

SAFETY PRECAUTIONS

SERVICE WARNING

Only qualified service technicians who are familiar with safety checks and guidelines should perform service work. Before replacing parts, disconnect power source to protect electrostatically sensitive parts. Do not attempt to modify any circuit unless so recommended by the manufacturer. When servicing the receiver, use an isolation transformer between the line cord and power receptacle.

SERVICING THE HIGH VOLTAGE AND CRT

Use EXTREME CAUTION when servicing the high voltage circuits. To discharge static high voltage, connect a 10K ohms resistor in series with a test lead between the receiver ground and CRT anode lead. DO NOT lift the CRT by the neck. Always wear shatterproof goggles when handling the CRT to protect eyes in case of implosion.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering X-ray radiation. In solid-state receivers and monitors, the CRT is the only potential source of X-rays. Keep an accurate high voltage meter available at all times. Check meter calibration periodically. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly. Keep high voltage at rated value, NO HIGHER. Excessive high voltage may cause X-ray radiation or failure of associated components. DO NOT depend on protection circuits to keep voltage at rated value. When troubleshooting a receiver with excessive high voltage, avoid close contact with the CRT. DO NOT operate the receiver longer than necessary. To locate the cause of excessive high voltage, use a variable AC transformer to regulate voltage. In present receivers, many electrical and mechanical components have safety related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer. Check repaired area for poorly soldered connections, and check entire circuit board for solder splashes. Check board wiring for pinched wires or wires contacting any high wattage resistors. Check that all control knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.

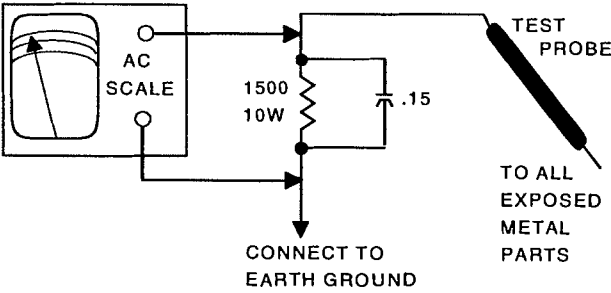
SAFETY CHECKS — FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 1M ohms and 5.2M ohms. Parts without a return path must measure infinity.

Hot Leakage Current Check

Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer. Use a 1500 ohms, 10W resistor in parallel with a .15μF capacitor to connect between any exposed metal parts on the receiver and a good earth ground. (See figure below.) Use an AC voltmeter with at least 5000 ohms per volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point. Voltage measurements should not exceed .75VAC, 500μA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.



HIGH VOLTAGE SHUTDOWN TEST

Momentarily short BC14901 (see Q14901 base) to ground. The receiver should lose raster and sound. If receiver does not lose raster and sound, the shutdown circuit should be repaired. To resume normal operation, remove AC power for approximately 30 seconds and then turn the receiver on.

The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by SAMS Technical Publishing, LLC as to the quality and suitability of such replacement part. The numbers of the listed parts have been compiled from information furnished to SAMS Technical Publishing, LLC by the manufacturers of the specific type of replacement part listed.

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PHOTOFACT<sup>®</sup> Technical Service Data  
SILVER  
RCA

Models F32648YX53/55/57 (Chassis CTC203CA10)



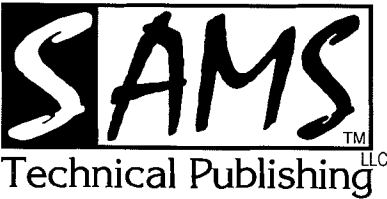
Representative Model

Essential coverage  
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

This is a demo file, that has been reduced to just 4 pages to facilitate a quick download for your viewing. Actual pdf files of Photofact are complete, and contain the same number of pages and items as a traditional Photofact.

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NOVEMBER 2003 SET 4808

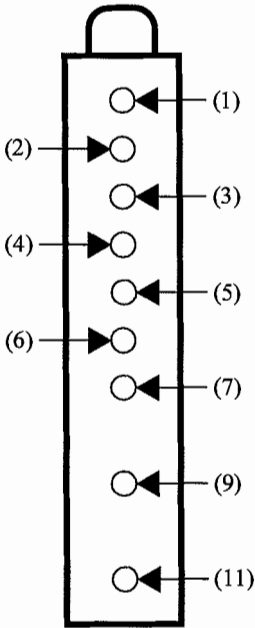
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	2.5V	2.5V	3.0V
(2) NC	1.3V	4.3V	5.7V
(3) +5V	5.2V	5.2V	5.2V
(4) CLOCK	5.1V	5.1V	5.1V
(5) DATA	5.1V	5.1V	5.1V
(6) +5V	5.2V	5.2V	5.2V
(7) +5V	5.2V	5.2V	5.2V
(9) +32V	34.5V	34.5V	34.5V
(11) IF	0V	0V	0V

NOTE: VHF Low Band voltages taken on channel 2.  
VHF High Band voltages taken on channel 7.  
UHF Band voltages taken on channel 14.

TUNER TERMINAL GUIDE



MISCELLANEOUS ADJUSTMENTS

COLOR TEMPERATURE

NOTE: See Service Adjustment Parameters to change drive and bias values.

Press menu button for collapsed raster service line. Disconnect the antenna. Preset the red, green, and blue drive values to 32. Adjust screen control for a service line that is just visible. Adjust red, green, and blue drives to obtain a white raster. Check the low light to high light gray scale tracking. Repeat the procedure, if necessary, to obtain the best performance.

NOTE: All procedures require an antenna connected and power applied to the set.

HIGH VOLTAGE CHECK

Tune in a picture. Set brightness, contrast, and color to MINIMUM. Connect a high voltage probe to the CRT anode. High voltage should measure between 30.5kV and 32.5kV.

SERVICE MENU

The following adjustment procedures are accessed thru a service menu. To access the service menu, turn the receiver on, press the menu button and hold it down while pressing the power button. While holding down the menu button, release the power button and press the volume + button. The screen will display a one line menu, on the left the parameter P0, and on the right the value of that parameter V0. Release buttons. Adjustments are made by selecting the proper parameter and changing the value of that parameter. To change the parameter number use channel up and down buttons. To adjust the current value of that parameter use volume + and - buttons. To access and change any of the adjustments, the proper parameter pass number must be entered. This information is listed at the beginning of the alignment. When these parameters are modified, the T-Chip and the corresponding EEPROM are updated. All service adjustments are bus controlled, except focus and screen.

NOTE: In order to adjust the RF AGC, audio or video levels, tuner, PIP, or stereo circuits, the ChipperCheck hardware and software must be used. This can be purchased from Thomson Electronics. Before making any changes to any of the values, record the On Set values.

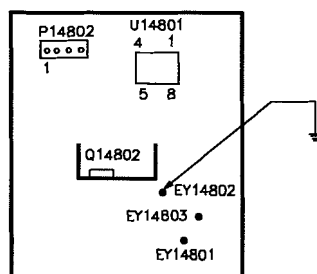
SERVICE ADJUSTMENT PARAMETERS

Parameter No.	Parameter Name	On Set Value	Value Range	Comment
0	Pass number for service adjustment parameters.	Must set to 76	-	May not advance until value is set to 76.
1	Error Code 1	0	0 - 255	Displays the first error detected. Set to 0 before exiting. See Error Codes Chart.
2	Error Code 2	0	0 - 255	Displays the second error detected. Set to 0 before exiting. See Error Codes Chart.
3	Error Code 3	0	0 - 255	Displays the last error detected. Set to 0 before exiting. See Error Codes Chart.
4	Horizontal Phase	10	0 - 15	Tune in a crosshatch pattern, adjust to center the pattern on the screen.
5	EW DC (Width)	16	0 - 31	Tune in a crosshatch pattern, adjust for slight horizontal overscan.
6	EW Amplitude	8	0 - 15	Set value to 8.
7	EW Tilt	8	0 - 15	Set value to 8.
8	Top Corner Pin Correction	2	0 - 7	Set value to 2.
9	Bottom Corner Pin Correction	2	0 - 7	Set value to 2.
10	Vertical DC	33	0 - 63	Tune in a crosshatch pattern, adjust to center vertically.
11	Vertical Size	84	0 - 127	Tune in a crosshatch pattern, adjust for slight vertical overscan.
12	Vertical Countdown Mode	0	0 - 3	Set value to 0. ( 0 = Standard, 1 = Non-Standard, 2 = 50Hz, 3 = 48Hz )
13	Red Bias	30	0 - 127	Press menu button on the TV set for setup line.
14	Green Bias	15	0 - 127	Press menu button on the TV set for setup line.
15	Blue Bias	34	0 - 127	Press menu button on the TV set for setup line.
16	Red Drive	41	0 - 63	-
17	Green Drive	33	0 - 63	-
18	Blue Drive	32	0 - 63	-
19	Gemstar Horizontal OSD Position	166	0 - 255	Set value to 166.
20	Gemstar Vertical OSD Position	68	0 - 255	Set value to 68.
21	Gemstar PIP Horizontal Position	40	0 - 255	Set value to 40.
22	Gemstar PIP Vertical Position	43	0 - 255	Set value to 43.
23	Gemstar PIP Window Vertical Size	3	0 - 13	Set value to 3.

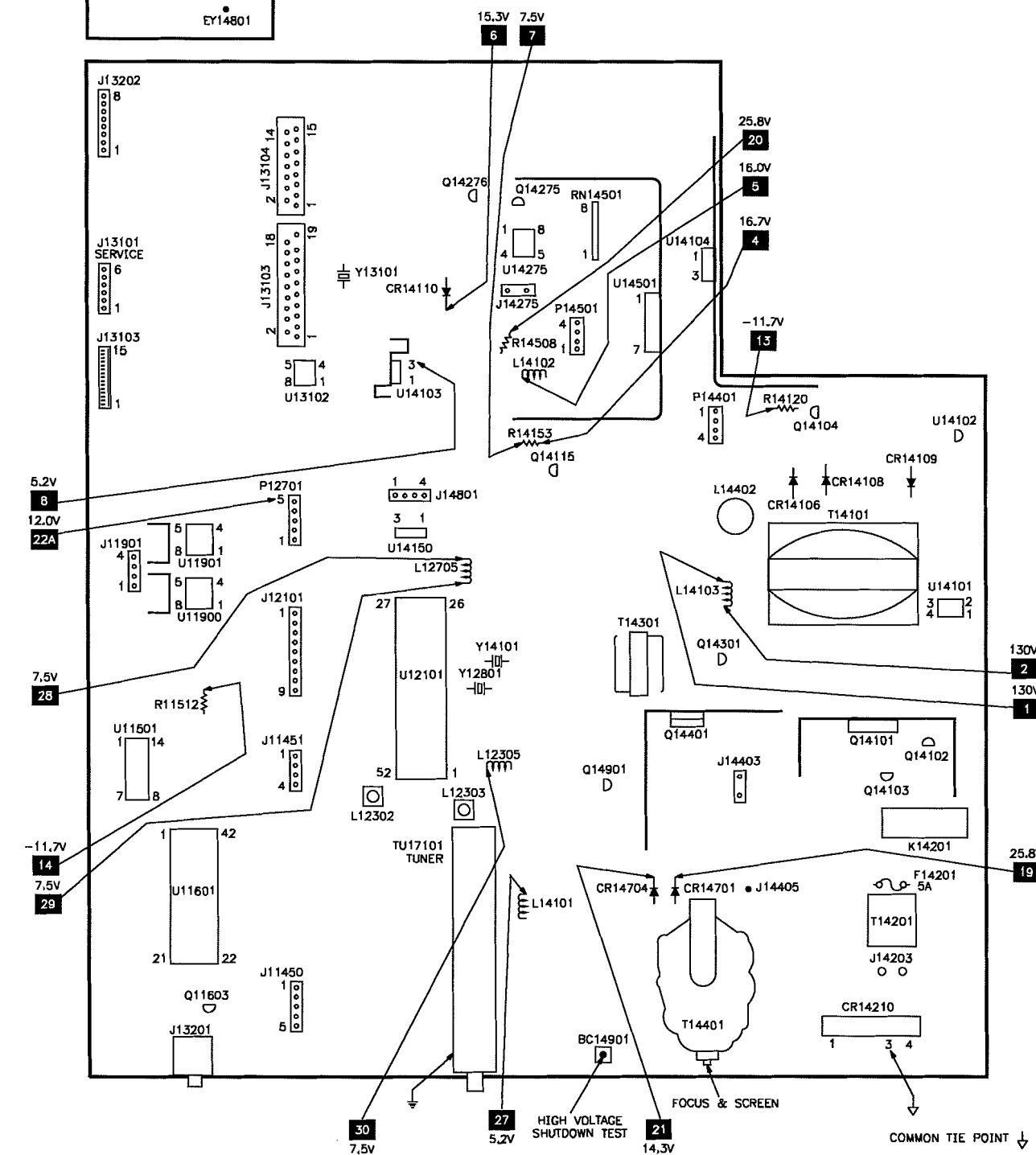
# RCA

**MODELS F32648YX53/55/57 (CHASSIS CTC203CA10)**

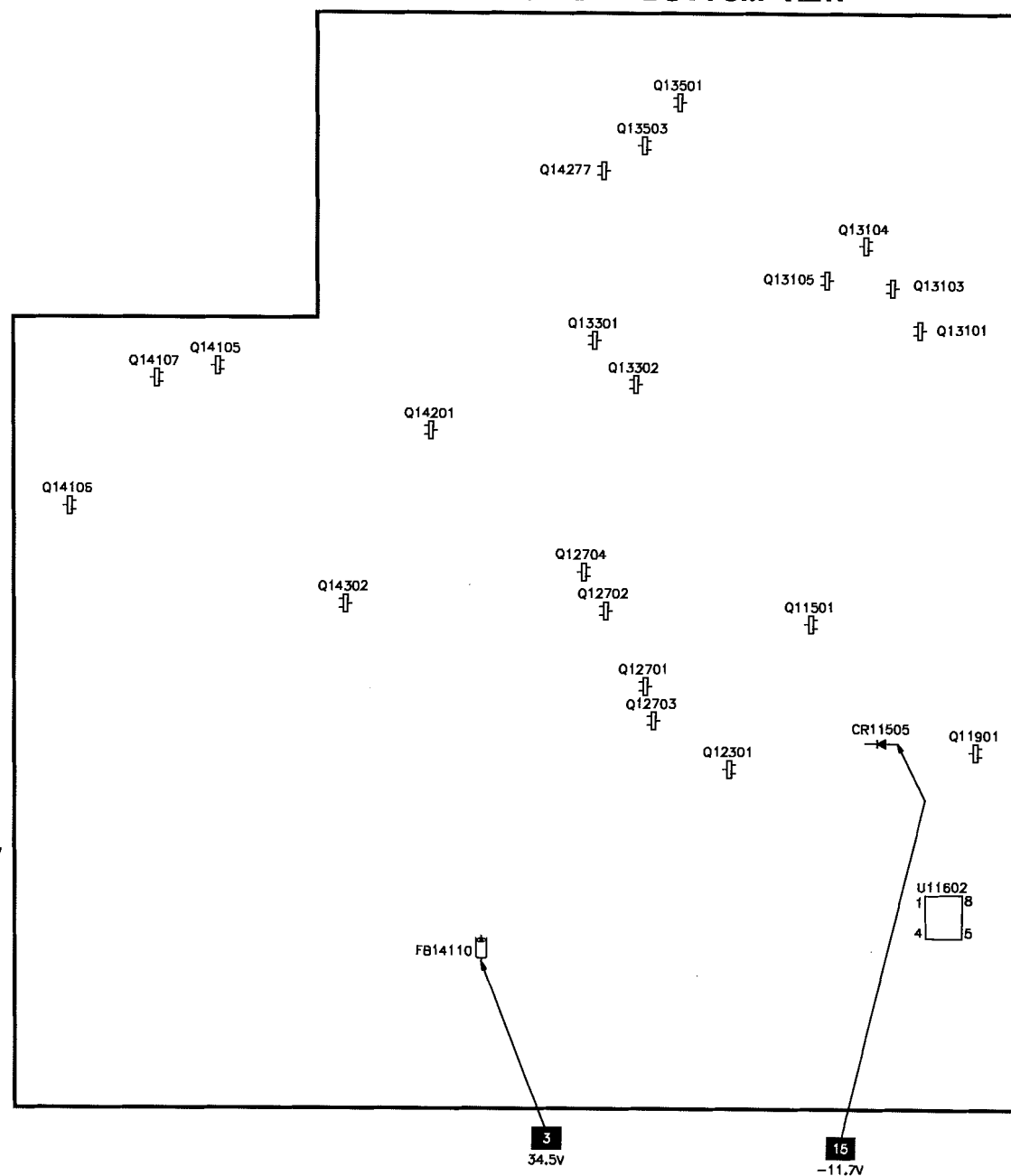
## PINCUSHION BOARD



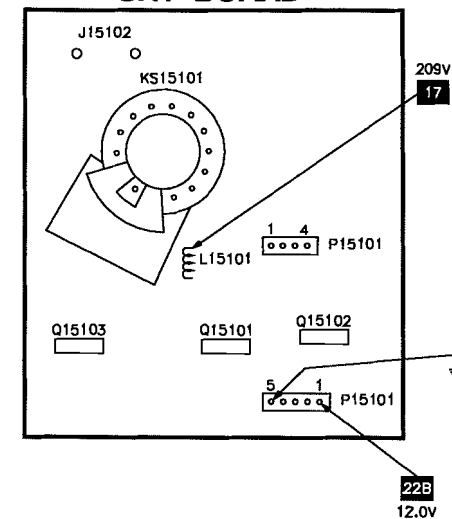
## MAIN BOARD - TOP VIEW



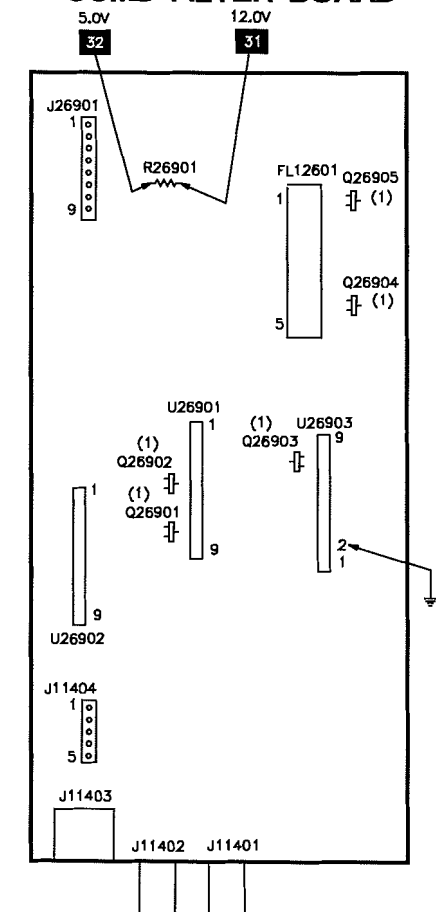
### MAIN BOARD - BOTTOM VIEW



## CRT BOARD



## COMB FILTER BOARD



(1) LOCATED ON BOTTOM OF BOARD



