

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 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.

SAFETY CHECKS – FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

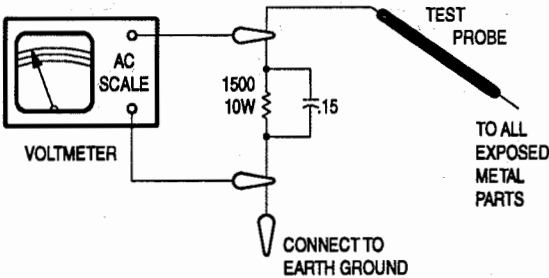
Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with 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.

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 inner 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.



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

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PHOTOFACT® Technical Service Data

SET 3337

MODEL G26681CKKF1 (CHASSIS CTC177AE)

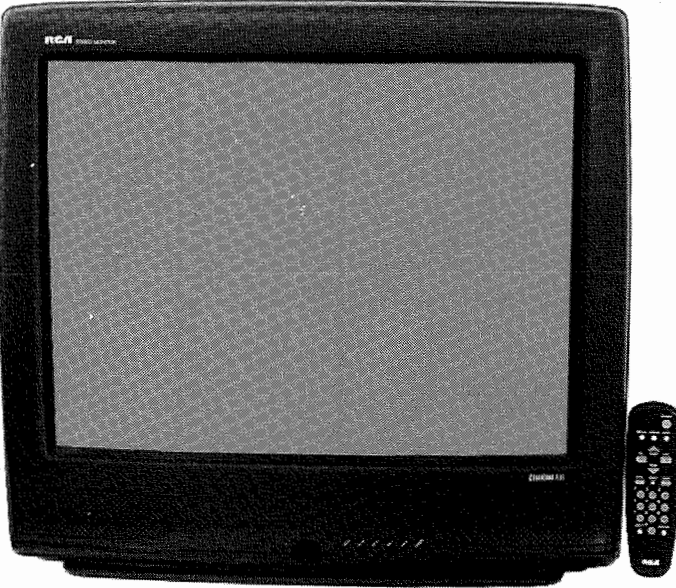
RCA

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RCA

Model G26681CKKF1 (Chassis CTC177AE)



Complete coverage  
for servicing a television receiver...

- Schematics
- Parts list
- Component locations
- Troubleshooting guide

Coverage includes these additional models and chassis:

| MODEL           | CHASSIS  |
|-----------------|----------|
| F25251WNFE1/JX1 | CTC177AF |
| F25651BLFE1/JX1 | CTC177AG |
| F26251ETFE1     | CTC177AF |
| F26631SEFE1/JX1 | CTC177AG |
| F26633SEFE1     | CTC177AG |
| G25341WKCX1/KF1 | CTC177AD |
| G26661CKCX1/KF1 | CTC177AD |
| G26683CKCX1     | CTC177AE |



HOWARD W. SAMS & COMPANY

JUNE 1994 SET 3337

For Supplier Address,  
See PHOTOFACT Annual Index

## TROUBLESHOOTING

### POWER SUPPLY

Check F4001. If F4001 is open, check CR4001 thru CR4004, C4001, C4003, C4004, C4006, C4007, C4009, C4010, and U4101. Apply 120VAC and check for 140V at the cathode of CR4106. If voltage is missing, check U4101 and T4101. Confirm operation of U4101 by checking for -40.5V\* ± .5V at pin 1 of U4101. If the voltage is incorrect, U4101 may be defective or there may be an abnormal load. If voltage at the cathode of CR4106 measures approximately 30V, check for a short at pin 1 of U4101. If the voltage at the cathode of CR4106 measures approximately 200V, check for an open at pin 1 of U4101. If the outputs are shorted, the power supply will shut down until short is removed. Check voltages associated with Q4103 and Q4105. If voltages are incorrect, check Q3101, Q3102, Q4103, Q4105, U4102, and pin 1 of U3101. If voltages are correct, refer to the "Horizontal" section of this Troubleshooting guide.

\* Taken from common tie point.

### HIGH VOLTAGE SHUTDOWN TEST

Apply 120VAC. Use remote transmitter to set customer controls for normal operation. Momentary short pin XRP1 to XPR2. The set should lose raster and sound. If set does not shut down, the shutdown circuit requires repair. To resume normal operation, remove AC power and wait 30 seconds, then turn the set on.

### HIGH VOLTAGE SHUTDOWN

**CAUTION:** When defeating the high voltage shutdown circuit, do not exceed the maximum high voltage specified on the schematic, as this may cause excessive X-radiation and damage to the CRT and associated components. Monitor high voltage while troubleshooting.

The high voltage is monitored by CR4901, rectifying pulses from T4401. Should the high voltage increase, the rectified voltage at the cathode of CR4901 will also increase and trigger CR4902. Voltage at emitter of Q4901 will increase and turn on Q4901. Voltage at pin 26 of U1001 will increase, which will cause the set to shut down. To troubleshoot, disconnect one end of CR4902, and check Q4901, CR4901, CR4902, and associated components.

| Voltages Taken With TV In Shutdown |       |       |      |
|------------------------------------|-------|-------|------|
| U1001                              |       | Q4901 |      |
| Pin 25                             | 2.6 V | E     | 0 V  |
| Pin 26                             | .1 V  | B     | 0 V  |
|                                    |       | C     | .1 V |

### HORIZONTAL

To determine if the TV is in shutdown, refer to the "High Voltage Shutdown" section of this Troubleshooting guide. If the TV is not in shutdown, inject a horizontal signal at the base of Q4401. If horizontal deflection is now present, check Q4301, Q4302, and pins

24 thru 27 of U1001. If there is no horizontal deflection, check Q4401, T4401, CR4701, CR4113, CR4702, and CR4703. For linearity problems, check C4402 thru C4406.

### VIDEO/CHROMA

Inject a video signal at pin 48 of U1001, and check for video on the CRT. If video is now present, check Q2704, Q2705, and refer to the "IF-AGC" section of this Troubleshooting guide. Check for the proper waveforms at pins 36, 37, and 38 of U1001. If the waveforms are missing, check U1001. If the waveforms are present at pins 36, 37, and 38 of U1001, refer to the "Raster " section of this Troubleshoot-ing guide.

### VERTICAL

Check for 25.5V at pin 6 of U4501, if 25.5V is missing, check R4511. If open, replace R4511 and check U4501 for internal short. Check pin 17 of U1001 for 2Vp-p vertical ramp signal. If the vertical ramp signal is present, check U4501 by substitution. If the vertical ramp signal is missing, check for 7.5V at pin 32 of U1001, and check for 2.8V at pin 18 of U1001. If the 2.8V is missing, check C4501, C4503, and U1001.

### RASTER

Check the CRT and CRT voltages. If red is missing, check pin 8 of CRT and Q5001. If green is missing, check pin 6 of CRT and Q5002. If blue is missing, check pin 11 of CRT and Q5003.

### AUDIO

Select an active TV channel, and check for an audio waveforms at pins 13 and 14 of U1701. If audio waveforms are missing, check U1701 and pins 3, 55, 57, and 58 of U1001. Check for audio waveforms at pins 59 and 60 of U1001. If audio waveforms are present, check U1901. If audio waveforms are missing at pins 59 and 60 of U1001 , check pins 4, 5, 7, 8, 59, 60, and 61 of U1001. Check the voltage at pin 29 of U3101. It should measure 0.7V when speakers are muted and 0V when speakers are on. The voltage at pin 23 of U3101 should read 0V in stereo and 4.9V in mono.

### IF-AGC

Inject a video IF signal at pin 11 of U1001, and check for video on the CRT. If video is present on the CRT, check the tuner circuit. Check for a video waveform at pin 51 of U1001, if present refer to the "Video" section of this Troubleshooting guide. Apply AGC bias to pin 12 of U1001. If video is now present, check tuner and pins 6, 12, 13, and 14 of U1001.

## MISCELLANOUS ADJUSTMENTS

### PRETUNING

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

#### Auto Program

1. Press the program button to select autoprogram.
2. Press the + button. All available channels are scanned and stored in memory.
3. Press display to clear menu.

#### Channel Memory

1. Press the program button to select channel memory.
2. Select channel with number buttons or channel up and down buttons.
3. Press + button to add a channel or - button to erase a channel.
4. Repeat steps 2 and 3 to add or erase other channels.
5. When finished, press done to save selections.

### SERVICE MENU

The following adjustment and alignment procedures are accessed thru a service menu. To access the sevice menu, turn the set 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 P 00, and on the right the value of that parameter V 00. 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. The three main groups of parameters are, the service adjustment parameters, the chassis alignment parameters, and the tuner alignment parameters. To access and change any of the adjustments, the proper parameter pass number and value must be entered. This information is listed at the beginning of each 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.

**WARNING:** When adjusting the horizontal frequency be careful not to exceed the value range, or the set will go into shutdown, and replacement of U3101 may be required. In case the set goes into shutdown loop connect a capacitor across C4402 with the same value, redo horizontal frequency adjustment, then remove the capacitor. It may be necessary to readjust the horizontal frequency again.

#### SERVICE ADJUSTMENT PARAMETERS

| Parameter No. | Parameter Name                                | Value Range    | Comment  |
|---------------|---|----------------|--|
| 00            | Pass number for service adjustment parameters | Must set to 76 | May not advance until value set.                     |
| 01            | Horizontal frequency                          | 00 - 31        | Adjust for stable or slowly moving horizontal lines. |
| 02            | Horizontal phase                              | 00 - 15        | Adjust to center picture left to right.              |
| 03            | EW DC   | 00 - 15        | Used in 27" and 31" sets.                            |
| 04            | EW amplitude                                  | 00 - 07        | Used in 27" and 31" sets.                            |
| 05            | Vertical DC                                   | 00 - 15        | Adjust to center picture top to bottom.              |
| 06            | Vertical size                                 | 00 - 31        | Adjust to 1/4" overscan top and bottom of screen.    |
| 07            | Red bias                                      | 00 - 127       | Press menu button on the TV set for setup line.      |
| 08            | Green bias                                    | 00 - 127       | Press menu button on the TV set for setup line.      |
| 09            | Blue bias                                     | 00 - 127       | Press menu button on the TV set for setup line.      |
| 10            | Red drive                                     | 00 - 63        | Press menu button on the TV set for setup line.      |
| 11            | Green drive                                   | 00 - 63        | Press menu button on the TV set for setup line.      |
| 12            | Blue drive                                    | 00 - 63        | Press menu button on the TV set for setup line.      |

### 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 25.5KV to 27.5KV.

### COLOR TEMPERATURE

NOTE: See Service Adjustment Parameters to change drive and bias values. Press menu button on the TV set for collapsed raster service line. Set the TV to S-Video with no video signal. Preset the red, green, and blue drive values to 32. Preset the red, green, and blue bias values to provide 170VDC at the collector of the respective output transistors. Adjust screen control for a service line that is just visible. Adjust red, green, and blue bias values to obtain a white service line. Adjust the red, green, and blue drive values 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.

CHASSIS ALIGNMENT PARAMETERS

| Parameter No. | Parameter Name                               | Value Range    | Comment  |
|---------------|--|----------------|--|
| 13            | Pass number for chassis alignment parameters | Must set to 77 | May not advance to higher parameter until value is set.  |
| 14            | PLL tuning                                   | 00 - 63        | Short pin 14 of U1001 to ground. Connect 41.25MHz (300mV Output) marker to pin 1 of SF2301. Connect an oscilloscope to pin 55 of U1001. Adjust value for .22µs sinewave. If .22µs sinewave cannot be adjusted for, set value range to midrange and adjust L2302 for .22µs. |
| 15            | 4.5MHz trap                                  | 00 - 07        | Short TP7102 (junction of R7130 and R2313) to ground. Apply 45.75MHz (300mV) and 41.25 MHz (100mV) to pin 1 of SF2301. Connect an oscilloscope to pin 63 of U1001, and adjust value for minimum 4.5MHz sinewave.   |
| 16            | Video level                                  | 00 - 07        | Tune in a color bar pattern, 100% modulation, super pulse display. Connect oscilloscope to pin 63 of U1001. Adjust value range so that sync to white portion of waveform measures 2.0V p-p.  |
| 17            | FM level                                     | 00 - 15        | Connect signal generator to pin 55 of U1001, inject 4.5MHz carrier, 1kHz modulation, with 25kHz deviation. Short pin 14 of U1001 to ground. Connect oscilloscope to pin 3 of U1001, and adjust value range for 1.2V p-p of 1kHz component.                                 |
| 18            | B+ trim                                      | 00 - 15        | CTC175 only.   |
| 19            | RF AGC (1)                                   | 00 - 31        | Manually tune channel 6.   |
| 20            | D-PIP chroma                                 | 00 - 31        | -  |
| 21            | D-PIP tint                                   | 00 - 31        | -  |
| 22            | D-PIP bright                                 | 00 - 31        | -  |
| 23            | D-PIP contrast                               | -              | -  |
| 24            | Factory tint                                 | 00 - 63        | Adjust value levels for proper flesh tones.  |

(1) RF AGC has been preset at time of manufacture for optimum operation over a wide range of RF signal input conditions. Readjustment should not be required unless the tuner has been repaired, U1001, U3101, or U3201 has been replaced, or unusual signal conditions exist. Use weakest local signal to adjust RF AGC parameter setting.

MECHANICAL TUNER COIL ALIGNMENT

The tuner coil alignment is preset at the time of manufacture and should require no further adjustment. The following recommended procedure should be performed only in event a complete tuner alignment is necessary, which is unlikely. Use plastic or wooden tool to knife coils. This procedure is performed with top tuner cover removed and bottom tuner cover in place and soldered. Tuner service modulator RCA stock No. 215568 is used in this procedure.

1. Manually tune the set and the tuner service modulator to channel 125 (band 3) and enter parameter 154. Connect DVM to tuner side of R7525. Check for voltage reading between 4.55V and 4.75V. If not, expand or compress L7303 to set voltage within these limits.
2. Manually tune the set and the tuner service modulator to channel 50 (band 2) and enter parameter 127. While DVM is still connected to R7525, check for voltage reading between 4.8V and 5V. If not, expand or compress L7304 to set voltage within these limits.
3. Manually tune the set and the tuner service modulator to channel 17 (band 1) and enter parameter 109. While DVM is still connected to R7525, check for voltage reading between 4.4V and 4.6V. If not, expand or compress L7305 to set voltage within these limits.
4. Manually tune the set and the tuner service modulator to channel 125 (band 3) and enter parameter 154. Connect

DVM to positive side of C7503 (RF AGC to tuner). Set parameter value range to 31. Expand or compress L7105 for minimum RF AGC voltage.

5. Enter parameter 155 and set parameter value range to 31. Expand or compress L7104 for minimum RF AGC voltage.
6. Enter parameter 156 and set parameter value range to 31. Expand or compress L7102 for minimum RF AGC voltage.
7. Manually tune the set and the tuner service modulator to channel 50 (band 2) and enter parameter 127. Set parameter value range to 31. Expand or compress L7113 for minimum RF AGC voltage.
8. Enter parameter 128 and set parameter value range to 31. Expand or compress L7111 for minimum RF AGC voltage.
9. Enter parameter 129 and set parameter value range to 31. Expand or compress L7107 for minimum RF AGC voltage.
10. Manually tune the set and the tuner service modulator to channel 17 (band 1) and enter parameter 109. Set parameter value range to 31. Expand or compress L7114 for minimum RF AGC voltage.
11. Enter parameter 110 and set parameter value range to 31. Expand or compress L7112 for minimum RF AGC voltage.
12. Enter parameter 111 and set parameter value range to 31. Expand or compress L7106 for minimum RF AGC voltage.
13. Perform the entire Electronic Tuner Alignment.

MISCELLANEOUS ADJUSTMENTS continued

ELECTRONIC TUNER ALIGNMENT PARAMETERS

Use tuner service modulator, RCA stock no. 215568, and a VCR for signal source. Monitor RF AGC at pin 12 of U1001, and adjust for minimum voltage at each parameter. The entire Electronic Tuner Alignment procedure, once started, must be completed in its entirety. Electronic Tuner Alignment is performed with top and bottom covers in place with bottom cover soldered.

| Parameter No. | Parameter Name                             | Value Range    |
|---------------|--|----------------|
| 25            | Pass number for tuner alignment parameters | Must set to 78 |
| 100           | Ch. 2 secondary                            | 00-63          |
| 101           | Ch. 2 primary                              | 00-63          |
| 102           | Ch. 2 single                               | 00-63          |
| 103           | Ch. 6 secondary                            | 00-63          |
| 104           | Ch. 6 primary                              | 00-63          |
| 105           | Ch. 6 single                               | 00-63          |
| 106           | Ch. 14 secondary                           | 00-63          |
| 107           | Ch. 14 primary                             | 00-63          |
| 108           | Ch. 14 single                              | 00-63          |
| 109           | Ch. 17 secondary                           | 00-63          |
| 110           | Ch. 17 primary                             | 00-63          |
| 111           | Ch. 17 single                              | 00-63          |
| 112           | Ch. 18 secondary                           | 00-63          |
| 113           | Ch. 18 primary                             | 00-63          |
| 114           | Ch. 18 single                              | 00-63          |
| 115           | Ch. 13 secondary                           | 00-63          |
| 116           | Ch. 13 primary                             | 00-63          |
| 117           | Ch. 13 single                              | 00-63          |
| 118           | Ch. 34 secondary                           | 00-63          |
| 119           | Ch. 34 primary                             | 00-63          |
| 120           | Ch. 34 single                              | 00-63          |
| 121           | Ch. 37 secondary                           | 00-63          |
| 122           | Ch. 37 primary                             | 00-63          |
| 123           | Ch. 37 single                              | 00-63          |
| 124           | Ch. 48 secondary                           | 00-63          |
| 125           | Ch. 48 primary                             | 00-63          |
| 126           | Ch. 48 single                              | 00-63          |
| 127           | Ch. 50 secondary                           | 00-63          |

| Parameter No. | Parameter Name    | Value Range |
|---------------|-------------------|-------------|
| 128           | Ch. 50 primary    | 00-63       |
| 129           | Ch. 50 single     | 00-63       |
| 130           | Ch. 51 secondary  | 00-63       |
| 131           | Ch. 51 primary    | 00-63       |
| 132           | Ch. 51 single     | 00-63       |
| 133           | Ch. 57 secondary  | 00-63       |
| 134           | Ch. 57 primary    | 00-63       |
| 135           | Ch. 57 single     | 00-63       |
| 136           | Ch. 63 secondary  | 00-63       |
| 137           | Ch. 63 primary    | 00-63       |
| 138           | Ch. 63 single     | 00-63       |
| 139           | Ch. 76 secondary  | 00-63       |
| 140           | Ch. 76 primary    | 00-63       |
| 141           | Ch. 76 single     | 00-63       |
| 142           | Ch. 83 secondary  | 00-63       |
| 143           | Ch. 83 primary    | 00-63       |
| 144           | Ch. 83 single     | 00-63       |
| 145           | Ch. 93 secondary  | 00-63       |
| 146           | Ch. 93 primary    | 00-63       |
| 147           | Ch. 93 single     | 00-63       |
| 148           | Ch. 110 secondary | 00-63       |
| 149           | Ch. 110 primary   | 00-63       |
| 150           | Ch. 110 single    | 00-63       |
| 151           | Ch. 117 secondary | 00-63       |
| 152           | Ch. 117 primary   | 00-63       |
| 153           | Ch. 117 single    | 00-63       |
| 154           | Ch. 125 secondary | 00-63       |
| 155           | Ch. 125 primary   | 00-63       |
| 156           | Ch. 125 single    | 00-63       |



NEW CIRCUIT

SYSTEM CONTROL MICROPROCESSOR CIRCUIT

- 1. Check for proper power supply sources.
- 2. Press power button and check for horizontal drive pulses at pin 24 of U1001. If drive pulses are present, even if just momentarily, then the system control microprocessor circuit is operating properly and the problem is in the horizontal circuit. If pulses are not present at pin 24 of U1001, check for 7.0V at pin 22 of U1001. If 7.0V is missing, unsolder pin 22 of U1001, and check for 7.0V at the foil pad. If 7.0V is present, U1001 is defective. If 7.0V is missing, check components associated with pin 22 of U1001.
- 3. Check for 5.0V at pins 1 and 20 of U3101. If 5.0V is missing at pin 1, check the reset circuit. If 5.0V is missing at pin 20, check the power supply.
- 4. Check for a 5.0V p-p oscillator waveform at pin 41 and 42 of U3101. If waveform voltage is incorrect, check Y3101. If waveform is missing, check Y3101 and U3101.
- 5. Ensure that there are no data pulses on pins 14, 15, and 16 of U3101 while set is in standby mode. Press power button and check for pulses on pins 14, 15, and pin 16 of U3101.
- 6. If pulses are missing, unsolder pins 4 and 5 of U7401 and check for pulses on pins 14, 15, and pin 16 of U3101 while

depressing the power button. If pulses are now present, check U7401 and associated components,

- 7. If pulses are still missing, unsolder pins 14, 15, and 16 of U3101 and check for 5.0V p-p data pulses while set is in standby mode. If pulses are missing, check U3101.
- 8. If 5.0V p-p data pulses are present, resolder pins 14, 15, and 16 of U3101 and unsolder pins 5 and 6 of U3201. Check for data pulses at the foil pads of pins 5 and 6 of U3201, while the set is in the standby mode. If data pulses are present, then U3201 is probably defective. NOTE: Do not throw away the old U3201 until it is proven that a new U3201 will repair the problem. If the new U3201 does not repair the problem, reinstall the old U3201 so that a complete chassis alignment will not be required.
- 9. If data pulses are not present with pins 5 and 6 of U3201 unsoldered, resolder pins 5 and 6 of U3201. Unsolder pins 52, 53, and 54 of U1001, and check for data pulses at the foil pads of these pins. If data pulses are present, then U1001 is probably defective. If data pulses are missing, check components associated with pins 42, 53, and 54 of U1001.
- 10. When problem has been isolated and repaired, ensure that all components that were unsoldered during troubleshooting are properly resoldered.

TUNER CIRCUIT VOLTAGE CHART

| Pin No. | VHF Low Band | VHF High Band | UHF Band | Pin No. | VHF Low Band | VHF High Band | UHF Band | Pin No. | VHF Low Band | VHF High Band | UHF Band |
|---------|--------------|---------------|----------|---------|--------------|---------------|----------|---------|--------------|---------------|----------|
| U7301   |              |               |          | U7401   |              |               |          | U7501   |              |               |          |
| 1       | 5.4V         | 5.4V          | 5.3V     | 1       | 1.7V         | 2.1V          | 1.7V     | 1       | 1.3V         | 1.7V          | 1.8V     |
| 2       | 2.9V         | 3.0V          | 3.2V     | 2       | 2.1V         | 2.1V          | 2.1V     | 2       | 1.3V         | 1.7V          | 1.8V     |
| 3       | 7.8V         | 7.7V          | 7.6V     | 3       | 2.1V         | 2.1V          | 2.1V     | 3       | 1.3V         | 1.6V          | 1.8V     |
| 4       | 3.0V         | 3.0V          | 3.2V     | 4       | 4.8V         | 4.8V          | 4.8V     | 4       | 33.0V        | 33.0V         | 33.0V    |
| 5       | 7.8V         | 7.7V          | 7.6V     | 5       | 4.7V         | 4.7V          | 4.7V     | 5       | 1.1V         | 1.5V          | 1.6V     |
| 6       | 0V           | 0V            | 0V       | 6       | 0V           | 0V            | 0V       | 6       | 1.1V         | 1.5V          | 1.6V     |
| 7       | 3.0V         | 3.0V          | 0V       | 7       | 1.3V         | 1.3V          | 1.3V     | 7       | 1.4V         | 4.0V          | 4.8V     |
| 8       | 9.0V         | 9.0V          | 8.8V     | 8       | 11.5V        | 0V            | 0V       | 8       | .7V          | 3.5V          | 4.6V     |
| 9       | 3.0V         | 3.0V          | 3.3V     | 9       | 7.4V         | 7.4V          | 0V       | 9       | 1.0V         | 1.4V          | 1.5V     |
| 10      | 3.3V         | 3.2V          | 2.9V     | 10      | 4.8V         | 4.8V          | 4.8V     | 10      | 1.0V         | 1.4V          | 1.5V     |
| 11      | 4.9V         | 5.1V          | 9.7V     | 11      | 2.3V         | 2.3V          | 2.3V     | 11      | 0V           | 0V            | 0V       |
| 12      | 3.3V         | 3.2V          | 2.9V     | 12      | 2.3V         | 2.3V          | 2.3V     | 12      | 1.1V         | 1.4V          | 1.5V     |
| 13      | 0V           | 0V            | 0V       | 13      | 0V           | 0V            | 0V       | 13      | 1.1V         | 1.4V          | 1.5V     |
| 14      | 9.1V         | 9.0V          | 5.4V     | 14      | .6V          | .6V           | .6V      | 14      | 1.2V         | 3.4V          | 4.4V     |
| 15      | 3.4V         | 3.4V          | 2.9V     |         |              |               |          |         |              |               |          |
| 16      | 3.4V         | 3.4V          | 2.9V     |         |              |               |          |         |              |               |          |

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

SERVICE TIPS

NO VERTICAL OR AUDIO

CR4704, R4702, and R4517 may be open.

Replace CR4704 with part number 207878, which has a higher voltage rating than the original component. Also check R4702 and R4517.

BLACK RASTER AND NO ON SCREEN DISPLAY

The on screen display is mixed with the video prior to customer brightness and contrast, and when the brightness and contrast are set to minimum the on screen display cannot be seen. The customer controls do not return to factory reset when the power is removed from the set and the microprocessor is reset.

Increase the screen control until the on screen display is visible. Select the picture reset from the adjust menu, and then readjust the screen control.

NO STEREO

When stereo mode is selected and a stereo signal is present, the set will not enter stereo mode and the stereo on screen display does not come on.

C1707 is open. C1707 couples the audio to the stereo pilot detect circuit in U1701, and since the stereo pilot signal is not detected the set cannot enter the stereo mode

Replace C1707 with part number 205230.

TUNER LOCAL OSCILLATOR DROPS OUT ON BAND 2

The tuning voltage drops to 0V and the chassis locks up for cable channels 18 thru 51, and off air channels 7 thru 13. This problem happens more during high temperatures.

The tuning voltage has a pre shoot. When starting at a low tuning voltage (1.0V to 2.0V) and going to a high tuning voltage (22.0V to 25.0V), the tuning voltage may drop to 0V. This problem may occur with sets where U7401 is type number TSA5515 and the serial number is less than 318000000.

Replace C7311 with part number 194906. The value changes from 2 pF to 6pF. After replacing C7311, perform the tuner alignment.

INTERMITTENT GROUND CONNECTIONS ON MICROCOMPUTER SHIELD

A variety of symptoms may be caused by improper seating and soldering of the microcomputer shield. The microcomputer tab chart lists symptoms that occur if ground tab is opened. The chart does not list symptoms for more than one opened ground tab at a time. See microcomputer shield drawing for tab locations.

Carefully inspect all tabs and resolder if necessary.

DEAD SET OR INTERMITTENT SHUTDOWN

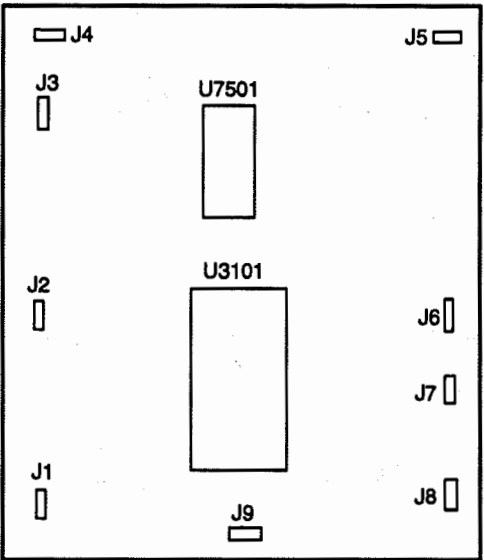
Switch mode power supplies with date codes 3266, 3272, and 3273 were manufactured with an incorrect wire type. This can cause a bad connection at pin 8 of T4101.

Replace T4101 with part number 215538.

Microcomputer Tab Chart

| Open Tab                  | Symptom   |
|---------------------------|---|
| J1, J2, J4, J9            | None  |
| J3                        | Loss of audio and video.  |
| J5                        | Noisy picture. Unable to tune above channel 4. Intermittent shutdown. |
| J6 (RFI capacitor ground) | None  |
| J7 (RFI capacitor ground) | None  |
| J8 (RFI capacitor ground) | None  |

Microcomputer Shield Drawing



TEST EQUIPMENT

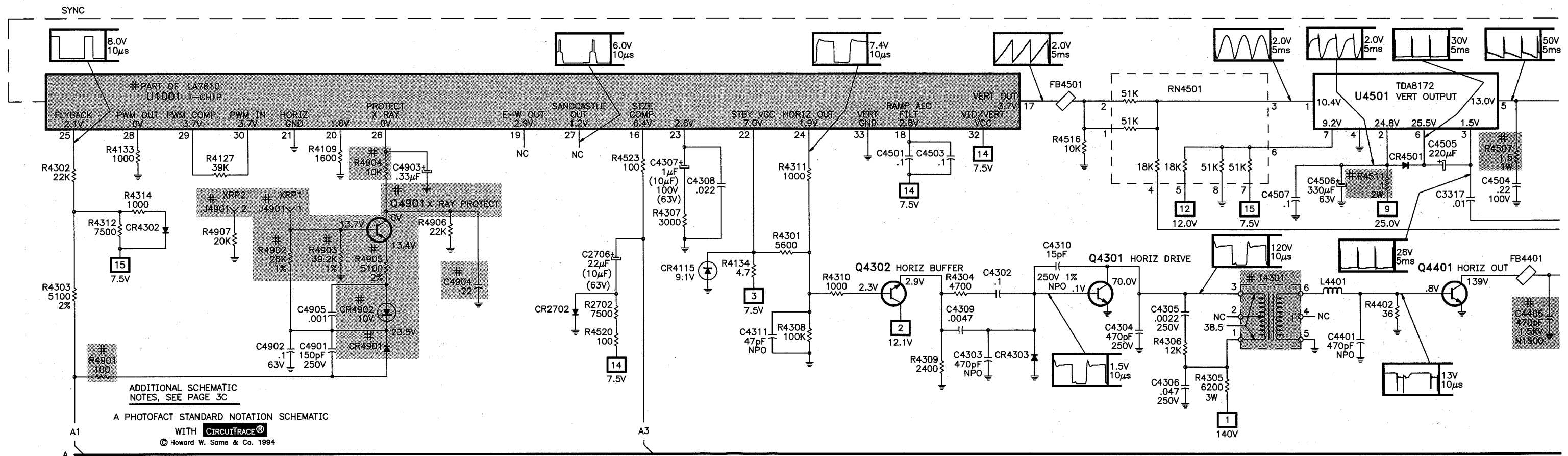
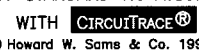
Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

| Equipment               | Sencore No.  |
|-------------------------|--------------|
| Oscilloscope            | SC3100       |
| Generators              |              |
| RGB                     | CM2000       |
| Multiburst Signal       | VG91         |
| Color Bar               | VG91         |
| TV Stereo               | VG91         |
| Digital VOM             | SC3100       |
| Frequency Meter         | SC3100       |
| Hi-Voltage Probe        | HP200        |
| Accessory Probes        | TP212        |
| Isolation Transformer   | PR57         |
| Capacitance Analyzer    | LC101, LC102 |
| CRT Analyzer            | CR70         |
| AC Leakage Tester       | PR57         |
| Inductance Analyzer     | LC101, LC102 |
| Flyback Yoke Tester     | TVA92        |
| TV Stereo Power Monitor | SR68, PA81   |
| Field Strength Meter    | SL750        |
| Transistor Tester       | TF46         |

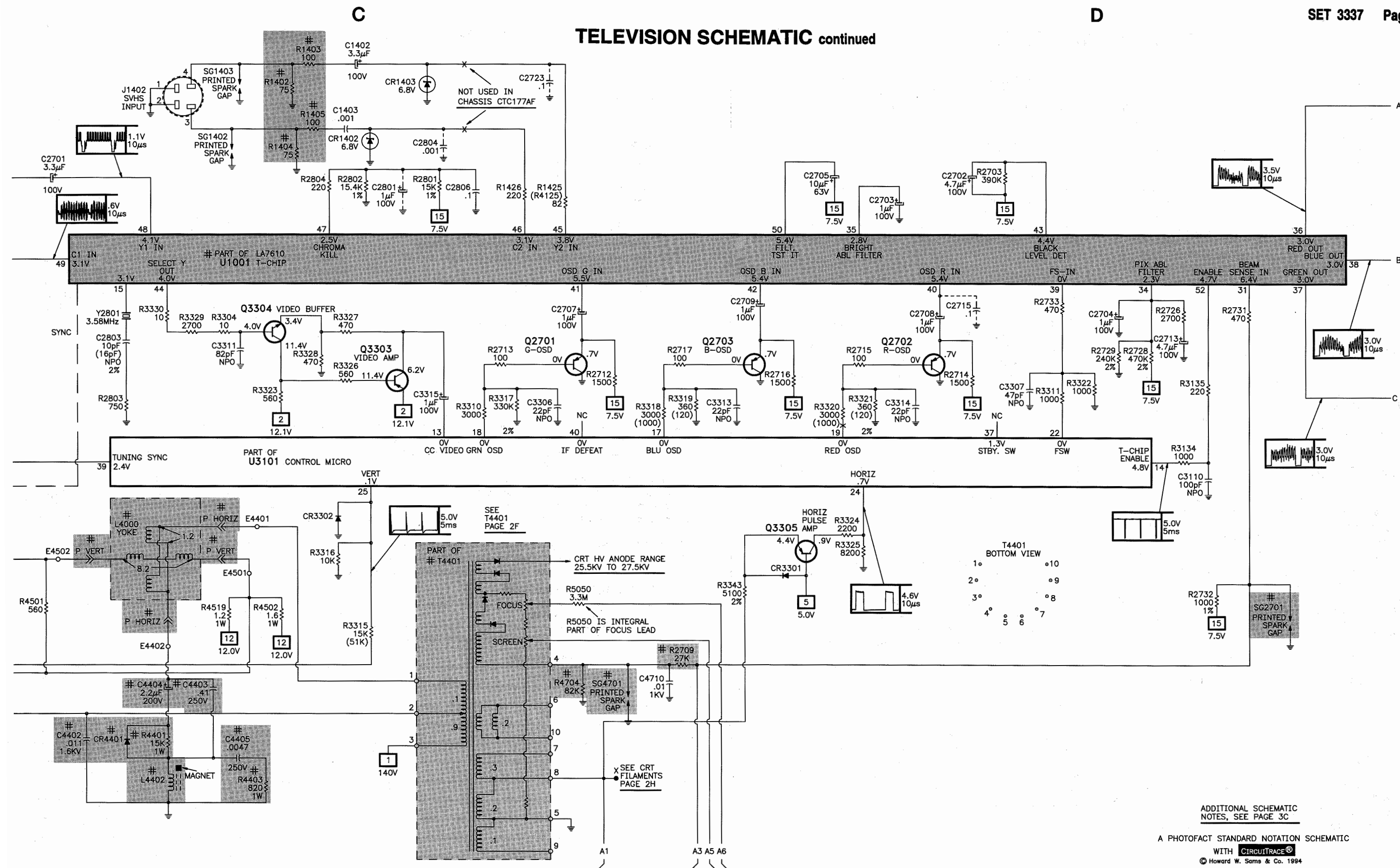
RCA

MODEL G26681CKK1 (CHASSIS CTC177AE)

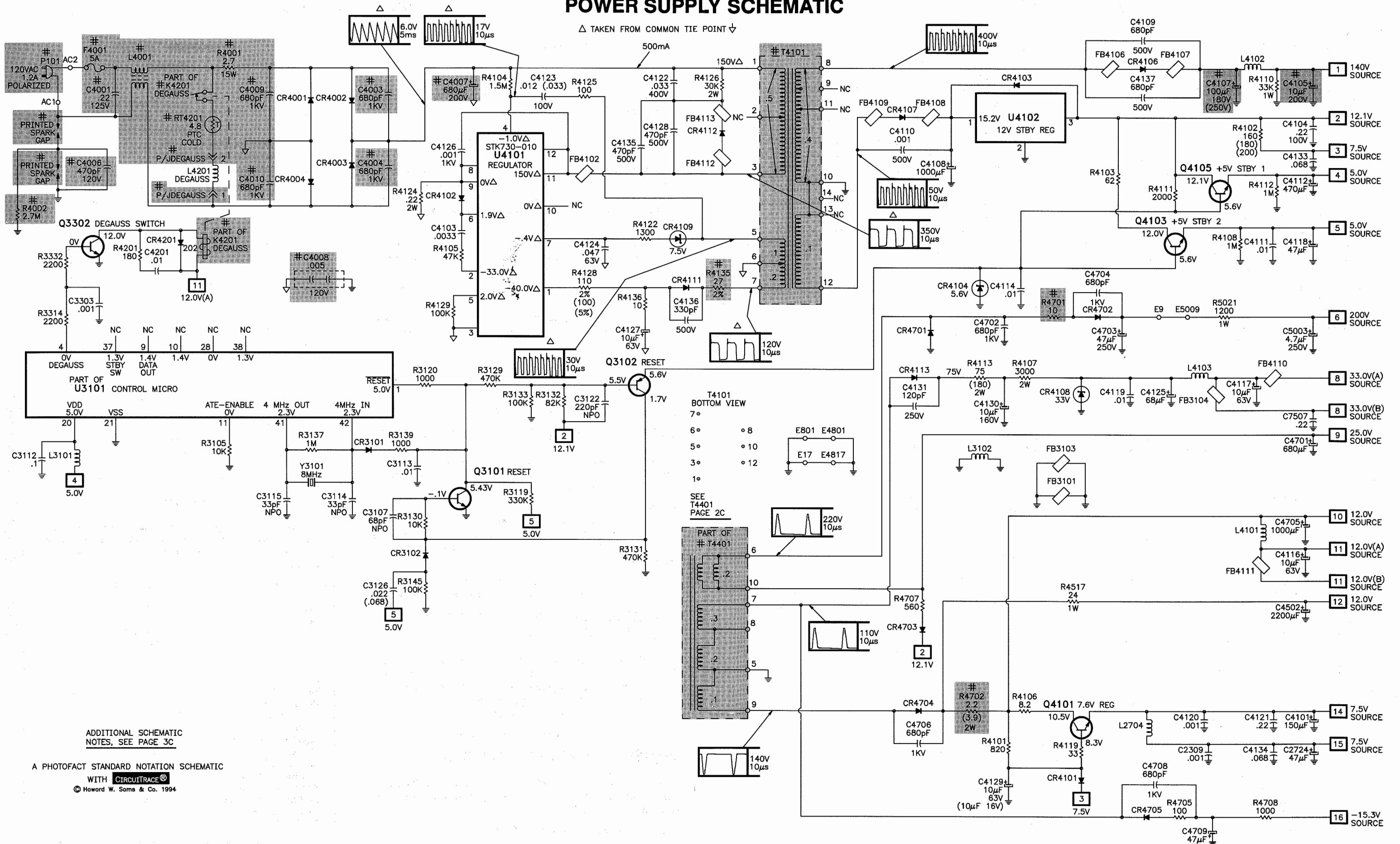
## B



## TELEVISION SCHEMATIC continued

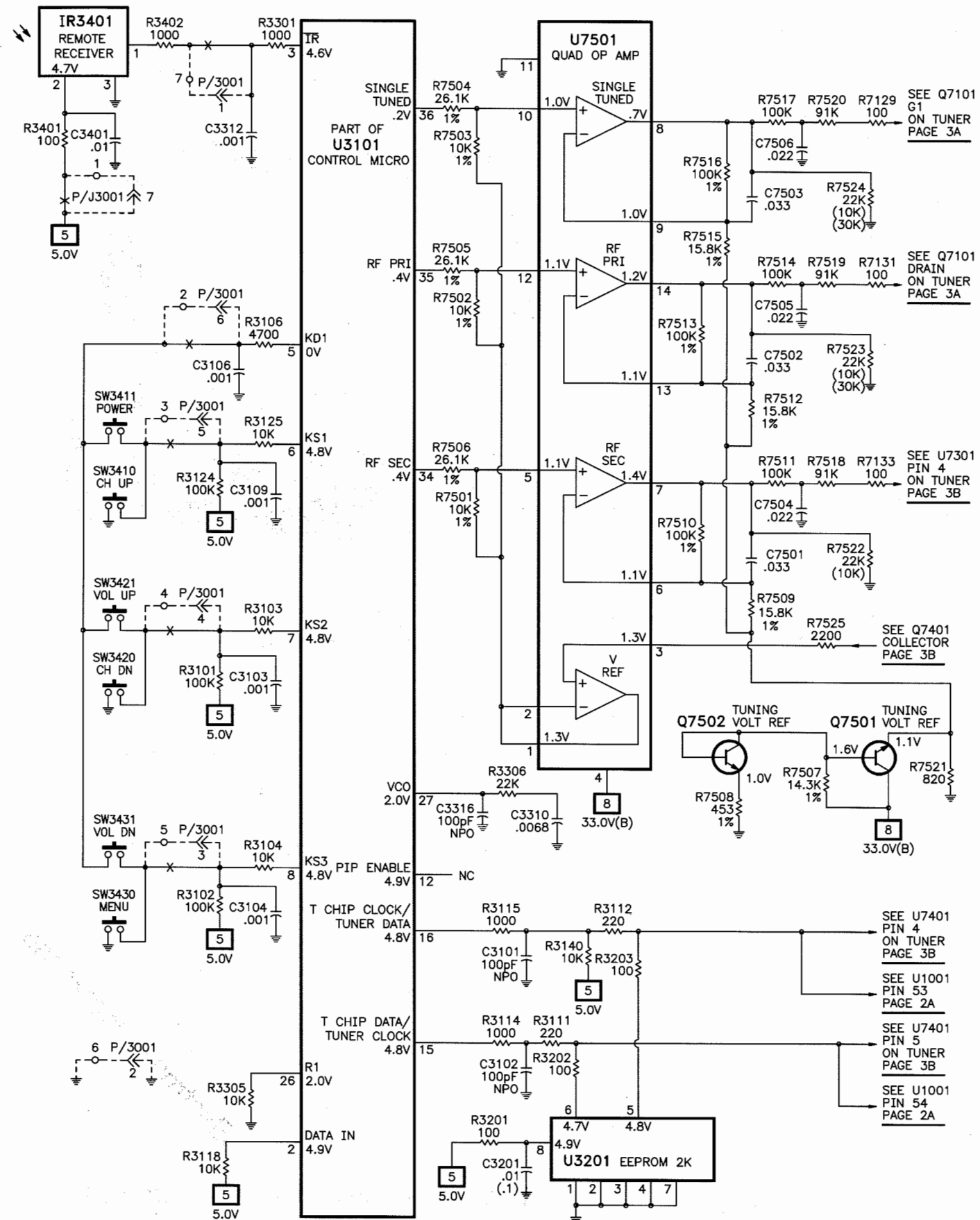


# POWER SUPPLY SCHEMATIC



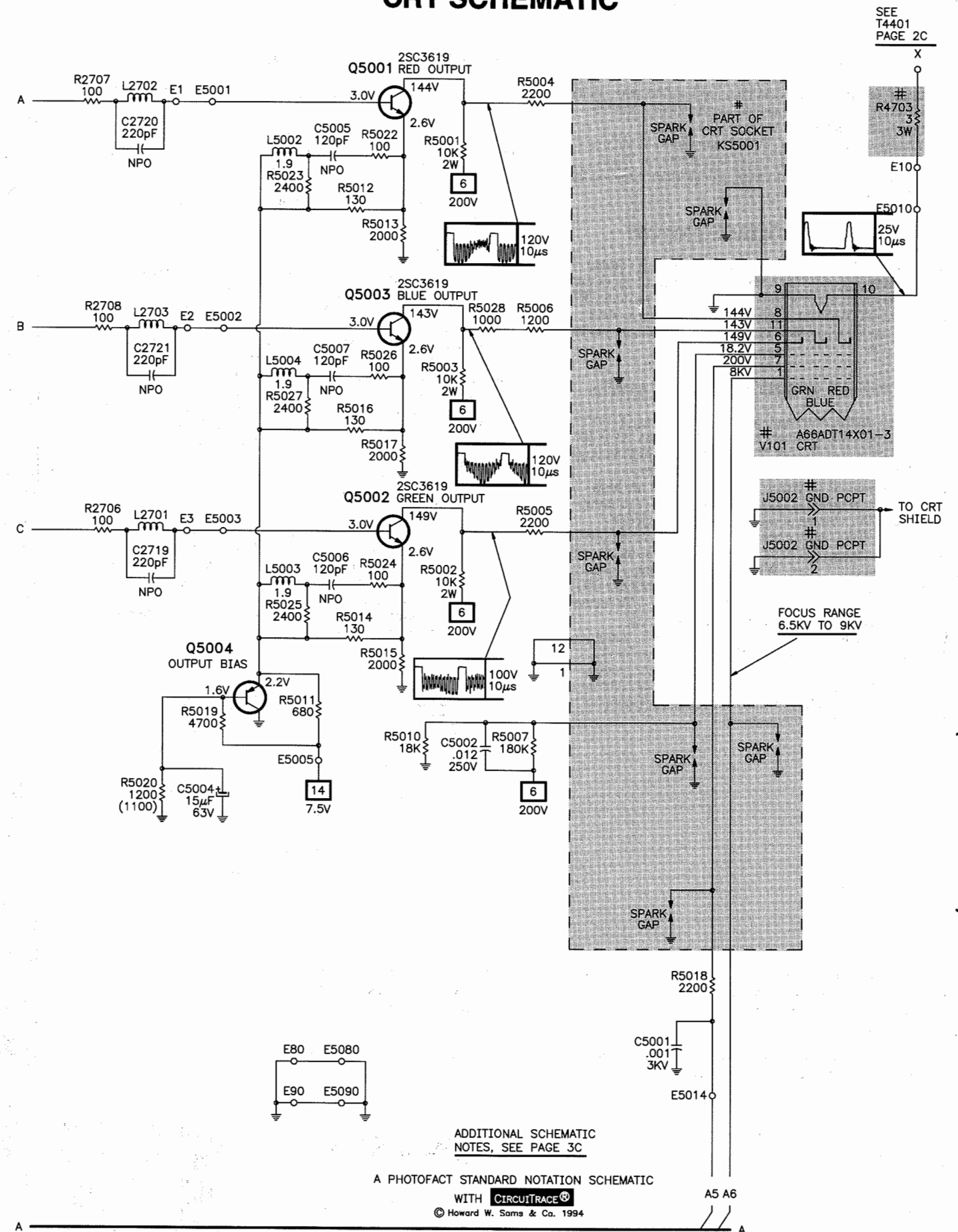


## SYSTEM CONTROL SCHEMATIC



## G

## CRT SCHEMATIC



ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 3C

### A PHOTOFACT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE®**  
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SET 3337 Page 2

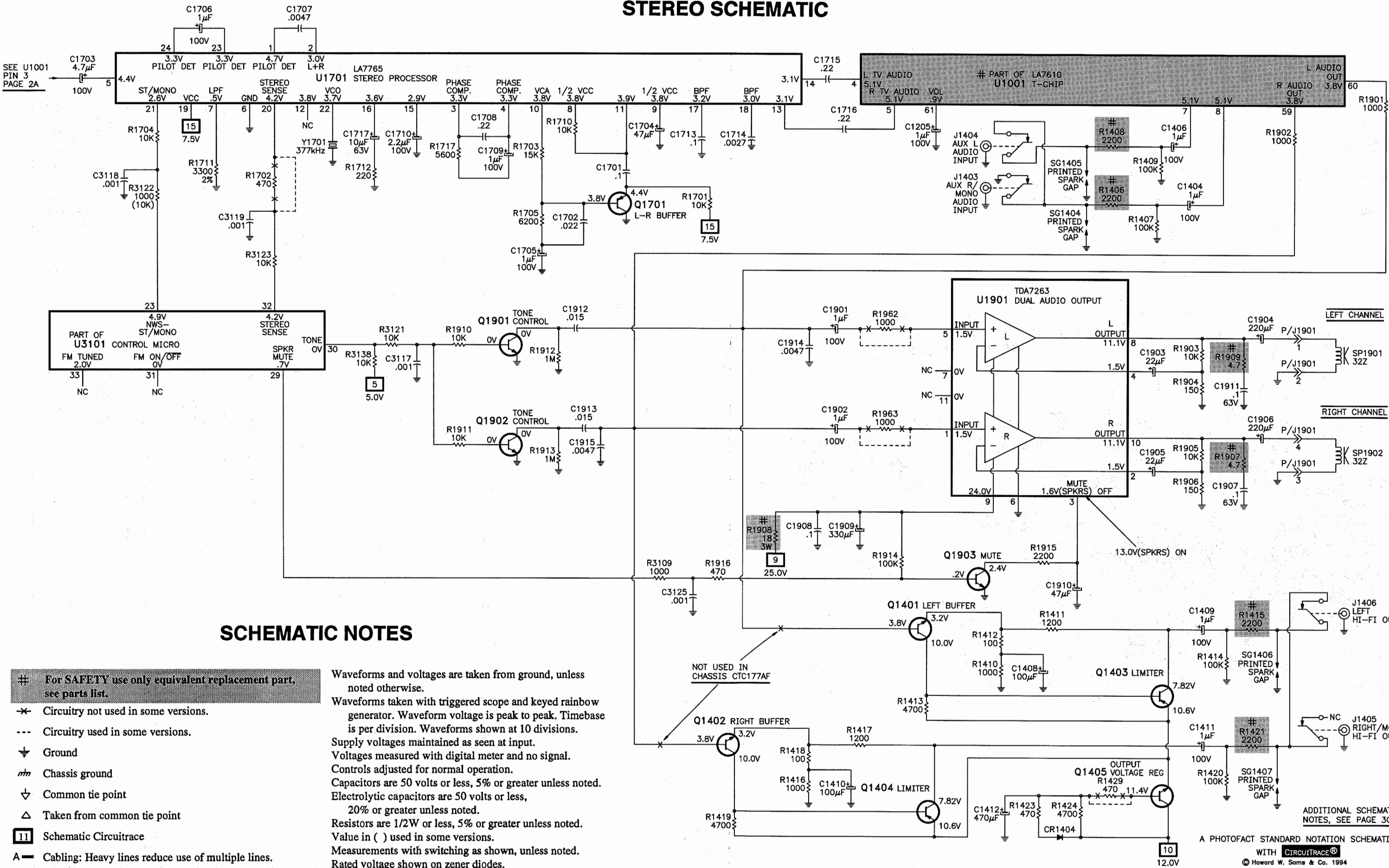


The schematic diagram illustrates the internal circuitry of a radio receiver, organized into several functional sections:

- VHF/UHF Input Section:** Starts with J1 VHF/UHF RF INPUT, passing through a printed spark gap (SG7101) and a high-pass filter (FL7102). It includes an FM trap (L7110, C7136) and a switch (CR7105).
- RF Amplification:** Features two stages: Q7101 UHF RF AMP and Q7102 VHF RF AMP, both utilizing bipolar junction transistors.
- Mixing and Oscillation:** Includes a UHF Mixer/Oscillator (CX1594L U7301) and a VHF Mixer/Oscillator, which generate and mix signals at their respective frequencies.
- IF Amplification:** The Intermediate Frequency (IF) stage, labeled IF AMP, processes the mixed signals before they reach the PLL.
- PLL and Tuner Control:** The Phase-Locked Loop (PLL) section (Q7401) controls the frequency of the oscillators. It includes a loop filter (LOOP FIL.2) and a tuner control IC (U7401).
- Band Switching:** A band switch (Q7402) allows selection between different frequency bands.
- Power Supply:** A +5V regulator (Q4106) provides stable power to the logic and control sections.
- Control and Output Stages:** Includes an AGC (Automatic Gain Control) section, RF PRI and RF SEC sections, and an FM OFFSET control point.

The diagram uses standard electronic symbols for components and includes numerous component values (resistor codes like R7101, capacitor codes like C7101, etc.). It also contains references to other pages (PAGE 2A, PAGE 2G) for additional details and pin connections.

# STEREO SCHEMATIC



## SCHEMATIC NOTES

# For SAFETY use only equivalent replacement part, see parts list.

✱ Circuitry not used in some versions.

--- Circuitry used in some versions.

⏏ Ground

⏏ Chassis ground

⏏ Common tie point

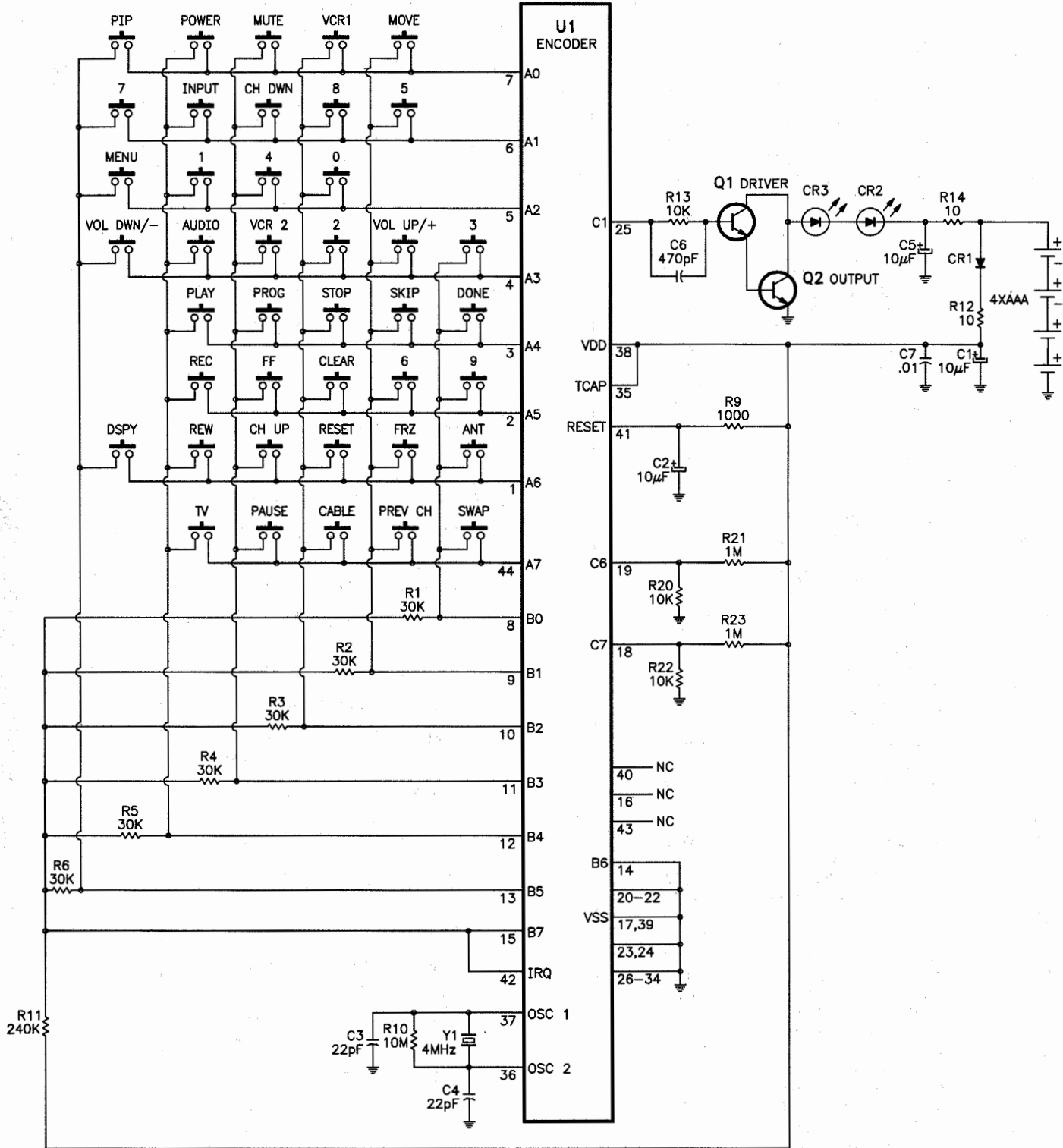
△ Taken from common tie point

11 Schematic Circuittrace

A Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless noted otherwise.  
Waveforms taken with triggered scope and keyed rainbow generator. Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.  
Supply voltages maintained as seen at input.  
Voltages measured with digital meter and no signal.  
Controls adjusted for normal operation.  
Capacitors are 50 volts or less, 5% or greater unless noted.  
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.  
Resistors are 1/2W or less, 5% or greater unless noted.  
Value in ( ) used in some versions.  
Measurements with switching as shown, unless noted.  
Rated voltage shown on zener diodes.

REMOTE TRANSMITTER SCHEMATIC



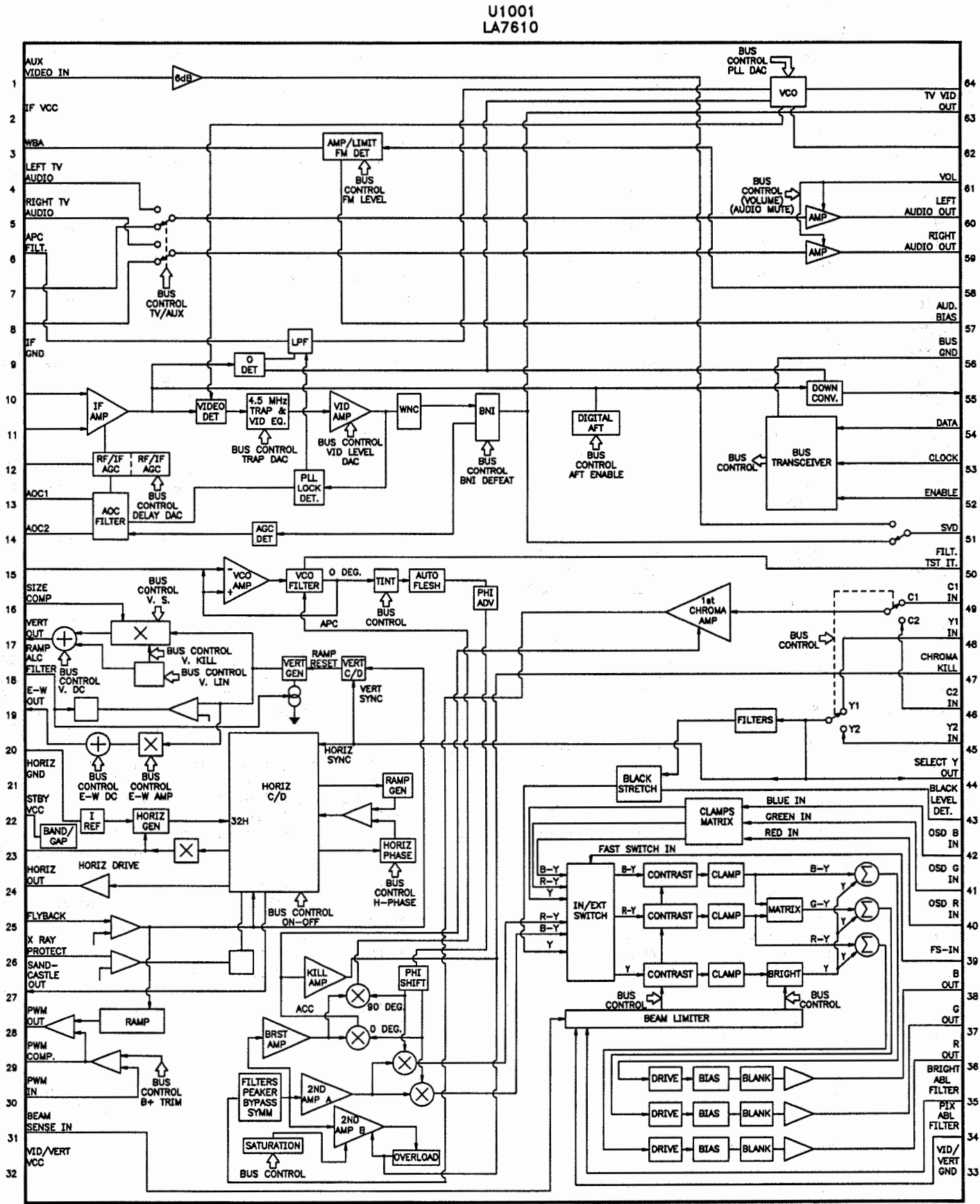
ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 3C

A PHOTOFAC STANDARD NOTATION SCHEMATIC

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IC FUNCTIONS





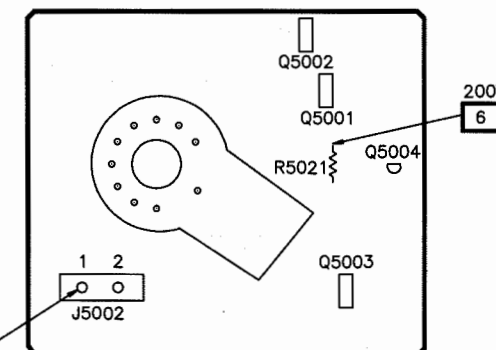
## IC FUNCTIONS continued

## PLACEMENT CHART

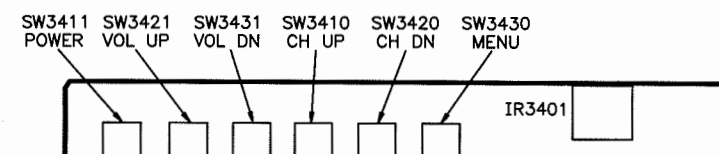
## TEST JIG HOOKUP

| Function     | Chek-A-Color<br>Adapter No. | PC Board<br>Plug No. | Pin   | Color  |
|--------------|-----------------------------|----------------------|-------|--------|
| CRT          | B239                        | P Horiz              | E4401 | Red    |
| Yoke         | D4124                       |                      | E4402 | Blue   |
| Yoke Setting | YP1A                        | P Vert               | E4501 | Yellow |
| Comments     | Focus Tap                   |                      | E4502 | Green  |

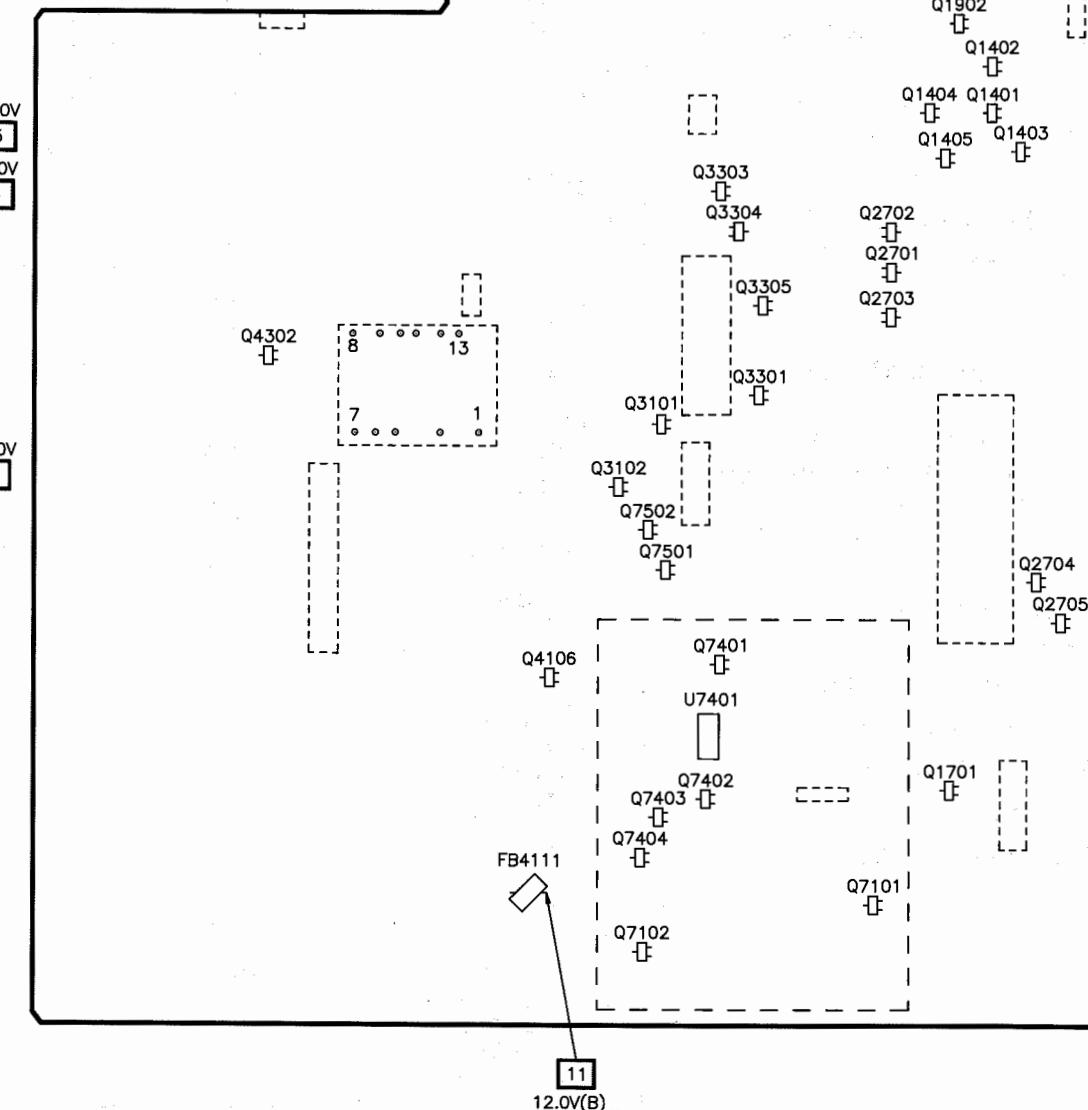
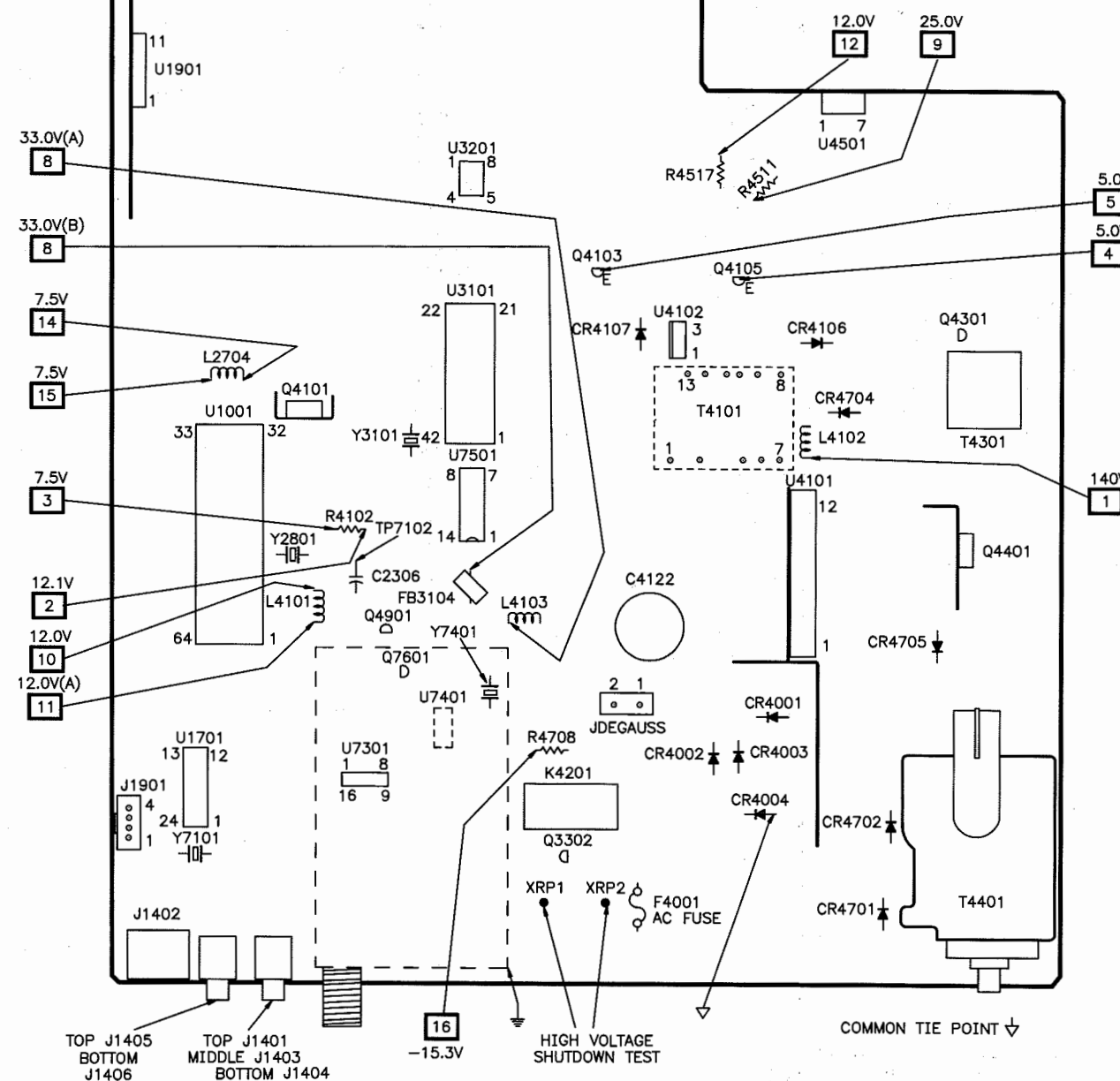
## CRT BOARD



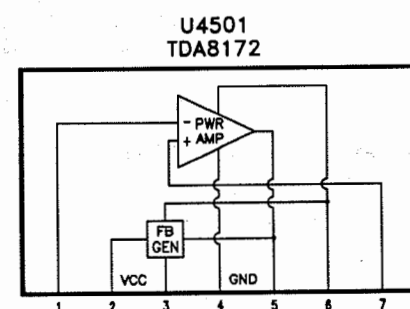
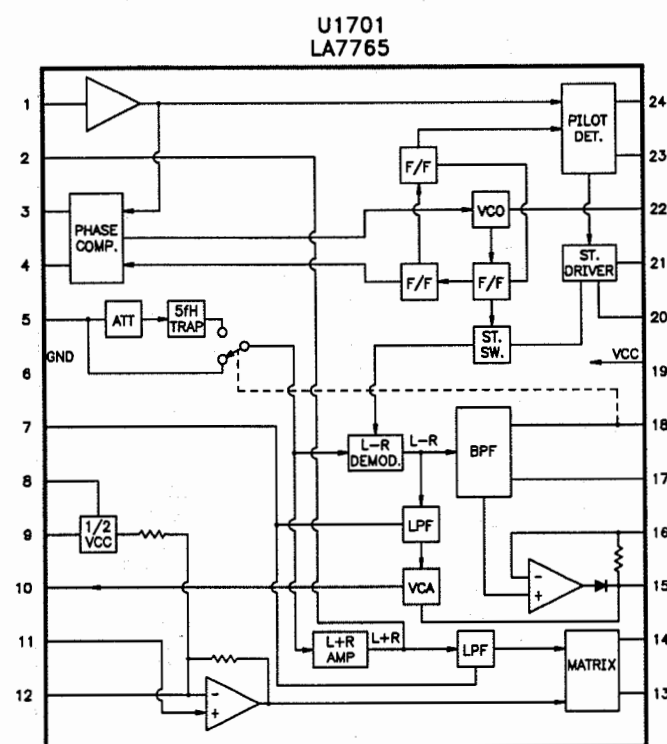
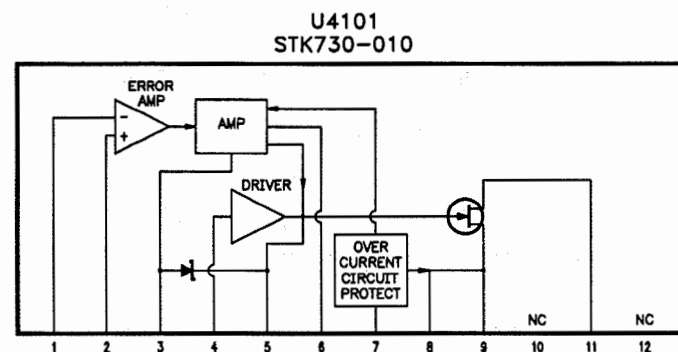
### MAIN BOARD - TOP VIEW



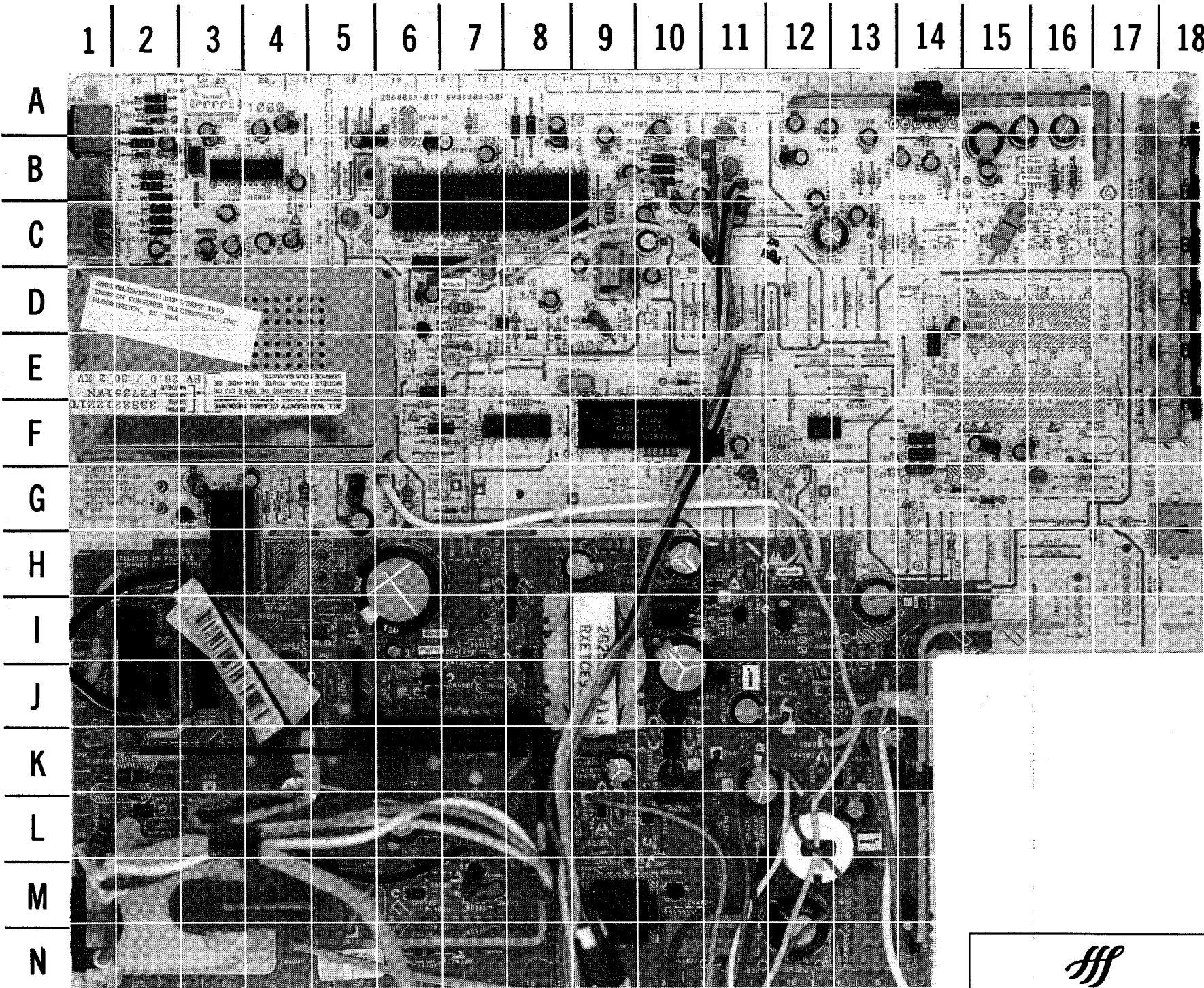
### MAIN BOARD - BOTTOM VIEW




**RCA** **MODEL G26681CKKF1 (CHASSIS CTC177AE)**



MAIN BOARD - TOP VIEW



A HOWARD W. SAMS GRIDTRACE™ PHOTO

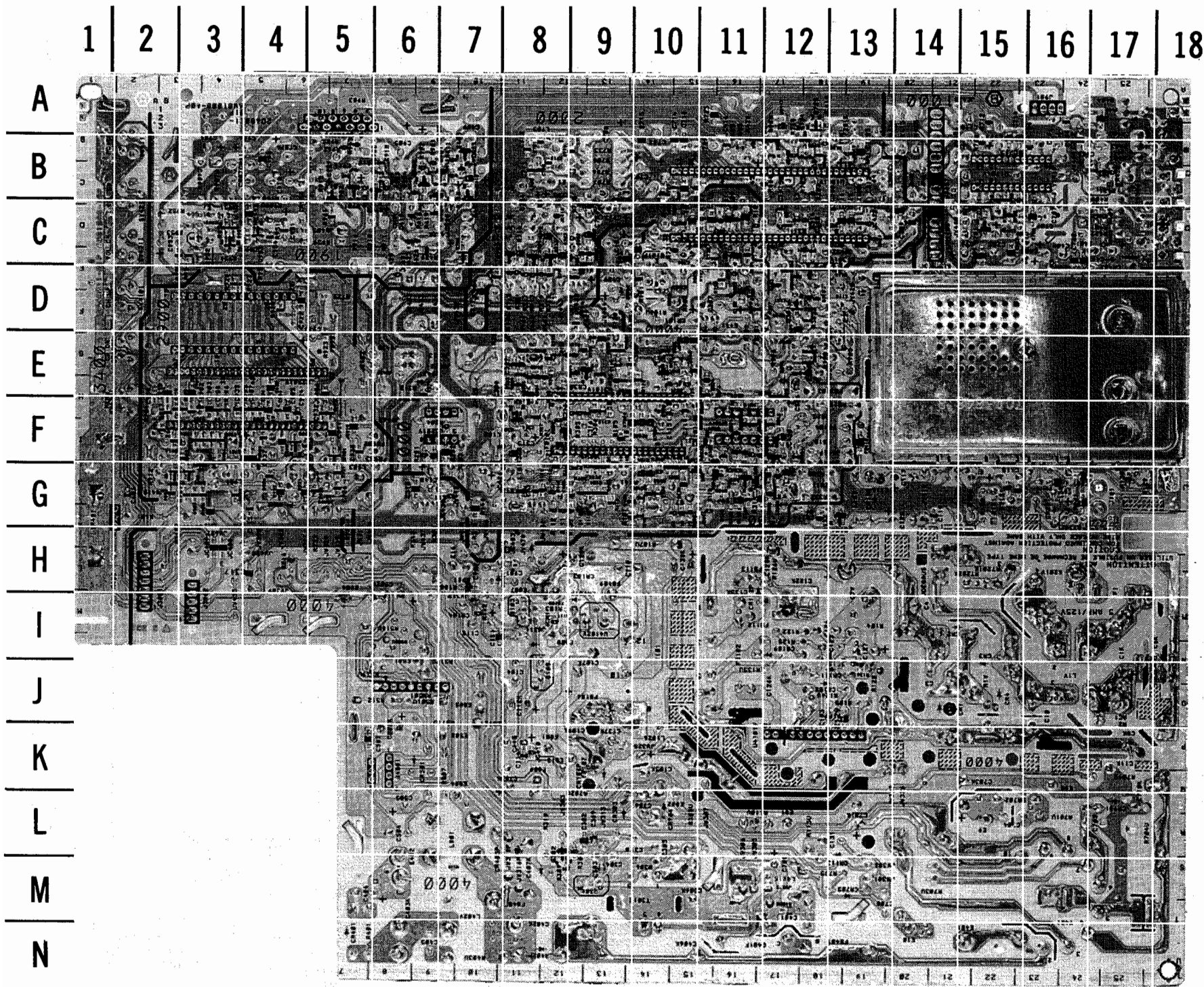
  
Created with pride by the  
employees of Howard W. Sams  
& Company.  
*J. Barker, B. Bryant,  
B. Buchanan, T. Clensy,  
D. Cobb, G. Farrell, B. Fink,  
M. Herkless, J. Kocha,  
J. Limp, F. Malek, B. Medaris,  
R. Raus, B. Skinner, J. Young*

MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

|       |      |        |      |        |      |       |      |        |      |
|-------|------|--------|------|--------|------|-------|------|--------|------|
| C1201 | B-6  | C4126  | J-7  | CR4705 | M-6  | R1915 | B-14 | R7515  | F-8  |
| C1205 | B-6  | C4127  | I-6  | CR4901 | H-12 | R1916 | C-14 | R7518  | F-6  |
| C1401 | C-2  | C4128  | H-7  | CR4902 | E-7  | R2706 | B-10 | R7519  | F-6  |
| C1402 | B-2  | C4129  | D-10 | F4001  | H-2  | R2707 | B-10 | R7520  | G-7  |
| C1404 | C-3  | C4130  | H-9  | FB3101 | F-11 | R2708 | B-10 | R7525  | F-6  |
| C1406 | C-3  | C4131  | L-6  | FB3103 | E-6  | R2709 | K-2  | RN4501 | J-12 |
| C1408 | B-12 | C4135  | I-8  | FB3104 | F-6  | R2711 | D-12 | RT4201 | H-4  |
| C1409 | A-12 | C4136  | J-6  | FB4102 | I-8  | R2718 | A-7  | SF2301 | C-6  |
| C1410 | C-13 | C4137  | K-10 | FB4106 | J-10 | R2732 | H-14 | SW3410 | D-18 |
| C1411 | B-12 | C4304  | M-10 | FB4107 | K-10 | R2733 | B-10 | SW3411 | A-18 |
| C1412 | C-13 | C4305  | L-9  | FB4108 | H-11 | R3102 | H-16 | SW3420 | E-18 |
| C1703 | C-4  | C4306  | M-8  | FB4109 | H-10 | R3105 | F-9  | SW3421 | B-18 |
| C1704 | B-4  | C4307  | D-8  | FB4112 | I-8  | R3143 | D-10 | SW3430 | F-18 |
| C1705 | C-4  | C4310  | L-9  | FB4113 | H-8  | R3203 | G-13 | SW3431 | C-18 |
| C1706 | A-3  | C4402  | N-11 | FB4401 | N-6  | R3315 | G-12 | T4101  | I-9  |
| C1709 | C-3  | C4403  | M-13 | FB4501 | D-7  | R3329 | D-12 | T4301  | M-9  |
| C1710 | A-4  | C4404  | M-14 | IR3401 | G-18 | R3332 | G-7  | T4401  | M-3  |
| C1717 | A-4  | C4405  | N-13 | J1401  | C-1  | R3343 | H-13 | U1001  | C-6  |
| C1901 | B-14 | C4406  | N-8  | J1403  | C-1  | R3401 | G-17 | U1701  | B-3  |
| C1902 | B-14 | C4502  | I-13 | J1404  | C-1  | R3402 | H-18 | U1901  | A-14 |
| C1903 | A-12 | C4504  | L-13 | J1405  | B-1  | R4001 | J-1  | U3101  | F-9  |
| C1904 | A-16 | C4505  | L-13 | J1406  | B-1  | R4002 | I-4  | U3201  | F-13 |
| C1905 | A-13 | C4506  | K-13 | K4201  | H-3  | R4102 | D-8  | U4101  | K-6  |
| C1906 | A-15 | C4701  | L-6  | L2302  | B-5  | R4103 | I-11 | U4102  | I-10 |
| C1907 | B-16 | C4702  | L-2  | L2304  | C-5  | R4104 | I-6  | U4501  | K-14 |
| C1909 | A-15 | C4703  | K-4  | L2701  | B-10 | R4105 | J-6  | U7501  | F-7  |
| C1910 | B-15 | C4704  | L-4  | L2702  | B-11 | R4106 | D-9  | Y1701  | B-3  |
| C1911 | B-16 | C4705  | K-11 | L2703  | A-11 | R4107 | H-9  | Y2801  | C-7  |
| C2306 | D-7  | C4706  | L-9  | L2704  | C-9  | R4110 | L-8  | Y3101  | E-9  |
| C2311 | C-6  | C4708  | M-5  | L3101  | G-11 | R4111 | I-11 |        |      |
| C2701 | B-7  | C4709  | M-7  | L3102  | F-12 | R4113 | L-6  |        |      |
| C2702 | C-11 | C4710  | K-2  | L4001  | J-3  | R4122 | I-7  |        |      |
| C2703 | B-9  | C4901  | H-11 | L4101  | D-7  | R4124 | J-6  |        |      |
| C2704 | C-10 | C4902  | H-12 | L4102  | K-9  | R4125 | I-7  |        |      |
| C2705 | B-11 | C4905  | E-6  | L4103  | G-6  | R4126 | H-7  |        |      |
| C2706 | C-9  | CF1201 | A-6  | L4401  | M-7  | R4128 | J-6  |        |      |
| C2707 | A-9  | CR1401 | C-2  | L4402  | N-12 | R4135 | J-7  |        |      |
| C2708 | A-10 | CR1402 | A-2  | Q3102  | G-3  | R4303 | H-13 |        |      |
| C2709 | A-8  | CR1403 | B-2  | Q4101  | C-9  | R4305 | K-8  |        |      |
| C2713 | C-10 | CR1404 | C-13 | Q4103  | I-11 | R4306 | M-9  |        |      |
| C2724 | C-11 | CR2702 | D-10 | Q4105  | J-11 | R4310 | L-11 |        |      |
| C3112 | G-8  | CR3101 | F-8  | Q4301  | M-10 | R4312 | E-13 |        |      |
| C3315 | F-11 | CR3301 | E-10 | Q4401  | N-7  | R4401 | N-14 |        |      |
| C4001 | I-2  | CR4001 | J-4  | Q4901  | D-6  | R4402 | M-7  |        |      |
| C4003 | J-5  | CR4002 | I-5  | R1401  | C-2  | R4403 | N-12 |        |      |
| C4004 | I-5  | CR4003 | I-4  | R1402  | A-2  | R4501 | J-13 |        |      |
| C4006 | J-1  | CR4004 | J-3  | R1403  | B-2  | R4502 | I-13 |        |      |
| C4007 | H-6  | CR4101 | D-9  | R1404  | A-2  | R4507 | K-12 |        |      |
| C4008 | K-1  | CR4102 | J-6  | R1405  | A-2  | R4511 | K-11 |        |      |
| C4009 | J-4  | CR4103 | H-11 | R1406  | A-2  | R4517 | J-12 |        |      |
| C4010 | J-3  | CR4104 | I-12 | R1408  | B-2  | R4519 | J-13 |        |      |
| C4101 | C-10 | CR4106 | K-10 | R1415  | B-2  | R4523 | C-8  |        |      |
| C4104 | J-11 | CR4107 | H-10 | R1421  | B-2  | R4701 | L-3  |        |      |
| C4105 | K-9  | CR4108 | G-6  | R1422  | C-2  | R4702 | L-10 |        |      |
| C4107 | J-10 | CR4109 | I-7  | R1425  | A-8  | R4703 | M-5  |        |      |
| C4108 | H-10 | CR4111 | J-6  | R1426  | A-8  | R4704 | L-1  |        |      |
| C4109 | K-10 | CR4112 | I-8  | R1903  | A-14 | R4705 | M-6  |        |      |
| C4110 | H-10 | CR4113 | M-6  | R1904  | B-13 | R4708 | G-4  |        |      |
| C4112 | J-11 | CR4201 | G-3  | R1905  | B-14 | R4901 | H-12 |        |      |
| C4116 | D-6  | CR4302 | F-13 | R1906  | B-13 | R4902 | E-7  |        |      |
| C4117 | G-5  | CR4303 | L-10 | R1907  | B-16 | R4903 | D-7  |        |      |
| C4118 | I-12 | CR4401 | N-14 | R1908  | C-15 | R4904 | D-8  |        |      |
| C4122 | H-7  | CR4501 | K-13 | R1909  | B-16 | R4905 | E-6  |        |      |
| C4123 | I-6  | CR4701 | L-2  | R1910  | C-14 | R4906 | E-7  |        |      |
| C4124 | I-6  | CR4702 | L-4  | R1911  | C-13 | R4907 | D-7  |        |      |
| C4125 | G-5  | CR4704 | L-9  | R1914  | B-14 | R7512 | F-7  |        |      |



MAIN BOARD - BOTTOM VIEW



A HOWARD W. SAMS GRIDTRACE™ PHOTO

MAIN BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

|       |      |        |      |       |      |       |      |       |      |
|-------|------|--------|------|-------|------|-------|------|-------|------|
| C1403 | A-17 | C4133  | D-11 | R1429 | C-6  | R3133 | G-11 | R7508 | G-12 |
| C1405 | C-16 | C4134  | B-9  | R1701 | C-15 | R3134 | G-9  | R7509 | F-11 |
| C1701 | C-15 | C4201  | G-16 | R1702 | A-15 | R3135 | G-9  | R7510 | F-11 |
| C1702 | C-15 | C4302  | L-9  | R1703 | C-15 | R3137 | E-10 | R7511 | F-11 |
| C1707 | B-16 | C4303  | M-9  | R1704 | B-16 | R3138 | E-9  | R7513 | E-12 |
| C1708 | C-16 | C4308  | C-11 | R1705 | C-15 | R3139 | G-10 | R7514 | E-12 |
| C1713 | A-15 | C4309  | L-9  | R1710 | C-15 | R3140 | G-9  | R7516 | F-11 |
| C1714 | A-15 | C4311  | B-11 | R1711 | B-15 | R3145 | G-11 | R7517 | E-11 |
| C1715 | C-13 | C4401  | M-12 | R1712 | A-15 | R3201 | F-6  | R7521 | G-12 |
| C1716 | C-13 | C4501  | C-10 | R1717 | B-16 | R3202 | F-7  | R7522 | F-11 |
| C1908 | B-4  | C4503  | C-9  | R1901 | B-6  | R3301 | G-10 | R7523 | E-12 |
| C1912 | B-5  | C4507  | K-5  | R1902 | B-6  | R3302 | F-10 | R7524 | E-11 |
| C1913 | B-6  | C4903  | C-11 | R1912 | B-5  | R3303 | E-11 |       |      |
| C1914 | B-5  | C4904  | D-12 | R1913 | B-6  | R3304 | E-8  |       |      |
| C1915 | B-6  | C7501  | F-11 | R1962 | B-5  | R3305 | F-9  |       |      |
| C2301 | C-12 | C7502  | F-12 | R1963 | B-5  | R3306 | F-9  |       |      |
| C2302 | C-12 | C7503  | E-11 | R2301 | D-12 | R3310 | G-9  |       |      |
| C2307 | C-12 | C7504  | F-12 | R2312 | C-12 | R3311 | E-8  |       |      |
| C2308 | C-13 | C7505  | E-12 | R2313 | D-12 | R3314 | G-12 |       |      |
| C2309 | C-14 | C7506  | F-12 | R2314 | C-12 | R3316 | F-9  |       |      |
| C2312 | B-13 | C7507  | G-12 | R2315 | D-12 | R3317 | D-8  |       |      |
| C2313 | C-12 | CR3102 | G-11 | R2316 | C-13 | R3318 | G-9  |       |      |
| C2718 | E-10 | CR3302 | F-8  | R2702 | D-10 | R3319 | D-8  |       |      |
| C2719 | B-8  | CR4115 | C-11 | R2703 | C-9  | R3320 | F-8  |       |      |
| C2720 | B-8  | FB4110 | F-13 | R2704 | B-12 | R3321 | D-8  |       |      |
| C2721 | B-8  | FB4111 | G-16 | R2705 | B-12 | R3322 | E-8  |       |      |
| C2802 | B-12 | Q1401  | B-7  | R2712 | C-8  | R3323 | F-8  |       |      |
| C2803 | D-12 | Q1402  | B-6  | R2713 | D-8  | R3324 | E-9  |       |      |
| C2805 | B-11 | Q1403  | B-7  | R2714 | C-8  | R3325 | F-8  |       |      |
| C2806 | C-9  | Q1404  | B-7  | R2715 | D-8  | R3326 | F-8  |       |      |
| C3101 | G-8  | Q1405  | B-7  | R2716 | C-8  | R3327 | F-8  |       |      |
| C3102 | G-9  | Q1701  | C-15 | R2717 | D-8  | R3328 | E-8  |       |      |
| C3103 | G-10 | Q1901  | B-5  | R2721 | B-13 | R3330 | B-10 |       |      |
| C3104 | G-10 | Q1902  | B-6  | R2722 | A-12 | R3331 | E-10 |       |      |
| C3106 | G-10 | Q1903  | B-5  | R2723 | A-11 | R4101 | D-10 |       |      |
| C3107 | F-11 | Q2701  | C-8  | R2726 | B-10 | R4108 | H-7  |       |      |
| C3109 | G-10 | Q2702  | C-8  | R2728 | C-9  | R4109 | C-11 |       |      |
| C3110 | G-9  | Q2703  | C-8  | R2729 | C-9  | R4112 | I-7  |       |      |
| C3113 | G-11 | Q2704  | A-12 | R2731 | C-10 | R4119 | D-10 |       |      |
| C3114 | F-10 | Q2705  | B-12 | R2801 | C-9  | R4127 | C-11 |       |      |
| C3115 | F-10 | Q3101  | G-11 | R2802 | C-9  | R4129 | J-13 |       |      |
| C3117 | E-8  | Q3301  | E-10 | R2803 | D-12 | R4133 | C-11 |       |      |
| C3118 | E-8  | Q3302  | G-11 | R2804 | B-12 | R4134 | D-11 |       |      |
| C3119 | E-9  | Q3303  | F-8  | R2805 | B-12 | R4136 | J-13 |       |      |
| C3122 | G-11 | Q3304  | E-8  | R2806 | B-11 | R4201 | G-16 |       |      |
| C3125 | E-8  | Q3305  | E-9  | R3101 | G-10 | R4301 | C-11 |       |      |
| C3126 | G-11 | Q4302  | L-8  | R3103 | G-10 | R4302 | D-11 |       |      |
| C3201 | F-6  | Q7501  | F-12 | R3104 | G-10 | R4304 | L-9  |       |      |
| C3301 | E-10 | Q7502  | G-12 | R3106 | G-10 | R4307 | D-12 |       |      |
| C3303 | G-12 | R1201  | B-6  | R3109 | E-9  | R4308 | C-10 |       |      |
| C3306 | G-8  | R1203  | B-12 | R3111 | G-8  | R4309 | M-9  |       |      |
| C3307 | E-8  | R1407  | C-17 | R3112 | G-8  | R4311 | C-11 |       |      |
| C3310 | F-9  | R1409  | C-17 | R3114 | G-9  | R4314 | E-6  |       |      |
| C3311 | F-8  | R1410  | B-7  | R3115 | G-9  | R4516 | H-4  |       |      |
| C3312 | G-10 | R1411  | B-7  | R3118 | G-10 | R4520 | D-10 |       |      |
| C3313 | G-8  | R1412  | B-7  | R3119 | G-10 | R7129 | G-18 |       |      |
| C3314 | F-8  | R1413  | B-7  | R3120 | G-10 | R7130 | G-17 |       |      |
| C3316 | F-9  | R1414  | D-17 | R3121 | E-9  | R7131 | G-15 |       |      |
| C3317 | H-4  | R1416  | B-6  | R3122 | E-8  | R7133 | G-16 |       |      |
| C3401 | G-2  | R1417  | B-6  | R3123 | E-9  | R7501 | F-11 |       |      |
| C4103 | J-13 | R1418  | B-6  | R3124 | I-10 | R7502 | F-11 |       |      |
| C4111 | I-7  | R1419  | C-6  | R3125 | G-10 | R7503 | F-11 |       |      |
| C4114 | K-8  | R1420  | B-17 | R3129 | G-11 | R7504 | F-10 |       |      |
| C4119 | G-14 | R1423  | C-6  | R3130 | F-11 | R7505 | F-10 |       |      |
| C4120 | C-10 | R1424  | C-6  | R3131 | F-11 | R7506 | F-10 |       |      |
| C4121 | C-10 | R1427  | C-13 | R3132 | G-11 | R7507 | F-11 |       |      |



PARTS LIST

Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- Custom Components Corporation (Chek-A-Color)
- NTE Electronics, Inc. (NTE)
- Philips ECG Company (ECG)
- PTS Electronics Corporation (PTS)
- Sencore, Inc.
- Thomson Consumer Electronics, Inc. (SK, TCE)

SEMICONDUCTORS

(Select the replacement that gives the best results.)

| Item No.       | Type No. | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
|----------------|----------|---------------|--------------|--------------|--------------|
| CR1401, 02, 03 | -        | 215487        | -            | -            | -            |
| CR1404         | -        | 164717        | NTE519       | ECG519       | SK3100       |
| CR2702         | -        | 164717        | NTE519       | ECG519       | SK3100       |
| CR3101         | -        | 164874        | NTE177       | ECG177       | SK9091       |
| CR3102         | -        | 201133        | -            | -            | -            |
| CR3301         | -        | 164717        | NTE519       | ECG519       | SK3100       |
| CR3302         | -        | 201133        | -            | -            | -            |
| CR4001 Thru    | -        | -             | -            | -            | -            |
| CR4004         | -        | 147015        | NTE125       | ECG125       | SK5010A      |
| CR4101         | -        | 164874        | NTE177       | ECG177       | SK9091       |
| CR4102         | -        | 176296        | NTE125       | ECG125       | SK5010A      |
| CR4103         | -        | 164717        | NTE519       | ECG519       | SK3100       |
| CR4104         | -        | 215488        | -            | -            | -            |
| CR4106         | -        | 164589        | NTE558       | ECG558       | SK3998       |
| CR4107         | -        | 164590        | NTE580       | ECG580       | SK5036       |
| CR4108 (1)     | -        | 217306        | -            | -            | -            |
| CR4108 (2)     | -        | 215489        | -            | -            | -            |
| CR4109         | -        | 215490        | -            | -            | -            |
| CR4111         | -        | 176296        | NTE125       | ECG125       | SK5010A      |
| CR4112         | -        | 140971        | NTE552       | ECG552       | SK9000       |
| CR4113         | -        | 176296        | NTE125       | ECG125       | SK5010A      |
| CR4114         | -        | 164874        | NTE177       | ECG177       | SK9091       |
| CR4115         | -        | 215491        | -            | -            | -            |
| CR4201         | -        | 164717        | NTE519       | ECG519       | SK3100       |
| CR4302         | -        | 164717        | NTE519       | ECG519       | SK3100       |
| CR4303         | -        | 176296        | NTE125       | ECG125       | SK5010A      |
| # CR4401       | -        | 140971        | NTE552       | ECG552       | SK9000       |
| CR4501         | -        | 147015        | NTE125       | ECG125       | SK5010A      |
| CR4701         | -        | 207878        | NTE4043B     | ECG4043B     | SK4043B      |
| CR4702         | -        | 176296        | NTE125       | ECG125       | SK5010A      |
| CR4703         | -        | 164717        | NTE519       | ECG519       | SK3100       |
| CR4704         | -        | 164588        | NTE519       | ECG519       | SK3100       |
| CR4705         | -        | 176296        | NTE125       | ECG125       | SK5010A      |
| # CR4901       | -        | 157301        | NTE177       | ECG177       | SK9091       |
| # CR4902       | -        | 159429        | NTE5019T1    | ECG5019T1    | SK9970       |
| CR7101         | -        | 215492        | -            | -            | -            |
| CR7102, 03 (3) | -        | -             | -            | -            | -            |
| CR7105         | -        | 215493        | -            | -            | -            |
| CR7106         | -        | 215494        | -            | -            | -            |
| CR7107, 08 (4) | -        | -             | -            | -            | -            |
| CR7109, 10     | -        | 215493        | -            | -            | -            |
| CR7111 (4)     | -        | -             | -            | -            | -            |
| CR7112         | -        | 215493        | -            | -            | -            |
| CR7113 (4)     | -        | -             | -            | -            | -            |
| CR7114 (3)     | -        | -             | -            | -            | -            |
| CR7301 (3)     | -        | -             | -            | -            | -            |
| CR7302 (4)     | -        | -             | -            | -            | -            |
| CR7303         | -        | 215493        | -            | -            | -            |
| CR7304 (3)     | -        | -             | -            | -            | -            |
| CR7305 (4)     | -        | -             | -            | -            | -            |
| Q1401, 02      | -        | 215495        | -            | -            | -            |
| Q1403, 04      | -        | 215496        | -            | -            | -            |
| Q1405          | -        | 215495        | -            | -            | -            |
| Q1701          | -        | 215496        | -            | -            | -            |
| Q1901, 02, 03  | -        | 215495        | -            | -            | -            |

# For SAFETY use only equivalent replacement part.

- (1) 33V 1.3W Zener Diode.
- (2) 33V .5W Zener Diode.
- (3) Part of CR7101.
- (4) Part of CR7106.

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

| Item No.   | Type No.   | Mfr. Part No. | NTE Part No. | ECG Part No. | TCE Part No. |
|------------|------------|---------------|--------------|--------------|--------------|
| Q2701 Thru | -          | -             | -            | -            | -            |
| Q2705      | -          | 215496        | -            | -            | -            |
| Q3101      | -          | 215495        | -            | -            | -            |
| Q3102      | -          | 215496        | -            | -            | -            |
| Q3301      | -          | 215496        | -            | -            | -            |
| Q3302      | -          | 160696        | NTE123AP     | ECG123AP     | SK3854       |
| Q3303      | -          | 215496        | -            | -            | -            |
| Q3304      | -          | 215495        | -            | -            | -            |
| Q3305      | -          | 215496        | -            | -            | -            |
| Q4101      | -          | 157627        | NTE54        | ECG54        | SK9366       |
| Q4103, 05  | -          | 160696        | NTE123AP     | ECG123AP     | SK3854       |
| Q4106      | -          | 215495        | -            | -            | -            |
| Q4301      | -          | 146851        | NTE287       | ECG287       | SK3433       |
| Q4302      | -          | 215495        | -            | -            | -            |
| Q4401      | -          | 191142        | -            | -            | -            |
| # Q4901    | -          | 147665        | NTE159       | ECG159       | SK3466       |
| Q5001 Thru | -          | -             | -            | -            | -            |
| Q5003      | 2SC3619    | 215497        | NTE157       | ECG157       | SK3747       |
| Q5004      | -          | 143806        | NTE159       | ECG159       | SK3466       |
| Q7101, 02  | -          | 200566        | -            | -            | -            |
| Q7401      | -          | 215495        | -            | -            | -            |
| Q7402      | -          | 215496        | -            | -            | -            |
| Q7403      | -          | 215495        | -            | -            | -            |
| Q7404      | -          | 215496        | -            | -            | -            |
| Q7501, 02  | -          | 215495        | -            | -            | -            |
| Q7601      | -          | 146848        | NTE229*      | ECG229*      | SK3246A*     |
| # U1001    | LA7610     | 215524        | -            | -            | -            |
| U1701      | LA7765     | 215525        | -            | -            | -            |
| U1901      | TDA7263    | 215526        | -            | -            | -            |
| U3101      | -          | 217320        | -            | -            | -            |
| U3201 (5)  | -          | 218403        | -            | -            | -            |
| U3201 (6)  | -          | 218401        | -            | -            | -            |
| U3201 (7)  | -          | 218402        | -            | -            | -            |
| U4101      | STK730-010 | 215530        | -            | -            | -            |
| U4102      | L7812CV    | 162394        | NTE966       | ECG966       | SK3592       |
| U4501      | TDA8172    | 215531        | NTE1788      | ECG1788      | SK9875       |
| U7301      | CXA1594L   | 215532        | -            | -            | -            |
| U7401      | -          | 215533        | -            | -            | -            |
| U7501      | -          | 215534        | -            | -            | -            |

# For SAFETY use only equivalent replacement part.

\* Lead configuration may vary from original.

(5) Used in chassis CTC177AE.

(6) Used in chassis CTC177AD and CTC177AG.

(7) Used in chassis CTC177AF.

COILS & TRANSFORMERS

| Item No.      | Function/Rating                         | Mfr. Part No. |
|---------------|---|---------------|
| FB3101, 04    | Ferrite Bead                            | 153328        |
| FB4102        | Ferrite Bead                            | 161237        |
| FB4106, 07    | Ferrite Bead                            | 154322        |
| FB4108, 09    | Ferrite Bead                            | 154042        |
| FB4110, 11    | Ferrite Bead                            | 215546        |
| FB4112, 13    | Ferrite Bead                            | 154042        |
| FB4401        | Ferrite Bead                            | 161237        |
| FB4501        | Ferrite Bead                            | 215547        |
| L2302         | VCO                                     | 215502        |
| L2304         | 2.2μH                                   | 197616        |
| L2701, 02, 03 | 2.2μH                                   | 197616        |
| L2704         | 10μH                                    | 175409        |
| L3101         | 10μH                                    | 161243        |
| L3102         | 100μH                                   | 160186        |
| # L4000       | Yoke 110°<br>Horiz .95mH<br>Vert 20.6mH | (2)           |
| # L4001       | Line Choke                              | 190507        |
| L4101         | 10μH                                    | 200162        |
| L4102         | 22μH                                    | 215504        |
| L4103, 04     | 10μH                                    | 175409        |
| L4201         | Degaussing (4)                          | 218764        |
|               | Degaussing (3)                          | 214679        |
| L4401         | 4μH                                     | 215505        |
| # L4402       | Horizontal Linearity                    | 192844        |
| L5002, 03, 04 | 56μH                                    | 196107        |
| L7101         | -                                       | 215507        |
| L7102         | -                                       | 215508        |
| L7106         | -                                       | 215509        |
| L7107         | -                                       | 215510        |
| L7108         | -                                       | 215511        |
| L7109         | 3.9μH                                   | 200559        |
| L7111         | -                                       | 215512        |
| L7112         | -                                       | 215513        |
| L7113         | -                                       | 215514        |
| L7114         | -                                       | 215513        |
| L7115         | -                                       | 215515        |
| L7303         | -                                       | 215516        |
| L7305         | -                                       | 215517        |
| L7306         | -                                       | 215554        |
| L7601         | .0068μH                                 | 195708        |
| # T4101       | Regulator SMT                           | 215538        |
| # T4301       | Horizontal Driver                       | 215541        |
| # T4401 (1)   | Horizontal Output                       | 215539        |

# For SAFETY use only equivalent replacement part.

(1) Focus and screen controls are part of T4401.

(2) Bonded part of CRT.

(3) Used in 25" models.

(4) Used in 26" models.

PARTS LIST continued

CONTROLS & RESISTORS

| Item No.      | Function/Rating       | Mfr. Part No. | NTE Part No. |
|---------------|-----------------------|---------------|--------------|
| # R1401, 02   | 75 5% 1/4W            | 175756        | QW075        |
| # R1403       | 100 5% 1/4W           | 149602        | QW110        |
| # R1404       | 75 5% 1/4W            | 175756        | QW075        |
| # R1405       | 100 5% 1/4W           | 149602        | QW110        |
| # R1406, 08   | 2200 5% 1/4W          | 829222        | QW222        |
| # R1415, 21   | 2200 5% 1/4W          | 829222        | QW222        |
| # R1422       | 22 5% 1/4W            | 829022        | QW022        |
| R1711         | 3300 2% 1/10W SMT     | 195938        | -            |
| # R1907       | 4.7 5% 1/4W           | 200197        | QW4D7        |
| # R1908       | 18 5% 3W              | 181234        | 3W018        |
| # R1909       | 4.7 5% 1/4W           | 200197        | QW4D7        |
| R2704         | 1000 2% 1/10W SMT     | 197638        | -            |
| R2705         | 1000 2% 1/10W SMT     | 197638        | -            |
|               | 1500 2% 1/10W SMT     | 197628        | -            |
| # R2709       | 27K 5% 1/2W           | 206037        | HW327        |
| R2721         | 1500 2% 1/8W SMT      | 181482        | -            |
| R2722         | 1000 2% 1/10W SMT     | 197638        | -            |
| R2728         | 470K 2% 1/10W SMT     | 205381        | -            |
| R2729         | 240K 2% 1/8W SMT      | 215687        | -            |
| R2732         | 1000 1% 1/4W          | 179753        | -            |
| R2801         | 15K 1% 1/10W SMT      | 215198        | -            |
| R2802         | 15.4K 1% 1/10W SMT    | 217310        | -            |
| R3343         | 5100 2% 1/4W          | 175417        | QW251        |
| # R4001       | 2.7 10% 15W Wirewound | 190487        | -            |
| # R4002       | 2.7M 10% 1/2W         | 217662        | HW527        |
| R4128         | 110 2% 1/2W           | 176580        | HW111        |
|               | 100 5% 1/2W           | 176796        | HW110        |
| # R4135       | 27 2% 1/2W            | 830027        | HW027        |
| R4303         | 5100 2% 1/4W          | 175417        | QW251        |
| R4305         | 6200 5% 3W            | 179252        | 3W262        |
| # R4401       | 15K 5% 1W             | 190557        | 1W315        |
| # R4403       | 820 5% 1W             | 175349        | 1W182        |
| # R4507       | 1.5 5% 1W             | 178619        | 1W1D5        |
| # R4511       | 1 10% 2W Wirewound    | 215577        | -            |
| # R4701       | 10 10% 1/2W           | 830010        | HW010        |
| # R4702       | 3.9 5% 2W Wirewound   | 218370        | -            |
| # R4702 (1)   | 2.2 5% 2W Wirewound   | 215211        | -            |
| # R4703       | 3 3W Wirewound        | 215212        | -            |
| # R4704       | 82K 5% 1/2W           | 830382        | HW382        |
| # R4901       | 100 5% 1/4W           | 829110        | QW110        |
| # R4902       | 28K 1% 1/4W           | 195731        | -            |
| # R4903       | 39.2K 1% 1/4W         | 190469        | -            |
| # R4904       | 10K 5% 1/4W           | 175317        | QW310        |
| # R4905       | 5100 2% 1/4W          | 175417        | QW251        |
| R7401         | 191K 1% 1/10W SMT     | 215214        | -            |
| R7408         | 37.4K 1% 1/10W SMT    | 215215        | -            |
| R7411         | 1M 1% 1/10W SMT       | 215216        | -            |
| R7501, 02, 03 | 10K 1% 1/10W SMT      | 215217        | -            |
| R7504, 05, 06 | 26.1K 1% 1/8W SMT     | 215218        | -            |
| R7507         | 14.3K 1% 1/10W SMT    | 215219        | -            |
| R7508         | 453 1% 1/10W SMT      | 217317        | -            |
| R7508 (1)     | 453 1% 1/8W SMT       | 215220        | -            |
| R7509         | 15.8K 1% 1/10W SMT    | 215199        | -            |
| R7510         | 100K 1% 1/10W SMT     | 215221        | -            |
| R7512         | 15.8K 1% 1/4W         | 181121        | -            |
| R7513         | 100K 1% 1/10W SMT     | 215221        | -            |
| R7515         | 15.8K 1% 1/4W         | 181121        | -            |
| R7516         | 100K 1% 1/10W SMT     | 215221        | -            |
| RN4501        | Resistor Network      | 215499        | -            |
| # RT4201      | 4.8 Cold PTC          | 207768        | -            |

# For SAFETY use only equivalent replacement part.  
(1) Used in chassis CTC177AE.

MISCELLANEOUS

| Item No.      | Description      | Mfr. Part No. | Notes   |
|---------------|------------------|---------------|---|
| CF1201        | Filter           | 195702        | 4.5MHz  |
| # F4001       | Fuse             | 175425        | 5Amp, 125V, Fast Acting                             |
| FL7102        | Filter           | 181470        | High Pass   |
| IR3401        | Receiver         | 198606        | Remote  |
| J1401, 03, 04 | Jack             | 215544        | Aux Video In, Aux Right<br>/Mono Audio In, Aux Left |
| J1402         | Jack             | 195705        | SVHS In   |
| J1405 (1)     | Jack             | 215545        | Right/Mono HI-FI Out                                |
| J1406 (1)     | Jack             | 215545        | Left HI-FI Out                                      |
| # K4201       | Relay            | 190490        | Degaussing  |
| # KS5001      | Socket           | 189986        | CRT   |
| # P101        | Line Cord        | 215576        | AC, Polarized                                       |
| SF2301        | Filter           | 217318        | SAW   |
| SP1901, 02    | Speaker          | 183163        | 2 1/4" X 3 1/2", 32 Ohm                             |
|               | Speaker (11)     | 193192        | 2 1/4" x 5", 32 Ohm                                 |
| SW3410        | Switch           | 215500        | Channel Up  |
| SW3411        | Switch           | 215500        | Power   |
| SW3420        | Switch           | 215500        | Channel Down  |
| SW3421        | Switch           | 215500        | Volume Up   |
| SW3430        | Switch           | 215500        | Menu  |
| SW3431        | Switch           | 215500        | Volume Down   |
| # V101 (8)    | CRT              | A63ADT105     | A63ADT10X05-3                                       |
| # V101 (1)    | CRT              | A66ADT141     | A66ADT14X01-3                                       |
| # V101 (2)    | CRT              | A63ADT1053    | A63ADT10X05-3                                       |
| # V101 (3)    | CRT              | A63ADT265     | A63ADT26X05   |
| # V101 (4)    | CRT              | A66ADT221     | A66ADT22X01   |
| Y1701         | Resonator        | 215501        | 377kHz  |
| Y2801         | Crystal          | 161235        | 3.58MHz   |
| Y3101         | Crystal          | 217322        | 8MHz  |
| Y7401         | Crystal          | 182839        | 4MHz  |
|               | Fuse Clip        | 176642        | For F4001 (2 Used)                                  |
|               | PC Board (5)     | 221944        | CRT   |
|               | Transmitter (6)  | 215419        | Remote (CRK71A1)                                    |
|               | Transmitter (7)  | 215420        | Remote (CRK71B1)                                    |
|               | Transmitter (8)  | 213722        | Remote (CRK63A1)                                    |
|               | Transmitter (9)  | 213724        | Remote (CRK63C1)                                    |
|               | Transmitter (10) | 218739        | Remote (CRK63E1)                                    |

# For SAFETY use only equivalent replacement part.  
(1) Used in models G26661CKKF1/CX1, G26681CKKF1 and G26683CKCX1.  
(2) Used in models F25251WNFE1/JX1, and F25651BLFE1/JX1.  
(3) Used in model F26251ETFE1.  
(4) Used in models F26631SEFE1/JX1, and F26633SEFE1.  
(5) Contact PTS Electronics Corporation for replacement; order by manufacturer's part number.  
(6) Used in models G26681CKKF1 and G26683CKCX1.  
(7) Used in models F25651BLFE1/JX1, F26631SEFE1/JX1, F26633SEFE1, G26661CKCX1/KF1.  
(8) Used in models G25341WKCX1/KF1.  
(9) Used in model F26251ETFE1.  
(10) Used in models F25251WNFE1/JX1.  
(11) Used in models G25341WKCX1/FX1, G26661CKKF1/CX1, G26681CKKF1, G26683CKCX1.

CAPACITORS & ELECTROLYTICS

| Item No.      | Rating                    | Mfr. Part No. |
|---------------|---------------------------|---------------|
| C2302         | 470pF 5% 50V NPO SMT      | 214732        |
| C2718 Thru    |                           |               |
| C2721         | 220pF 5% 50V NPO SMT      | 205551        |
| C2803         | 10pF NPO SMT              | -             |
|               | 16pF 2% 50V NPO SMT       | 214736        |
| C2805         | 120pF 5% 50V PO SMT       | 194902        |
| C3101, 02     | 100pF 5% 50V NPO SMT      | 193340        |
| C3107         | 68pF 5% 50V NPO SMT       | 193339        |
| C3110         | 100pF 5% 50V NPO SMT      | 193340        |
| C3114, 15     | 33pF 5% 50V NPO SMT       | 194911        |
| C3116         | 100pF 5% 50V NPO SMT      | 193340        |
| C3122         | 220pF 5% 50V NPO SMT      | 178188        |
| C3306         | 22pF 5% 50V NPO SMT       | 194903        |
| C3307         | 47pF 5% 50V NPO SMT       | 210689        |
| C3311         | 82pF 5% 50V NPO SMT       | 192049        |
| C3313, 14     | 22pF 5% 50V NPO SMT       | 194903        |
| # C4001       | .22 20% 125V              | 214067        |
| # C4003, 04   | 680pF 20% 1KV             | 190538        |
| # C4006       | 470pF 20% 120V            | 250102        |
| # C4007       | 680pF 20% 200V            | 190560        |
| # C4008       | .005 20% 120V             | 195697        |
| # C4009, 10   | 680pF 20% 1KV             | 190538        |
| # C4105       | 10pF 20% 200V             | 214743        |
| # C4107       | 100pF 20% 180V            | 214744        |
|               | 100pF +30% -10% 250V      | 218374        |
| C4126         | .001 10% 1KV              | 160461        |
| C4303         | 470pF 5% 50V NPO SMT      | 214732        |
| C4310         | 15pF 1% 250V NPO          | 177050        |
| C4311         | 47pF 5% 50V NPO SMT       | 210689        |
| C4401         | 470pF 5% 50V NPO SMT      | 195918        |
| # C4402       | .011 1.6KV                | 214751        |
| # C4403       | .43 5% 250V               | 218369        |
|               | .41 5% 250V               | 214752        |
| # C4404       | 2.2pF 20% 200V            | 196050        |
| # C4405       | .0047 10% 250V            | 190534        |
| # C4406       | 470pF 5% 1.5KV N1500      | 143242        |
| C4702, 04     | 680pF 20% 1KV             | 190538        |
| C4706, 08     | 680pF 20% 1KV             | 190538        |
| C4710         | .01 20% 1KV               | 137583        |
| # C4904       | .22 +80% -20% 25V         | 214739        |
| C5001         | .001 10% 3KV              | 120696        |
| C5005, 06, 07 | 120pF 5% 50V NPO SMT      | 194902        |
| C7102         | 4pF ±.25pF 50V NPO SMT    | 214757        |
| C7103         | 22pF 5% 50V NPO SMT       | 194903        |
| C7104         | 120pF 5% 50V NPO SMT      | 194902        |
| C7105         | .75pF ±.25pF 50V NPO SMT  | 214758        |
| C7108         | 27pF 5% 50V N750 SMT      | 214760        |
| C7113         | 100pF 5% 50V NPO SMT      | 193340        |
| C7118         | 22pF 5% 50V NPO SMT       | 194903        |
| C7124         | 27pF 5% 50V NPO SMT       | 197604        |
| C7127         | 120pF 5% 50V NPO SMT      | 194902        |
| C7136         | 75pF 5% 50V NPO SMT       | 192061        |
| C7139         | 20pF 2% 50V N220 SMT      | 214761        |
| C7140         | 4pF ±.5pF 50V NPO SMT     | 194901        |
| C7301, 02     | 1.5pF ±.5pF 50V NPO SMT   | 194904        |
| C7304         | 68pF 2% 50V NPO SMT       | 214762        |
| C7305         | 39pF 2% 50V NPO SMT       | 215556        |
| C7306         | 68pF 2% 50V NPO SMT       | 214762        |
| C7307         | 10pF ±.5pF 50V NPO SMT    | 214740        |
| C7308         | 5.6pF ±.25pF 50V N750 SMT | 214764        |
| C7309         | 10pF 2% 50V NPO SMT       | 214765        |

# For SAFETY use only equivalent replacement part.

CAPACITORS & ELECTROLYTICS continued

| Item No.  | Rating                 | Mfr. Part No. |
|-----------|------------------------|---------------|
| C7310     | 8pF ±.5pF 50V N750 SMT | 214766        |
| C7311     | 6pF ±.5pF 50V NPO SMT  | 194906        |
| C7311     | 5pF ±.5pF 50V NPO SMT  | 193917        |
| C7312     | 3pF ±.5pF 50V NPO SMT  | 214767        |
| C7313     | 10pF ±.5pF 50V NPO SMT | 214740        |
| C7316     | 8pF ±.5pF 50V NPO SMT  | 194909        |
| C7322     | 68pF 2% 50V NPO SMT    | 214762        |
| C7323     | 7pF 2% 50V NPO SMT     | 214768        |
| C7324     | 1pF ±.25pF 50V NPO SMT | 174391        |
| C7404, 05 | 68pF 5% 50V NPO SMT    | 193339        |
| C7410, 11 | 10pF ±.5pF 50V NPO SMT | 214740        |
| C7604     | 22pF 5% 50V NPO SMT    | 194903        |
| C7605     | 27pF 5% 50V NPO SMT    | 197604        |

CABINET PARTS

| Item   | Mfr. Part No. |
|--|---------------|
| MODELS F25251WNFE1/JX1                             |               |
| # Cabinet Back                                     | BK1528        |
| # Cabinet Front, Mask                              | MK1510        |
| MODELS F25651BLFE1/JX1                             |               |
| # Cabinet Back                                     | BK1528        |
| # Cabinet Front, Mask                              | MK1563        |
| MODEL F26251ETFE1                                  |               |
| # Cabinet Back                                     | BK1505        |
| # Cabinet Front, Mask                              | MK1589        |
| MODELS F26631SEFE1/JX1                             |               |
| # Cabinet Back                                     | BK1505        |
| # Cabinet Front, Mask                              | MK1506        |
| MODEL F26633SEFE1                                  |               |
| # Cabinet Back                                     | BK1505        |
| # Cabinet Front, Mask                              | MK1518        |
| MODELS G25341WKCX1/KF1                             |               |
| # Cabinet Back                                     | BK1490        |
| # Cabinet Front, Mask                              | MK1489        |
| MODELS G26661CKKF1/CX1, G26681CKKF1                |               |
| # Cabinet Back                                     | BK1493        |
| # Cabinet Front, Mask                              | MK1492        |
| MODEL G26683CKCX1                                  |               |
| # Cabinet Back                                     | BK1495        |
| # Cabinet Front, Mask                              | MK1494        |
| # For SAFETY use only equivalent replacement part. |               |

RCA  
MODEL G26681CKKF1 (CHASSIS CTC177AE)