200pF, ±20%, AC400V
C806	24094656	CD, 2200pF, ±20%, AC400V
C815	24092281	CD, 4700pF, ±20%, AC250V
C816	24092281	CD, 4700pF, ±20%, AC250V
C817	24092281	CD, 4700pF, ±20%, AC250V
C818	24092281	CD, 4700pF, ±20%, AC250V
C820	24086871	EL, 120μF, ±20%, 400V
C821	24436101	CD, 100pF
C822	24797100	EL, 10μF, ±20%, 50V
C823	24590682	PF, 6800pF
C824	24630747	EL, 22μF, ±20%, 25V
C825	24212102	CD, 1000pF, ±10%
C826	24092339	CD, 330pF, ±10%, 2kV
C827	24232103	CD, 0.01μF, +80%,−20%
C828	24095914	PF, 2200pF, ±3%, 1600V
C829	24797010	EL, 1μF, ±20%, 50V
C830	24797101	EL, 100μF, ±20%, 50V
C831	24436331	CD, 330pF
C832	24590822	PF, 8200pF
C833	24092336	CD, 180pF, ±10%, 2kV
C834	24086953	EL, 220μF, ±20%, 160V
C835	24797220	EL, 22μF, ±20%, 50V
C836	24214331	CD, 330pF, ±10%, 500V
C838	24795102	EL, 1000μF, ±20%, 25V
C840	24794101	EL, 100μF, ±20%, 16V
C901	24700479	EL, 4.7μF, ±20%, 250V
C902	24095923	PF, 4700pF, 1600V
CA01	24474331	CD, 330pF, ±10%
CA07	24212102	CD, 1000pF, ±10%
CA08	24232103	CD, 0.01μF, +80%,−20%
CA09	24794470	EL, 47μF, ±20%, 16V
CA10	24232103	CD, 0.01μF, +80%,−20%
CA11	24212472	CD, 4700pF, ±10%
CA12	24212561	CD, 560pF, ±10%
CA13	24794100	EL, 10μF, ±20%, 16V
CA14	24794470	EL, 47μF, ±20%, 16V
CA15	24232103	CD, 0.01μF, +80%,−20%
CA16	24232103	CD, 0.01μF, +80%,−20%
CA17	24232103	CD, 0.01μF, +80%,−20%
CA18	24232103	CD, 0.01μF, +80%,−20%
CA19	24232103	CD, 0.01μF, +80%,−20%
CA20	24797010	EL, 1μF, ±20%, 50V
CA21	24474391	CD, 390pF, ±10%
CA22	24474221	CD, 220pF, ±10%
CA23	24538224	PF, 0.22μF
CA24	24538334	PF, 0.33μF
CA25	24797229	EL, 2.2μF, ±20%, 50V
CA26	24232103	CD, 0.01μF, +80%,−20%

Location No.	Part No.	Description
CA28	24538334	PF, 0.33μF
CA29	24232103	CD, 0.01μF, +80%,–20%
CA31	24232103	CD, 0.01μF, +80%,–20%
CA32	24794471	EL, 470μF, ±20%, 16V
CA34	24232103	CD, 0.01μF, +80%,–20%
CA35	24590102	PF, 1000pF
CA36	24590104	PF, 0.1μF
CA37	24232103	CD, 0.01μF, +80%,–20%
CA39	24232103	CD, 0.01μF, +80%,–20%
CA40	24232103	CD, 0.01μF, +80%,–20%
CA41	24797479	EL, 4.7μF, ±20%, 50V
CA42	24797479	EL, 4.7μF, ±20%, 50V
CA43	24232103	CD, 0.01μF, +80%,–20%
CH01	24797010	EL, 1μF, ±20%, 50V
CH02	24797010	EL, 1μF, ±20%, 50V
CH03	24797010	EL, 1μF, ±20%, 50V
CH04	24797010	EL, 1μF, ±20%, 50V
CH05	24797010	EL, 1μF, ±20%, 50V
CH06	24797010	EL, 1μF, ±20%, 50V
CH07	24797100	EL, 10μF, ±20%, 50V
CM01	24436221	CD, 220pF
CM02	24436221	CD, 220pF
CM03	24340080	CD, 8pF, ±0.25pF
CM04	24340080	CD, 8pF, ±0.25pF
CM05	24232103	CD, 0.01μF, +80%,–20%
CM06	24357270	CD, 27pF
CM07	24590563	PF, 0.056μF
CM08	24232103	CD, 0.01μF, +80%,–20%
CM09	24357200	CD, 20pF
CM10	24473270	CD, 27pF
CM11	24590822	PF, 8200pF
CM13	24590104	PF, 0.1μF
CM14	24357200	CD, 20pF
CN02	24436150	CD, 15pF
CN07	24473390	CD, 39pF
CN09	24814103	Chip, 0.01μF, +80%, –20%
CN10	24474101	CD, 100pF, ±10%
CN11	24774080	Chip, 8pF, ±0.5pF
CN12	24774220	Chip, 22pF
CN13	24814103	Chip, 0.01μF, +80%, –20%
CN16	24212102	CD, 1000pF, ±10%
CN17	24212102	CD, 1000pF, ±10%
CN19	24774270	Chip, 27pF
CN20	24232103	CD, 0.01μF, +80%,–20%
CN21	24774270	Chip, 27pF
CN22	24814103	Chip, 0.01μF, +80%, –20%
CN23	24287103	Chip, 0.01μF, +80%, –20%
CN24	24814103	Chip, 0.01μF, +80%, –20%
CN25	24814103	Chip, 0.01μF, +80%, –20%
CN30	24814103	Chip, 0.01μF, +80%, –20%
CN31	24774101	Chip, 100pF
CN32	24094959	Variable Capacitor, 2 to 12pF, 50V
CN33	24774100	Chip, 10pF
CN34	24776131	Chip, 130pF
CN35	24814103	Chip, 0.01μF, +80%, –20%
CN36	24814103	Chip, 0.01μF, +80%, –20%
CN37	24814103	Chip, 0.01μF, +80%, –20%
CN38	24814103	Chip, 0.01μF, +80%, –20%
CN41	24814103	Chip, 0.01μF, +80%, –20%
CN42	24814103	Chip, 0.01μF, +80%, –20%
CN43	24814103	Chip, 0.01μF, +80%, –20%
CN44	24774130	Chip, 13pF
CN45	24774101	Chip, 100pF

Location No.	Part No.	Description
CN46	24094959	Variable Capacitor, 2 to 12pF, 50V
CN51	24094959	Variable Capacitor, 2 to 12pF, 50V
CN52	24776130	Chip, 13pF
CV01	24797100	EL, 10μF, ±20%, 50V
CV02	24797100	EL, 10μF, ±20%, 50V
CV04	24794101	EL, 100μF, ±20%, 16V
CV05	24232103	CD, 0.01μF, +80%,–20%
CV06	24797479	EL, 4.7μF, ±20%, 50V
CV07	24797100	EL, 10μF, ±20%, 50V
CV08	24797010	EL, 1μF, ±20%, 50V
CV09	24794101	EL, 100μF, ±20%, 16V
CV10	24794100	EL, 10μF, ±20%, 16V
CV11	24797229	EL, 2.2μF, ±20%, 50V
CV12	24232103	CD, 0.01μF, +80%,–20%
CV24	24794471	EL, 470μF, ±20%, 16V
CV27	24794100	EL, 10μF, ±20%, 16V
CV29	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
CX02	24538474	PF, 0.47μF
CX03	24538474	PF, 0.47μF
CX04	24538474	PF, 0.47μF

RESISTORS

R101	24872222	Chip, 2200 ohm, 1/16W
R102	24872124	Chip, 120k ohm, 1/16W
R103	24872222	Chip, 2200 ohm, 1/16W
R104	24872332	Chip, 3300 ohm, 1/16W
R105	24872103	Chip, 10k ohm, 1/16W
R106	24872473	Chip, 47k ohm, 1/16W
R107	24872103	Chip, 10k ohm, 1/16W
R108	24872102	Chip, 1k ohm, 1/16W
R109	24872822	Chip, 8200 ohm, 1/16W
R110	24872562	Chip, 5600 ohm, 1/16W
R111	24872151	Chip, 150 ohm, 1/16W
R112	24872332	Chip, 3300 ohm, 1/16W
R113	24872112	Chip, 1100 ohm, 1/16W
R114	24872222	Chip, 2200 ohm, 1/16W
R115	24872101	Chip, 100 ohm, 1/16W
R116	24871471	Chip, 470 ohm, 1/8W
R117	24872112	Chip, 1100 ohm, 1/16W
R118	24872470	Chip, 47 ohm, 1/16W
R119	24872472	Chip, 4700 ohm, 1/16W
R120	24872154	Chip, 150k ohm, 1/16W
R121	24872331	Chip, 330 ohm, 1/16W
R122	24872820	Chip, 82 ohm, 1/16W
R123	24872181	Chip, 180 ohm, 1/16W
R124	24872331	Chip, 330 ohm, 1/16W
R125	24872331	Chip, 330 ohm, 1/16W
R126	24872101	Chip, 100 ohm, 1/16W
R127	24552101	OMF, 100 ohm, 1/2W
R128	24872334	Chip, 330k ohm, 1/16W
R129	24871101	Chip, 100 ohm, 1/8W
R130	24871513	Chip, 51k ohm, 1/8W
R131	24872753	Chip, 75k ohm, 1/16W
R132	24872684	Chip, 680k ohm, 1/16W
R133	24872272	Chip, 2700 ohm, 1/16W
R134	24871223	Chip, 22k ohm, 1/8W
R137	24872103	Chip, 10k ohm, 1/16W
R138	24872473	Chip, 47k ohm, 1/16W
R151	24066953	VR, 5k ohm, 1/10W
R152	24066951	VR, 20k ohm, 1/10W
R153	24066946	VR, 1M ohm, 1/10W

Location No.	Part No.	Description
R160	24872680	Chip, 68 ohm, 1/16W
R161	24872680	Chip, 68 ohm, 1/16W
R163	24872682	Chip, 6800 ohm, 1/16W
R164	24872162	Chip, 1600 ohm, 1/16W
R165	24872562	Chip, 5600 ohm, 1/16W
R166	24872360	Chip, 36 ohm, 1/16W
R167	24552471	OMF, 470 ohm, 1/2W
R168	24366680	CF, 68 ohm
R169	24366682	CF, 6800 ohm
R170	24366102	CF, 1k ohm
R171	24366561	CF, 560 ohm
R172	24366101	CF, 100 ohm
R173	24552101	OMF, 100 ohm, 1/2W
R181	24872103	Chip, 10k ohm, 1/16W
R182	24872473	Chip, 47k ohm, 1/16W
R183	24872682	Chip, 6800 ohm, 1/16W
R184	24872162	Chip, 1600 ohm, 1/16W
R185	24872562	Chip, 5600 ohm, 1/16W
R186	24872360	Chip, 36 ohm, 1/16W
R187	24552471	OMF, 470 ohm, 1/2W
R201	24872271	Chip, 270 ohm, 1/16W
R203	24366182	CF, 1800 ohm
R204	24366152	CF, 1500 ohm
R205	24366182	CF, 1800 ohm
R208	24366101	CF, 100 ohm
R209	24366103	CF, 10k ohm
R210	24366203	CF, 20k ohm
R211	24366622	CF, 6200 ohm
R212	24366103	CF, 10k ohm
R213	24366101	CF, 100 ohm
R214	24366182	CF, 1800 ohm
R215	24366152	CF, 1500 ohm
R216	24366333	CF, 33k ohm
R217	24366101	CF, 100 ohm
R218	24366472	CF, 4700 ohm
R219	24366472	CF, 4700 ohm
R220	24366753	CF, 75k ohm
R221	24366564	CF, 560k ohm
R222	24366751	CF, 750 ohm
R223	24366103	CF, 10k ohm
R224	24366333	CF, 33k ohm
R225	24366152	CF, 1500 ohm
R226	24366104	CF, 100k ohm
R227	24366105	CF, 1M ohm
R228	24366104	CF, 100k ohm
R229	24366303	CF, 30k ohm
R230	24366102	CF, 1k ohm
R232	24366473	CF, 47k ohm
R233	24366102	CF, 1k ohm
R234	24366223	CF, 22k ohm
R235	24366473	CF, 47k ohm
R241	24366101	CF, 100 ohm
R242	24366223	CF, 22k ohm
R243	24366223	CF, 22k ohm
R244	24366103	CF, 10k ohm
R245	24366103	CF, 10k ohm
R252	24066597	VR, 1k ohm, 1/10W
R253	24066597	VR, 1k ohm, 1/10W
R255	24066601	VR, 20k ohm, 1/10W
R301	24366201	CF, 200 ohm
R302	24366244	CF, 240k ohm
R303	24366273	CF, 27k ohm
R304	24366102	CF, 1k ohm
R305	24366161	CF, 160 ohm

Location No.	Part No.	Description
R306	24366471	CF, 470 ohm
R309	24366102	CF, 1k ohm
R311	24366242	CF, 2400 ohm
R316	24552821	OMF, 820 ohm, 1/2W
⚠R317	24383391	OMF, 390 ohm, 2W
R318	24366153	CF, 15k ohm
R321	24366153	CF, 15k ohm
R322	24366244	CF, 240k ohm
R323	24322169	OMF, 1.6 ohm, 1W
R325	24552122	OMF, 1200 ohm, 1/2W
⚠R327	24000192	FR, 6.8 ohm, 1W
R329	24552472	OMF, 4700 ohm, 1/2W
R333	24366102	CF, 1k ohm
R351	24066602	VR, 50k ohm, 1/10W
R377	24366184	CF, 180k ohm
R378	24366824	CF, 820k ohm
R380	24366153	CF, 15k ohm
R402	24366273	CF, 27k ohm
R403	24366302	CF, 3k ohm
R404	24552432	OMF, 4300 ohm, 1/2W
R405	24366511	CF, 510 ohm
R407	24366201	CF, 200 ohm
R408	24366682	CF, 6800 ohm
R411	24366391	CF, 390 ohm
R412	24366121	CF, 120 ohm
⚠R416	24510182	Cement, 1800 ohm, 5W
R419	24366510	CF, 51 ohm
R420	24009951	OMF, 1k ohm, 1W
R421	24366105	CF, 1M ohm
R423	24552221	OMF, 220 ohm, 1/2W
R440	24376333	CF, 33k ohm, 1/2W
R441	24376333	CF, 33k ohm, 1/2W
R442	24382751	OMF, 750 ohm, 1W
R444	24569479	Cement, 4.7 ohm, 10W
⚠R448	24322129	OMF, 1.2 ohm, 1W
R451	24066601	VR, 20k ohm, 1/10W
R452	24069547	VR, 5k ohm, 0.08W, CC
R501	24366821	CF, 820 ohm
R502	24366334	CF, 330k ohm
R503	24366202	CF, 2k ohm
R504	24366391	CF, 390 ohm
R505	24366822	CF, 8200 ohm
R507	24366822	CF, 8200 ohm
R508	24366821	CF, 820 ohm
R509	24366223	CF, 22k ohm
R510	24366101	CF, 100 ohm
R511	24366682	CF, 6800 ohm
R512	24366152	CF, 1500 ohm
R513	24366152	CF, 1500 ohm
R515	24366221	CF, 220 ohm
R516	24366221	CF, 220 ohm
R517	24366221	CF, 220 ohm
R521	24366562	CF, 5600 ohm
R522	24366185	CF, 1.8M ohm
R523	24366102	CF, 1k ohm
R524	24366103	CF, 10k ohm
R525	24366103	CF, 10k ohm
R526	24366122	CF, 1200 ohm
R527	24366122	CF, 1200 ohm
⚠R529	24510562	Cement, 5600 ohm, 5W
R533	24366332	CF, 3300 ohm
R535	24366681	CF, 680 ohm
R537	24366332	CF, 3300 ohm
R538	24366681	CF, 680 ohm

Location No.	Part No.	Description
R539	24366332	CF, 3300 ohm
R541	24366821	CF, 820 ohm
R542	24366241	CF, 240 ohm
R543	24366103	CF, 10k ohm
R547	24366102	CF, 1k ohm
R548	24366102	CF, 1k ohm
R549	24366102	CF, 1k ohm
R551	24066955	VR, 1k ohm, 1/10W
R557	24066600	VR, 10k ohm, 1/10W
R558	24066600	VR, 10k ohm, 1/10W
R559	24066600	VR, 10k ohm, 1/10W
R565	24366560	CF, 56 ohm
R566	24366560	CF, 56 ohm
R567	24366560	CF, 56 ohm
R568	24366102	CF, 1k ohm
R570	24366272	CF, 2700 ohm
R571	24366272	CF, 2700 ohm
R572	24366272	CF, 2700 ohm
R580	24366181	CF, 180 ohm
R581	24366681	CF, 680 ohm
⚠R591	24383153	OMF, 15k ohm, 2W
⚠R592	24383153	OMF, 15k ohm, 2W
⚠R593	24383153	OMF, 15k ohm, 2W
R596	24366101	CF, 100 ohm
R601	24366222	CF, 2200 ohm
R602	24366561	CF, 560 ohm
R603	24872222	Chip, 2200 ohm, 1/16W
R604	24366563	CF, 56k ohm
R605	24366563	CF, 56k ohm
R606	24366102	CF, 1k ohm
R607	24366102	CF, 1k ohm
R609	24366911	CF, 910 ohm
R610	24366102	CF, 1k ohm
R611	24366102	CF, 1k ohm
R615	24366102	CF, 1k ohm
R625	24366102	CF, 1k ohm
R626	24366102	CF, 1k ohm
R627	24366103	CF, 10k ohm
R628	24366473	CF, 47k ohm
R629	24366105	CF, 1M ohm
R630	24366105	CF, 1M ohm
R631	24366562	CF, 5600 ohm
R632	24366223	CF, 22k ohm
R633	24366472	CF, 4700 ohm
R634	24366682	CF, 6800 ohm
R635	24366103	CF, 10k ohm
R637	24366102	CF, 1k ohm
R638	24366102	CF, 1k ohm
R660	24366101	CF, 100 ohm
R661	24366333	CF, 33k ohm
R662	24323279	OMF, 2.7 ohm, 2W
R663	24366223	CF, 22k ohm
R664	24366104	CF, 100k ohm
R666	24366152	CF, 1500 ohm
R667	24366152	CF, 1500 ohm
R668	24366133	CF, 13k ohm
R670	24872183	Chip, 18k ohm, 1/16W
R671	24872562	Chip, 5600 ohm, 1/16W
R672	24872561	Chip, 560 ohm, 1/16W
R673	24872271	Chip, 270 ohm, 1/16W
R675	24872821	Chip, 820 ohm, 1/16W
R690	24366273	CF, 27k ohm
R695	24366339	CF, 3.3 ohm
R696	24366223	CF, 22k ohm

Location No.	Part No.	Description
R697	24366224	CF, 220k ohm
R698	24366472	CF, 4700 ohm
R699	24366332	CF, 3300 ohm
R801	24004914	CC, 5.6M ohm, 1/2W
⚠R802	24569689	Cement, 6.8 ohm, 10W
R810	24377334	CF, 330k ohm, 1W
R813	24556109	FR, 1 ohm, ±10%, 1/2W
R814	24366823	CF, 82k ohm
R815	24366221	CF, 220 ohm
R816	24367122	CF, 1200 ohm, ±2%
R817	24321398	OMF, 0.39 ohm, 1/2W
⚠R818	24510103	Cement, 10k ohm, 5W
R819	24366689	CF, 6.8 ohm
R820	24366102	CF, 1k ohm
⚠R821	24568181	Cement, 180 ohm, 7W
R823	24367562	CF, 5600 ohm, ±2%
R824	24366123	CF, 12k ohm
⚠R825	24382620	OMF, 62 ohm, 1W
⚠R826	24510822	Cement, 8200 ohm, 5W
R828	24367102	CF, 1k ohm, ±2%
R829	24382473	OMF, 47k ohm, 1W
R830	24366272	CF, 2700 ohm
R831	24366103	CF, 10k ohm
⚠R832	24383331	OMF, 330 ohm, 2W
⚠R837	24322758	OMF, 0.75 ohm, 1W
R838	24366392	CF, 3900 ohm
R840	24366101	CF, 100 ohm
R841	24366103	CF, 10k ohm
R842	24376154	CF, 150k ohm, 1/2W
R843	24366392	CF, 3900 ohm
R851	24066954	VR, 2k ohm, 1/10W
⚠R890	24000630	PTC Thermistor, Dual
R901	24946272	CC, 2700 ohm, ±10%, 1/2W
R902	24946272	CC, 2700 ohm, ±10%, 1/2W
R903	24946272	CC, 2700 ohm, ±10%, 1/2W
⚠R920	24000890	FR, 1.6 ohm, 1W
RA01	24366102	CF, 1k ohm
RA02	24366102	CF, 1k ohm
RA05	24366102	CF, 1k ohm
RA06	24366102	CF, 1k ohm
RA07	24366102	CF, 1k ohm
RA08	24366102	CF, 1k ohm
RA09	24366103	CF, 10k ohm
RA10	24366102	CF, 1k ohm
RA11	24366472	CF, 4700 ohm
RA12	24366102	CF, 1k ohm
RA13	24366472	CF, 4700 ohm
RA14	24366102	CF, 1k ohm
RA15	24366102	CF, 1k ohm
RA17	24366102	CF, 1k ohm
RA19	24366103	CF, 10k ohm
RA20	24366102	CF, 1k ohm
RA21	24366102	CF, 1k ohm
RA22	24366332	CF, 3300 ohm
RA23	24366471	CF, 470 ohm
RA24	24366102	CF, 1k ohm
RA25	24366103	CF, 10k ohm
RA27	24366392	CF, 3900 ohm
RA28	24366471	CF, 470 ohm
RA30	24366331	CF, 330 ohm
RA31	24366102	CF, 1k ohm
RA33	24366103	CF, 10k ohm
RA35	24366103	CF, 10k ohm
RA36	24366102	CF, 1k ohm
RA38	24366103	CF, 10k ohm

Location No.	Part No.	Description
RA39	24366153	CF, 15k ohm
RA40	24366473	CF, 47k ohm
RA41	24366103	CF, 10k ohm
RA42	24366473	CF, 47k ohm
RA43	24366153	CF, 15k ohm
RA44	24366102	CF, 1k ohm
RA45	24366223	CF, 22k ohm
RA46	24000245	MF, 33k ohm, ±1%, 1/4W
RA48	24000637	MF, 15k ohm, ±1%, 1/4W
RA49	24366103	CF, 10k ohm
RA60	24366103	CF, 10k ohm
RA61	24366225	CF, 2.2M ohm
RA62	24366223	CF, 22k ohm
RA64	24946226	CC, 22M ohm, ±10%, 1/2W
RA67	24366152	CF, 1500 ohm
RA68	24366223	CF, 22k ohm
RA69	24366563	CF, 56k ohm
RA70	24366393	CF, 39k ohm
RA73	24366223	CF, 22k ohm
RA74	24366223	CF, 22k ohm
RA75	24366102	CF, 1k ohm
RA78	24366103	CF, 10k ohm
RA86	24366392	CF, 3900 ohm
RA97	24383103	OMF, 10k ohm, 2W
RB01	24366333	CF, 33k ohm
RB03	24366103	CF, 10k ohm
RB04	24366103	CF, 10k ohm
RB05	24366332	CF, 3300 ohm
RB06	24366473	CF, 47k ohm
RC06	24366222	CF, 2200 ohm
RC08	24366222	CF, 2200 ohm
RH01	24366102	CF, 1k ohm
RH02	24366152	CF, 1500 ohm
RH03	24366102	CF, 1k ohm
RH04	24366182	CF, 1800 ohm
RH05	24366102	CF, 1k ohm
RH07	24366102	CF, 1k ohm
RH09	24366102	CF, 1k ohm
RH11	24366101	CF, 100 ohm
RH32	24366332	CF, 3300 ohm
RJ01	24000576	Chip Jumper, 3216 type
RJ02	24000576	Chip Jumper, 3216 type
RJ03	24000824	Chip Jumper, 2125 type
RJ04	24000824	Chip Jumper, 2125 type
RJ05	24000576	Chip Jumper, 3216 type
RJ06	24000824	Chip Jumper, 2125 type
RJ07	24000824	Chip Jumper, 2125 type
RJ08	24000824	Chip Jumper, 2125 type
RJ09	24000824	Chip Jumper, 2125 type
RJ10	24000576	Chip Jumper, 3216 type
RM03	24366272	CF, 2700 ohm
RM04	24366432	CF, 4300 ohm
RM05	24366221	CF, 220 ohm
RM06	24366471	CF, 470 ohm
RM07	24366475	CF, 4.7M ohm
RN02	24366102	CF, 1k ohm
RN05	24366392	CF, 3900 ohm
RN08	24366103	CF, 10k ohm
RN10	24872472	Chip, 4700 ohm, 1/16W
RN16	24872103	Chip, 10k ohm, 1/16W
RN17	24872473	Chip, 47k ohm, 1/16W
RN19	24872473	Chip, 47k ohm, 1/16W
RN20	24871821	Chip, 820 ohm, 1/8W
RN21	24872103	Chip, 10k ohm, 1/16W

Location No.	Part No.	Description
RN22	24871152	Chip, 1500 ohm, 1/8W
RN23	24872512	Chip, 5100 ohm, 1/16W
RN24	24871152	Chip, 1500 ohm, 1/8W
RN26	24872512	Chip, 5100 ohm, 1/16W
RN27	24872153	Chip, 15k ohm, 1/16W
RN28	24872332	Chip, 3300 ohm, 1/16W
RN30(U101)	24872101	Chip, 100 ohm, 1/16W
RN30(U902)	24366202	CF, 2k ohm
RN31	24871331	Chip, 330 ohm, 1/8W
RN32	24872105	Chip, 1M ohm, 1/16W
RN34	24872272	Chip, 2700 ohm, 1/16W
RN35	24872272	Chip, 2700 ohm, 1/16W
RN36	24366103	CF, 10k ohm
RN37	24366473	CF, 47k ohm
RN38	24366562	CF, 5600 ohm
RN39	24366562	CF, 5600 ohm
RN40	24366562	CF, 5600 ohm
RN41	24366152	CF, 1500 ohm
RN44	24872272	Chip, 2700 ohm, 1/16W
RN45	24872473	Chip, 47k ohm, 1/16W
RN46	24872103	Chip, 10k ohm, 1/16W
RN47	24366473	CF, 47k ohm
RN48	24366103	CF, 10k ohm
RN51	24872101	Chip, 100 ohm, 1/16W
RN52	24872101	Chip, 100 ohm, 1/16W
RN53	24872152	Chip, 1500 ohm, 1/16W
RN54	24871472	Chip, 4700 ohm, 1/8W
RN55	24872472	Chip, 4700 ohm, 1/16W
RN56	24871102	Chip, 1k ohm, 1/8W
RN57	24872102	Chip, 1k ohm, 1/16W
RN58	24872223	Chip, 22k ohm, 1/16W
RN59	24872102	Chip, 1k ohm, 1/16W
RN66	24871331	Chip, 330 ohm, 1/8W
RN67	24552181	OMF, 180 ohm, 1/2W
RN69	24872473	Chip, 47k ohm, 1/16W
RN70	24872103	Chip, 10k ohm, 1/16W
RN71	24872473	Chip, 47k ohm, 1/16W
RN72	24872103	Chip, 10k ohm, 1/16W
RN73	24872562	Chip, 5600 ohm, 1/16W
RN74	24872223	Chip, 22k ohm, 1/16W
RN75	24872333	Chip, 33k ohm, 1/16W
RN76	24872473	Chip, 47k ohm, 1/16W
RN77	24872103	Chip, 10k ohm, 1/16W
RN79	24872103	Chip, 10k ohm, 1/16W
RN80	24872682	Chip, 6800 ohm, 1/16W
RR01	24366102	CF, 1k ohm
RR06	24366391	CF, 390 ohm
RV01	24366821	CF, 820 ohm
RV02	24366102	CF, 1k ohm
RV03	24366472	CF, 4700 ohm
RV04	24366473	CF, 47k ohm
RV07	24552750	OMF, 75 ohm, 1/2W
RV08	24366331	CF, 330 ohm
RV09	24366393	CF, 39k ohm
RV10	24366472	CF, 4700 ohm
RV11	24366392	CF, 3900 ohm
RV12	24366101	CF, 100 ohm
RV13	24366223	CF, 22k ohm
RV14	24366104	CF, 100k ohm
RV15	24366821	CF, 820 ohm
RV16	24366101	CF, 100 ohm
RV17	24366104	CF, 100k ohm
RV18	24366223	CF, 22k ohm
RV19	24366271	CF, 270 ohm

Location No.	Part No.	Description
RV21	24366622	CF, 6200 ohm
RV29	24366472	CF, 4700 ohm
RV30	24366102	CF, 1k ohm
RV33	24366472	CF, 4700 ohm
RV34	24366103	CF, 10k ohm
RV39	24366910	CF, 91 ohm
RV40	24366680	CF, 68 ohm
RV41	24366103	CF, 10k ohm
RV42	24366750	CF, 75 ohm
RV43	24366510	CF, 51 ohm
RV44	24366510	CF, 51 ohm
RV45	24366510	CF, 51 ohm
RV46	24366101	CF, 100 ohm
RV60	24366220	CF, 22 ohm
RV61	24366220	CF, 22 ohm
RV62	24366220	CF, 22 ohm
RV63	24366622	CF, 6200 ohm
RV64	24366622	CF, 6200 ohm
RV65	24366104	CF, 100k ohm
RV68	24366471	CF, 470 ohm
RV69	24366433	CF, 43k ohm
RV70	24366563	CF, 56k ohm
RV71	24366752	CF, 7500 ohm
RV74	24366564	CF, 560k ohm
RX02	24366102	CF, 1k ohm
RX05	24366101	CF, 100 ohm
RX08	24366101	CF, 100 ohm
RX10	24366101	CF, 100 ohm
RX13	24366102	CF, 1k ohm

COILS & TRANSFORMERS

L101	23238714	Coil, Peaking, TRF4100AJ
L102	23262819	Coil, PIF, TRF1071D
L103	23238714	Coil, Peaking, TRF4100AJ
L104	23238715	Coil, Peaking, TRF4829AJ
L105	23238719	Coil, Peaking, TRF4399AJ
L107	23238714	Coil, Peaking, TRF4100AJ
L112	23238720	Coil, Peaking, TRF4339AJ
L113	23238720	Coil, Peaking, TRF4339AJ
L151	23262668	Coil, IF, TRF1162T
L152	23262663	Coil, IF, TRF1157T
L153	23262813	Coil, IF, TRF1077D
L161	23201004	Coil, RF Choke, TRF9202B
L162	23261983	Coil, RF Choke, TRF9223
L181	23261985	Coil, RF Choke, TRF9221
L201	23238511	Coil, Peaking, TRF4221AJ
L311	23103901	Coil (Ferrite Bead), TEM2017
L315	23238714	Coil, Peaking, TRF4100AJ
L406	23103859	Coil (Ferrite Bead), TEM2011
L411	23233070	Coil, Linearity, TLN2111G
L412	23221968	Coil, Choke, TLN3010
L441	23238934	Coil, Peaking, TRF4109AC
⚠L462	23227345	Deflection Yoke, AT6050/00
L503	23238714	Coil, Peaking, TRF4100AJ
L551	23250972	Coil, 1H-Delay Matching, TRF5418D
L590	23289221	Coil, Peaking, TRF4221AF
L591	23238922	Coil, Peaking, TRF4100AC
L601	23262815	Coil, SIF, TRF1075
L602	23262821	Coil, PIF, TRF1069
L604	23237986	Coil, Peaking, TRF4120AC
L651	23232942	Coil, Variable, TRF3077
L652	23232942	Coil, Variable, TRF3077
L801	23221050	Coil, RF Choke, TLN1015

Location No.	Part No.	Description
L802	23103859	Coil (Ferrite Bead), TEM2011
L803	23221747	Coil, Choke, TRF9253D
L804	23221747	Coil, Choke, TRF9253D
L805	23222694	Coil, Width, TLN2026
L806	23103859	Coil (Ferrite Bead), TEM2011
L807	23222694	Coil, Width, TLN2026
⚠L901	23200696	Coil, Degaussing, TSB-2293AT
LA01	23238562	Coil, Peaking, TRF4109AJ
LA02	23221685	Coil, Choke, TLN3193
LB01	23262778	Coil, IF, TRF1112
LM01	23262797	Coil, IF, TRF1093D
LM02	23262002	Coil, IF, TRF1167D
LM03	23262002	Coil, IF, TRF1167D
LM04	23262798	Coil, IF, TRF1092D
LN02	23238712	Coil, Peaking, TRF4150AJ
LV01	23238712	Coil, Peaking, TRF4150AJ
⚠T401	23224983	Transformer, Horiz. Drive, TLN1039
⚠T461	23236425	Transformer, Flyback, AT2079/17
T801	23211644	Line Filter, TRF3118G
⚠T803	23217074	Transformer, Converter, 47003593
TN01	23232002	Coil, Variable, TRF3520D
TN02	23262843	Coil, PIF Trap, TRF1457D

SEMICONDUCTORS

IC101	23318437	IC, μPC1820CA
IC303	23119548	IC, AN5515
IC408	23319203	IC, MC7812CT
IC501	B0379470	IC, TA8659N
IC661	23319944	IC, TDA7056A
IC801	23318232	IC, TDA4601
IC807	23318299	IC, L78MR05-FA
ICA01	23319152	IC, M34300-588SP
ICA02	23318482	IC, M6M80011AP
ICA04	23119441	IC, LA7910
ICH01	23119139	IC, AN5862K
ICV01	23319028	IC, NJM2245L
ICV02	70128382	IC, NJM2234S
Q102	A6541137	Transistor, 2SA1162-Y
Q103	A6317440	Transistor, 2SC1815N-Y
Q104	A6335477	Transistor, 2SC2712-Y(R)
Q111	A6335477	Transistor, 2SC2712-Y(R)
Q161	A6357139	Transistor, 2SC3125FA-6
Q162	A6708871	Transistor, 2SC388ATM
Q163	A6357139	Transistor, 2SC3125FA-6
Q164	A6359860	Transistor, 2SC3326-A
Q201	23114689	Transistor, BC547A
Q202	23114691	Transistor, BC557A
Q203	23114689	Transistor, BC547A
Q204	A6041876	Transistor, 2SK117-GR FA-2
Q206	23114689	Transistor, BC547A
Q208	23114689	Transistor, BC547A
Q363	23114689	Transistor, BC547A
Q402	A6330069	Transistor, 2SC2482FA-1
⚠Q404	23314375	Transistor, ON4409
Q406	23314229	Transistor, 2SD1378-Q
Q502	23114691	Transistor, BC557A
Q503	23114691	Transistor, BC557A
Q505	A6363200	Transistor, 2SC3619
Q506	23114689	Transistor, BC547A
Q507	A6363200	Transistor, 2SC3619
Q508	23114689	Transistor, BC547A

Location No.	Part No.	Description
Q509	A6363200	Transistor, 2SC3619
Q510	23114689	Transistor, BC547A
Q514	23114688	Transistor, BC327
Q590	23114689	Transistor, BC547A
Q601	23904053	Transistor, TDA4480-D
Q602	23114689	Transistor, BC547A
Q603	23114689	Transistor, BC547A
Q604	A6041876	Transistor, 2SK117-GR FA-2
Q605	A6041876	Transistor, 2SK117-GR FA-2
Q606	23114689	Transistor, BC547A
Q607	23114689	Transistor, BC547A
Q608	23114689	Transistor, BC547A
Q671	A6335477	Transistor, 2SC2712-Y(R)
Q672	A6335477	Transistor, 2SC2712-Y(R)
Q697	23114689	Transistor, BC547A
Q698	A6342206	Transistor, 2SC2878-A
Q699	23114691	Transistor, BC557A
⚠Q802	A6871313	Transistor, 2SD1556(E)
Q803	23314246	Transistor, 2SC2023 LF-4
Q804	A6547303	Transistor, 2SA1321
Q805	A6325067	Transistor, 2SC2230A-Y
Q806	23114546	Transistor, BC557B
Q808	A6547250	Transistor, 2SA1320
QA05	23114689	Transistor, BC547A
QA06	23114632	Transistor, BC547B
QA07	23114689	Transistor, BC547A
QA09	23114691	Transistor, BC557A
QA10	23114689	Transistor, BC547A
QA11	23114546	Transistor, BC557B
QB01	23114689	Transistor, BC547A
QB02	23114689	Transistor, BC547A
QH03	23114689	Transistor, BC547A
QH04	23114689	Transistor, BC547A
QH05	23114689	Transistor, BC547A
QN01	A6357139	Transistor, 2SC3125 FA-6
QN02	A6335477	Transistor, 2SC2712-Y(R)
QN03	A6335477	Transistor, 2SC2712-Y(R)
QN04	A6335477	Transistor, 2SC2712-Y(R)
QN05	A6335477	Transistor, 2SC2712-Y(R)
QN06	A6357139	Transistor, 2SC3125 FA-6
QN08	A6335477	Transistor, 2SC2712-Y(R)
QN09	A6335477	Transistor, 2SC2712-Y(R)
QN10	A6335477	Transistor, 2SC2712-Y(R)
QN11	A6043341	Transistor, 2SK209GR
QN13	23114689	Transistor, BC547A
QN15	A6335477	Transistor, 2SC2712-Y(R)
QN16	23114689	Transistor, BC547A
QV03	23114689	Transistor, BC547A
QV07	23114689	Transistor, BC547A
QV10	23114689	Transistor, BC547A
QV11	A6342206	Transistor, 2SC2878-A
D201	23115599	Diode, 1N4148
D202	23115599	Diode, 1N4148
D241	A7150041	Diode, 1SS104
D302	23118479	Diode, BYD33J
D305	23118479	Diode, BYD33J
D314	23316332	Diode, Zener, UZ12BSA
D315	A7116715	Diode, Zener, 04AZ7.5Y
D367	23115599	Diode, 1N4148
D401	23316325	Diode, Zener, UZ9.1BSC
D402	23316348	Diode, Zener, UZ20BSB
D403	23316333	Diode, Zener, UZ12BSB
D406	23118479	Diode, BYD33J
D408	23118479	Diode, BYD33J

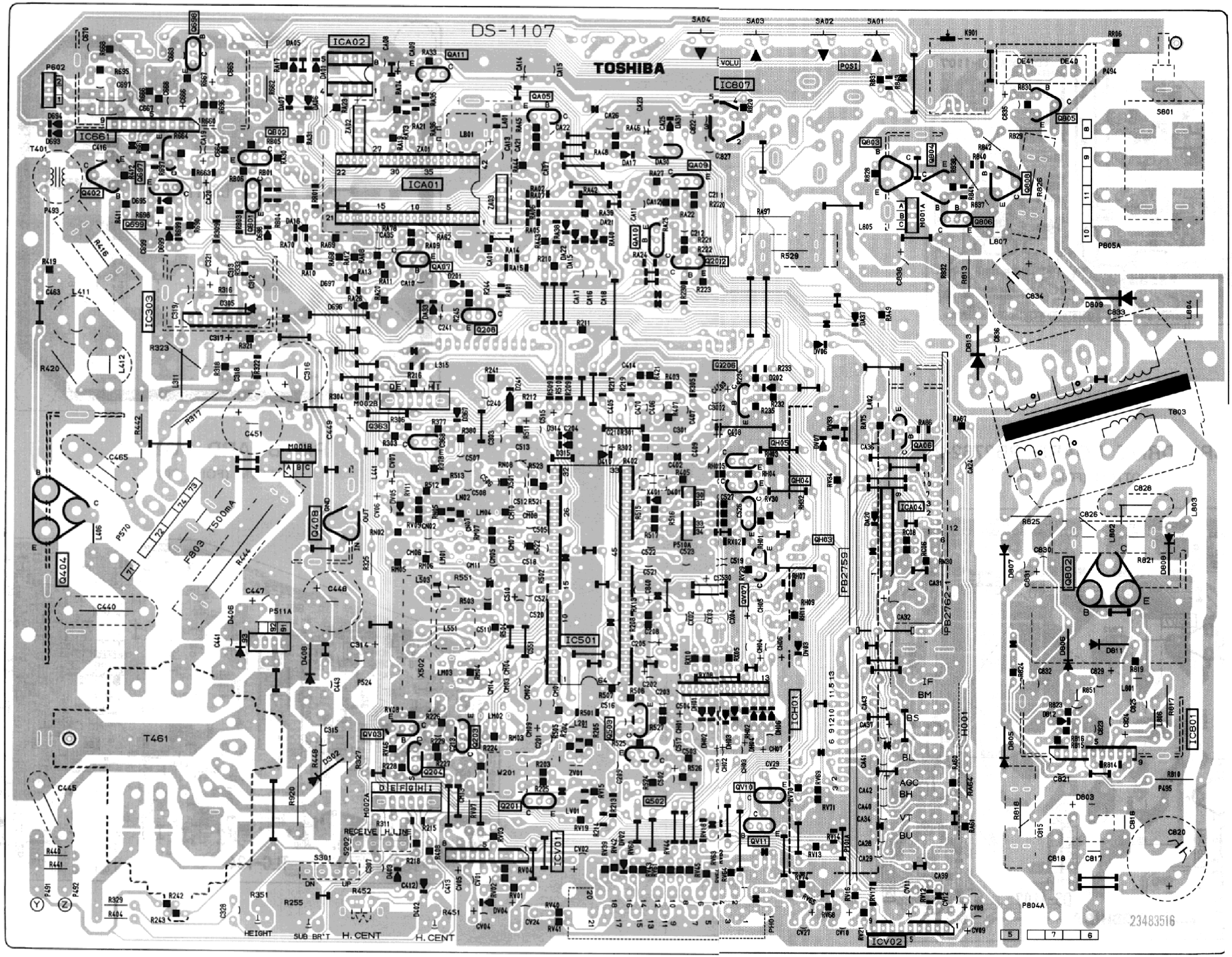
Location No.	Part No.	Description
D410	23316321	Diode, Zener, UZ8.2BSB
D590	23115599	Diode, 1N4148
D594	23115599	Diode, 1N4148
D595	23115599	Diode, 1N4148
D601	23115599	Diode, 1N4148
D693	23115599	Diode, 1N4148
D694	23115599	Diode, 1N4148
D695	23115599	Diode, 1N4148
D696	23115599	Diode, 1N4148
D697	23115599	Diode, 1N4148
D698	23115599	Diode, 1N4148
D699	23115599	Diode, 1N4148
D803	23118124	Diode, LB-156 (LF-B)
D805	23118479	Diode, BYD33J
D806	23118479	Diode, BYD33J
D807	23118479	Diode, BYD33J
D808	23118736	Diode, BYV96E
D809	23118451	Diode, RU4A
D811	23118479	Diode, BYD33J
D812	23316312	Diode, Zener, UZ6.2BSB
D813	23118052	Diode, RU4Z
DA01	23115599	Diode, 1N4148
DA05	23115599	Diode, 1N4148
DA06	23115599	Diode, 1N4148
DA07	23115599	Diode, 1N4148
DA15	23115599	Diode, 1N4148
DA16	23115599	Diode, 1N4148
DA17	23115599	Diode, 1N4148
DA20	23115599	Diode, 1N4148
DA21	23115599	Diode, 1N4148
DA22	23115599	Diode, 1N4148
DA30	23115878	Diode, Zener, μPC574J(L)
DA31	23115599	Diode, 1N4148
DA33	23115599	Diode, 1N4148
DA37	23316301	Diode, Zener, UZ4.7BSA
DE40	A8636541	Diode (LED), TLS153, Red
DE41	A8606431	Diode (LED), TLG153, Green
DH01	23115599	Diode, 1N4148
DH02	23115599	Diode, 1N4148
DH03	23115599	Diode, 1N4148
DH04	23115599	Diode, 1N4148
DH05	23115599	Diode, 1N4148
DH06	23115599	Diode, 1N4148
DH07	23316302	Diode, Zener, UZ4.7BSB
DN02	A7150258	Diode, 1SS176
DN04	A7288601	Diode, 1S2186 FA-1
DN05	23316305	Diode, Zener, UZ5.1BSA
DN06	A7288601	Diode, 1S2186 FA-1
DN07	A7288601	Diode, 1S2186 FA-1
DN08	A7288601	Diode, 1S2186 FA-1
DN09	A7288601	Diode, 1S2186 FA-1
DN11	A7288601	Diode, 1S2186 FA-1
DN12	A7288601	Diode, 1S2186 FA-1
DN30	A7288601	Diode, 1S2186 FA-1
DN32	A7288601	Diode, 1S2186 FA-1
DN37	A7288601	Diode, 1S2186 FA-1
DV02	23115599	Diode, 1N4148
DV03	23316302	Diode, Zener, UZ4.7BSB
DV04	23316324	Diode, Zener, UZ9.1BSB
DV05	23115599	Diode, 1N4148
DV06	23115599	Diode, 1N4148
DV07	23115599	Diode, 1N4148
DV11	23316332	Diode, Zener, UZ12BSA

Location No.	Part No.	Description
MISCELLANEOUS		
⚠F801	23144896	Fuse, 2.0A
F801A	23165433	Holder, Fuse
⚠F803	23144876	Fuse, 0.5A
F803A	23165433	Holder, Fuse
K901	23120303	Remote Sensor, IR-9109-K
P601	23367681	Plug, 8P
⚠P801	23176697	Power Cord
P803	23164725	Plug, 2P
PH01	23365598	21Pin Connector
S202	23145542	Switch, Lever, 1C3P
S301	23145682	Switch, Lever, 1C3P
⚠S801	23145434	Switch, Power, 2C2P
SA01	23145430	Switch, Push, 1C1P
SA02	23145430	Switch, Push, 1C1P
SA03	23145430	Switch, Push, 1C1P
SA04	23145430	Switch, Push, 1C1P
⚠V901A	23902022	Socket, CRT, 8P
W201	23250881	Coil, Delay Line, TRF2082A
W661	23351079	Speaker, SPK-1351, 77x77mm, 16 ohm
X401	23153886	Ceramic Resonator, 503kHz, TCR1012
X501	23153979	Crystal, 4.43MHz
X502	23250950	Coil, 1H-Delay Line, DL711
Z101	A5615249	PIF SAW Filter, F1804D
Z102	23153725	Ceramic Resonator, TCR1043
Z103	23107911	Ceramic Video Trap, 5.5to 6MHz, TCF1019
Z104	23107658	Ceramic Video Trap, 5.74MHz, TCF1052
Z201	23107925	Ceramic Video Trap, 6.5MHz, TCF1013
Z602	A5613025	L-Secam WSSF, F328EM
Z603	23107948	Ceramic Filter, 6.0MHz, SFE6.0MBF
Z604	23107855	Ceramic Filter, 5.5MHz, TCF1031
ZA01	23153011	Ceramic Resonator, TCR1050
ZA02	24000766	Resistor Block, 10k ohmx4, 1/8W
ZA03	24094651	Capacitor Block, 100pFx4, 50V
ZV01	23107849	Ceramic Video Trap, 4.43MHz, TCF1032
PC BOARD ASSEMBLIES		
U902A	23369615	Main Board, PB2760
U903A	23369616	SIF Board, PB2762-1
U903B	23369617	CRT Drive Board, PB2762-2
U903C	23369618	Power Board, PB2762-3
Y991Z(U101)	23791027	PIF Board, PB2759
PICTURE TUBE		
⚠V901	23312213	Picture Tube, A41EAM01X, SVC
TUNER		
H001	23321005	Tuner, VHF/UHF, EG449X1
ACCESSORIES		
K902	23306004	Remote Hand Unit, CT-9480
AT03	23305351	Battery Cover

Location No.	Part No.	Description
Y101	23561655	Owner's Manual
Y130	23568256	Sticker, CATV-Hyper
Y131	23568214	Sticker, Wattage

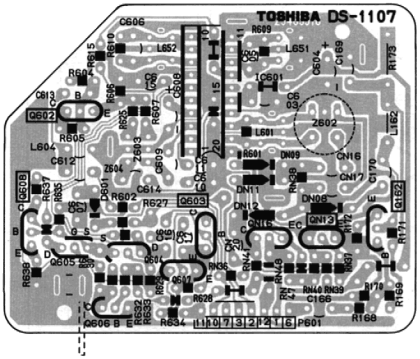
MAIN BOARD PB2760

BOTTOM (FOIL) SIDE



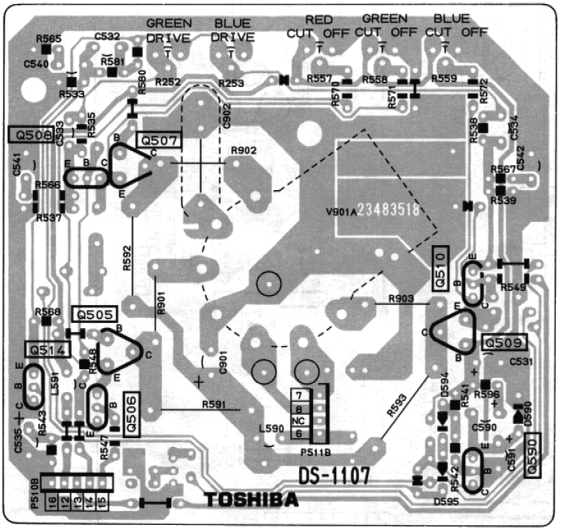
SIF BOARD PB2762-1

BOTTOM (FOIL) SIDE



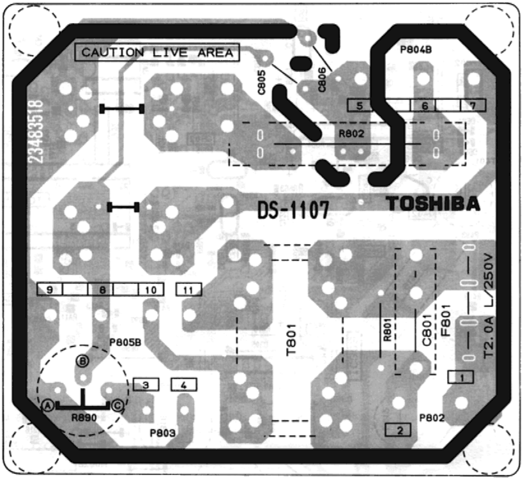
CRT DRIVE BOARD PB2762-2

BOTTOM (FOIL) SIDE



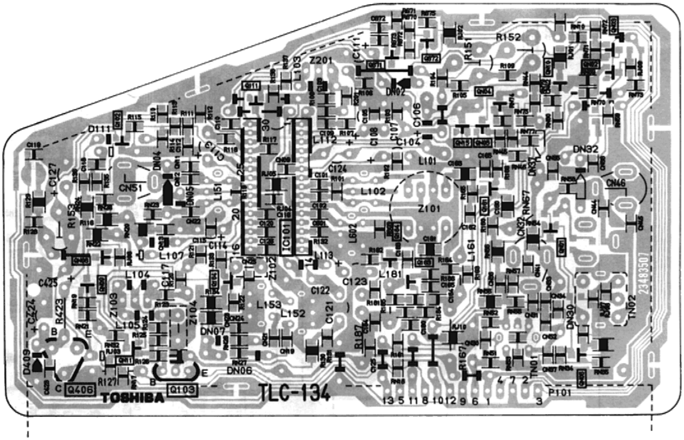
POWER BOARD PB2762-3

BOTTOM (FOIL) SIDE



PIF BOARD PB2759

BOTTOM (FOIL) SIDE



TERMINAL VIEW OF TRANSISTORS

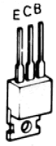
① BC327
BC337
BC547A
BC547B
BC547C
BC557A
BC557B
BC556A



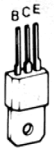
② 2SK30ATM
2SK117



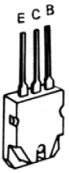
③ BD202



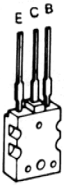
④ BF871
2SD553
2SC1569



⑤ 2SC3678
2SC3182N



⑥ 2SD1427
2SD1426



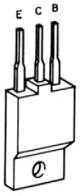
⑦ 2SC2482
2SA1321
2SC2230
2SA1020
2SC2655
2SC752GTM



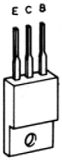
⑧ 2SC388ATM
2SA1015
2SC1959
2SA562TM



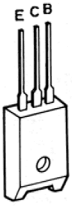
⑨ 2SD1548



⑩ 2SC2023



⑪ ON4409



1720RF

SCHEMATIC DIAGRAM (1/2)

U902A MAIN BOARD PB2760

U903A SIF BOARD PB2762-1

U101 PIF BOARD PB2759 2

U903B CRT DRIVE BOARD PB2762-2

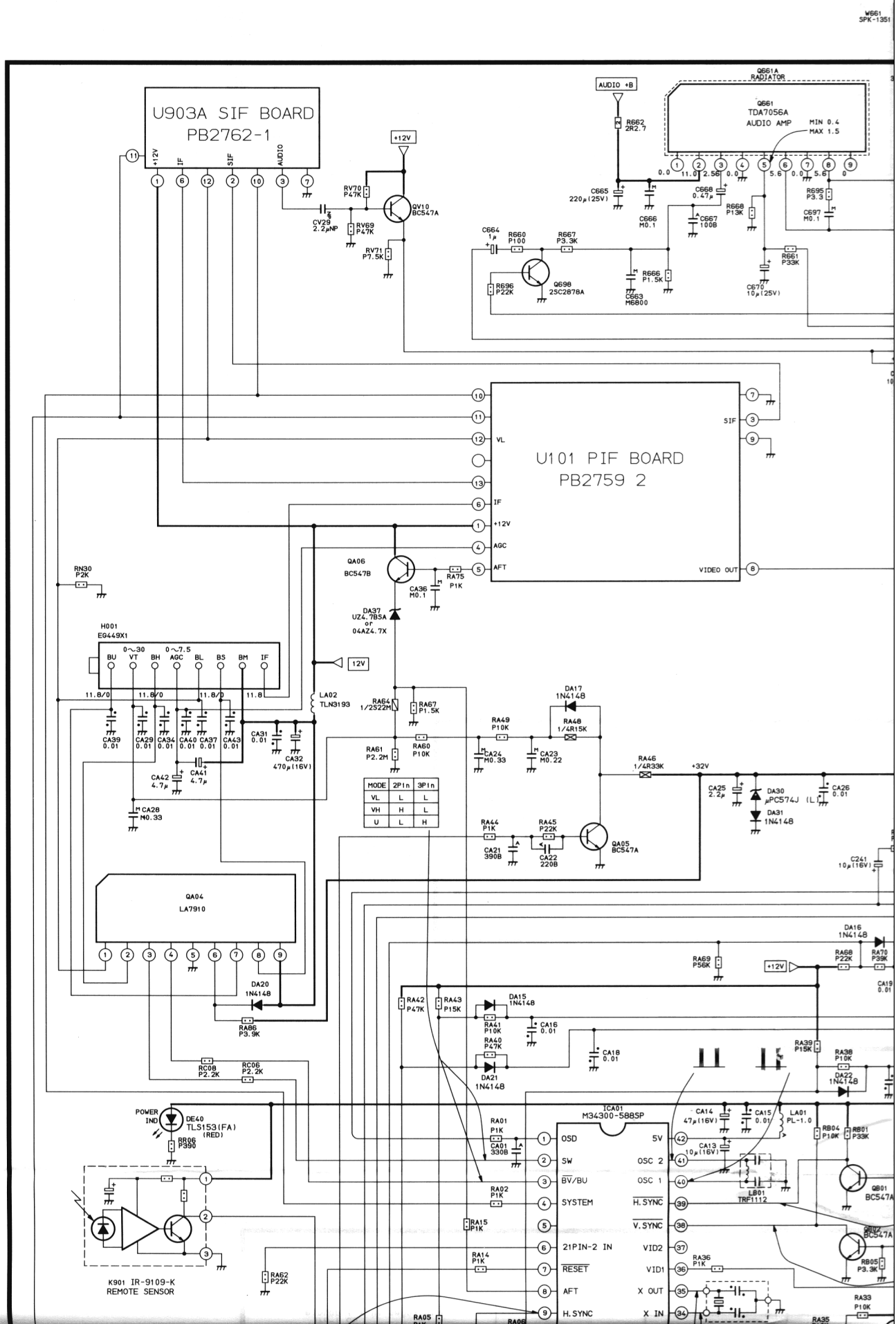
VOLTAGES IN ☐ ARE VALUES FOR SECAM RECEPTION.

⚠ EARTH OF SIGNAL CIRCUIT

⚠ EARTH OF POWER CIRCUIT

1720RF

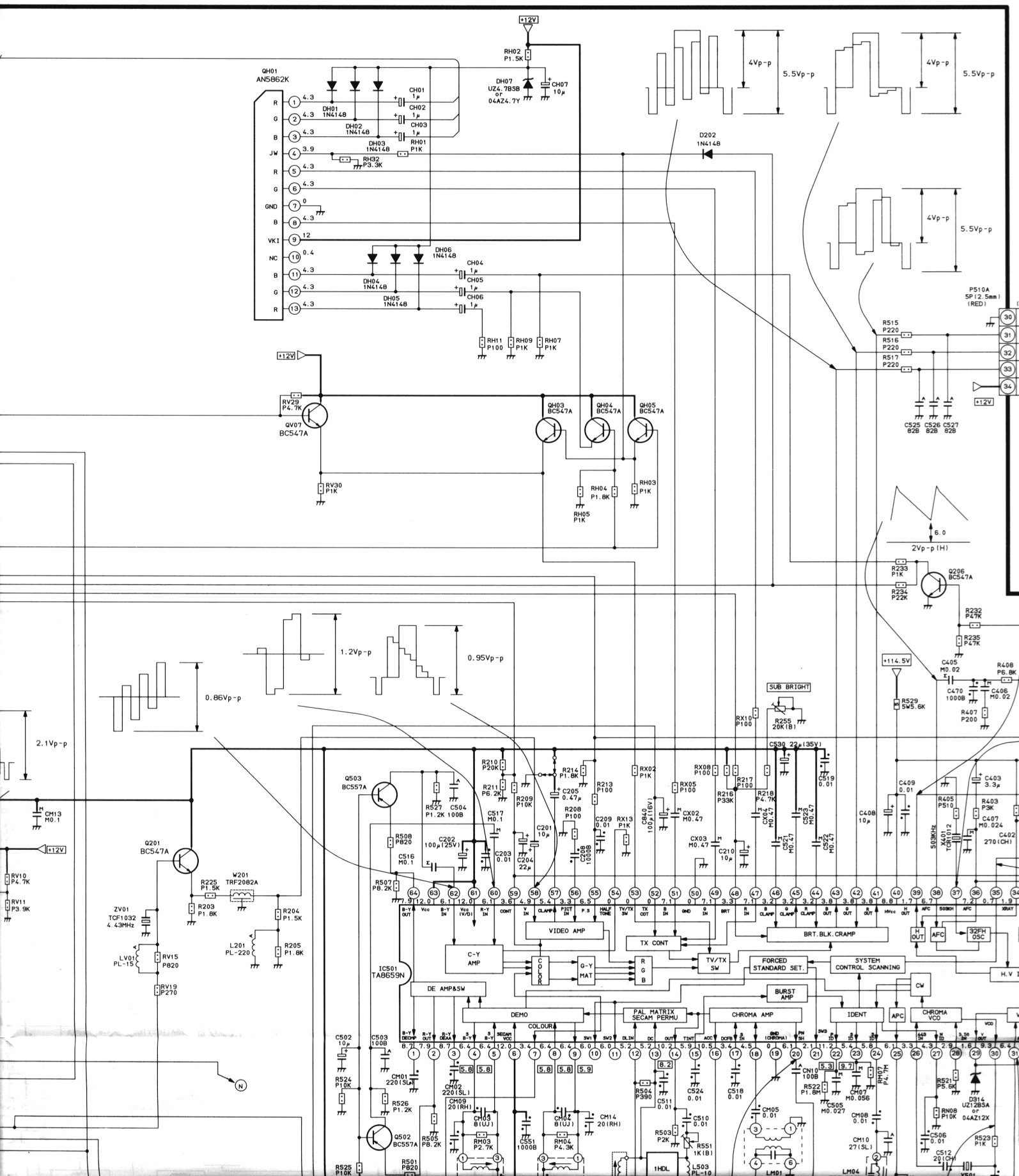
SCHEMATIC DIAGRAM (1/2)

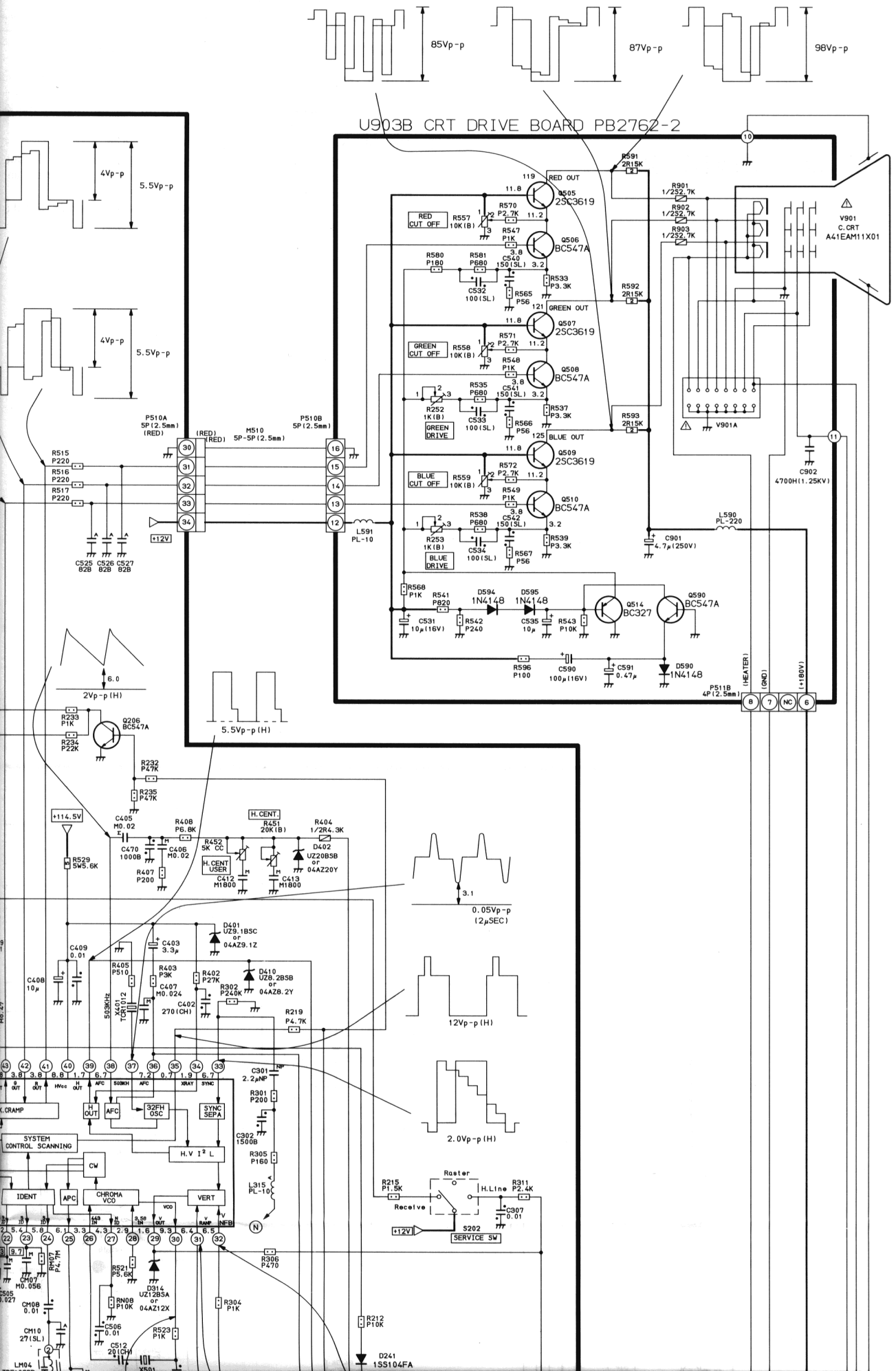


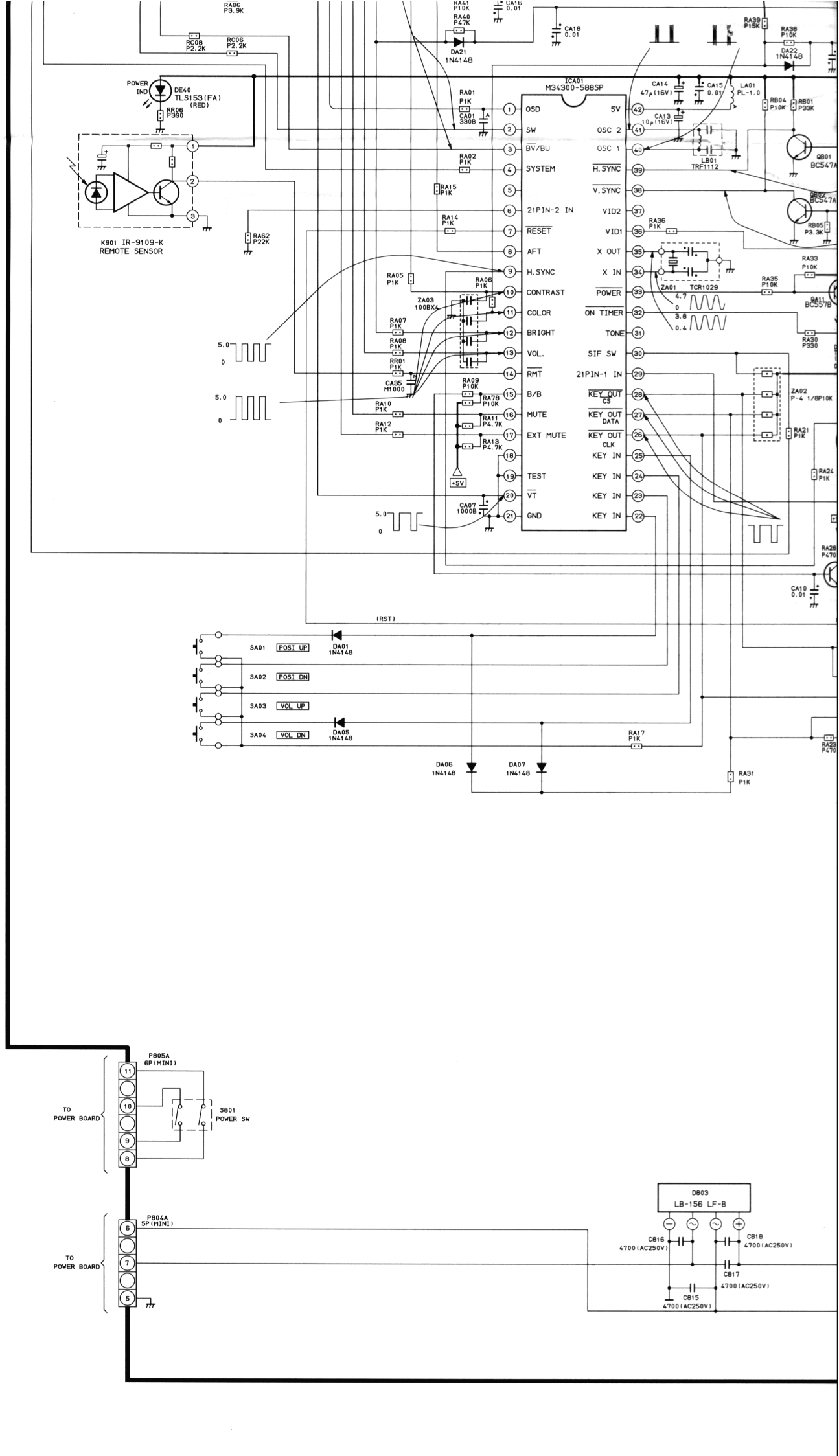
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
AUDIO OUT (R)	AUDIO IN (R)	AUDIO OUT (L)	AUDIO EARTH	EARTH	AUDIO IN (L)	BLUE IN	EXT/TV	GREEN EARTH	NC	GREEN IN	NC	RED EARTH	NC	RED IN	RAPID BLANKING	VIDEO EARTH	RAPID BLK EARTH	VIDEO OUT	VIDEO IN	SHIELD EARTH

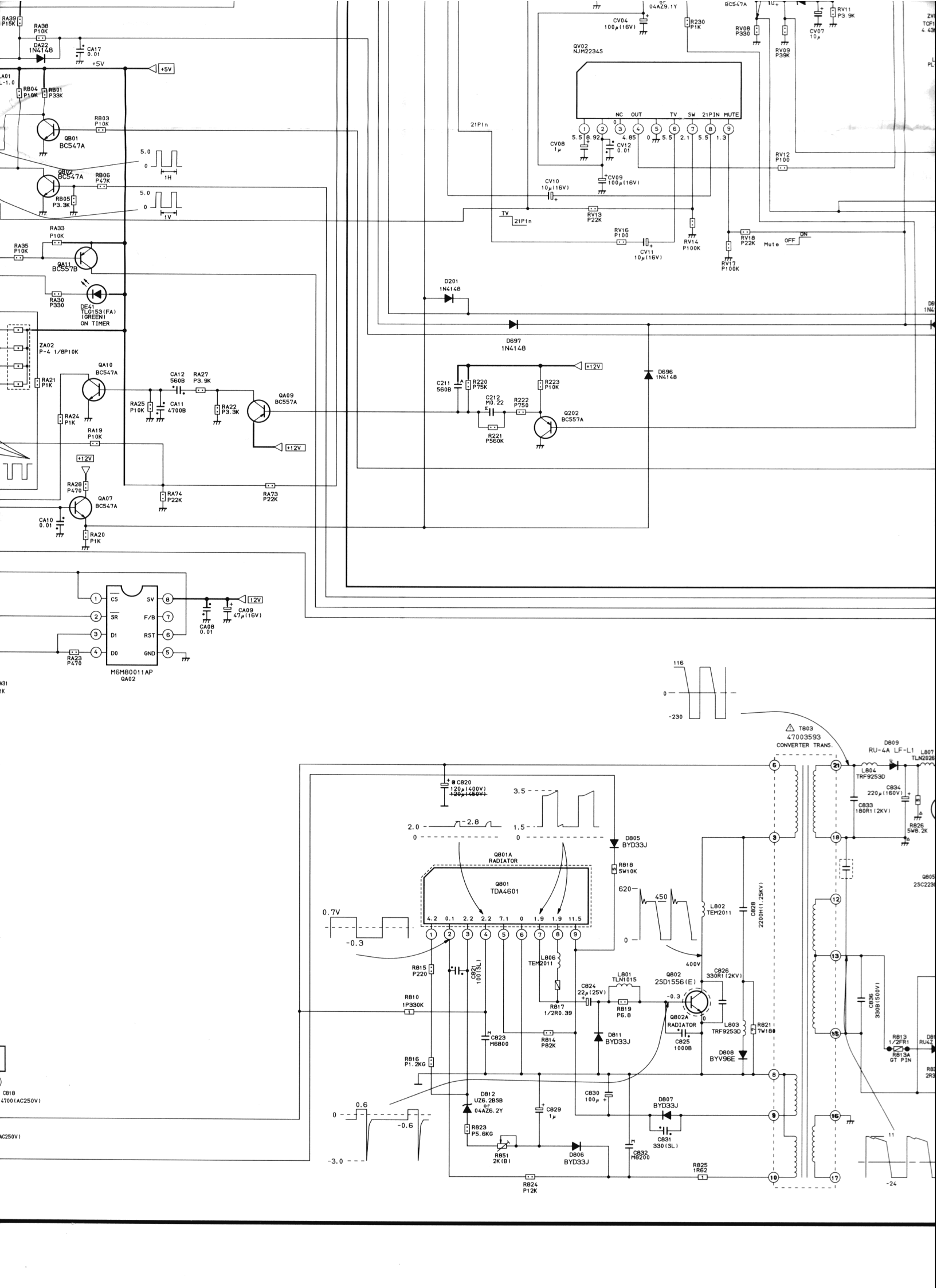
W661 SPK-1351
M602 3P-(2.5mm)
P602 3P(2.5mm)
PH01 21PIN FULL
AUDIO +B
D694 1N4148
D693 1N4148
R695 P3.3
C697 M0.1
R661 P33K
CV27 10μ(16V)
RV68 P470
QV11 2SC2878A
RV33 P4.7K
DV07 1N4148
RV34 P10K
DV06 1N4148
R663 P22K
R664 P100K
Q697 BC547A
RV65 P100K
RV74 P100K
RV42 P75
DV02 1N4148
DV03 UZ4.7B5B or 04AZ4.7Y
RV62 P22
RV61 P22
RV60 P22
RV64 P5.6K
RV63 P5.6K
RV45 P51
RV44 P51
RV43 P51
RV39 P91
RV40 P68
CV24 470μ(16V)
RV41 P10K
CA26 0.01
R244 P10K
Q208 BC547A
C241 10μ(16V)
R245 P10K
DA16 1N4148
DA33 1N4148
RA68 P22K
RA70 P39K
CA19 0.01
CA20 1μ
RA39 P15K
RA38 P10K
DA22 1N4148
CA17 0.01
+5V
LA01 PL-1.0
RB04 P10K
RB01 P33K
RB03 P10K
QB01 BC547A
QB02 BC547A
RB06 P47K
RB05 P3.3K
5.0
0
1H
1V
RA33 P10K
R226 P100K
C213 M0.1
R228 P100K
+12V
R227 P1M
R229 P30K
R224 P33K
Q203 BC547A
Q204 2SK117GR FA2
2.1Vp-p
QV01 NJM2245L
VIN SW VIN SW VIN Vcc VOUT GND
6.1 0 0 3.5 6.1 9.1 6.2 0
RV01 P820
RV02 P1K
CV02 10μ
CV01 10μ
CM13 M0.1
RV07 1/2R75
RV46 P100
QV03 BC547A
CV06 4.7μ
DV05 1N4148
RV10 P4.7K
RV11 P3.9K
CV07 10μ
RV08 P330
RV09 P39K
RV03 P4.7K
RV04 P47K
DV04 UZ9.1B5B or 04AZ9.1Y
CV05 0.01
CV04 100μ(16V)
R230 P1K
QV02 NJM2234S
NC OUT TV SW 21PIN MUTE
0 4.85 0 5.5 2.1 5.5 1.3
5.5 8.92
CV08 1μ
CV12 0.01
CV09 100μ(16V)
CV10 10μ(16V)
RV12 P100
21Pin
TV
RV13 P22K
RV16 P100
RV14 P100K
RV18 P22K
Mute
ON
OFF

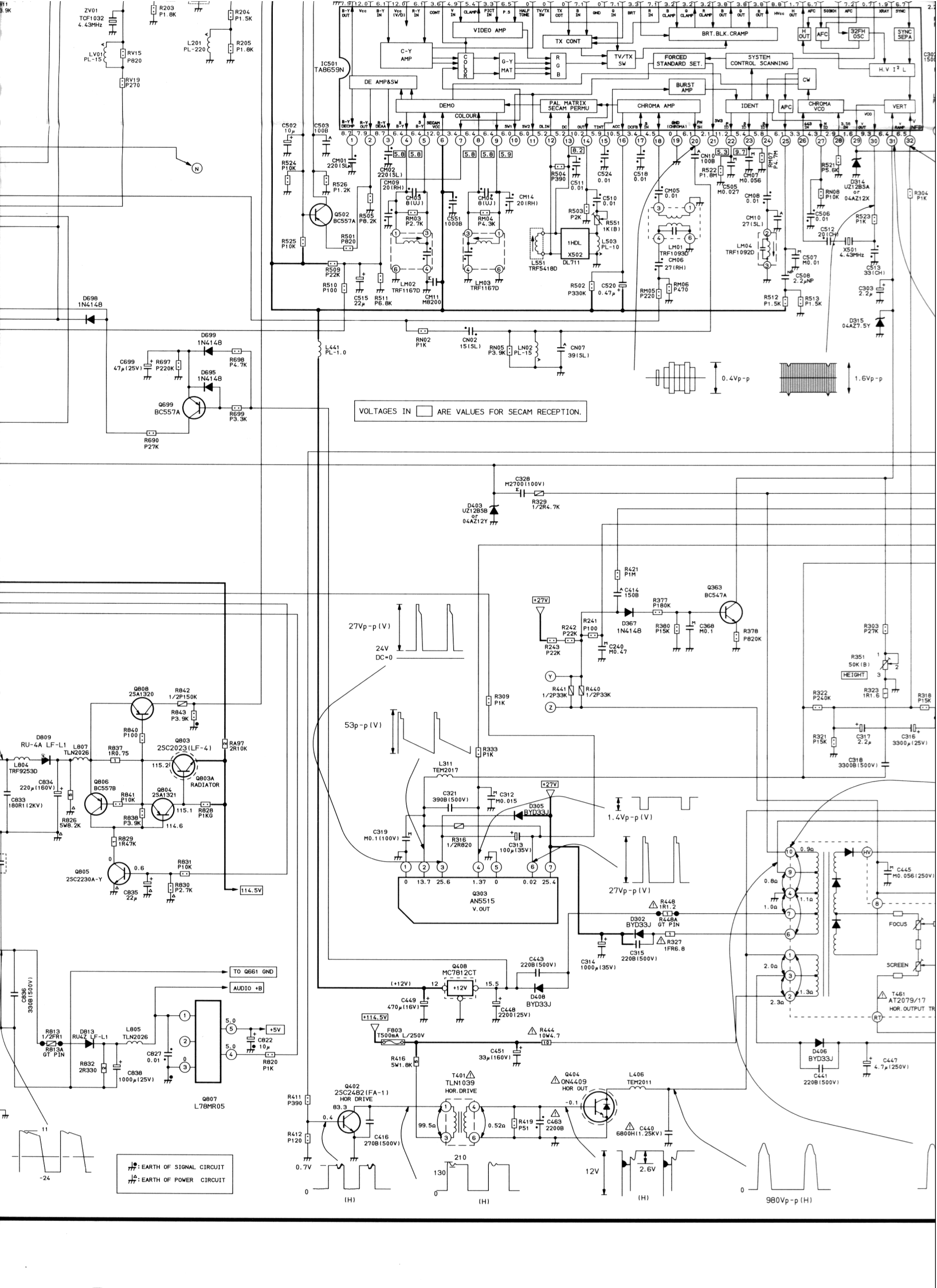
902A MAIN BOARD PB2760

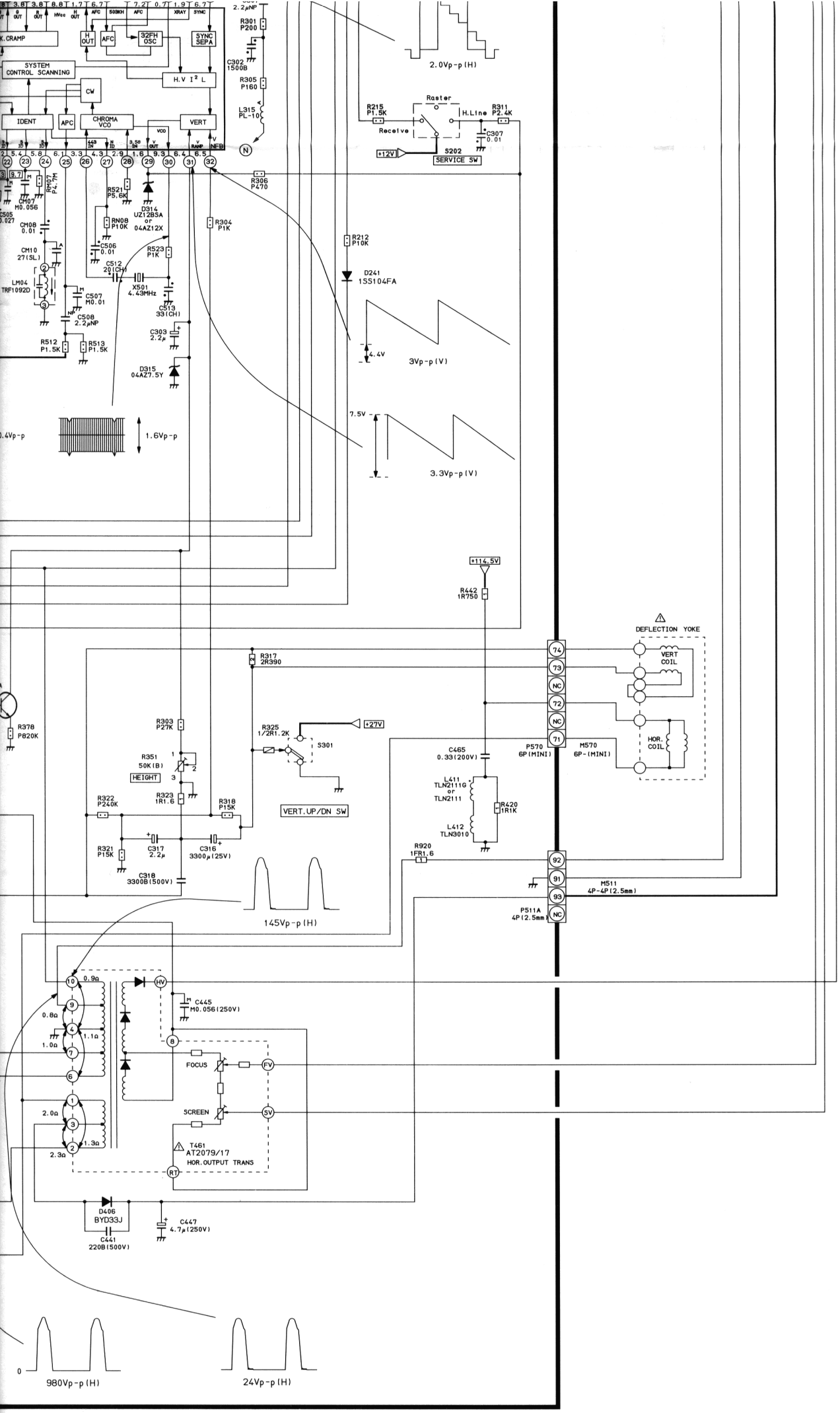



85Vp-p
87Vp-p
98Vp-p
U903B CRT DRIVE BOARD PB2762-2
4Vp-p
5.5Vp-p
4Vp-p
5.5Vp-p
P510A 5P(2.5mm) (RED)
M510 5P-5P(2.5mm)
P510B 5P(2.5mm)
R515 P220
R516 P220
R517 P220
C525 82B
C526 82B
C527 82B
+12V
L591 PL-10
RED OUT
GREEN OUT
BLUE OUT
RED CUT OFF
GREEN CUT OFF
BLUE CUT OFF
R557 10K(B)
R558 10K(B)
R559 10K(B)
R570 P2.7K
R571 P2.7K
R572 P2.7K
R547 P1K
R548 P1K
R549 P1K
Q505 2SC3619
Q507 2SC3619
Q509 2SC3619
Q506 BC547A
Q508 BC547A
Q510 BC547A
R580 P180
R581 P680
C540 150(SL)
C532 100(SL)
R533 P3.3K
R565 P56
R535 P680
C541 150(SL)
R252 1K(B)
C533 100(SL)
R537 P3.3K
R566 P56
R538 P680
C542 150(SL)
R253 1K(B)
C534 100(SL)
R539 P3.3K
R567 P56
GREEN DRIVE
BLUE DRIVE
R591 2R15K
R592 2R15K
R593 2R15K
R901 1/2S2.7K
R902 1/2S2.7K
R903 1/2S2.7K
V901 C.CRT A41EAM11X01
V901A
C902 4700H(1.25KV)
L590 PL-220
C901 4.7μ(250V)
R568 P1K
R541 P820
D594 1N4148
D595 1N4148
Q514 BC327
Q590 BC547A
C531 10μ(16V)
R542 P240
C535 10μ
R543 P10K
R596 P100
C590 100μ(16V)
C591 0.47μ
D590 1N4148
P511B 4P(2.5mm)
(HEATER)
(GND)
NC
(+180V)
6.0
2Vp-p(H)
5.5Vp-p(H)
Q206 BC547A
R233 P1K
R234 P22K
R232 P47K
R235 P47K
+114.5V
C405 M0.02
R408 P6.8K
C470 1000B
C406 M0.02
R407 P200
R529 5W5.6K
H.CENT.
R451 20K(B)
R404 1/2R4.3K
R452 5K CC
H.CENT USER
D402 UZ20B5B or 04AZ20Y
C412 M1800
C413 M1800
3.1
0.05Vp-p
(2μSEC)
C409 0.01
C408 10μ
D401 UZ9.1BSC or 04AZ9.1Z
C403 3.3μ
R405 P510
R403 P3K
R402 P27K
D410 UZ8.2B5B or 04AZ8.2Y
C407 M0.024
R302 P240K
C402 270(CH)
R219 P4.7K
503KHz
12Vp-p(H)
C301 2.2μNP
R301 P200
C302 1500B
R305 P160
L315 PL-10
2.0Vp-p(H)
H OUT
AFC
32FH OSC
SYNC SEPA
SYSTEM CONTROL SCANNING
H.V I²L
CW
IDENT
APC
CHROMA VCO
VERT
Raster
R215 P1.5K
Receive
H.Line
R311 P2.4K
C307 0.01
S202
SERVICE SW
R306 P470
R521 P5.6K
D314 UZ12B5A or 04AZ12X
RN08 P10K
C506 0.01
C512 20(CH)
R523 P1K
R304 P1K
R212 P10K
D241 1SS104FA
CM07 M0.056
CM08 0.01
CM10 27(SL)
LM04


ICA01
M34300-588SP
OSD
SW
BV/BU
SYSTEM
21PIN-2 IN
RESET
AFT
H.SYNC
CONTRAST
COLOR
BRIGHT
VOL.
RMT
B/B
MUTE
EXT MUTE
TEST
VT
GND
5V
OSC 2
OSC 1
H.SYNC
V.SYNC
VID2
VID1
X OUT
X IN
POWER
ON TIMER
TONE
SIF SW
21PIN-1 IN
KEY OUT CS
KEY OUT DATA
KEY OUT CLK
KEY IN
KEY IN
KEY IN
KEY IN
POWER IND
DE40
TLS153(FA)
(RED)
RR06
P390
K901 IR-9109-K
REMOTE SENSOR
RA62
P22K
RA01
P1K
CA01
330B
RA02
P1K
RA15
P1K
RA14
P1K
RA05
P1K
RA06
P1K
ZA03
100BX4
RA07
P1K
RA08
P1K
RR01
P1K
CA35
M1000
RA09
P10K
RA78
P10K
RA10
P1K
RA11
P4.7K
RA12
P1K
RA13
P4.7K
+5V
CA07
1000B
RA41
P10K
CA16
0.01
RA40
P47K
DA21
1N4148
CA18
0.01
RA39
P15K
RA38
P10K
DA22
1N4148
CA14
47μ(16V)
CA15
0.01
LA01
PL-1.0
CA13
10μ(16V)
LB01
TRF1112
RB04
P10K
RB01
P33K
QB01
BC547A
QB07
BC547A
RB05
P3.3K
RA36
P1K
ZA01
TCR1029
RA35
P10K
RA33
P10K
QB11
BC557B
RA30
P330
ZA02
P-4 1/8P10K
RA21
P1K
RA24
P1K
RA28
P470
CA10
0.01
RA23
P470
RA31
P1K
RA17
P1K
(RST)
SA01 POSI UP
SA02 POSI DN
SA03 VOL UP
SA04 VOL DN
DA01
1N4148
DA05
1N4148
DA06
1N4148
DA07
1N4148
P805A
6P(MINI)
TO
POWER BOARD
S801
POWER SW
P804A
5P(MINI)
TO
POWER BOARD
D803
LB-156 LF-B
CB16
4700(AC250V)
CB18
4700(AC250V)
CB17
4700(AC250V)
CB15
4700(AC250V)


RA39 P15K
RA38 P10K
DA22 1N4148
CA17 0.01
+5V
RB04 P10K
RB01 P33K
RB03 P10K
QB01 BC547A
5.0
0
1H
QB02 BC547A
RB06 P47K
RB05 P3.3K
1V
RA33 P10K
RA35 P10K
QA11 BC557B
RA30 P330
DE41 TLG153(FA) (GREEN) ON TIMER
ZA02 P-4 1/8P10K
QA10 BC547A
RA21 P1K
CA12 560B
RA27 P3.9K
RA25 P10K
CA11 4700B
RA22 P3.3K
QA09 BC557A
RA24 P1K
RA19 P10K
+12V
RA28 P470
QA07 BC547A
RA74 P22K
RA73 P22K
CA10 0.01
RA20 P1K
CS
SR
D1
D0
SV
F/B
RST
GND
CA08 0.01
CA09 47μ(16V)
RA23 P470
M6M80011AP
QA02
CV04 100μ(16V)
R230 P1K
RV08 P330
RV09 P39K
CV07 10μ
RV11 P3.9K
QV02 NJM2234S
NC OUT TV SW 21PIN MUTE
5.5 8.92 4.85 0 5.5 2.1 5.5 1.3
CV08 1μ
CV12 0.01
CV09 100μ(16V)
RV12 P100
21Pin
CV10 10μ(16V)
TV
RV13 P22K
RV16 P100
CV11 10μ(16V)
RV14 P100K
RV18 P22K
Mute
ON
OFF
RV17 P100K
D201 1N4148
D697 1N4148
D696 1N4148
C211 560B
R220 P75K
R223 P10K
C212 M0.22
R222 P750
R221 P560K
Q202 BC557A
116
0
-230
T803 47003593 CONVERTER TRANS.
D809 RU-4A LF-L1
L807 TLN2026
L804 TRF9253D
C834 220μ(160V)
C833 180R1(2KV)
R826 5W8.2K
C820 120μ(400V) 120μ(450V)
3.5
2.0
2.8
1.5
0
D805 BYD33J
Q801A RADIATOR
Q801 TDA4601
R818 5W10K
620
450
0
L802 TEM2011
C828 2200H(1.25KV)
0.7V
-0.3
4.2 0.1 2.2 2.2 7.1 0 1.9 1.9 11.5
400V
L806 TEM2011
R815 P220
C821 1001SL
C824 22μ(25V)
L801 TLN1015
Q802 2SD1556(E)
C826 330R1(2KV)
R810 1P330K
R817 1/2R0.39
R819 P6.8
Q802A RADIATOR
L803 TRF9253D
R821 7W180
C823 M6800
R814 P82K
D811 BYD33J
C825 1000B
D808 BYV96E
C836 330B1500V
R813 1/2FR1
R813A GT PIN
R816 P1.2KG
C830 100μ
D812 UZ6.2B5B or 04AZ6.2Y
C829 1μ
D807 BYD33J
0.6
-0.6
R823 P5.6KG
C831 330(SL)
R851 2K(B)
D806 BYD33J
C832 M8200
-3.0
R825 1R62
R824 P12K
11
-24
C818 4700(AC250V)


IC501 TA8659N
VIDEO AMP
C-Y AMP
COLOR
G-Y MAT
TX CONT
TV/TX SW
FORCED STANDARD SET.
SYSTEM CONTROL SCANNING
BRT.BLK.CRAMP
DE AMP&SW
BURST AMP
DEMO
PAL MATRIX SECAM PERMU
CHROMA AMP
IDENT
APC
CHROMA VCO
VERT
H.V I²L
COLOUR
VOLTAGES IN ☐ ARE VALUES FOR SECAM RECEPTION.
0.4Vp-p
1.6Vp-p
27Vp-p(V)
24V DC=0
53p-p(V)
1.4Vp-p(V)
27Vp-p(V)
980Vp-p(H)
HEIGHT
FOCUS
SCREEN
T461 AT2079/17 HOR.OUTPUT TR
Q807 L78MR05
TO Q661 GND
AUDIO +B
+5V
114.5V
+27V
+12V
HOR DRIVE
HOR OUT
: EARTH OF SIGNAL CIRCUIT
: EARTH OF POWER CIRCUIT


SYSTEM CONTROL SCANNING
H.V I² L
CW
IDENT
APC
CHROMA VCO
VERT
H OUT
AFC
32FH OSC
SYNC SEPA
2.0Vp-p(H)
Raster
R215 P1.5K
H.Line
R311 P2.4K
Receive
C307 0.01
+12V
S202
SERVICE SW
R306 P470
R304 P1K
R212 P10K
D241 1SS104FA
4.4V
3Vp-p(V)
7.5V
3.3Vp-p(V)
1.6Vp-p
+114.5V
R442 1R750
DEFLECTION YOKE
VERT COIL
HOR. COIL
R317 2R390
R303 P27K
R325 1/2R1.2K
+27V
S301
R351 50K(B)
HEIGHT
R322 P240K
R323 1R1.6
R318 P15K
VERT.UP/DN SW
R321 P15K
C317 2.2μ
C316 3300μ(25V)
C318 3300B(500V)
145Vp-p(H)
C465 0.33(200V)
L411 TLN2111G or TLN2111
L412 TLN3010
R420 1R1K
R920 1FR1.6
P570 6P(MINI)
M570 6P-(MINI)
M511 4P-4P(2.5mm)
P511A 4P(2.5mm)
R378 P820K
C445 M0.056(250V)
FOCUS
SCREEN
T461 AT2079/17 HOR.OUTPUT TRANS
D406 BYD33J
C441 220B(500V)
C447 4.7μ(250V)
980Vp-p(H)
24Vp-p(H)

U101 PIF BOARD PB2759 2

