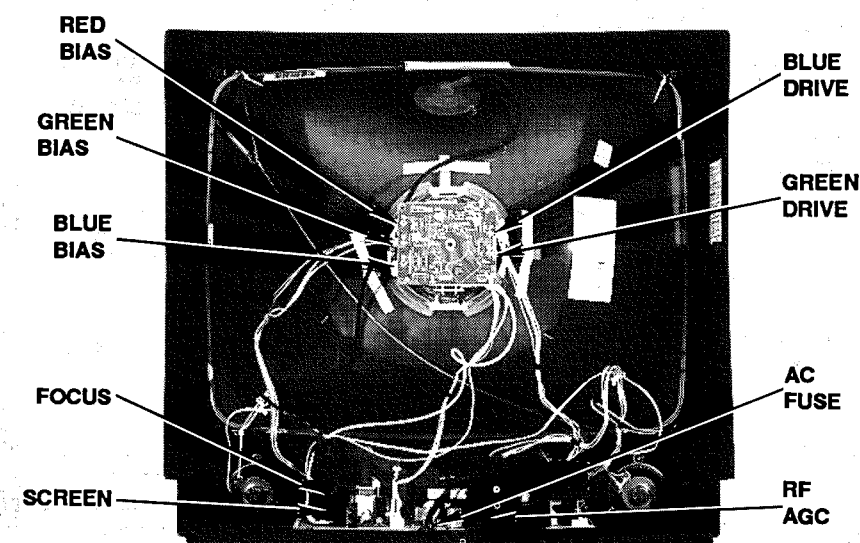


CABINET - REAR VIEW



TEST JIG HOOKUP

| Chek-A-Color Function | Adapter No. | PC Board Plug | Pin | Color |
|--------------------------|-------------|------------------|-----|--------|
| CRT | B239 | # K | 1 | Red |
| Yoke | D4137 | | 3 | Blue |
| Yoke Setting | YP1A | | 5 | Yellow |
| Comments | Focus Tap | | 6 | Green |

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

2841

MODELS 25SB70B, 25SB710B, 25SB720B, 25SB740B (Chassis 25S1)

SHARP

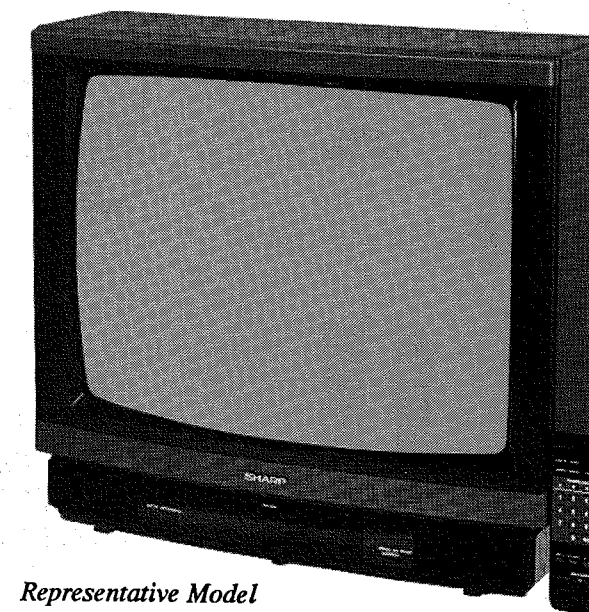
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For Supplier Address,
See PHOTOFACT Annual Index

SHARP

Models 25SB70B, 25SB710B,
25SB720B, 25SB740B (Chassis 25S1)



Representative Model

Complete coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts lists
- Troubleshooting guide

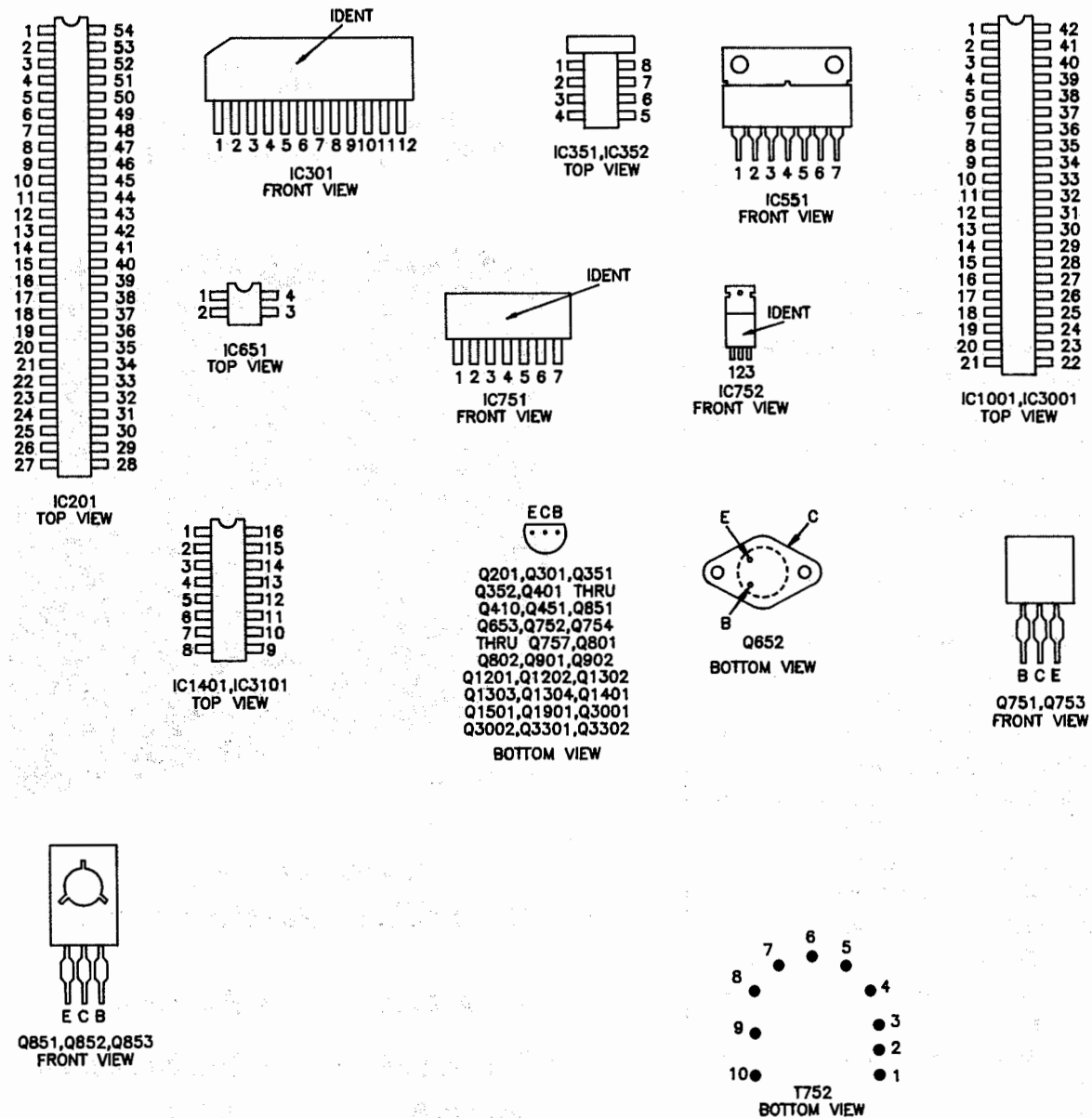


HOWARD W. SAMS & COMPANY

JULY 1991 SET 2841

2841

TERMINAL GUIDES AND SCHEMATIC NOTES

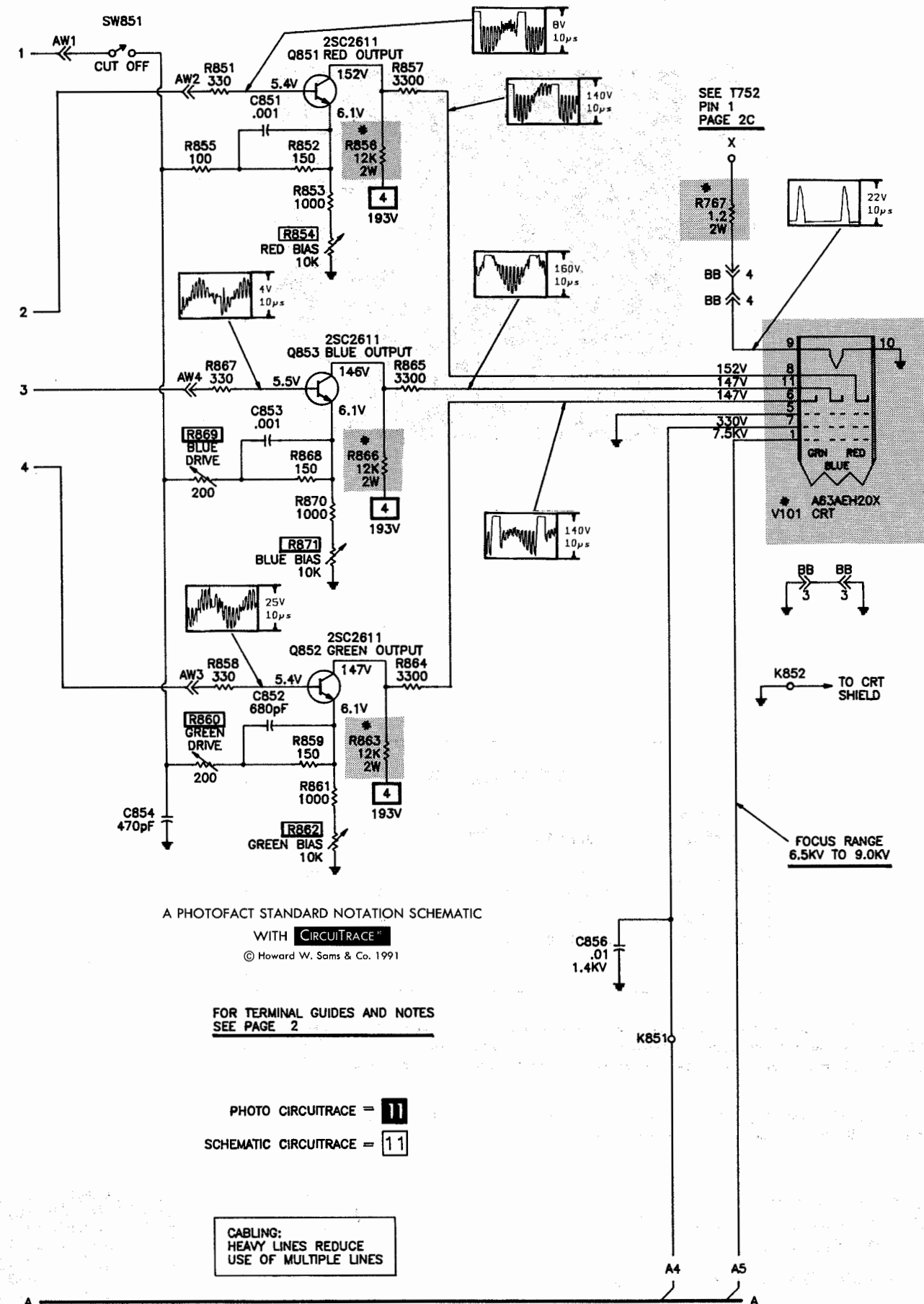


For SAFETY use only equivalent replacement part, see parts list.

—X— Circuitry not used in some versions
—/— Circuitry used in some versions
⊗ Nominal value
⊥ Ground
⏏ Chassis
▽ Common tie point

Waveforms and voltages are taken from ground, unless noted otherwise.
Waveforms: triggered scope, keyed rainbow generator.
Item numbers in rectangles appear in alignment/ad-justment instructions.
Supply voltage maintained as shown at input.
Voltages measured with digital meter, no signal.
Controls adjusted for normal operation.
Terminal identification may not be found on unit.
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.

CRT SCHEMATIC



SHARP
MODELS 25SB70B, 25SB710B, 25SB720B, 25SB740B (Chassis 25S1)

TEST EQUIPMENT

Test equipment listed by participating manufacturers 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 | B&K Precision No. | SENCORE No. |
|-------------------------|---|---------------------------|
| Oscilloscope | 1541A, 2120, 2125, 2160, 2190, 2522 | SC61 |
| Generators | | |
| RGB | 1249A, 1260 | RG67 |
| Multiburst Signal | 1251, 1260 | VA62A |
| Color Bar | 1211A, 1249A, 1251, 1260 | VA62A, CG25, NT64 |
| TV Stereo | 2009 | ST65, ST66 |
| Analog VOM | 114, 117, 177, 214 | - |
| Digital VOM | 377, 388HD, 2700 Series, 2831A, 2860, 2900 Series | DVM37, DVM56A, SC61 |
| Frequency Meter | 1803A, 1804A, 1805, 1822, 1851, 1855 | FC71, SC61 |
| Hi-Voltage Probe | HV-44 | HP200 |
| VOM/DMM | - | TP212 |
| Accessory Probes | PR-28(HV) | - |
| Isolation Transformer | TR110, 1604, 1653, 1655 | PR57 |
| Capacitance Analyzer | 810A, 815, 820, 830 | LC76, LC101, LC102 |
| CRT Analyzer | 480, 490 | CR70 |
| Temperature Probe | TP-28, TP-30 | - |
| AC Leakage Tester | 1655 | PR57 |
| Logic Probe | DP21, DP51 | - |
| Logic Pulser | DP31, DP101 | - |
| Inductance Analyzer | 875A | LC76, LC101, LC102 |
| Flyback Yoke Tester | 875A | VA62A, LC76, LC101, LC102 |
| TV Stereo Power Monitor | - | SR68 |
| Field Strength Meter | - | FS73, FS74 |
| Transistor Tester | 510, 520B, 530 | TF46 |
| Video Analyzer | - | VA62A |
| Modulator/Converter | 1201 | - |

TV ALIGNMENT INSTRUCTIONS

Use an isolation transformer, or observe polarity, and maintain line voltage at 120VAC. Allow a 20 minute warm-up period for receiver and test equipment.
Suggested Alignment tools:

GC-THORSEN

Alignment Coils L204, L205, L302, L303

Recommended Tools: 9440, 9304

PRELIMINARY INSTRUCTIONS

Select highest unused channel. Set scope sweep to external or vector mode. Connect scope vertical input to scope vertical input on sweep/marker generator. Connect scope external horizontal input to scope horizontal input on sweep/marker generator. Ground test equipment to TV chassis unless specified otherwise. Use only enough generator output to provide a useable indication. Sweep Generator frequency is 44MHz with 10MHz Sweep.
NOTE: Response may vary from that shown.
Connect a 5.5VDC bias to TP203.

TV ALIGNMENT INSTRUCTIONS continued

VIDEO IF ALIGNMENT (SWEEP MARKER GENERATOR)

| Direct Probe From Sweep Generator | Sweep Generator Output | Marker Generator Frequency | Remarks |
|-----------------------------------|------------------------|----------------------------|---|
| TP401 | TP on Tuner | 45.75MHz | Adjust L204 to place marker as shown. (Figure 1). |

VIDEO IF ALIGNMENT (BAR SWEEP GENERATOR)

| Bar Sweep Generator | Scope Input | Remarks |
|---------------------|-------------|---|
| Antenna Terminals | TP401 | Perform Video IF alignment per Sweep-Marker Generator Instructions. (Figure 2). |

SOUND IF ALIGNMENT

Tune in a station and adjust L302 for Maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce the signal while aligning for undistorted output by adjusting L303.

AUTOMATIC FINE TUNING ALIGNMENT

Connect as explained in preliminary instructions unless specified otherwise.

| Direct Probe From Sweep Generator | Sweep Generator Output | Marker Generator Frequency | Remarks |
|-----------------------------------|------------------------|----------------------------|---|
| TP204 | TP on Tuner | 45.75MHz | Adjust L205 to place marker near crossover. (Figure 3). |

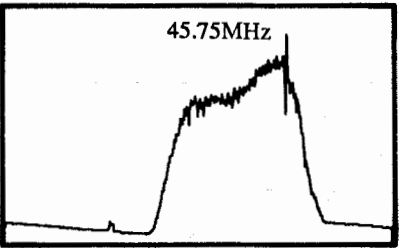


Figure 1



Figure 2

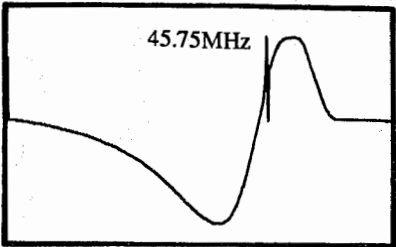
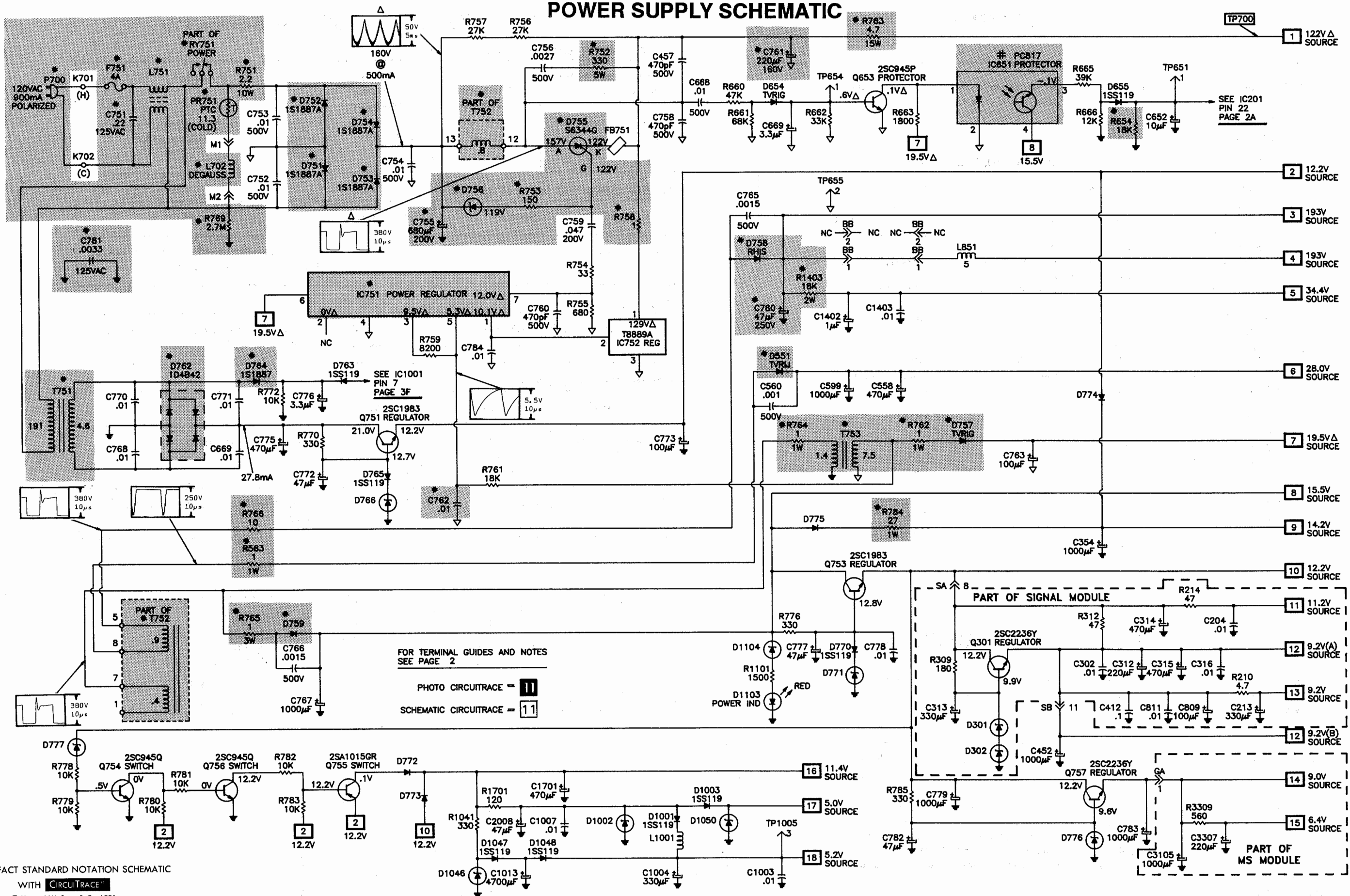


Figure 3

POWER SUPPLY SCHEMATIC



A PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH CIRCUITRACE
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SAFETY PRECAUTIONS

SERVICE WARNING

ONLY qualified service technicians who are familiar with safety checks and guidelines should perform service work. For continued SAFETY:

- 1. Before replacing parts, disconnect power source to protect electrostatically sensitive parts.
- 2. Do not attempt to modify any circuit unless so recommended by the manufacturer.
- 3. When servicing chassis, use an isolation transformer between the line cord and power receptacle.

SERVICING HIGH VOLTAGE AND PICTURE TUBE

Use EXTREME CAUTION when servicing the High Voltage circuits.

- 1. To discharge static High Voltage, connect a 10k ohm resistor in series with a test lead between chassis and picture tube anode lead.
- 2. DO NOT lift picture tube by the neck.
- 3. ALWAYS wear shatterproof goggles when handling picture tube 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 picture tube is the only potential source of x-rays.

- 1. Keep an accurate High Voltage meter available at all times. Check meter calibration periodically.
- 2. Whenever servicing a chassis, check High Voltage at various brightness levels to be sure it is regulating properly.
- 3. 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.
- 4. When troubleshooting a set with excessive High Voltage, avoid close contact with picture tube. DO NOT operate set longer than necessary. To locate the cause of excessive High Voltage, use a variable AC transformer to regulate voltage.
- 5. In present chassis, 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 Sets with Isolated Ground

- 1. Unplug the AC cord and connect a jumper across the plug prongs.
- 2. Turn the power switch ON.
- 3. Use an ohmmeter to measure the resistance between the jumpered AC plug and any exposed metal cabinet parts such as: antenna screw heads, control shafts, handle brackets. Exposed metal parts with a return path should measure between 200k ohms and 5 megohms. Parts without a return path must register infinity.

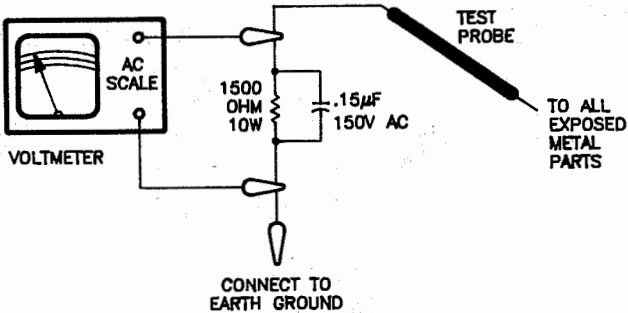
Hot Leakage Current Check

- 1. Plug the AC cord directly into AC outlet. DO NOT use an isolation transformer.
- 2. Use a 1500 ohm, 10W resistor in parallel with a 1.5 V AC capacitor to connect between any exposed metal parts on the set and a good earth ground, such as a water pipe. (See figure below.)
- 3. Use an AC voltmeter with at least 1000 ohms-per-volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point.
- 4. Voltage readings should not exceed .75V RMS (5 milliamps AC). Any value exceeding this limit constitutes a potential shock hazard and must be corrected.
- 5. Reverse the AC plug and repeat exposed metal part voltage measurement at each point.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning set to customer.

- 1. Check repaired area for poorly soldered or de-soldered connections, and entire circuit board for solder splashes.
- 2. Check inner board wiring for pinched wires or wires contacting any high-wattage resistors.
- 3. 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.

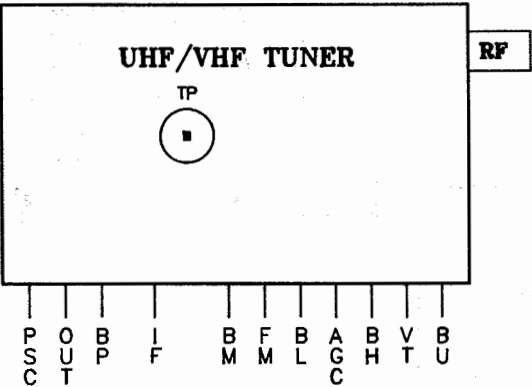


TUNER VOLTAGE CHART

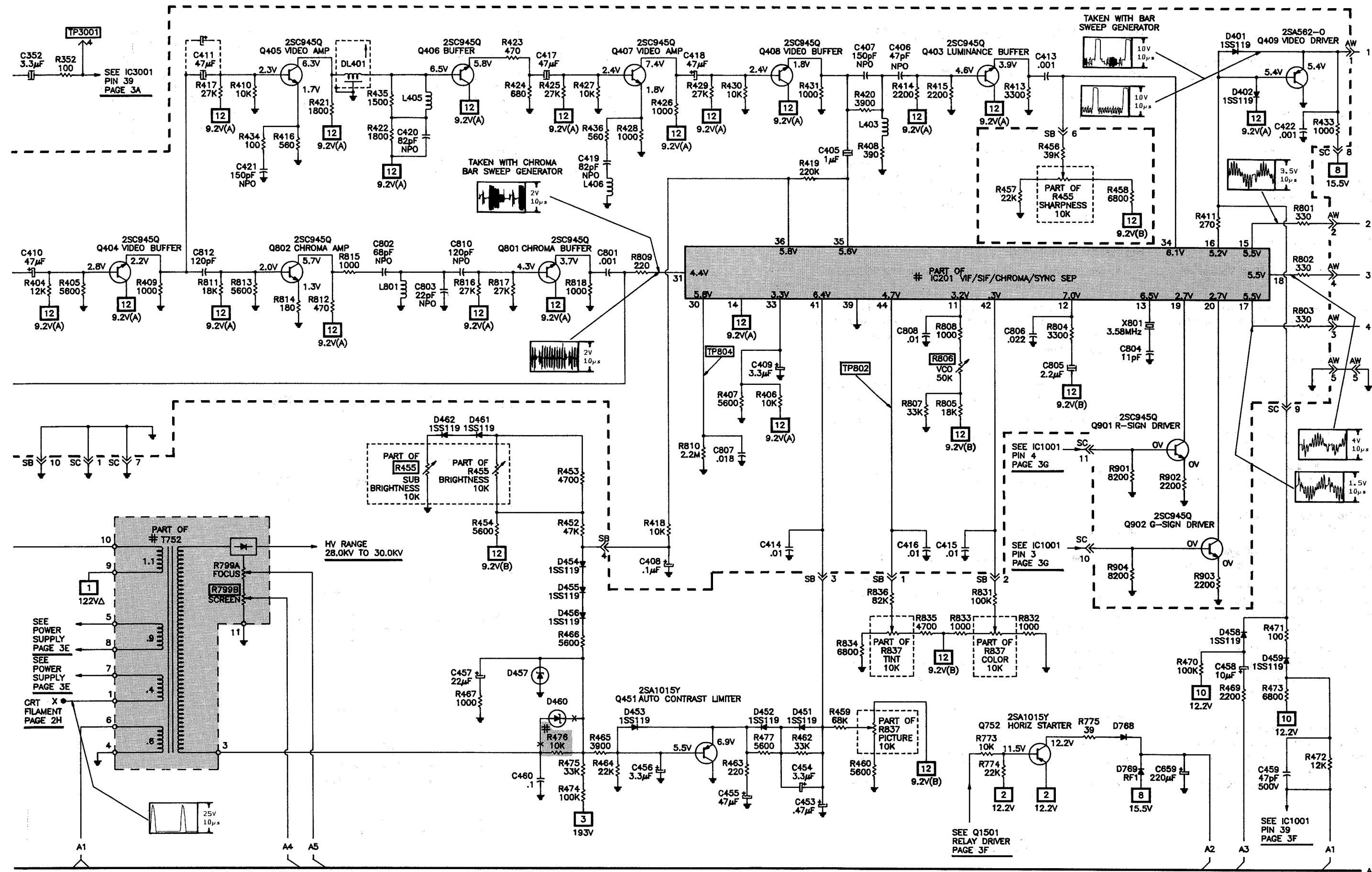
| | PSC | OUT | BP | IF | BM | FM | BL | AGC | BH | VT | BU |
|---------------|------|------|------|----|-------|------|-------|------|-------|-------|-------|
| VHF Low Band | 1.0V | 3.5V | 5.0V | 0V | 12.3V | 2.9V | 12.0V | 9.1V | 0V | 1.3V | 0V |
| VHF High Band | 1.0V | 3.5V | 5.0V | 0V | 12.3V | 2.8V | 0V | 9.2V | 12.0V | 12.2V | 0V |
| UHF Band | .1V | 3.6V | 5.0V | 0V | 12.4V | 0V | 0V | 9.2V | 0V | 1.7V | 12.2V |

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



Created with pride by the employees of Howard W. Sams & Company.
J. Barker, T. Clensy, D. Raus,
S. Scott, K. Smith, D. Stitt,
D. Urick



TROUBLESHOOTING

POWER SUPPLY

Check AC Fuse (F751). If F751 is open, check Bridge Rectifier Diodes (D751 thru D754), Capacitors C752, C753, C754 and Electrolytic C755. If F751 is good, apply 120VAC and check for 122V* at TP700. If this voltage is missing, check Line Filter (L751), Power Relay (RY751), Relay Driver Transistor (Q1501) and associated components. If this voltage is missing, check waveforms, voltages and components associated with Regulator IC's (IC751, IC752), Horizontal Output Transformer (T752) and Horizontal Output Transistor (Q652). If 122V* is present, check for 15.5V at the Collector of Regulator Transistor (Q753). If the proper voltage is present, refer to the "Horizontal" section of this Troubleshooting guide.

* Taken from Common Tie Point.

AUDIO

Select an active TV channel and check for an audio waveform at pin 12 of SIF Amp IC (IC301). If there is no audio, check voltages and components associated with IC301. If waveform is present at pin 12 of IC301, check for an audio waveform at pin 1 of VIF/SIF/Chroma/Sync Separator IC (IC201). If audio is missing, check pins 1, 4 and 51 thru 54 of IC201. If audio is present at pin 1, check for an audio waveform at pin 39 of MTS Decoder IC (IC3001). If waveform is missing at pin 39 of IC3001, check voltages and components associated with pin 39 of IC3001. If waveform is present at pin 39 of IC3001, check for audio waveforms in Stereo/Mono/SAP modes at pins 17 and 18 of IC3001. If waveforms are missing, check voltages and components associated with IC3001. If waveforms are present, check for audio waveforms at Buffer Transistors (Q3201, Q3202) and Left and Right Channel Sound Output IC's (IC351, IC352). Check the voltage at pin 8 of Treble/Base/Balance Control IC (IC3101), it should measure .7V at mute and 5.7V at Maximum volume.

VIDEO

Inject a video signal at TP401 and check for video on the CRT. If video is present, refer to the "IF-AGC" section of this Troubleshooting guide. If there is no video on the CRT, check for a video waveform at pin 16 of VIF/SIF/Chroma/Sync Separator IC (IC201). If video is missing at pin 16 of IC201, check the voltages, waveforms and components associated with pins 27, 31, 34, 35, 38 of IC201 and Luminance/Video Amp/Buffer Transistors (Q403 thru Q408). If the waveform is present at pin 16 of IC201,

check the voltages, waveforms and components associated with Video Driver Transistor (Q409), CRT and Red, Green and Blue Output Transistors (Q851, Q852, Q853). If the brightness is inadequate or cannot be controlled, check the voltages, waveforms and components associated with pins 36 of IC201 and pin 7 of CRT.

IF-AGC

Inject a video IF signal at the base of IF Preamp Transistor (Q201) and check for video on the CRT. If video is present, check the Tuner, Tuner Control and Tuner AFT circuits. If there is no video on the CRT, check for a video waveform at emitter of Video Driver Transistor (Q409). If video is present at emitter of Q409, refer to the "Video" section of this Troubleshooting guide. If there is no video at emitter of Q409, apply AGC bias to TP203. If video is now present at emitter of Q409, check the voltages, waveforms and components associated with pins 2, 3, 5, 7 of VIF/SIF/Chroma/Sync Separator IC (IC201). If there is still no video at emitter of Q409, check the voltages, waveforms and components associated with pins 8, 9, 10, 45 thru 50 of IC201 and IF Preamp Transistor (Q201). A defective AGC circuit can cause an overloaded picture, excessive snow or loss of audio and video. See the AGC Voltage Chart for AGC voltages with signal.

| AGC Voltage Chart | | | |
|-------------------|------|-------|------|
| IC201 | | | |
| Pin 2 | 4.2V | Pin 3 | 2.1V |
| Pin 5 | 5.3V | Pin 7 | 5.4V |

CHROMA

Check for a chroma waveform at pin 31 of the VIF/SIF/Chroma/Sync Separator IC (IC201). If the waveform is missing, check the voltages, waveforms and components associated with Chroma Amp/Buffer Transistors (Q801, Q802). If a chroma waveform is present at pin 31 of IC201, check for the proper waveforms at pins 15, 17 and 18 of IC201. If these waveforms are missing, check the voltages, waveforms and components associated with pins 11, 12, 13, 19, 20, 38, 42, 43 and 44 of IC201. Check the 3.58MHz Oscillator at pins 11 and 13 of IC201. Check the voltages and components associated with the Color Control and pin 42 of IC201. If there is inadequate tint range, check the voltages, waveforms and components associated with the Tint Control and pin 44 of IC201. If the proper waveforms are present at pins 15, 17 and 18 of IC201, refer to the "Raster" section of this Troubleshooting guide.

HORIZONTAL

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 the Horizontal Output Transistor (Q652). If horizontal deflection is now present, check the voltages, waveforms and components associated with pins 23, 24, 25 of VIF/SIF/Chroma/Sync Separator IC (IC201) and Horizontal Driver Transistor (Q651). If there is no horizontal sweep, check the voltages, waveforms and components associated with Q652 and Horizontal Output Transformer (T752). Check Diodes D460, D551, D758, D759 and associated components for defects. The High Voltage Rectifier is part of Transformer T752 and if defective will affect the performance of the horizontal circuits. If the Horizontal Oscillator is off frequency, check voltages, waveforms and components associated with pins 24 and 25 of IC201. Horizontal linearity or foldover problems may be caused by Capacitors C661 thru C667, C762, Electrolytics C761, C763 or Horizontal Linearity Coil (L652) being defective.

HIGH VOLTAGE SHUTDOWN

The High Voltage is monitored by Diode D654, rectifying pulses from the Horizontal Output Transformer (T752). Should the High Voltage increase, the rectified voltage at cathode of D654 increases the voltage at pin 22 of VIF/SIF/Chroma/Sync Separator IC (IC201) and the set goes into shutdown. To troubleshoot, remove Diode D655 and use a variac for AC power. Start with 80VAC and increase as necessary to locate and correct the defect. Reconnect Diode D655 and test set for correct operation. NOTE: Care should be taken in defeating the High Voltage shutdown circuit, as this may cause excessive X-radiation and damage to the CRT, Transformer T752 and associated components. Monitor the high voltage and troubleshoot.

| Voltages Taken With TV In Shutdown | | |
|------------------------------------|-----------|-------|
| IC201 | Pin 22 | 1.6V |
| Q653 | Emitter | 0V* |
| | Base | 0V* |
| | Collector | 1.0V* |

* Taken from Common Tie Point.

HIGH VOLTAGE SHUTDOWN TEST

Apply 120VAC, turn set On and adjust controls for normal operation. Connect a 17.5VDC bias to TP653, the set should go immediately into shutdown. Remove power from set, wait 30 seconds, restore power to return to normal operation. NOTE: If set fails to go into shutdown, refer to the "High Voltage Shutdown" section of this Troubleshooting guide.

VERTICAL

Inject a vertical drive signal at pin 27 of the VIF/SIF/Chroma/Sync Separator IC (IC201). If vertical deflection is now present, check voltages, waveforms and components associated with pins 27, 28 and 29 of IC201. If there is still no vertical deflection, check voltages, waveforms and components associated with the Vertical Output IC (IC551). Vertical linearity or foldover problems may be caused by vertical feedback and bias circuits, check Electrolytics C554, C555, C556, C558 and C559.

SYNC

If there is no vertical or horizontal sync, check the voltages, waveforms and components associated with pins 21, 24, 25 and 37 of VIF/SIF/Chroma/Sync Separator IC (IC201), Vertical Sync Amp Transistor (Q1901) and pins 38, 39 of CPU IC (IC1001).

RASTER

Check the CRT and CRT voltages. If there is no Red, check voltages and components associated with pin 15 of VIF/SIF/Chroma/Sync Separator IC (IC201) and Red Output Transistor (Q851). If there is no Green, check voltages and components associated with pin 17 of IC201 and Green Output Transistor (Q852). If there is no Blue, check voltages and components associated with pin 18 of IC201 and Blue Output Transistor (Q853). If the raster has a keystone shape, check the Deflection Yoke (DY751). If the raster has height or width problems, refer to the "Vertical", "Horizontal" and "Power Supply" sections of this Troubleshooting guide.

**CABLING:
HEAVY LINES REDUCE
USE OF MULTIPLE LINES**

R/C RECEIVER

IC1001 CPU

VERT SYNC

OSC 1

OSC 2

AFT

POWER

VOL

MUTE

TV/VIDEO

HORIZ SYNC

VT

BAND 1

VSS

TP1001

TP1002

TP1003

TP1004

TP1005

TP1006

TP1007

TP1008

TP1009

TP1010

TP1011

TP1012

TP1013

TP1014

TP1015

TP1016

TP1017

TP1018

TP1019

TP1020

TP1021

TP1022

TP1023

TP1024

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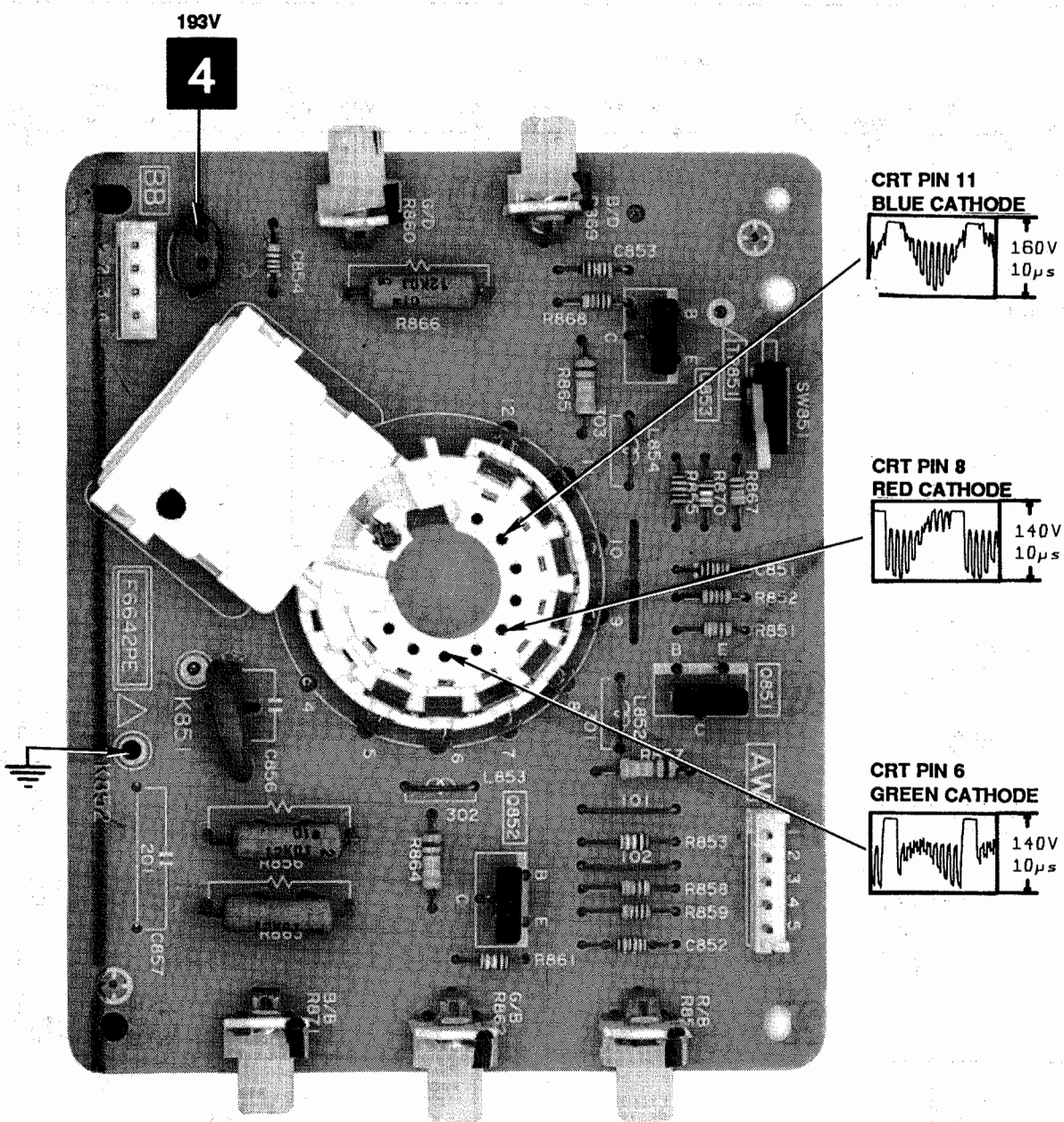
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TP1247

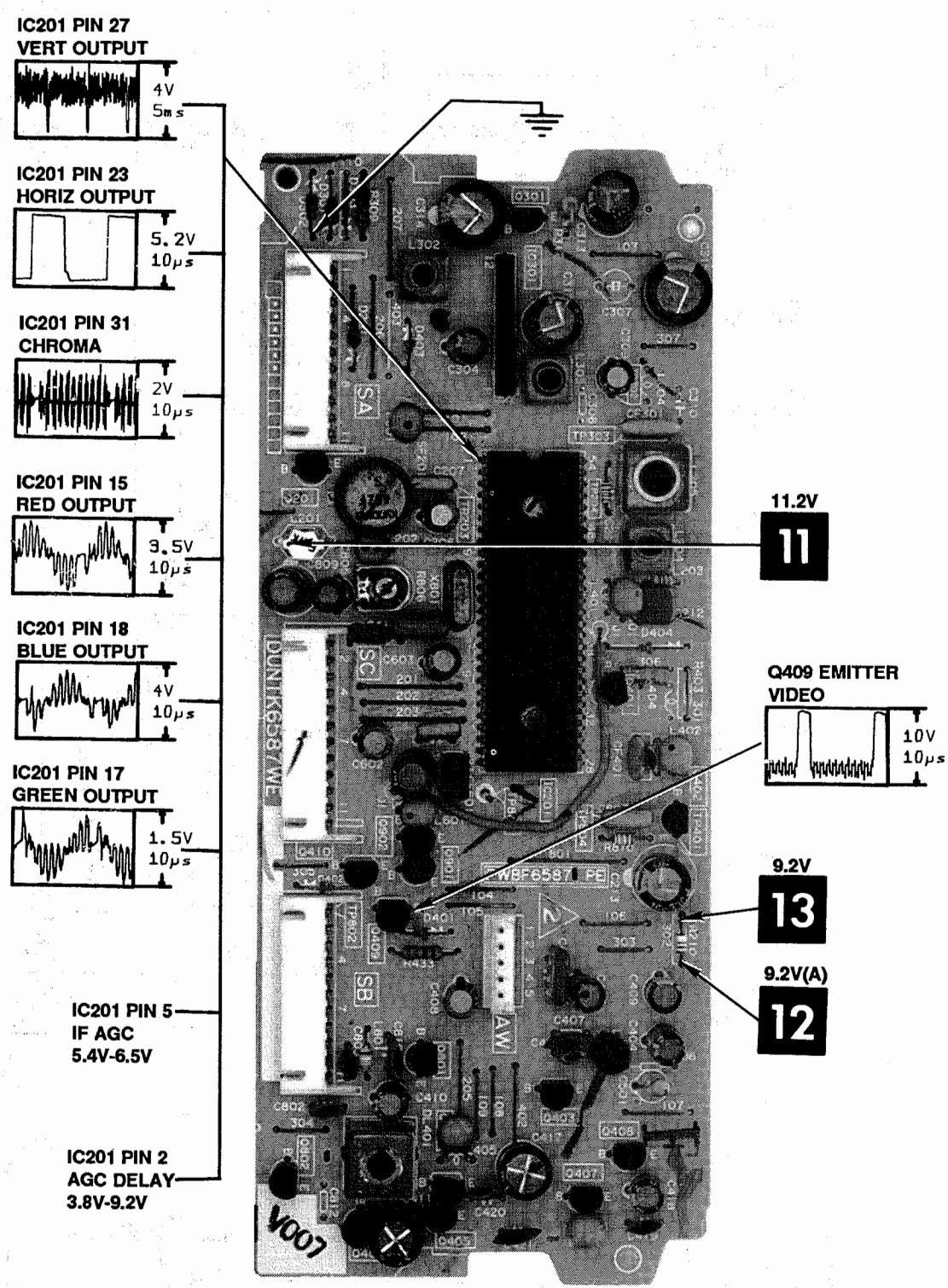
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TP1249

CRT BOARD

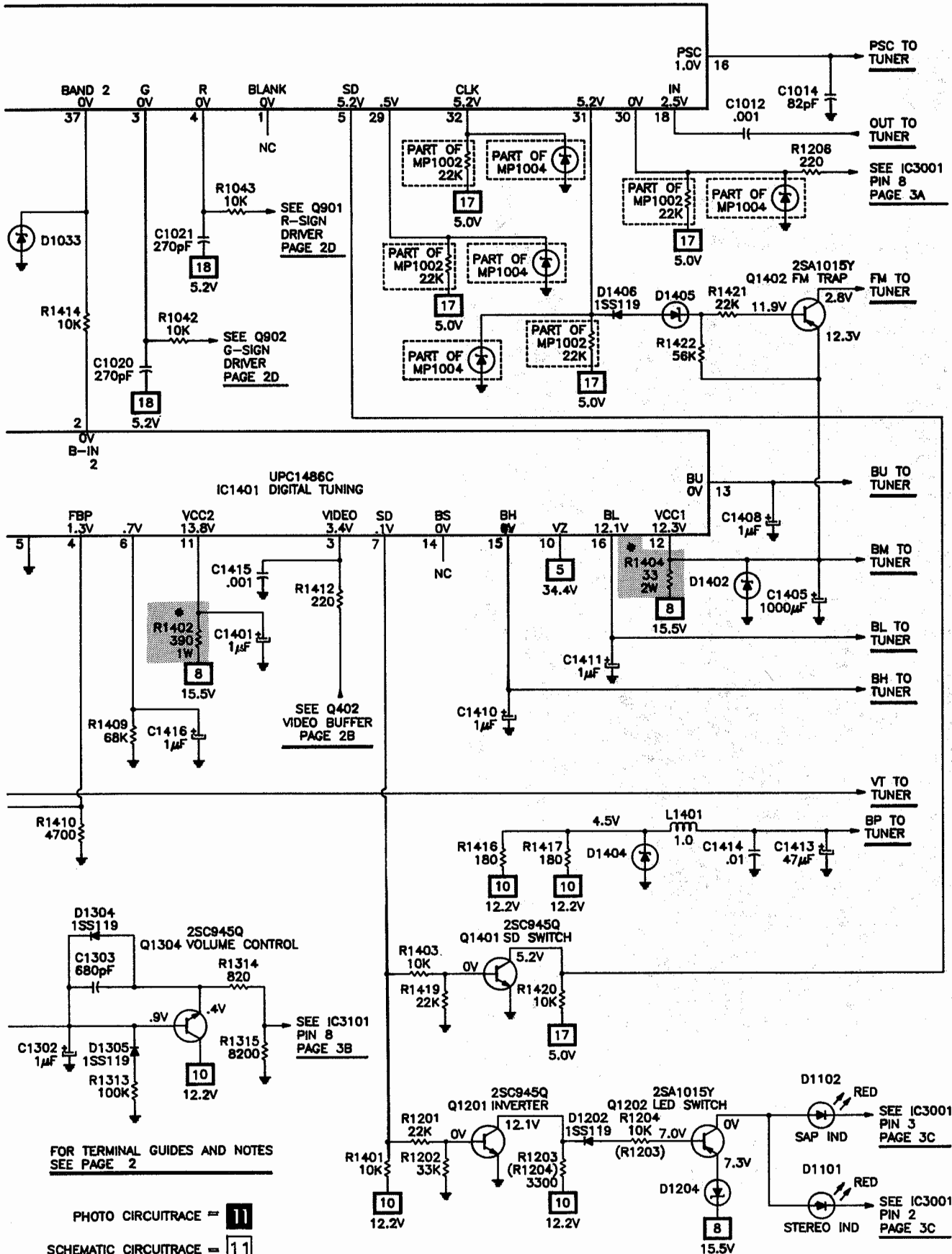


SIGNAL BOARD - TOP VIEW



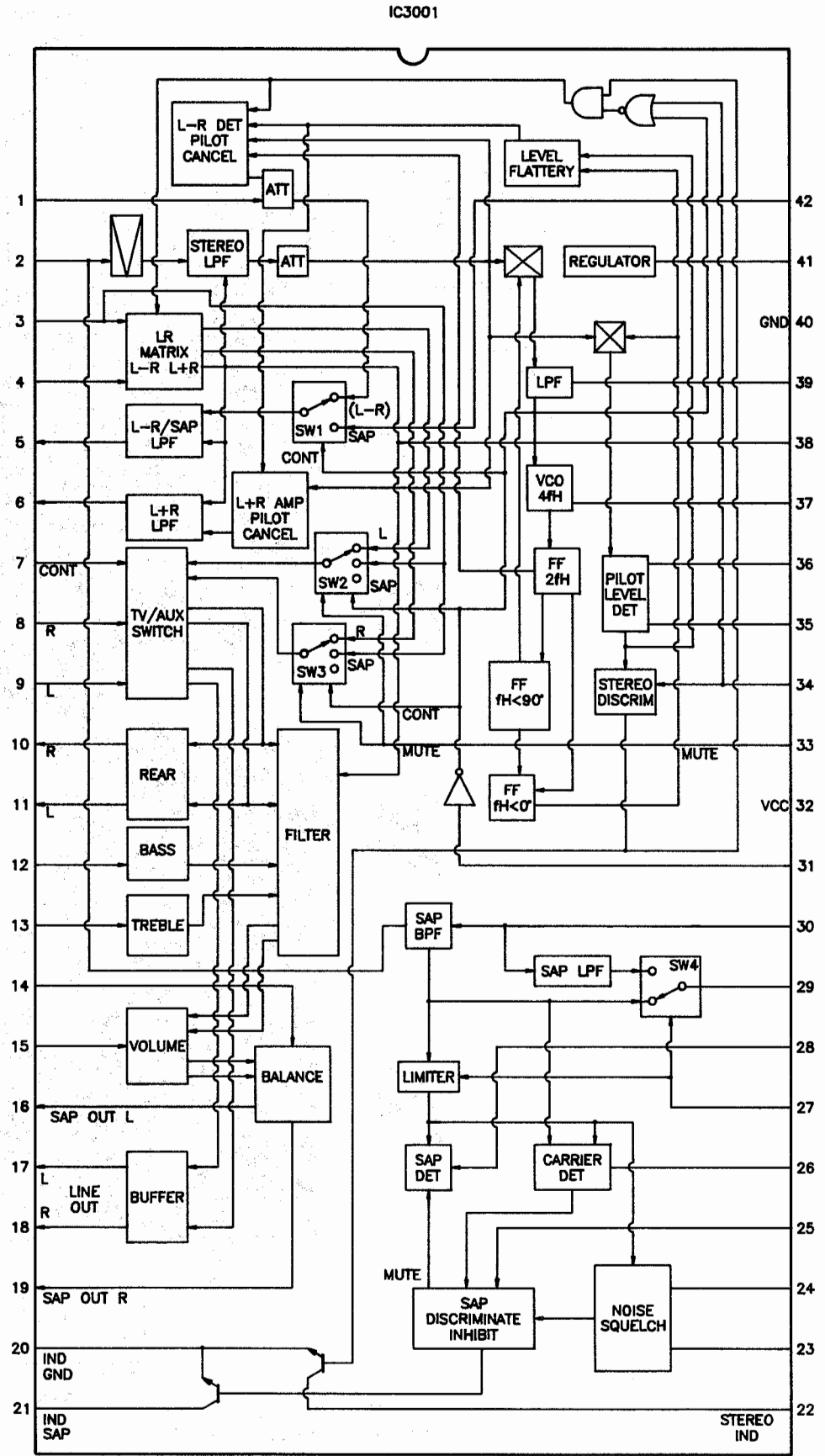
SHARP
MODELS 25SB70B, 25SB710B, 25SB720B, 25SB740B (Chassis 25S1)

TUNER CONTROL SCHEMATIC continued



G

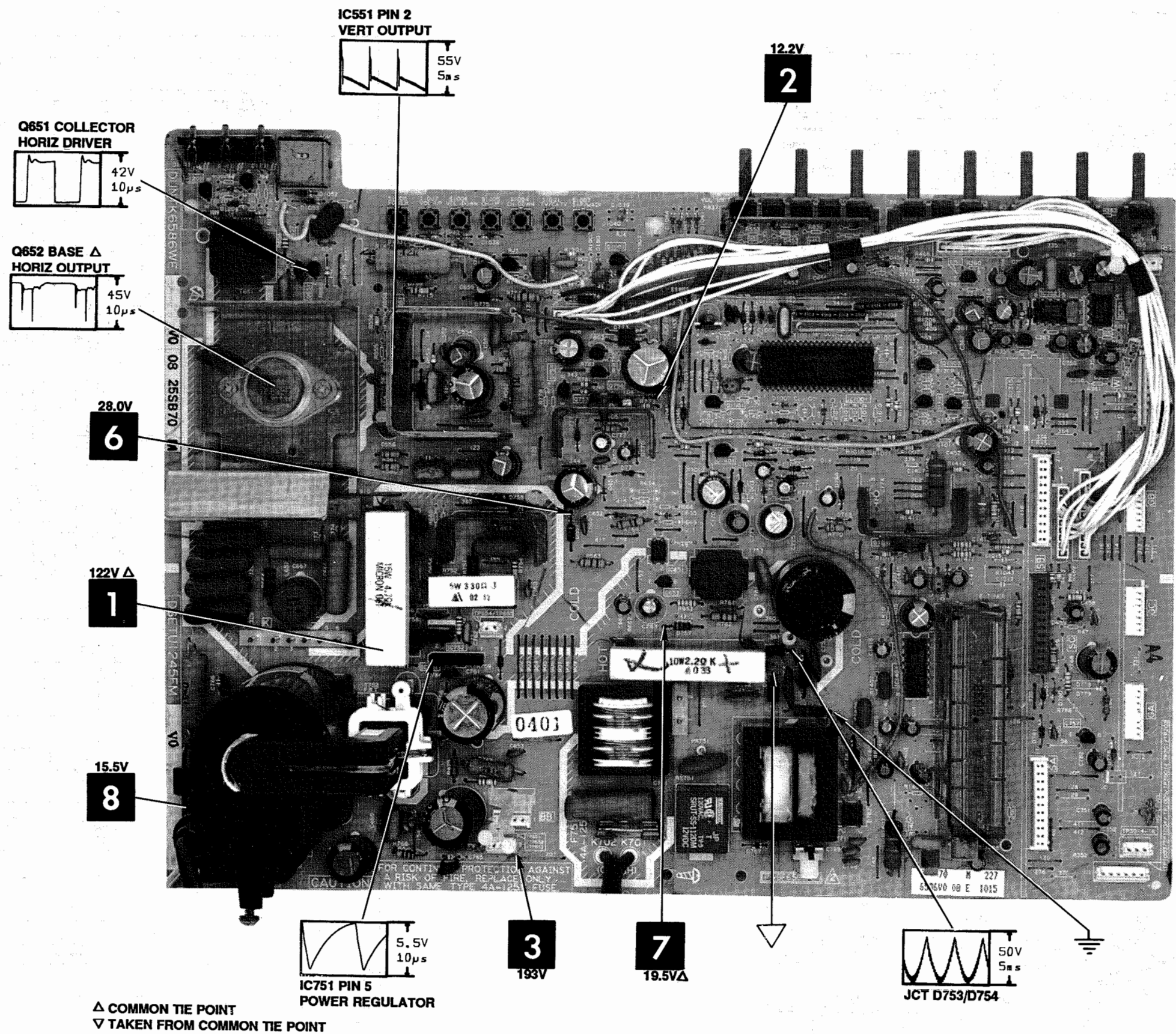
IC FUNCTIONS continued



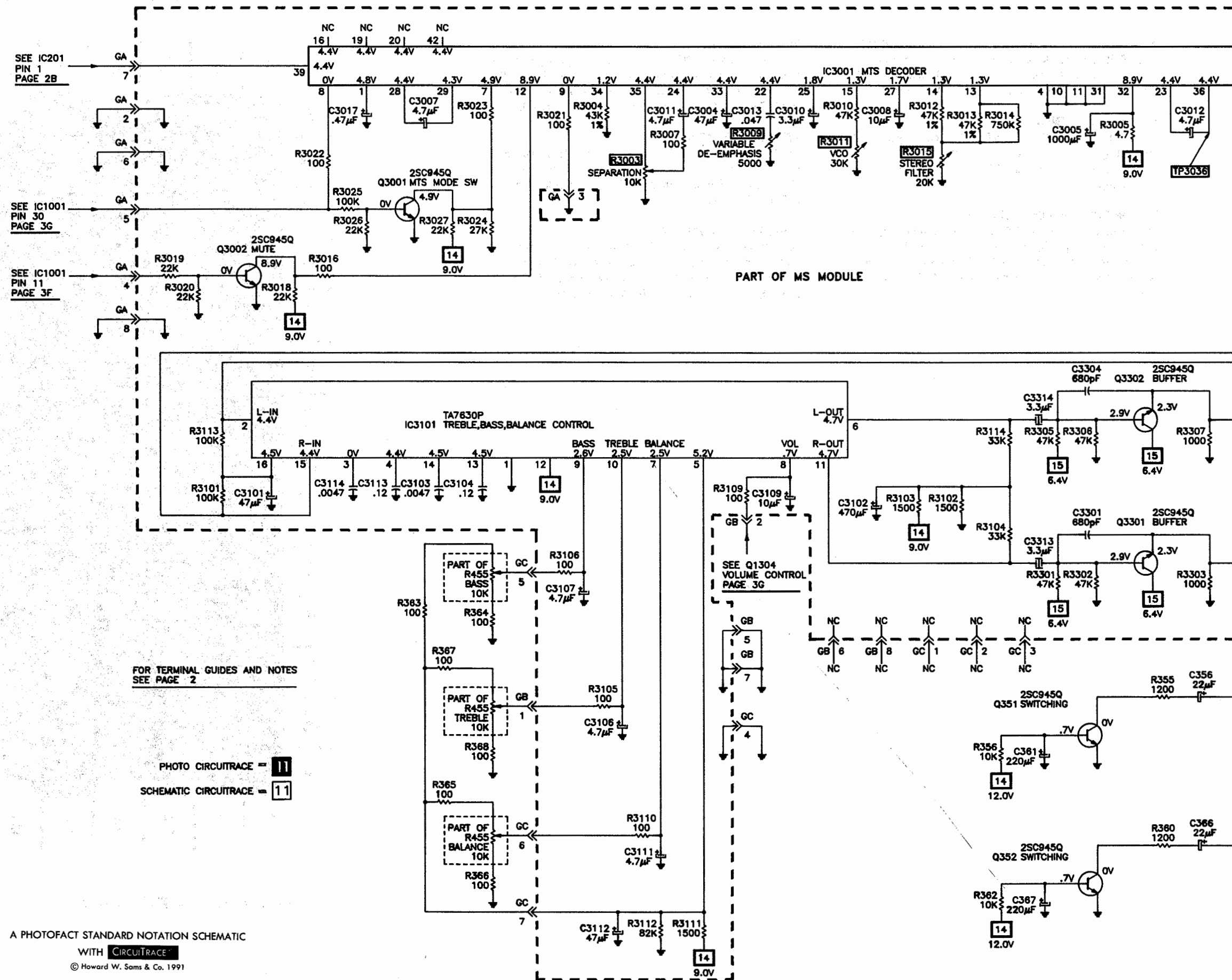
H

SHARP
MODELS 25SB70B, 25SB710B, 25SB720B, 25SB740B (Chassis 25S1)

MAIN BOARD - TOP VIEW



PART OF MS MODULE



A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITRACE™**
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STEREO/SAP ADJUSTMENTS

All adjustments were made using a B&K Model 2009 MTS TV/STEREO Generator connected to the antenna terminals, (equivalent generator may be used) with the audio controls set to Normal listening levels. Select STEREO mode.

MS LEVEL ADJUSTMENT

On Generator select PILOT, 1kHz audio frequency and L-R modulating signal. Connect an Oscilloscope to TP3001, low side to ground. Adjust MS Level Control (R351) for 800mV p-p.

VARIABLE DE-EMPHASIS ADJUSTMENT

On Generator select PILOT, 8kHz audio frequency and Right modulating signal. Set volume to Maximum. Connect an Oscilloscope to TP3015, low side to Ground. Adjust Variable De-Emphasis Control (R3009) for 350mV p-p.

VCO ADJUSTMENT

On Generator select PILOT, 1kHz audio frequency and L-R modulating signal. Set volume for an audible signal. Set VCO Control (R3011) fully Counterclockwise. Adjust VCO Control Clockwise until a clear signal is heard.

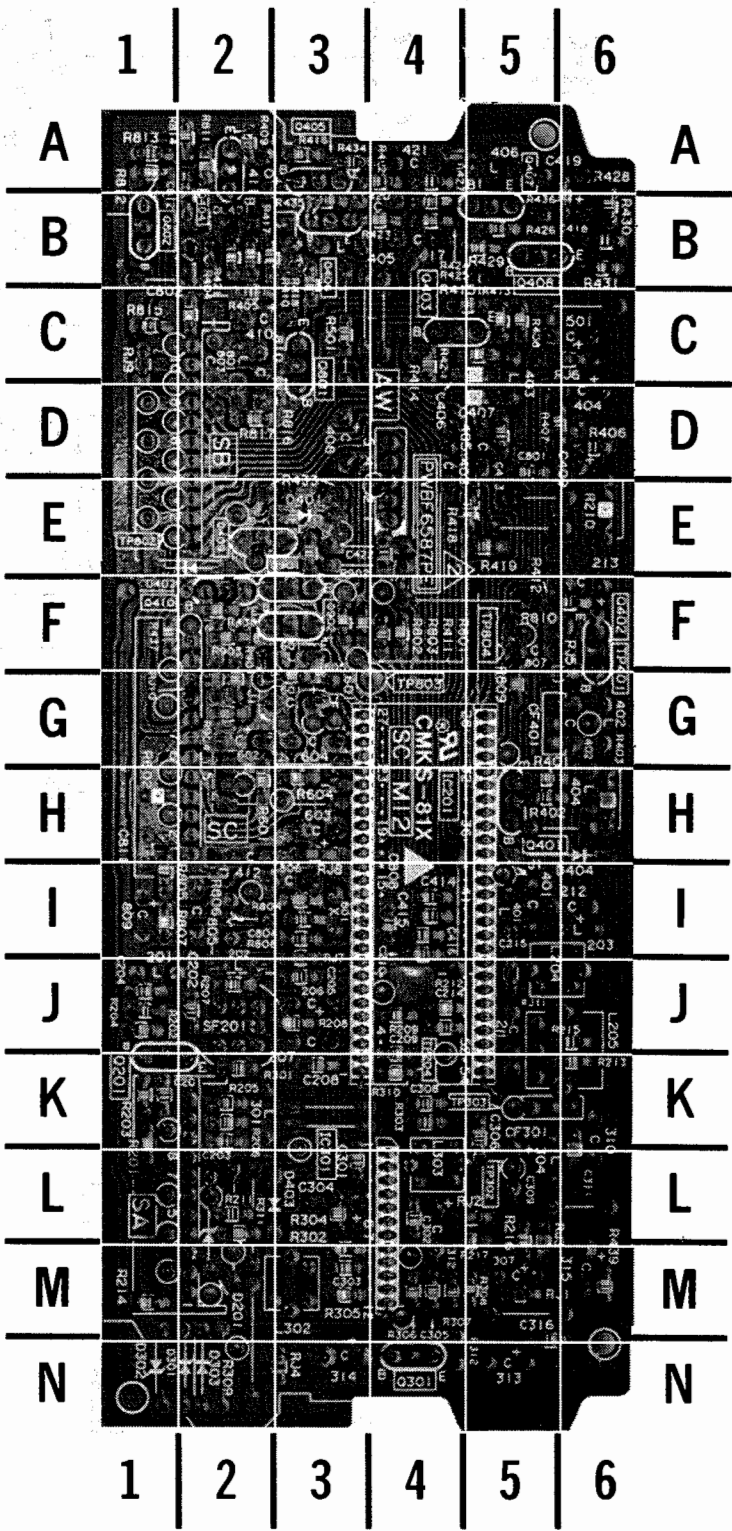
STEREO FILTER ADJUSTMENT

On Generator select PILOT, 1kHz audio frequency and L+R modulating signal. Connect an Oscilloscope to TP3036, low side to Ground. Adjust Stereo Filter Control (R3015) for 400mV p-p.

SEPARATION ADJUSTMENT

On Generator select PILOT, 300Hz audio frequency and Left modulating signal. Connect an Oscilloscope to TP3015, low side to Ground. Adjust Separation Control (R3003) for MINIMUM amplitude of waveform.

SIGNAL BOARD - BOTTOM VIEW

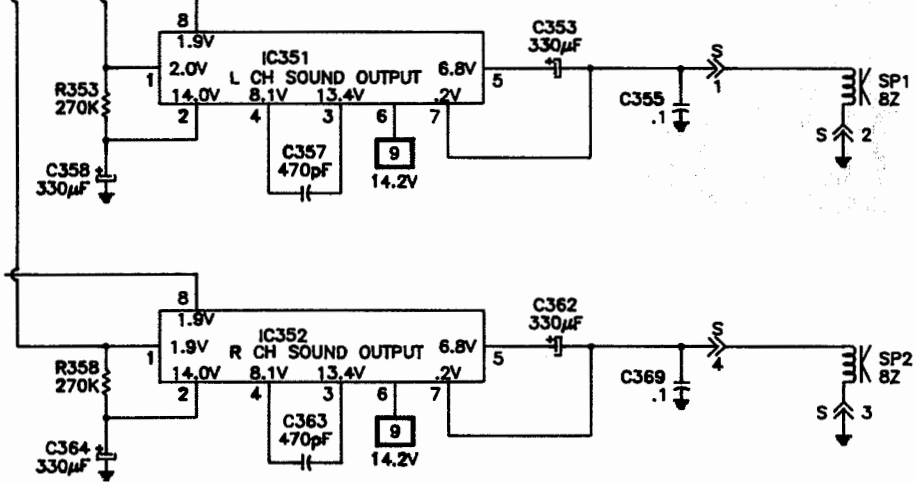
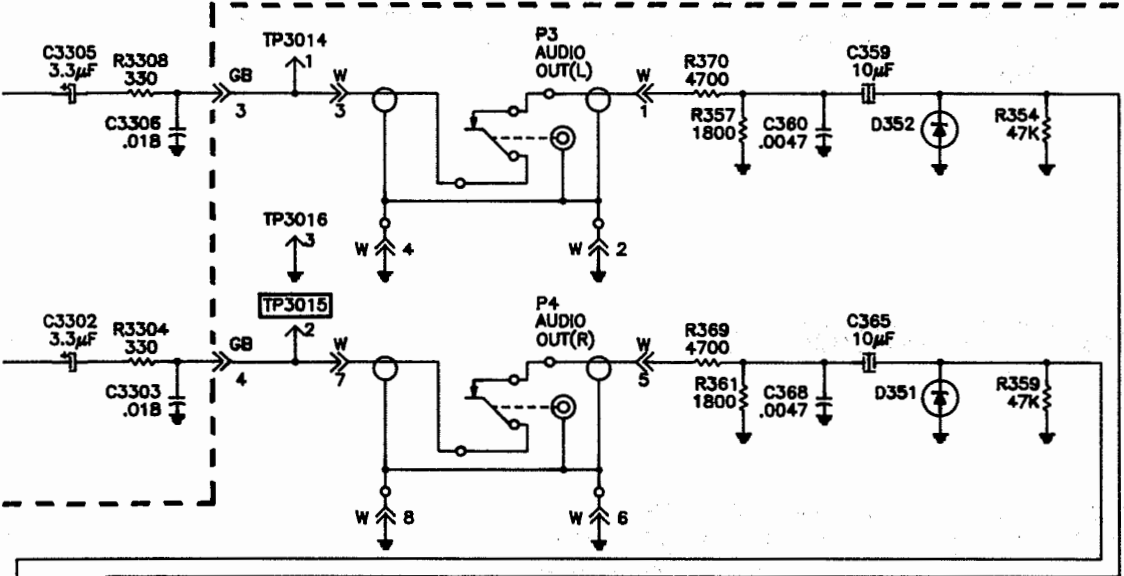
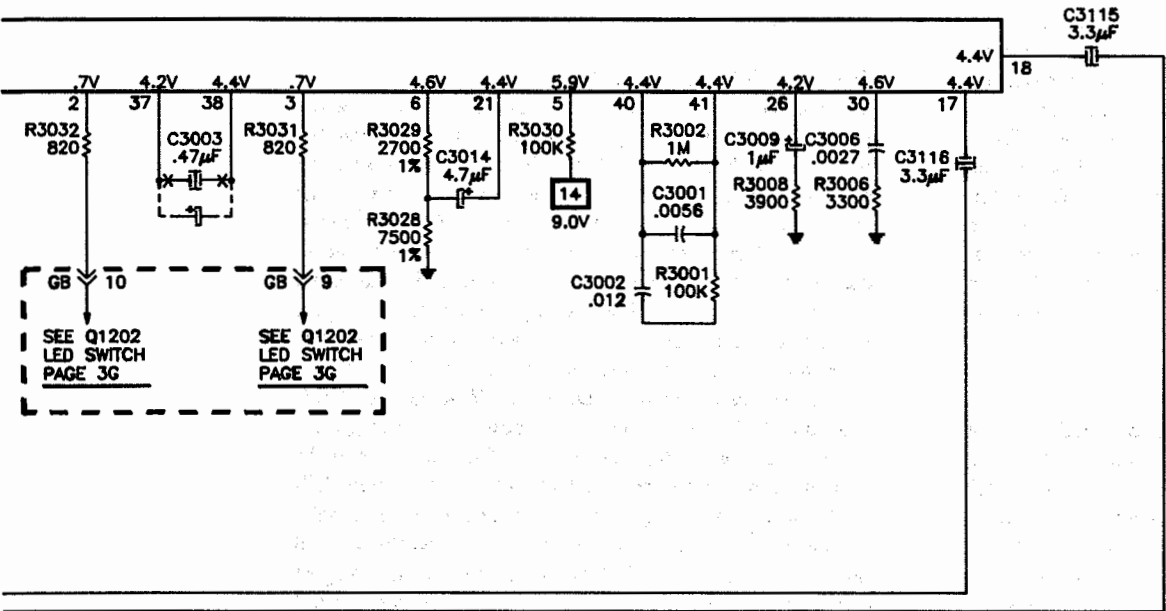


A HOWARD W. SAMS GRIDTRACE™ PHOTO

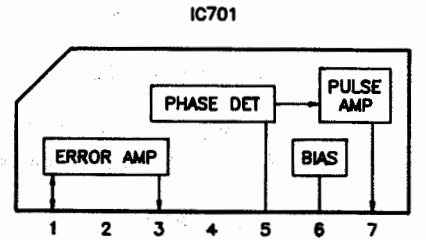
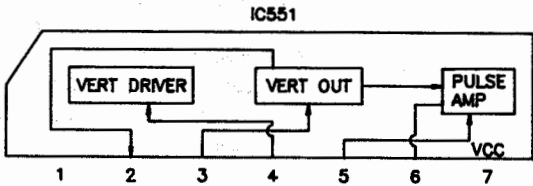
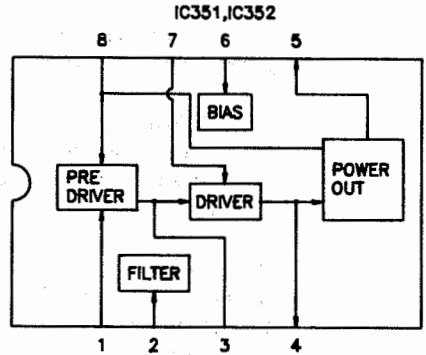
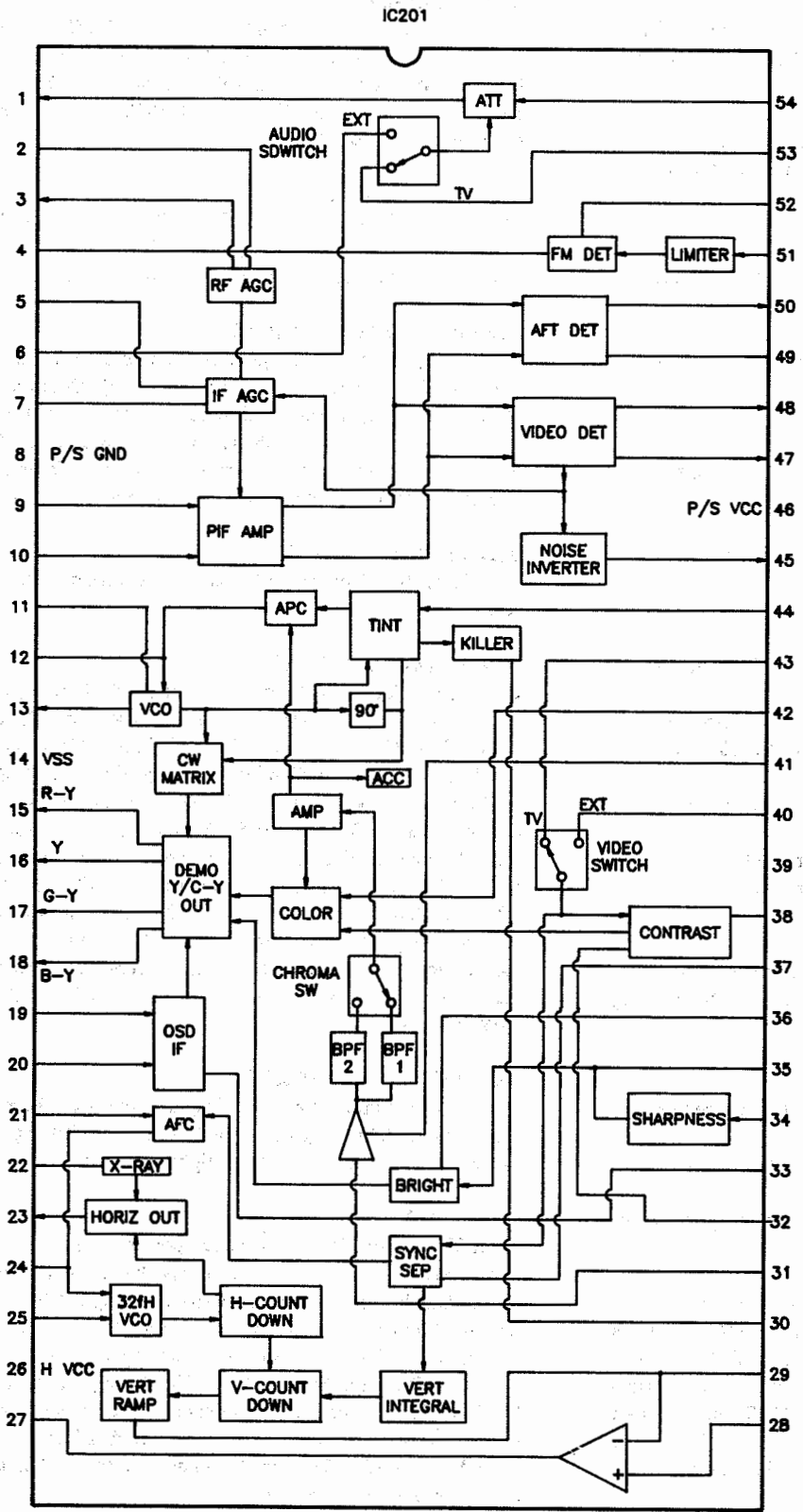
SIGNAL BOARD - BOTTOM VIEW -
GRIDTRACE LOCATION GUIDE

| | | | |
|------|-----|------|-----|
| C201 | K-1 | R406 | D-6 |
| C202 | J-2 | R407 | D-5 |
| C203 | K-2 | R408 | C-5 |
| C204 | J-1 | R409 | A-2 |
| C205 | J-3 | R410 | B-2 |
| C208 | K-3 | R411 | F-4 |
| C209 | J-4 | R412 | F-6 |
| C210 | I-4 | R413 | C-5 |
| C214 | J-4 | R414 | C-4 |
| C301 | L-3 | R415 | C-5 |
| C302 | L-4 | R416 | A-3 |
| C303 | M-3 | R417 | B-2 |
| C305 | M-4 | R418 | E-5 |
| C306 | K-5 | R419 | E-5 |
| C308 | K-4 | R420 | C-5 |
| C316 | M-5 | R421 | B-2 |
| C413 | D-5 | R422 | A-4 |
| C414 | I-4 | R423 | B-4 |
| C415 | I-4 | R424 | B-4 |
| C416 | I-4 | R425 | B-4 |
| C422 | E-4 | R426 | B-5 |
| C801 | D-5 | R427 | A-4 |
| C804 | I-3 | R428 | B-6 |
| C808 | I-4 | R429 | B-5 |
| C811 | H-1 | R430 | B-6 |
| C812 | A-2 | R431 | B-6 |
| R201 | K-1 | R434 | A-3 |
| R202 | J-1 | R435 | B-3 |
| R203 | K-1 | R436 | B-6 |
| R204 | J-1 | R437 | F-1 |
| R205 | K-2 | R438 | F-2 |
| R206 | K-2 | R439 | M-6 |
| R207 | J-2 | R501 | C-3 |
| R208 | J-3 | R601 | H-2 |
| R209 | J-4 | R604 | H-3 |
| R211 | L-2 | R605 | G-3 |
| R212 | J-4 | R801 | F-4 |
| R213 | K-6 | R802 | F-3 |
| R214 | M-1 | R803 | F-3 |
| R215 | J-6 | R804 | I-3 |
| R216 | L-5 | R805 | I-1 |
| R217 | L-5 | R807 | I-1 |
| R301 | K-2 | R808 | I-3 |
| R302 | M-3 | R809 | G-5 |
| R303 | K-4 | R811 | A-2 |
| R304 | L-3 | R812 | A-1 |
| R305 | M-3 | R813 | A-1 |
| R306 | M-4 | R814 | A-2 |
| R307 | M-4 | R815 | C-1 |
| R308 | M-5 | R816 | D-3 |
| R310 | K-4 | R817 | D-2 |
| R311 | L-2 | R818 | B-3 |
| R401 | H-5 | R901 | G-2 |
| R402 | H-5 | R902 | E-3 |
| R404 | C-2 | R903 | F-2 |
| R405 | C-2 | R904 | G-2 |

C
AUDIO SCHEMATIC continued



D
IC FUNCTIONS



MISCELLANEOUS ADJUSTMENTS

PRETUNING

NOTE: All procedures require an antenna connected and power applied to the set. Select TV/CATV Switch setting.

AUTO MEMORY

1. Press the Search button on Remote Transmitter. Available channels are scanned and stored in memory.

ADD CHANNEL

1. Press the Memory button on Remote Transmitter.
2. Select channel.
3. Press the Add button.
4. Repeat steps one through three to add other channels.

DELETE CHANNEL

1. Press the Memory button on Remote Transmitter.
2. Select channel.
3. Press the Erase button.
4. Repeat steps one through three to erase other channels.

CLOCK SETTING

1. Press the Display button on Remote Transmitter twice.
2. Press the Clock Set button on Remote Transmitter.
3. Press the Channel Up/Down buttons to select AM or PM.
4. Using the direct access channel buttons enter the time.
5. Press the Clock Set button to start clock.
6. Press the Display button to end process.

SLEEP TIMER

Press the Sleep button on Remote Transmitter. Set can be set to shut Off after 120, 90, 60, or 30 minutes by pressing the Sleep button.

FAVORITE CHANNEL SETTING

1. Press the Memory button on Remote Transmitter.
2. Select Channel.
3. Press Favorite Channel A, B, C or D button on Remote Transmitter.
4. Repeat steps one through three to program other favorite channel buttons.

NOTE: The following control settings were used for all adjustments unless otherwise specified: TV/CATV Switch (SW1001) to AIR, Balance (Part of R455), Treble (Part of R455) and Bass (Part of R455) Controls to normal listening levels, Sharpness (Part of R455), Brightness (Part of R455), Picture (Part of R837), Color (Part of R837) and Tint (Part of R837) Controls to normal viewing levels.

B+ CHECK

Connect a digital DC voltmeter to TP700, low side to Common Tie Point. With AC line voltage set to 120VAC. B+ should read 122VDC.

HIGH VOLTAGE CHECK

Tune in a picture. Set Brightness (Part of R455), Picture (Part of R837) and Color (Part of R837) Controls to MINIMUM. Connect a high voltage probe to CRT anode. High Voltage must read 28.0KV to 30.0KV. High Voltage must never exceed 30.0KV.

RF AGC ADJUSTMENT

Tune in a picture. Adjust RF AGC Control (R253) Clockwise until snow appears in picture, then Counterclockwise to a point where snow disappears.

SUB BRIGHTNESS ADJUSTMENT

Tune in a picture. Set Brightness (Part of R455), Picture (Part of R837) and Color (Part of R837) Controls to MINIMUM. Adjust Sub Brightness Control (Part of R455) to a point where highlights are just extinguished. Set Brightness, Picture and Color Controls to Maximum. Check for blooming and readjust if required.

DELAY LINE ADJUSTMENT

The Delay line Coil (DL401) is factory preset. Do not adjust.

VCO (3.58MHz) ADJUSTMENT

Tune in a color bar pattern. Set Tint (Part of R837) and Brightness (Part of R455) Controls to Midrange, Picture (Part of R837) and Color (Part of R837) Controls to Maximum. Connect a .47 microfarad capacitor from TP802 to Ground. Connect an 8.0VDC bias to TP804, low side to Ground. Set VCO Control (R806) fully Clockwise. Adjust VCO Control until colors stop or slowly float across the screen. Note the position of the Control. Set VCO Control fully Counterclockwise. Adjust VCO Control until colors stop or slowly float across the screen. Note the position of the Control. Set the VCO Control to the center between the noted points. Remove the .47 microfarad capacitor and the 8.0VDC bias.

SIGN POSITION ADJUSTMENT

Tune in a picture. Press the Display button on Remote Transmitter. Adjust Sign Position Control (R1040) to place the numeric display 2.5cm from right side of screen.

CLOCK TEST

Short TP1001 to TP1002. Remove power from the set for two seconds. Restore power. Press the Display button twice. Display should read "AM--:--". Press the Clock Set button. Press the one button four times. Press the Clock Set button. The clock should count up at one second intervals. Press the Sleep button. The display should read "30 REMAIN". The sleep timer should count down in one second intervals. When the sleep timer reaches Zero the set should shut Off. Remove the jumper, turn set On and check for normal operation.

COLOR PURITY ADJUSTMENT

Operate the receiver for 15 minutes. Use a degaussing coil to degauss the CRT and mounting hardware. Set Picture (Part of R837), Color (Part of R837), Red Bias (R854), and Blue Bias (R871) Controls to MINIMUM, Brightness Control (Part of R455) for a just visible raster and Green Bias Control (R862) for a green raster. Loosen the Deflection Yoke Clamp Screw and slide the Deflection Yoke backward to obtain a vertical green band. Rotate and/or spread the purity magnet tabs to center the vertical green band. Slide the Deflection Yoke forward until a pure green screen is obtained. Check red and blue purity by adjusting their Bias Controls.

COLOR TEMPERATURE ADJUSTMENT

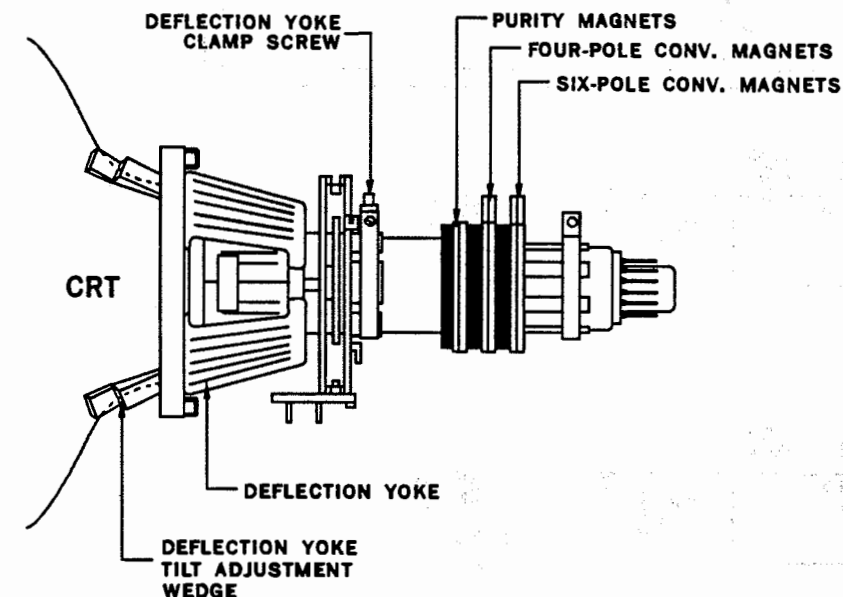
Tune in a picture. Set Brightness (Part of R455), Picture (Part of R837), Color (Part of R837), Screen (R799B), Red Bias (R854), Blue Bias (R871) and Green Bias (R862) Controls to MINIMUM, Green (R860) and Blue (R869) Drive Controls to Midrange. Short pin 4 of IC551 to Ground. Slowly advance Screen Control to obtain a horizontal line of one color. Adjust two Bias Controls not of visible color to obtain a white line. Remove the jumper. Set Brightness and Picture Controls to Maximum. Adjust Green and Blue Drive Controls for best black and white

picture. Check tracking at high and low brightness, readjust as necessary.

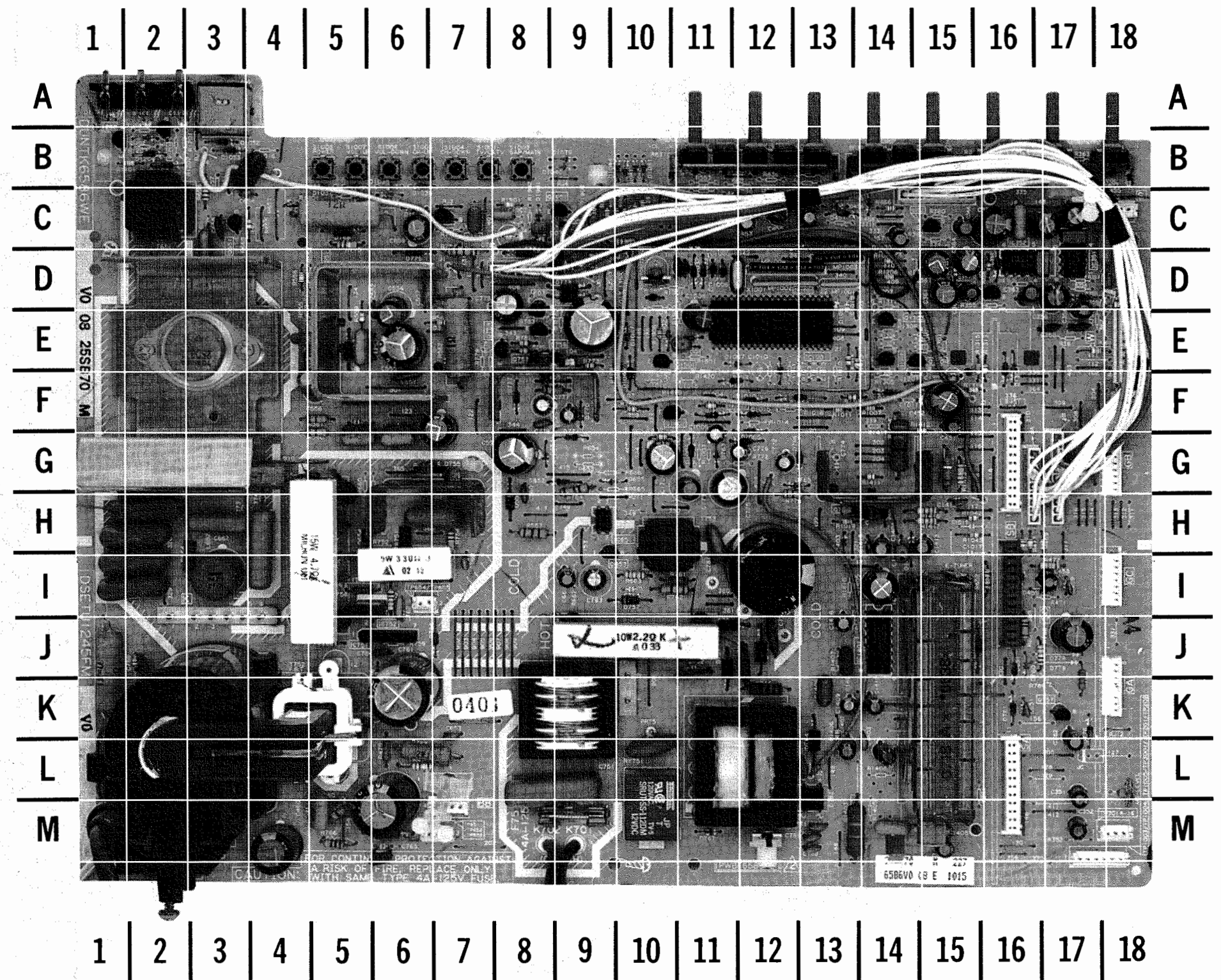
CONVERGENCE ADJUSTMENT

Operate the receiver for fifteen minutes. Tune in a dot pattern. Adjust the four pole magnet tabs to converge the red and blue dots at the center of the screen. Adjust the six pole magnet tabs to converge the red/blue dots with the green dots at the center of the screen. NOTE: Rotate the two tabs of each set of magnets equally and opposite to converge vertically, and rotate both tabs in the same direction to converge horizontally. Four and six pole magnets interact, repeat adjustment until center convergence is correct. Tune in a crosshatch pattern. Remove the rubber wedges between the Deflection Yoke and the CRT. Tilt the Deflection Yoke up or down to converge the vertical lines at the top and bottom of the screen, and the horizontal lines at the right and left sides of the screen. Tilt the Deflection Yoke right or left to converge the horizontal lines at the top and bottom of the screen, and the vertical lines at the right and left sides of the screen. Repeat convergence procedure as necessary to obtain best overall convergence. Apply adhesive to wedges and replace between the Deflection Yoke and the CRT.

CRT NECK ASSEMBLY

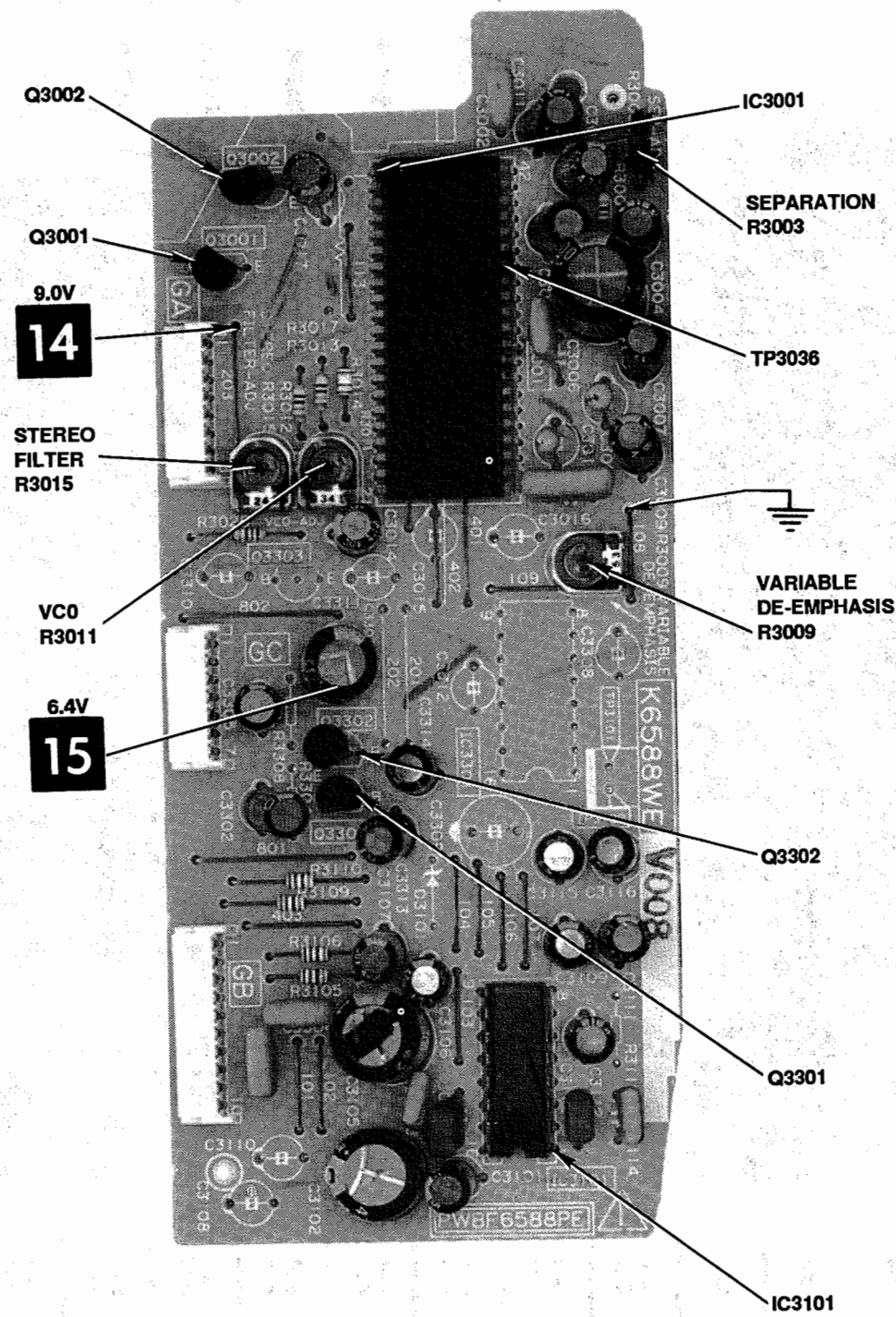


MAIN BOARD - TOP VIEW

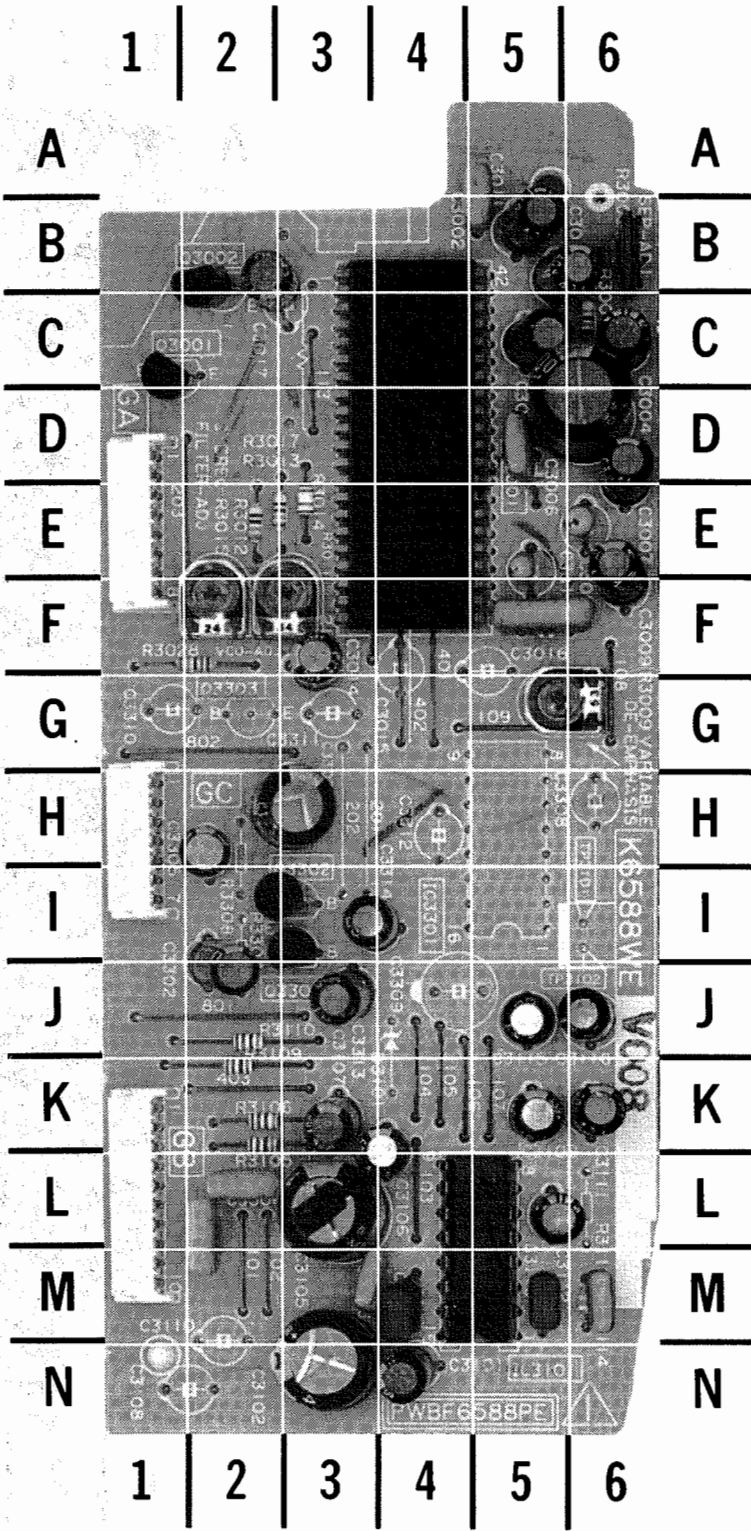


A HOWARD W. SAMS GRIDTRACE™ PHOTO

MULTISOUND BOARD - TOP VIEW



A HOWARD W. SAMS CIRCUITRACE[®] PHOTO



A HOWARD W. SAMS GRIDTRACE[™] PHOTO

MULTISOUND BOARD - TOP VIEW -
GRIDTRACE LOCATION GUIDE

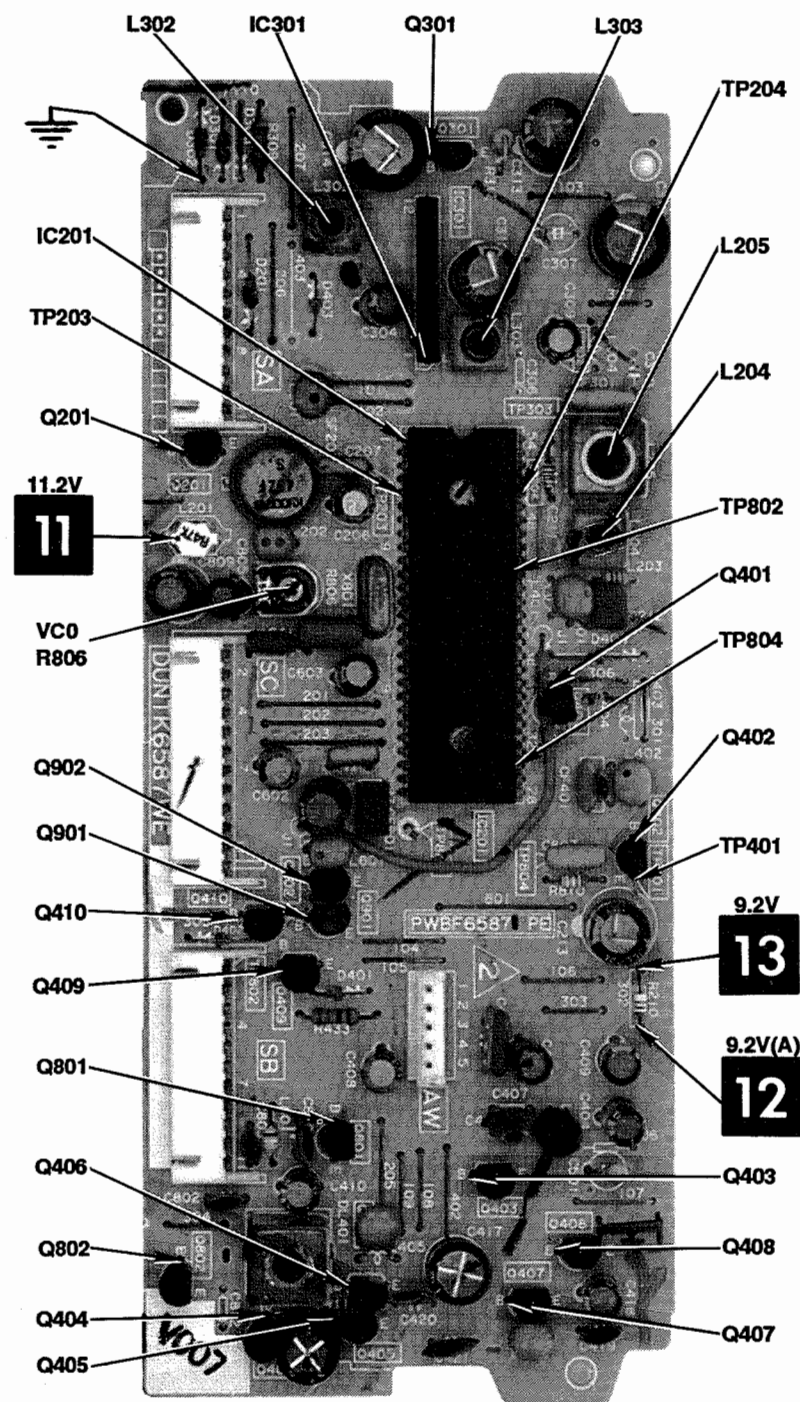
| | | | |
|-------|-----|--------|-----|
| C3002 | A-5 | C3305 | H-2 |
| C3003 | C-5 | C3306 | L-2 |
| C3004 | C-6 | C3307 | H-3 |
| C3005 | D-6 | C3313 | J-3 |
| C3006 | D-5 | C3314 | I-3 |
| C3007 | D-6 | GA | D-1 |
| C3008 | E-6 | GB | K-1 |
| C3009 | E-6 | GC | H-1 |
| C3010 | E-5 | IC3001 | B-3 |
| C3011 | B-5 | IC3101 | M-5 |
| C3012 | B-6 | Q3001 | C-1 |
| C3013 | F-5 | Q3002 | B-2 |
| C3014 | F-3 | Q3301 | I-3 |
| C3017 | B-2 | Q3302 | I-3 |
| C3101 | N-4 | R3003 | B-6 |
| C3102 | N-3 | R3004 | C-6 |
| C3103 | M-3 | R3009 | G-5 |
| C3104 | M-4 | R3011 | F-3 |
| C3105 | L-3 | R3012 | E-2 |
| C3106 | K-4 | R3013 | E-2 |
| C3107 | K-3 | R3014 | E-3 |
| C3109 | K-5 | R3015 | F-2 |
| C3111 | K-6 | R3028 | F-2 |
| C3112 | L-5 | R3029 | F-2 |
| C3113 | M-5 | R3105 | K-2 |
| C3114 | M-6 | R3106 | K-2 |
| C3115 | J-5 | R3109 | K-2 |
| C3116 | J-6 | R3110 | J-2 |
| C3302 | J-2 | TP3036 | C-5 |
| C3303 | L-2 | | |

SHARP MODELS 25SB70B, 25SB710B, 25SB720B, 25SB740B (Chassis 25S1)

MAIN BOARD - TOP VIEW - GRIDTRACE LOCATION GUIDE

| | | | | | | | | | | | | | |
|------|------|-------|------|-------|------|--------|------|-------|------|----------|------|--------|------|
| BB | M-7 | C755 | I-12 | D452 | C-11 | D1038 | B-6 | Q751 | H-14 | R766 | M-5 | S1007 | B-5 |
| C351 | L-17 | C756 | I-5 | D453 | C-11 | D1039 | B-9 | Q752 | C-7 | R767 | L-6 | S1008 | B-5 |
| C352 | M-17 | C757 | H-5 | D454 | C-14 | D1040 | B-9 | Q753 | E-8 | R768 | J-16 | SA | M-16 |
| C353 | C-17 | C758 | H-5 | D455 | C-13 | D1041 | B-10 | Q754 | E-8 | R769 | K-12 | SB | H-16 |
| C354 | C-16 | C759 | H-6 | D456 | C-13 | D1042 | B-10 | Q755 | D-8 | R770 | G-12 | SC | J-16 |
| C355 | C-18 | C760 | I-7 | D457 | C-13 | D1043 | B-10 | Q756 | E-8 | R773 | E-9 | T651 | C-2 |
| C356 | D-16 | C761 | K-6 | D458 | I-16 | D1044 | B-10 | Q757 | K-17 | R775 | C-5 | T751 | L-12 |
| C357 | D-18 | C762 | I-6 | D459 | I-16 | D1046 | F-10 | Q1201 | A-2 | R776 | F-9 | T752 | L-2 |
| C358 | D-17 | C763 | I-9 | D460 | M-5 | D1047 | E-10 | Q1202 | B-1 | R780 | E-8 | T753 | H-10 |
| C359 | E-17 | C765 | M-6 | D551 | H-8 | D1048 | E-11 | Q1302 | E-14 | R781 | E-8 | TH1001 | D-11 |
| C360 | E-17 | C766 | J-2 | D552 | E-5 | D1050 | F-12 | Q1303 | E-14 | R784 | D-7 | TP201 | M-18 |
| C361 | D-15 | C767 | M-2 | D651 | J-16 | D1052 | B-3 | Q1304 | E-15 | R785 | K-17 | TP202 | M-18 |
| C362 | C-17 | C768 | M-13 | D652 | G-9 | D1053 | B-3 | Q1401 | F-11 | R837 | B-11 | TP651 | M-6 |
| C364 | D-15 | C769 | M-13 | D653 | G-8 | D1054 | F-13 | Q1501 | E-10 | R1002 | G-10 | TP652 | M-7 |
| C365 | D-15 | C770 | L-13 | D654 | H-5 | D1101 | A-2 | Q1901 | C-9 | R1007 | F-14 | TP653 | M-7 |
| C366 | C-15 | C771 | M-13 | D655 | G-9 | D1102 | A-2 | R253 | M-12 | R1009 | F-11 | TP1001 | D-13 |
| C367 | D-15 | C772 | G-12 | D751 | J-11 | D1103 | A-1 | R351 | L-18 | R1011 | F-13 | TP1002 | F-12 |
| C368 | E-17 | C773 | G-11 | D752 | J-11 | D1104 | B-2 | R356 | D-15 | R1019 | H-13 | TP1003 | M-17 |
| C369 | C-16 | C775 | G-11 | D753 | J-12 | D1202 | B-2 | R358 | D-16 | R1024 | D-14 | TP1004 | M-17 |
| C451 | F-15 | C776 | G-12 | D754 | J-11 | D1204 | B-2 | R359 | D-15 | R1032 | C-10 | TP1005 | M-17 |
| C452 | F-15 | C777 | F-8 | D755 | G-6 | D1301 | E-12 | R369 | E-17 | R1033 | C-9 | TP3001 | M-17 |
| C453 | C-12 | C778 | F-8 | D756 | J-7 | D1302 | E-16 | R370 | D-18 | R1034 | C-10 | TP3014 | M-18 |
| C454 | C-11 | C779 | D-8 | D757 | I-10 | D1303 | F-14 | R455 | B-18 | R1035 | C-10 | TP3015 | M-18 |
| C455 | C-12 | C780 | M-6 | D758 | M-6 | D1304 | F-14 | R457 | B-15 | R1036 | C-10 | TP3016 | M-18 |
| C456 | C-13 | C781 | H-11 | D759 | L-1 | D1305 | E-16 | R458 | B-15 | R1038 | C-10 | W | E-1 |
| C457 | C-14 | C782 | L-17 | D760 | J-16 | D1402 | J-15 | R466 | C-14 | R1039 | C-11 | X1001 | D-11 |
| C458 | I-17 | C783 | J-17 | D761 | K-16 | D1403 | H-13 | R469 | H-16 | R1040 | D-10 | | |
| C459 | I-17 | C784 | J-6 | D762 | L-13 | D1404 | H-14 | R470 | H-16 | R1041 | F-9 | | |
| C460 | M-5 | C1001 | D-10 | D763 | G-11 | D1901 | C-8 | R472 | I-17 | R1042 | H-15 | | |
| C551 | F-6 | C1002 | D-11 | D764 | L-13 | D1902 | E-10 | R473 | H-16 | R1043 | H-15 | | |
| C552 | D-6 | C1004 | E-11 | D765 | G-12 | F751 | M-9 | R474 | L-6 | R1101 | B-2 | | |
| C553 | E-5 | C1005 | D-11 | D766 | G-12 | FB651 | D-2 | R475 | L-6 | R1206 | D-14 | | |
| C554 | D-6 | C1006 | D-11 | D767 | M-11 | FB652 | F-3 | R476 | M-5 | R1304 | F-13 | | |
| C555 | E-6 | C1007 | C-8 | D768 | C-5 | FB751 | H-6 | R556 | D-4 | R1313 | E-16 | | |
| C556 | F-4 | C1008 | C-9 | D769 | C-5 | GA | K-18 | R557 | D-4 | R1314 | F-15 | | |
| C557 | D-6 | C1009 | G-11 | D770 | F-9 | GB | G-18 | R559 | E-5 | R1315 | E-15 | | |
| C558 | F-7 | C1013 | E-9 | D771 | G-9 | GC | I-18 | R560 | F-5 | R1402 | G-15 | | |
| C559 | G-8 | C1302 | F-15 | D772 | D-9 | IC351 | D-17 | R561 | F-5 | R1403 | M-13 | | |
| C560 | G-8 | C1401 | H-14 | D773 | D-9 | IC352 | D-16 | R562 | E-7 | R1404 | G-14 | | |
| C561 | F-6 | C1402 | L-13 | D774 | D-8 | IC551 | E-5 | R563 | H-8 | R1406 | K-13 | | |
| C562 | F-5 | C1403 | L-14 | D775 | D-6 | IC651 | H-9 | R564 | E-7 | R1411 | G-14 | | |
| C563 | E-4 | C1404 | M-14 | D776 | K-17 | IC751 | J-5 | R651 | J-16 | R1412 | F-15 | | |
| C651 | K-16 | C1405 | I-14 | D777 | F-8 | IC752 | I-5 | R652 | I-16 | R1413 | G-15 | | |
| C652 | F-9 | C1406 | K-13 | D1001 | C-9 | IC1001 | E-11 | R656 | C-3 | R1414 | E-13 | | |
| C653 | K-7 | C1407 | J-13 | D1002 | C-9 | IC1401 | I-14 | R658 | C-5 | R1415 | E-13 | | |
| C654 | C-3 | C1408 | M-15 | D1003 | C-6 | K | J-2 | R659 | G-4 | R1416 | H-15 | | |
| C656 | C-3 | C1409 | K-13 | D1004 | F-11 | L1001 | E-11 | R663 | I-10 | R1417 | H-15 | | |
| C658 | C-3 | C1410 | K-14 | D1005 | G-12 | L1401 | H-14 | R664 | H-3 | R1418 | F-10 | | |
| C659 | C-6 | C1411 | L-14 | D1006 | G-11 | L652 | I-3 | R668 | C-4 | R1701 | D-9 | | |
| C661 | G-2 | C1412 | M-15 | D1007 | E-11 | L751 | K-9 | R751 | J-10 | R1901 | C-8 | | |
| C662 | H-2 | C1413 | H-15 | D1010 | F-12 | M | K-10 | R752 | I-6 | R1903 | C-9 | | |
| C663 | H-2 | C1415 | H-14 | D1011 | F-11 | MP1001 | D-13 | R753 | H-7 | R1906 | E-10 | | |
| C664 | I-2 | C1416 | J-13 | D1012 | F-11 | MP1002 | D-12 | R754 | H-7 | R1907 | C-10 | | |
| C665 | I-2 | C1418 | H-15 | D1015 | F-12 | MP1003 | D-13 | R755 | I-6 | R/C | | | |
| C666 | H-4 | C1701 | G-10 | D1020 | D-14 | MP1004 | D-12 | R756 | K-6 | RECEIVER | A-3 | | |
| C667 | H-3 | C1901 | C-7 | D1031 | C-13 | PR751 | L-10 | R757 | J-5 | RY751 | M-10 | | |
| C668 | H-5 | C1902 | C-8 | D1032 | D-11 | Q351 | D-16 | R758 | I-5 | S | C-18 | | |
| C669 | I-9 | C1903 | C-10 | D1033 | D-11 | Q352 | C-15 | R761 | I-10 | S1001 | B-7 | | |
| C751 | L-9 | C1904 | D-10 | D1034 | C-6 | Q451 | C-12 | R762 | I-10 | S1003 | B-8 | | |
| C752 | J-12 | D351 | D-16 | D1035 | B-6 | Q651 | C-3 | R763 | H-5 | S1004 | B-7 | | |
| C753 | J-11 | D352 | D-17 | D1036 | B-5 | Q652 | E-3 | R764 | G-9 | S1005 | B-6 | | |
| C754 | J-12 | D451 | C-11 | D1037 | B-5 | Q653 | H-9 | R765 | J-1 | S1006 | B-6 | | |

SIGNAL BOARD - TOP VIEW

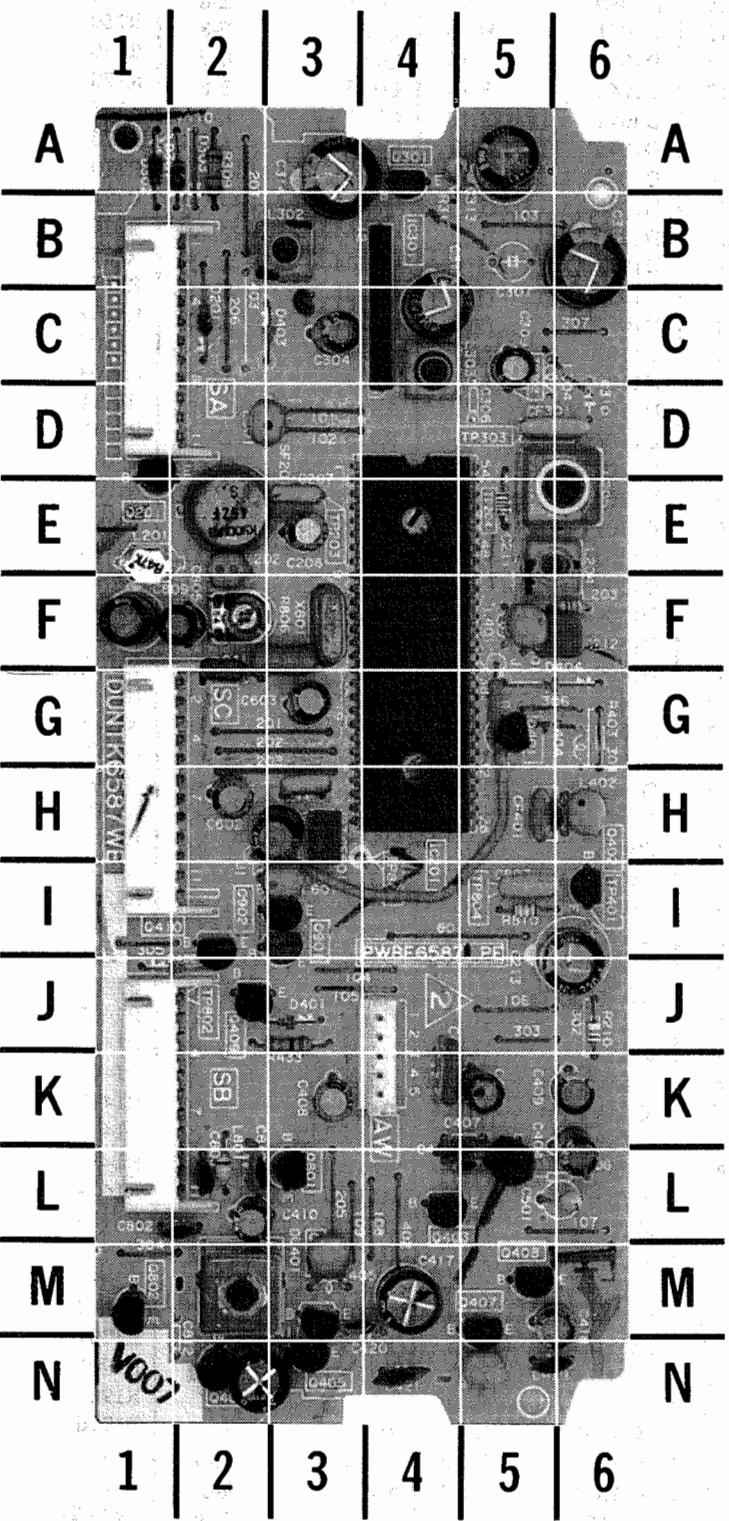


NOTE: ARROWS ON IC'S INDICATE PIN 1 UNLESS NOTED
NOTE: ARROWS ON TRANSISTORS INDICATE BASE UNLESS NOTED

A HOWARD W. SAMS CIRCUITRACE PHOTO

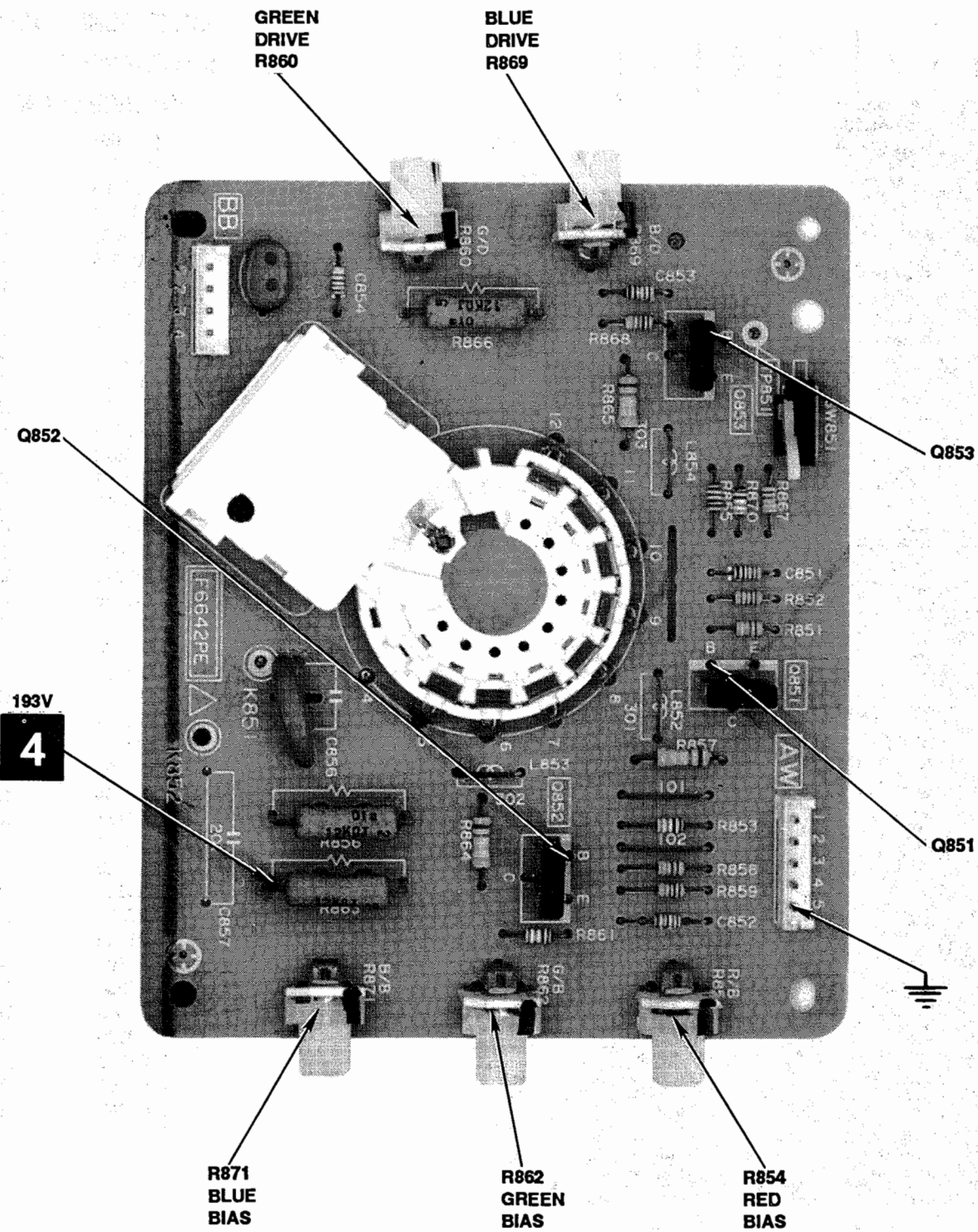
SIGNAL BOARD - TOP VIEW -
GRIDTRACE LOCATION GUIDE

| | | | |
|-------|-----|-------|-----|
| AW | J-4 | DL401 | M-2 |
| C206 | E-3 | IC201 | D-3 |
| C207 | E-3 | IC301 | C-4 |
| C211 | E-5 | L201 | E-1 |
| C213 | J-6 | L202 | E-2 |
| C304 | C-3 | L203 | F-6 |
| C309 | C-5 | L204 | E-6 |
| C312 | C-4 | L205 | E-6 |
| C313 | A-5 | L301 | D-2 |
| C314 | A-3 | L302 | B-3 |
| C315 | B-6 | L303 | C-4 |
| C401 | F-6 | L401 | F-5 |
| C402 | H-6 | L402 | H-6 |
| C403 | K-4 | L403 | L-5 |
| C404 | L-6 | L405 | M-3 |
| C405 | K-5 | L406 | N-5 |
| C406 | L-5 | L601 | I-3 |
| C407 | K-5 | L801 | L-2 |
| C408 | K-3 | Q201 | D-1 |
| C409 | K-6 | Q301 | A-4 |
| C410 | L-2 | Q401 | G-5 |
| C411 | N-2 | Q402 | I-6 |
| C412 | F-2 | Q403 | L-4 |
| C417 | M-4 | Q404 | N-2 |
| C418 | M-5 | Q405 | N-3 |
| C419 | N-5 | Q406 | M-3 |
| C420 | M-3 | Q407 | M-5 |
| C421 | N-4 | Q408 | M-5 |
| C501 | L-6 | Q409 | J-2 |
| C601 | H-3 | Q410 | I-2 |
| C602 | H-2 | Q801 | L-3 |
| C603 | G-3 | Q802 | M-1 |
| C604 | H-3 | Q901 | I-2 |
| C802 | L-2 | Q902 | I-2 |
| C803 | L-2 | R210 | J-6 |
| C805 | F-2 | R309 | A-2 |
| C806 | F-3 | R312 | A-4 |
| C807 | I-5 | R433 | J-3 |
| C809 | F-1 | R806 | F-2 |
| C810 | L-2 | R810 | I-5 |
| CF301 | D-6 | SA | B-2 |
| CF401 | H-5 | SB | J-2 |
| CF601 | H-3 | SC | G-2 |
| D201 | C-2 | SF201 | E-2 |
| D301 | A-2 | TP203 | E-3 |
| D302 | A-1 | TP204 | E-5 |
| D401 | J-3 | TP401 | I-6 |
| D402 | J-2 | TP802 | J-2 |
| D403 | C-3 | TP804 | I-5 |
| D404 | G-5 | X801 | F-3 |



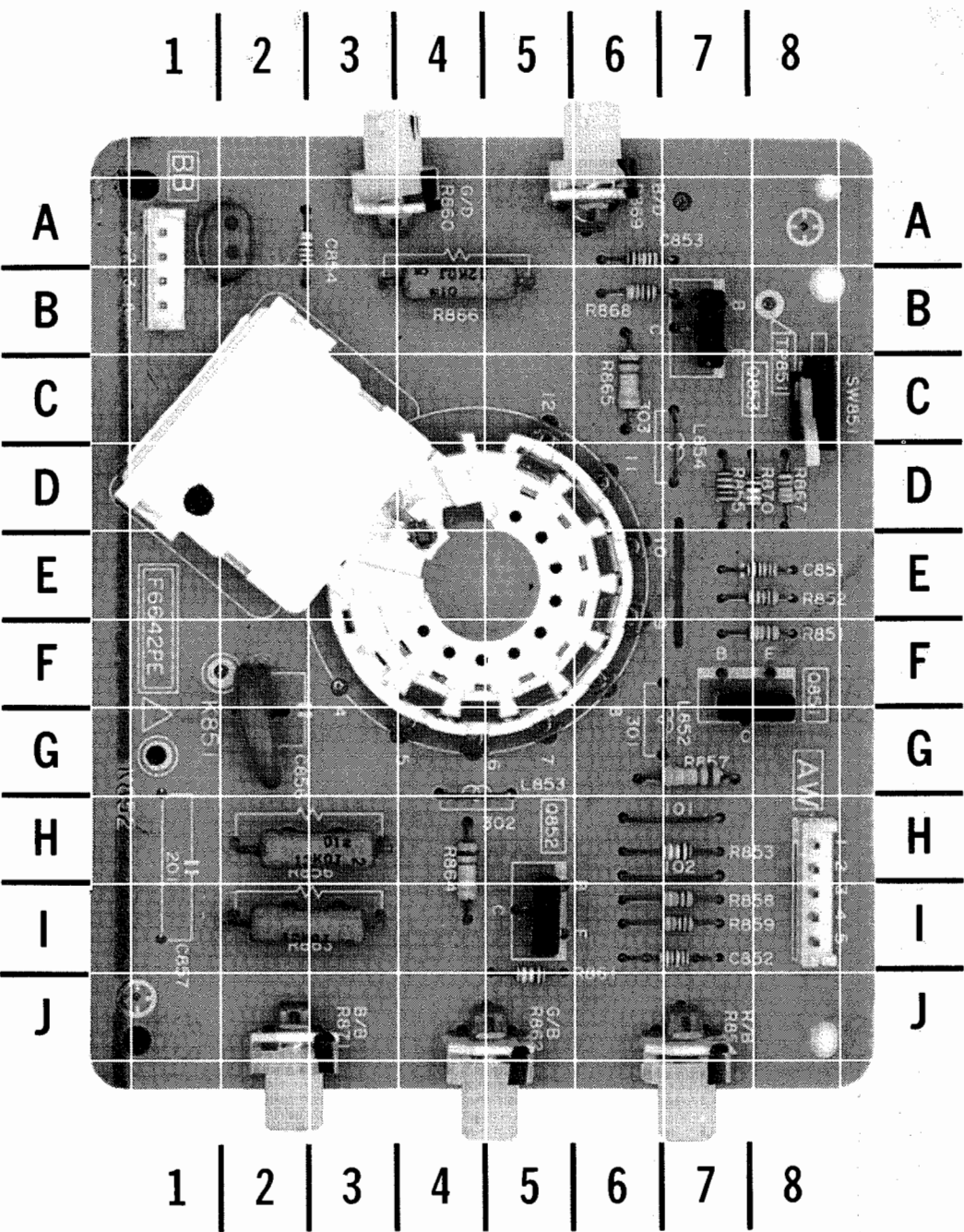
A HOWARD W. SAMS GRIDTRACE PHOTO

CRT BOARD



NOTE: ARROWS ON TRANSISTORS INDICATE BASE UNLESS NOTED

A HOWARD W. SAMS CIRCUITRACE PHOTO



A HOWARD W. SAMS GRIDTRACE PHOTO

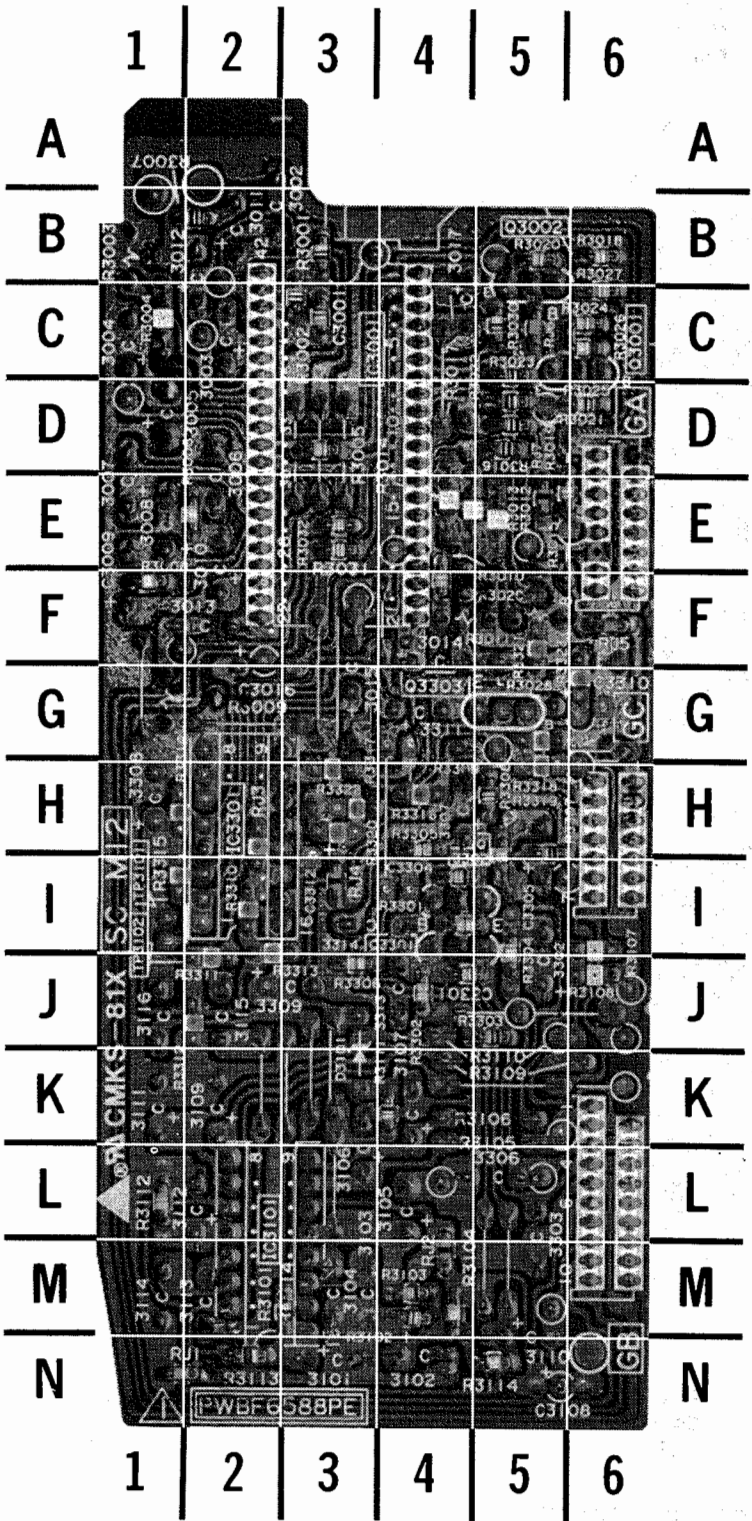
CRT BOARD - GRIDTRACE LOCATION GUIDE

| | |
|-------|-----|
| AW | H-8 |
| BB | A-1 |
| C851 | E-8 |
| C852 | I-7 |
| C853 | A-6 |
| C854 | A-2 |
| C856 | G-2 |
| K851 | F-2 |
| K852 | G-1 |
| L851 | A-2 |
| Q851 | F-7 |
| Q852 | I-5 |
| Q853 | B-7 |
| R851 | F-8 |
| R852 | E-8 |
| R853 | H-7 |
| R854 | J-7 |
| R855 | D-7 |
| R856 | H-2 |
| R857 | G-7 |
| R858 | I-7 |
| R859 | I-7 |
| R860 | A-4 |
| R861 | J-5 |
| R862 | J-5 |
| R863 | I-2 |
| R864 | H-4 |
| R865 | C-6 |
| R866 | B-4 |
| R867 | D-8 |
| R868 | B-6 |
| R869 | A-6 |
| R870 | D-8 |
| R871 | J-2 |
| SC851 | E-4 |
| SW851 | C-8 |

MULTISOUND BOARD - BOTTOM VIEW

MAIN BOARD - BOTTOM VIEW -
GRIDTRACE LOCATION GUIDE

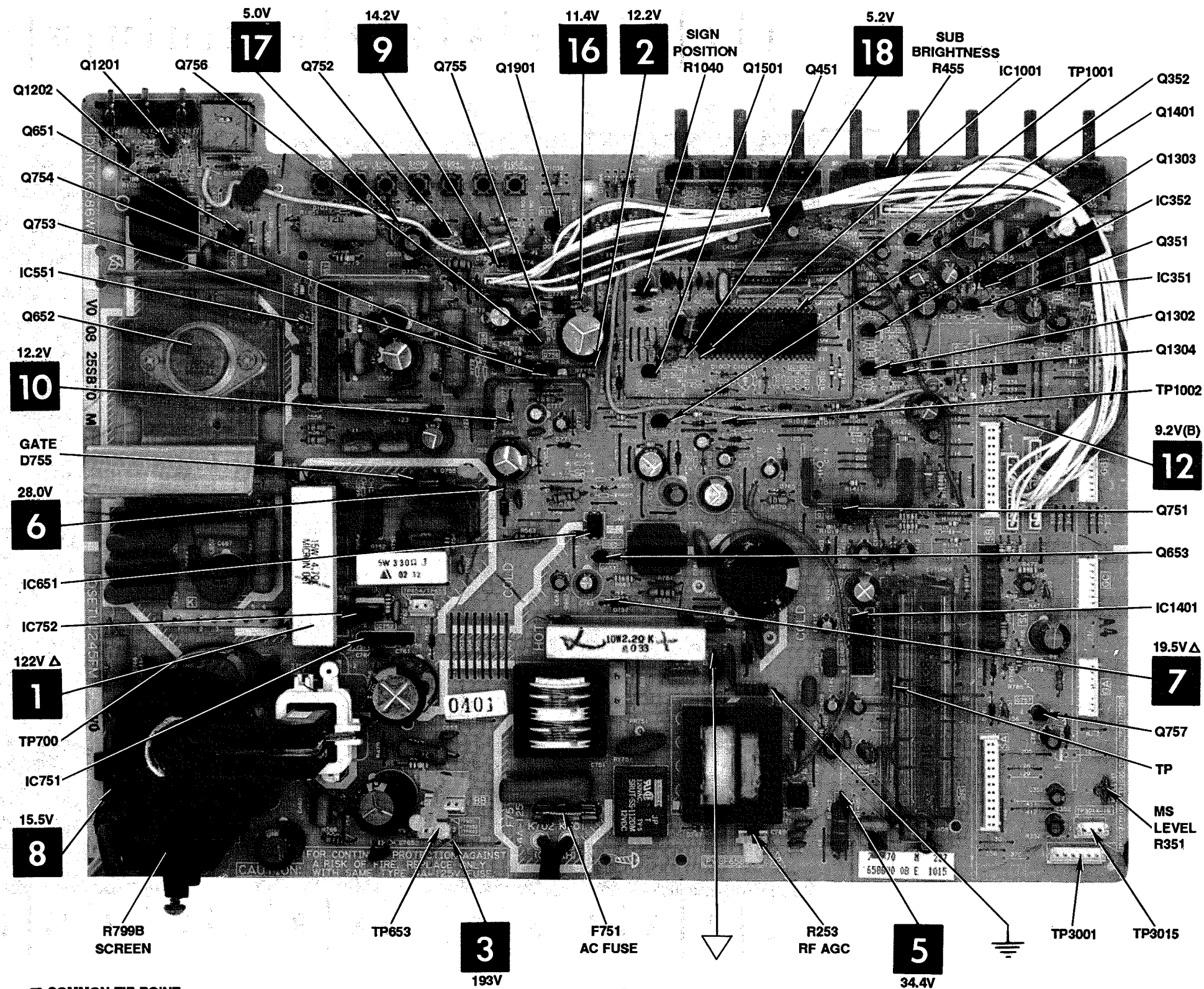
| | | | |
|-------|------|-------|------|
| C363 | D-2 | R666 | G-10 |
| C655 | B-16 | R759 | J-13 |
| C657 | B-16 | R772 | G-7 |
| C1003 | D-5 | R774 | C-12 |
| C1011 | F-4 | R778 | E-12 |
| C1012 | F-6 | R779 | E-12 |
| C1014 | F-6 | R782 | E-10 |
| C1016 | F-9 | R783 | E-11 |
| C1018 | F-8 | R831 | B-6 |
| C1301 | E-4 | R832 | B-5 |
| C1303 | F-4 | R833 | B-6 |
| C1414 | J-3 | R834 | B-7 |
| C1417 | G-5 | R835 | B-7 |
| R251 | M-3 | R836 | B-7 |
| R252 | M-3 | R1001 | D-9 |
| R352 | N-2 | R1003 | G-8 |
| R353 | D-2 | R1004 | G-8 |
| R354 | D-2 | R1008 | F-7 |
| R355 | D-3 | R1010 | F-6 |
| R357 | E-1 | R1012 | F-7 |
| R360 | C-4 | R1013 | F-6 |
| R361 | E-2 | R1014 | F-7 |
| R362 | C-4 | R1015 | C-14 |
| R363 | B-2 | R1016 | B-15 |
| R364 | B-1 | R1017 | F-6 |
| R365 | B-3 | R1018 | F-6 |
| R366 | B-3 | R1201 | B-17 |
| R367 | B-3 | R1202 | B-17 |
| R368 | B-2 | R1203 | B-18 |
| R452 | B-5 | R1204 | B-18 |
| R453 | B-5 | R1305 | F-5 |
| R454 | B-5 | R1306 | F-5 |
| R456 | B-4 | R1307 | E-5 |
| R459 | C-8 | R1308 | E-5 |
| R460 | B-8 | R1309 | E-5 |
| R462 | C-8 | R1310 | E-4 |
| R463 | C-7 | R1311 | D-5 |
| R464 | C-6 | R1312 | E-4 |
| R465 | C-6 | R1321 | E-4 |
| R467 | C-6 | R1401 | C-15 |
| R471 | I-2 | R1405 | M-5 |
| R551 | B-7 | R1407 | J-6 |
| R552 | B-8 | R1408 | M-5 |
| R553 | B-8 | R1409 | J-5 |
| R555 | E-15 | R1410 | I-5 |
| R558 | D-15 | R1419 | F-8 |
| R653 | G-10 | R1420 | F-8 |
| R654 | G-10 | R1501 | E-8 |
| R660 | H-14 | R1502 | F-9 |
| R661 | H-14 | R1902 | C-11 |
| R662 | I-10 | R1904 | D-9 |
| R665 | H-10 | R1905 | E-8 |



MULTISOUND BOARD -
BOTTOM VIEW -
GRIDTRACE LOCATION GUIDE

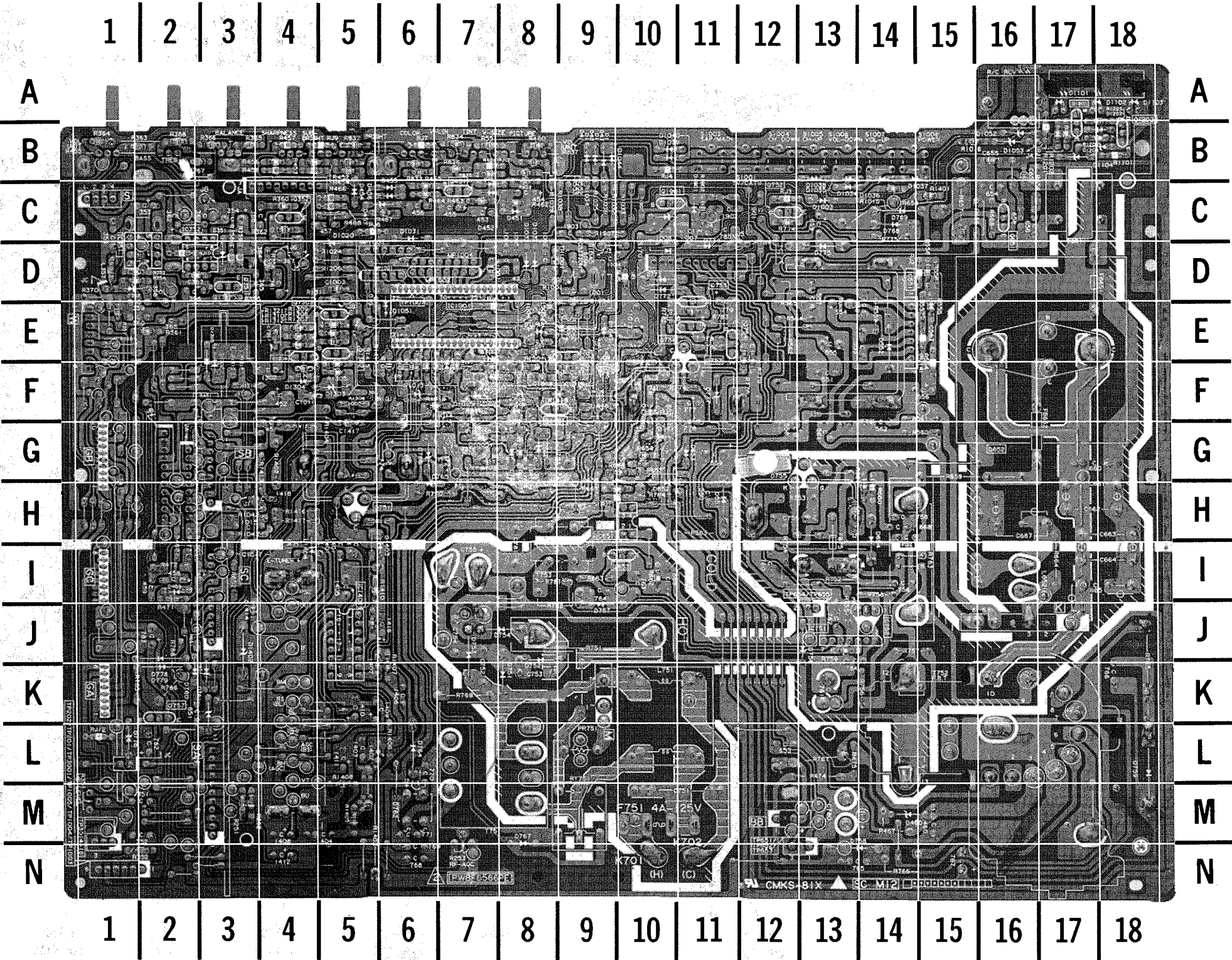
| | |
|-------|-----|
| C3001 | C-3 |
| C3301 | J-4 |
| C3304 | I-4 |
| R3001 | B-3 |
| R3002 | C-3 |
| R3005 | D-3 |
| R3006 | E-2 |
| R3007 | B-2 |
| R3008 | F-1 |
| R3010 | F-4 |
| R3016 | D-5 |
| R3018 | B-6 |
| R3019 | E-5 |
| R3020 | B-5 |
| R3021 | D-5 |
| R3022 | D-5 |
| R3023 | C-5 |
| R3024 | C-6 |
| R3025 | D-6 |
| R3026 | C-6 |
| R3027 | C-6 |
| R3030 | C-5 |
| R3031 | E-3 |
| R3032 | E-3 |
| R3101 | M-3 |
| R3102 | M-4 |
| R3103 | M-4 |
| R3104 | M-4 |
| R3111 | K-4 |
| R3112 | L-1 |
| R3113 | N-2 |
| R3114 | N-5 |
| R3301 | I-4 |
| R3302 | J-4 |
| R3303 | J-5 |
| R3304 | I-5 |
| R3305 | H-4 |
| R3306 | J-3 |
| R3307 | H-5 |
| R3308 | H-5 |
| R3309 | H-5 |

MAIN BOARD - TOP VIEW



▽ COMMON TIE POINT
Δ TAKEN FROM COMMON TIE POINT
NOTE: ARROWS ON IC'S INDICATE PIN 1 UNLESS NOTED
NOTE: ARROWS ON TRANSISTORS INDICATE BASE UNLESS NOTED

MAIN BOARD - BOTTOM VIEW



PARTS LIST continued

SEMICONDUCTORS (Select replacement for best results)

| ITEM No. | TYPE No. | MFR PART No. | NTE PART No. | ECG PART No. | TCE PART No. |
|-------------|-------------|---------------|--------------|--------------|--------------|
| Q351,2 | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q401 - Q408 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q409 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SA562-O | | NTE290A | ECG290A | SK3114A |
| Q410 | 2SA562T(O) | VS2SA562TO/-1 | NTE290A | ECG290A | SK3114A |
| | 2SA854(Q) | VS2SA854-Q/1E | NTE290A | ECG290A | SK3841 |
| | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q451 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SA1015Y | | NTE290A | ECG290A | SK9132 |
| Q651 | 2SA1015(Y) | VS2SA1015Y/1E | NTE290A | ECG290A | SK9132 |
| | 2SC2655Y | | NTE293 | ECG293 | SK3849 |
| | 2SC2655(Y) | VS2SC2655Y/-1 | NTE293 | ECG293 | SK3849 |
| # Q652 | 2SD871 | VS2SD871///-1 | NTE89 | ECG89 | SK9119 |
| Q653 | 2SC945P | | NTE85 | ECG85 | SK3124A |
| | 2SC945A(P) | VS2SC945AP/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(GR) | VS2SC1815GW-1 | NTE85 | ECG85 | SK3124A |
| Q751 | 2SC1983 | VS2SC1983//2 | NTE56 | ECG56 | SK3929 |
| Q752 | 2SA1015Y | | NTE290A | ECG290A | SK9132 |
| | 2SA1015(Y) | VS2SA1015Y/1E | NTE290A | ECG290A | SK9132 |
| | 2SC1983 | VS2SC1983//2 | NTE56 | ECG56 | SK3929 |
| Q754 | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| Q755 | 2SA1015GR | | NTE290A | ECG290A | SK9132 |
| | 2SA1015(GR) | VS2SA1015G/1E | NTE290A | ECG290A | SK9132 |
| | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q756 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SC2236Y | | NTE382 | ECG382 | SK3849 |
| Q757 | 2SC2236(Y) | VS2SC2236Y/-1 | NTE382 | ECG382 | SK3849 |
| | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q801,2 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SC2611 | VS2SC2611/-1E | NTE157 | ECG157 | SK3747 |
| Q851,2,3 | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| Q901,2 | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| Q1201 | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| Q1202 | 2SA1015Y | | NTE290A | ECG290A | SK9132 |
| | 2SA1015(Y) | VS2SA1015Y/1E | NTE290A | ECG290A | SK9132 |
| | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q1302,3,4 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q1401 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SA1015Y | | NTE290A | ECG290A | SK9132 |
| Q1402 | 2SA1015(Y) | VS2SA1015Y/2E | NTE290A | ECG290A | SK9132 |
| | 2SC945P | | NTE85 | ECG85 | SK3124A |
| | 2SC945A(P) | VS2SC945AP/-1 | NTE85 | ECG85 | SK3124A |
| Q1501 | 2SC1815(GR) | VS2SC1815GW-1 | NTE85 | ECG85 | SK3124A |

SEMICONDUCTORS (Select replacement for best results)

| ITEM No. | TYPE No. | MFR PART No. | NTE PART No. | ECG PART No. | TCE PART No. |
|----------|------------|---------------|--------------|--------------|--------------|
| Q1901 | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q3001,2 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| Q3301,2 | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | 2SC945Q | | NTE85 | ECG85 | SK3124A |
| | 2SC945A(Q) | VS2SC945AQ/-1 | NTE85 | ECG85 | SK3124A |
| | 2SC1815(Y) | VS2SC1815YW-1 | NTE85 | ECG85 | SK3124A |
| | | | NTE85 | ECG85 | SK3124A |

For SAFETY use only equivalent replacement part.

(1) Four required, connect as in original circuit.

(2) Seven required, connect as in original circuit.

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.

Information is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- B&K Precision
- Custom Components Corporation (Chek-A-Color)
- GC-THORSEN
- NTE Electronics, Inc. (NTE)
- Philips ECG Company (ECG)
- Quam-Nichols Co. (Quam)
- Sencore, Inc.
- Thomson Consumer Electronics, Inc. (SK, TCE)

SHARP

MODELS 25SB70B, 25SB710B, 25SB720B, 25SB740B (Chassis 25S-1)

PARTS LIST continued

COILS & TRANSFORMERS

| ITEM No. | FUNCTION | MFGR PART No. | OTHER IDENTIFICATION | NOTES |
|----------|--------------------------------------|---------------|----------------------|-------|
| # DY751 | Yoke 100" Horiz 1.2mH Vert 20.9mH | RCiLH0047MEZZ | H0047ME-S (1) | |
| L652 | Horizontal Linearity | RCiLZ0621CEZZ | | |
| # T651 | Horizontal Driver | RTRNZ0168CEZZ | Z0168CE (1) | |
| # T751 | Power | RTRNP0416CEZZ | P0416CE (1) | |
| # T752 | Horizontal Output | RTRNF0047PEZZ | F0047PE-M (1) | |
| # T753 | Separator | RTRNZ0382CEZZ | Z0382CE (1) | |

For SAFETY use only equivalent replacement part.
(1) Number on unit.

RESISTORS (Power and Special)

| ITEM No. | RATING | REPLACEMENT DATA | | |
|----------|--------------------------|------------------|--------------|--|
| | | MFGR PART No. | NTE PART No. | |
| MP1001 | Resistor Array (22K X 4) | RMPTC0135CEZZ | | |
| MP1002 | Resistor Array (22K X 7) | RMPTC0128CEZZ | | |
| # PR751 | 11.3 Cold PTC Thermistor | RMPTP0025CEZZ | | |
| # R476 | 10K 1/2W 5% Metal Oxide | VRS-SV2HC103J | HW310 | |
| R562 | 1 3W 5% Metal Oxide | VRN-RV3LB1R0J | 3W1D0 | |
| # R563 | 1 1W 5% Metal Oxide | VRN-VV3AB1R0J | 1W1D0 | |
| # R653 | 1000 1/8W 5% Carbon Chip | VRD-MN2BE102J | | |
| # R654 | 18K 1/8W 5% Carbon Chip | VRD-MN2BE183J | | |
| # R658 | 12 3W 5% Metal Oxide | VRS-SV3LB120J | 3W012 | |
| # R659 | .27 3W 5% Metal Oxide | VRN-RV3LBR27J | | |
| # R660 | 47K 1/8W 5% Carbon Chip | VRD-MN2BE473J | | |
| # R661 | 68K 1/8W 5% Carbon Chip | VRD-MN2BE683J | | |
| # R751 | 2.2 10W Wire Wound | RR-WZ0117CEZZ | 10W2D2 | |
| # R752 | 330 5W Wire Wound | RR-WZ0116CEZZ | 5W133 | |
| # R753 | 150 1/2W 5% Metal Oxide | VRS-SV2HC151J | HW115 | |
| # R758 | 1 1/4W 5% Metal Oxide | VRN-GA2EB1R0J | QW1D0 | |
| # R762 | 1 1W 5% Metal Oxide | VRN-VV3AB1R0J | 1W1D0 | |
| # R763 | 4.7 15W 10% Wire Wound | VRW-KX41C4R7K | | |
| # R764 | 1 1W 5% Metal Oxide | VRN-VV3AB1R0J | 1W1D0 | |
| # R765 | 1 3W 5% Metal Oxide | VRN-RV3LB1R0J | 3W1D0 | |
| # R766 | 10 1/2W 5% Metal Oxide | VRS-SV2HC100J | HW010 | |
| # R767 | 1.2 2W 5% Metal Oxide | VRN-RV3DB1R2J | 2W1D2 | |
| # R769 | 2.7M 1/2W 10% Carbon | VRC-UA2HG275K | HW527 | |
| # R784 | 27 1W 1% Metal Oxide | VRS-VV3AB270J | 1W027 | |
| # R856 | 12K 2W 5% Metal Oxide | VRS-VV3DB123J | 2W312 | |
| # R863 | 12K 2W 5% Metal Oxide | VRS-VV3DB123J | 2W312 | |
| # R866 | 12K 2W 5% Metal Oxide | VRS-VV3DB123J | 2W312 | |
| # R1402 | 390 1W 5% Metal Oxide | VRS-VV3AB391J | 1W139 | |
| # R1403 | 18K 2W 5% Metal Oxide | VRS-SV3DB183J | 2W318 | |
| # R1404 | 33 2W 5% Metal Oxide | VRS-SV3DB330J | 2W033 | |
| R3004 | 43K 1/8W 1% Carbon | VRN-VW2BE433F | | |
| R3012 | 47K 1/8W 1% Carbon | VRN-VW2BE473F | | |
| R3013 | 47K 1/8W 1% Carbon | VRN-VW2BE473F | | |
| R3028 | 7500 1/8W 1% Carbon | VRN-VW2BE752F | | |
| R3029 | 2700 1/8W 1% Carbon | VRN-VW2BE272F | | |
| TH1001 | 580 Cold NTC Thermistor | RH-HZ0006CEZZ | | |

For SAFETY use only equivalent replacement part.

MISCELLANEOUS

| ITEM No. | DESCRIPTION | MFGR PART No. | NOTES |
|----------|----------------------------|----------------|--|
| CF301 | Ceramic Filter | RFiLC0029TAZZ | Sound Take-Off |
| CF401 | Ceramic Filter | RFiLC0013CEZZ | 4.5MHz Trap |
| CF601 | Ceramic Filter | RFiLA0034CEZZ | 503kHz |
| DL401 | Delay Line | RCiLZ0372CEZZ | |
| # F751 | Fuse | QFS-B4023CEZZ | 4A @ 125VAC |
| | Fuse | QFS-B4021CEZZ | 4A @ 125VAC |
| FB651 | Ferrite Bead | RBLN-0036CEZZ | |
| FB652 | Ferrite Bead | RBLN-0037CEZZ | |
| FB751 | Ferrite Bead | RBLN-0037CEZZ | |
| # L702 | Coil | RCiLG0007MEZZ | Degaussing |
| P3 | Jack | (1) | Audio Output, Left |
| P4 | Jack | (1) | Audio Output, Right |
| # P700 | AC Line Cord | QACCD3014CESA | |
| # RY751 | Relay | RRLYU0022CEZZ | Power |
| S1001 | Switch | QSW-K0068CEZZ | TV/CATV |
| S1003 | Switch | QSW-K0068CEZZ | SAP/Main |
| S1004 | Switch | QSW-K0068CEZZ | Channel Down |
| S1005 | Switch | QSW-K0068CEZZ | Channel Up |
| S1006 | Switch | QSW-K0068CEZZ | Volume Down |
| S1007 | Switch | QSW-K0068CEZZ | Volume Up |
| S1008 | Switch | QSW-K0068CEZZ | Power |
| SC851 | Socket | QSOCV0913CEZZ | CRT |
| SF201 | Filter | RFiLC0129CEZZ | SAW |
| SW851 | Switch | QSW-B0015CEZZ | Cut Off |
| # V101 | CRT | A63AEH20X | (VB63AEH20X/*S) |
| | CRT | A63ADG27X | (VB63ADG27X/*S) |
| X801 | Crystal | RCRSB0001PEZZ | 3.58MHz |
| X1001 | Crystal | RCRSB0004PEZZ | 4.0MHz |
| | Fuse Holder | QFSDH1002CEZZ | For F751 |
| | Magnet | PMA GF3001MEZZ | Purity/Static Convergence, Assembly |
| | P.C. Board | DUNTK6642WEV0 | CRT Socket |
| | P.C. Board | DUNTK6979WEV0 | Main |
| | P.C. Board | DUNTK6588WEV0 | Multi Sound |
| | P.C. Board | DUNTK6587WEV0 | Signal |
| | Transmitter | RRMCG0722CESA | Remote Control |
| | Transmitter | RRMCG0723CESA | Remote Control, Used in Model 25SB710B |
| | Terminal Board | QTANZ0368CEZZ | Antenna, Assembly |
| # | Tuner | VTUENV56877G2 | UHF/VHF |
| | Wedge | PSPAG0012MEZZ | Deflection Yoke Positioning (3 Used) |
| | REMOTE CONTROL TRANSMITTER | | |
| | Battery | UBATU0001MEZZ | AAA (2 Used) |

For SAFETY use only equivalent replacement part.
(1) Part of Antenna Terminal Board Assembly.

CABINETS & CABINET PARTS (When ordering specify model, chassis & color.)

| ITEM | PART No. | PART No. | PART No. | PART No. |
|-------------------------|---------------|---------------|---------------|---------------|
| MODEL | 25SB70B | 25SB710B | 25SB720B | 25SB740B |
| Cabinet Front, Complete | CCABA1091WEV0 | CCABA1093WEV0 | CCABA1098WEV0 | CCABA1091WEV2 |
| Cabinet Rear | GCABB1065MEKA | GCABB1065MEKA | GCABB1065MEKA | GCABB1065MEKA |
| Door | GDORF1087MEKA | GDORF1093MEKA | GDORF1090MEKA | GDORF1087MEKA |
| Push Latch | PKAi-1006CE00 | PKAi-1006CE00 | PKAi-1006CE00 | PKAi-1006CE00 |
| Window | GMADT0044MEKA | GMADT0044MEKA | GMADT0044MEKA | GMADT0044MEKA |

PARTS LIST

SEMICONDUCTORS (Select replacement for best results)

| ITEM No. | TYPE No. | MFR PART No. | NTE PART No. | ECG PART No. | TCE PART No. |
|---------------|----------|---------------|--------------|--------------|--------------|
| D201 | | RH-EX0217CEZZ | NTE5023A | ECG5023A | SK14A |
| D301 | | RH-EX0444CEZZ | NTE5006A | ECG5006A | SK3A6 |
| D302 | | RH-EX0138CEZZ | NTE5014A | ECG5014A | SK6A8 |
| D351,2 | | RH-EX0048CEZZ | NTE5013A | ECG5013A | SK6A2 |
| D401 - D404 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D451 - D456 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D457 | | RH-EX0024CEZZ | NTE5013A | ECG5013A | SK6A2 |
| D458,9 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D460 | | RH-EX0130CEZZ | NTE5029A | ECG5029A | SK20A |
| | | RH-EX0095GEZZ | | | |
| D461,2 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| # D551 | TVR1J | RH-DX0105TAZZ | NTE552 | ECG552 | SK9000 |
| D552 | | RH-DX0110CEZZ | NTE116 | ECG116 | SK3312 |
| D651 | | RH-EX0200CEZZ | NTE5021A | ECG5021A | SK12A |
| # D652 | | RH-EX0255CEZZ | | | |
| # D653 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D654 | TVR1G | RH-DX0126CEZZ | NTE552 | ECG552 | SK9000 |
| D655 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| # D751 - D754 | 1S1887A | RH-DX0154CEZZ | NTE552 | ECG552 | SK9000 |
| # D755 | S6344G | VHSS6344GLB1E | NTE5457 | ECG5457 | SK3598 |
| | 3S4M | | NTE5457 | ECG5457 | SK3598 |
| # D756 | | RH-EX0084CEZZ | NTE5093A | ECG5093A | SK75V |
| # D757 | TVR1G | RH-DX0126CEZZ | NTE552 | ECG552 | SK9000 |
| # D758 | RH1S | RH-DX0086TAZZ | NTE552 | ECG552 | SK9000 |
| # D759 | | RH-DX0229CEZZ | NTE506 | ECG506 | SK3925 |
| D760 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D761 | | RH-EX0089CEZZ | NTE5016A | ECG5016A | SK8A2 |
| # D762 | 1D4B42 | RH-DX0200CEZZ | NTE5332 | ECG5332 | SK9232 |
| D763 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| # D764 | 1S1887 | RH-DX0038CEZZ | NTE552 | ECG552 | SK9000 |
| D765 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D766 | | RH-EX0002AEZZ | | | |
| D767 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D768 | | RH-DX0110CEZZ | NTE116 | ECG116 | SK3312 |
| D769 | RF1 | RH-DX0101CEZZ | NTE552 | ECG552 | SK9000 |
| D770 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D771 | | RH-EX0047CEZZ | NTE5021T1 | ECG5021T1 | |
| D772 - D775 | | RH-DX0110CEZZ | NTE116 | ECG116 | SK3312 |
| D776 | | RH-EX0023GEZZ | NTE140A | ECG140A | SK10V |
| D777 | | RH-EX0088CEZZ | NTE5014A | ECG5014A | SK6A8 |
| D1001 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1002 | | RH-EX0103CEZZ | NTE5011A | ECG5011A | SK5A6 |
| D1003 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |

SEMICONDUCTORS (Select replacement for best results)

| ITEM No. | TYPE No. | MFR PART No. | NTE PART No. | ECG PART No. | TCE PART No. |
|---------------|------------|---------------|--------------|--------------|--------------|
| D1004 | | RH-EX0217CEZZ | NTE5023A | ECG5023A | SK14A |
| D1005,6 | | RH-EX0103CEZZ | NTE5011A | ECG5011A | SK5A6 |
| D1007 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1010,11,12 | | RH-EX0217CEZZ | NTE5023A | ECG5023A | SK14A |
| D1015,20 | | RH-EX0217CEZZ | NTE5023A | ECG5023A | SK14A |
| D1031 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1032,3 | | RH-EX0217CEZZ | NTE5023A | ECG5023A | SK14A |
| D1034 - D1039 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1040 - D1044 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1046 | | RH-EX0048CEZZ | NTE5013A | ECG5013A | SK6A2 |
| D1047,8 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1050 | | RH-EX0103CEZZ | NTE5011A | ECG5011A | SK5A6 |
| D1051 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1052,3,4 | | RH-EX0103CEZZ | NTE5011A | ECG5011A | SK5A6 |
| D1055 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1101,2,3 | | RH-PX0265CEZZ | | | |
| D1104 | | RH-EX0131CEZZ | NTE5010A | ECG5010A | SK5A1 |
| D1202 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1204 | | RH-EX0154CEZZ | | | |
| D1301 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1302 | | RH-DX0103CEZZ | | | |
| D1303 | | RH-EX0131CEZZ | NTE5010A | ECG5010A | SK5A1 |
| D1304,5 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1402 | | RH-EX0038CEZZ | NTE142A | ECG142A | SK12V |
| D1403 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1404 | | RH-EX0131CEZZ | NTE5010A | ECG5010A | SK5A1 |
| D1405 | | RH-EX0154CEZZ | | | |
| D1406 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| D1901,2 | 1SS119 | VHD1SS119/-1 | NTE519 | ECG519 | SK3100 |
| | 1N4148 | RH-DX0045GEZZ | NTE519 | ECG519 | SK3100 |
| # IC201 | | RH-IX1190CEZZ | | | |
| IC301 | TA8703S | VHITA8703S/-1 | | | |
| IC351,2 | | RH-IX0054CEZZ | NTE1140 | ECG1140 | SK3473 |
| # IC551 | AN5521 | RH-IX0948CEZZ | NTE1782 | ECG1782 | SK9730 |
| # IC651 | PC817 | RH-FX0007CEZZ | NTE3098 | ECG3098 | SK9763 |
| # IC751 | | RH-IX0758CEZZ | | | |
| # IC752 | T8889A | VHIT8889A/-1 | | | |
| IC1001 | | RH-IX1676CEZZ | | | |
| IC1401 | UPC1486C | VHUPC1486C-1 | NTE15042 | | |
| IC3001 | | RH-IX1535CEZZ | | | |
| IC3101 | TA7630P | RH-IX0214CEZZ | NTE1576 | ECG1576 | SK7672 |
| MP1003 | | RMPTJ0029CEZZ | NTE5013A (1) | ECG5013A (1) | SK6A2 (1) |
| MP1004 | | RMPTJ0028CEZZ | NTE5023A (2) | ECG5023A (2) | SK14A (2) |
| Q201 | 2SC1906 | VS2SC1906//1E | NTE107 | ECG107 | SK3293 |
| Q301 | 2SC2236Y | | NTE382 | ECG382 | SK3849 |
| | 2SC2236(Y) | VS2SC2236Y/-1 | NTE382 | ECG382 | SK3849 |

PARTS LIST continued

ELECTROLYTIC CAPACITORS Items not listed are normally available at local distributors.

| ITEM No. | RATING | MFGR PART No. | ITEM No. | RATING | MFGR PART No. |
|----------|-------------------------|---------------|----------|-------------------------|---------------|
| C309 | 10 16V 20% NP | VCE9AA1CW106M | C805 | 2.2 50V 20% NP | VCE9AA1HW225M |
| C352 | 3.3 50V 20% NP | VCE9AA1HW335M | C1302 | 1 16V 10% Tantalum | VCSATA1CE105K |
| C359 | 10 16V 20% NP | VCE9AA1CW106M | C3003 | .47 50V 20% NP | VCE9AA1HW474M |
| C365 | 10 16V 20% NP | VCE9AA1CW106M | C3008 | 10 16V 10% Tantalum | VCSATA1CE106K |
| C405 | 1 50V 20% NP | VCE9AA1HW105M | C3010 | 3.3 16V 10% Tantalum | VCSATA1CE335K |
| C411 | 47 16V 20% NP | VCE9AA1CW476M | C3115 | 3.3 50V 20% NP | VCE9AA1HW335M |
| C417 | 47 16V 20% NP | VCE9AA1CW476M | C3116 | 3.3 50V 20% NP | VCE9AA1HW335M |
| C501 | 4.7 16V 10% Tantalum | VCSATA1CE475K | C3313 | 3.3 50V 20% NP | VCE9AA1HW335M |
| # C755 | 680 200V | RC-EZ0315CEZZ | C3314 | 3.3 50V 20% NP | VCE9AA1HW335M |
| # C761 | 220 160V | RC-EZ0069CEZZ | | | |
| # C780 | 47 250V 20% | VCEAAA2EW476M | | | |

For SAFETY use only equivalent replacement part.

CAPACITORS Items not listed are normally available at local distributors.

| ITEM No. | RATING | MFGR PART No. | ITEM No. | RATING | MFGR PART No. |
|----------|----------------|---------------|----------|----------------|---------------|
| C402 | 39 NPO | | C752 | .01 500V | VCKYPB2HE103P |
| C406 | 47 NPO | | C753 | .01 500V | VCKYPB2HE103P |
| C407 | 150 NPO | | C754 | .01 500V | VCKYPB2HE103P |
| C419 | 82 NPO | | C756 | .0027 500V 10% | VCKYPA2HB272K |
| C420 | 82 NPO | | C757 | 470 500V 10% | VCKYPA2HB471K |
| C421 | 150 NPO | | C758 | 470 500V 10% | VCKYPA2HB471K |
| C459 | 47 500V 10% | VCCSPA2HL470K | C759 | .047 200V 10% | VCQPSB2DA473K |
| C551 | .0033 500V 10% | VCKYPA2HB332K | C760 | 470 500V 10% | VCKYPA2HB471K |
| C552 | 390 500V 10% | VCKYPA2HB391K | # C762 | .01 50V 10% | VCQYSH1HM103K |
| C560 | .001 500V 10% | VCKYPA2HB102K | C765 | .0015 500V 10% | VCKYPA2HB152K |
| C651 | 390 500V 10% | VCKYPA2HB391K | C766 | .0015 500V 10% | VCKYPA2HB152K |
| # C661 | .003 1.6KV 5% | VCFPFC3CA302J | # C781 | .0033 125VAC | RC-KZ0030CEZZ |
| # C662 | .003 1.6KV 5% | VCFPFC3CA302J | C802 | 68 NPO | |
| # C663 | .003 1.6KV 5% | VCFPFC3CA302J | C803 | 22 NPO | |
| # C664 | .003 1.6KV 5% | VCFPFC3CA302J | C810 | 120 NPO | |
| # C665 | .003 1.6KV 5% | VCFPFC3CA302J | C856 | .01 1.4KV | RC-KZ0016CEZZ |
| C666 | .56 200V 5% | VCFPFD2DB564J | C1001 | 22 NPO | |
| C667 | .15 200V 5% | VCFPFC2DB154J | C1002 | 22 NPO | |
| C668 | .01 500V | VCKYPB2HE103P | C1005 | 22 NPO | |
| # C751 | .22 125VAC | RC-QZ019DCEZZ | C1006 | 22 NPO | |
| | .22 125VAC | RC-QZ027DCEZZ | C1418 | 47 500V 10% | VCCSPA2HL470K |

For SAFETY use only equivalent replacement part.

SPEAKERS

| ITEM No. | TYPE | REPLACEMENT DATA | | NOTES |
|----------|--|--------------------------------|------------------------|--------------------|
| | | MFGR PART No. | QUAM PART No. | |
| SP1, SP2 | 3" Round PM 8Ohm 2W 3" Round PM 8Ohm 2W | VSP0080P-E98S VSP0080PB928A | 30A05Z812 30A05Z812 | 80P-E98S (On Unit) |

COILS (RF-IF)

| ITEM No. | RATING | MFGR PART No. | ITEM No. | RATING | MFGR PART No. |
|----------|-------------------|---------------|----------|------------------|---------------|
| L201 | RF Choke (.47uH) | VP-RFR47K0000 | L403 | RF Choke (39uH) | VP-OF390K0000 |
| L202 | RF Choke (2.2uH) | VP-MK2R2K0000 | L405 | RF Choke (33uH) | VP-MK330K0000 |
| L203 | RF Choke (.56uH) | VP-XFR56K0000 | L406 | RF Choke (33uH) | VP-MK330K0000 |
| L204 | Video IF Detector | RCiLi0448CEZZ | L601 | RF Choke (82uH) | VP-MK820K0000 |
| L205 | AFT | RCiLi0510CEZZ | # L751 | Line Filter | RCiLF0090CEZZ |
| L301 | RF Choke (.68uH) | VP-MKR68K0000 | L801 | RF Choke (39uH) | VP-XF390J0000 |
| L302 | Quasi Detector | RCiLi0448CEZZ | L851 | RF Choke (270uH) | VP-LK271K0000 |
| L303 | Sound Detector | RCiLi0374CEZZ | L1001 | RF Choke (10uH) | VP-MK100K0000 |
| L401 | 180MHz Bandpass | RCiLP0094CEZZ | L1401 | RF Choke (10uH) | VP-MK100K0000 |
| L402 | Peaking (10uH) | VP-MK100K0000 | | | |

For SAFETY use only equivalent replacement part.

CONTROLS (All wattages 1/2 watt or less, unless listed.)

| ITEM No. | FUNCTION | RESISTANCE | MFGR PART No. | NOTES |
|----------|--------------------|------------|---------------|-------|
| R253 | RF AGC | 10K | RVR-B4568CEZZ | |
| R351 | MTS Level | 2000 | RVR-B0018PEZZ | |
| R455 | Brightness | 10K | RVR-B5554CEZZ | |
| | Sub Brightness | 10K | (1) | |
| | Sharpness | 10K | (1) | |
| | Balance | 10K | (1) | |
| | Treble | 10K | (1) | |
| | Bass | 10K | (1) | |
| # R799A | Focus | | (2) | |
| # R799B | Screen | | (2) | |
| R806 | VCO | 50K | RVR-B5268CEZZ | |
| R837 | Picture | 10K | RVR-B5555CEZZ | |
| | Vertical Size | 20K | (3) | |
| | Tint | 10K | (3) | |
| | Vertical Linearity | 10K | (3) | |
| | Color | 10K | (3) | |
| R854 | Red Bias | 10K | RVR-B4568CEZZ | |
| R860 | Green Drive | 200 | RVR-B4561CEZZ | |
| R862 | Green Bias | 10K | RVR-B4568CEZZ | |
| R869 | Blue Drive | 200 | RVR-B4561CEZZ | |
| R871 | Blue Bias | 10K | RVR-B4568CEZZ | |
| R1040 | Sign Position | 5000 | RVR-B4538CEZZ | |
| R3003 | Separation | 10K | RVR-B0020PEZZ | |
| R3009 | De-Emphasis | 5000 | RVR-B5264CEZZ | |
| R3011 | VCO | 30K | RVR-B5267CEZZ | |
| R3015 | Stereo Filter | 20K | RVR-B5266CEZZ | |

For SAFETY use only equivalent replacement part.

- (1) Part of R455.
(2) Part of Horizontal Output Transformer T752, Part Number RTRNF0047PEZZ.
(3) Part of R837.