

## 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.

### 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 knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.

#### TEST JIG HOOKUP

Function	Chek-A-Color Adapter No.	PC Board Plug No.	Pin	Color
CRT	B239	J500	1, 2	Red
Yoke	D4137		3, 4	Blue
Yoke Setting	YP1	J550	1	Green
Comments	Focus Tap		2	Yellow

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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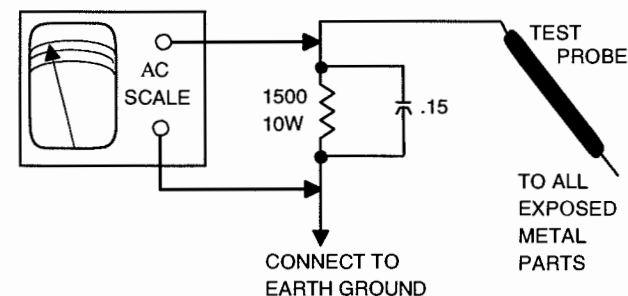
### SAFETY CHECKS -- FIRE AND SHOCK HAZARD

#### Cold Leakage Checks for Receivers with Isolated Ground

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

#### Hot Leakage Current Check

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



#### HIGH VOLTAGE SHUTDOWN TEST

After servicing the high voltage circuits, test the shutdown circuit by momentarily placing a 10K ohms resistor across R533. The receiver should go into shutdown losing sound and raster. To return receiver to normal operation, remove the 10K ohms resistor and press the power button twice.



98PF01274



# PHOTOFACT® Technical Service Data

SET 3965

MODEL 25TS54C121

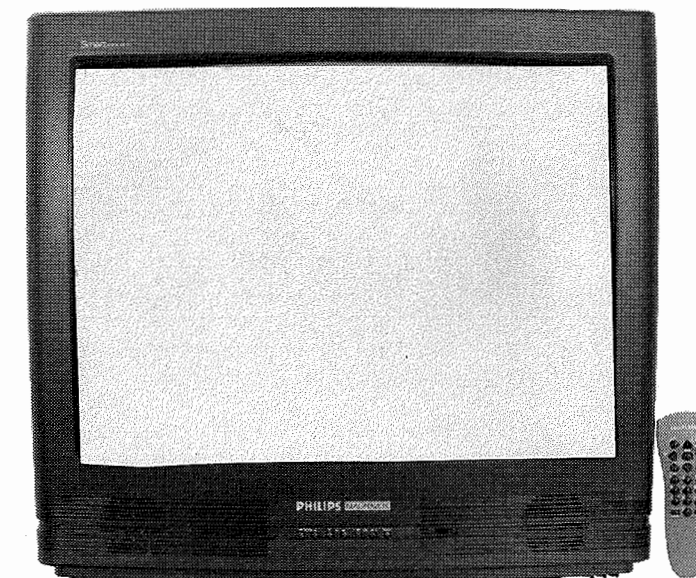
PHILIPS/MAGNAVOX

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## PHILIPS/MAGNAVOX

Model 25TS54C121



Complete coverage  
for servicing a television receiver...

- Schematics
- Component locations
- Parts list
- Troubleshooting guide

Coverage includes these additional models:

MODELS	MODELS
TS2554C101	TS2768C101
TS2554C121	TS2768C121
TS2754C101	27TS54C101
TS2754C121	27TS54C121



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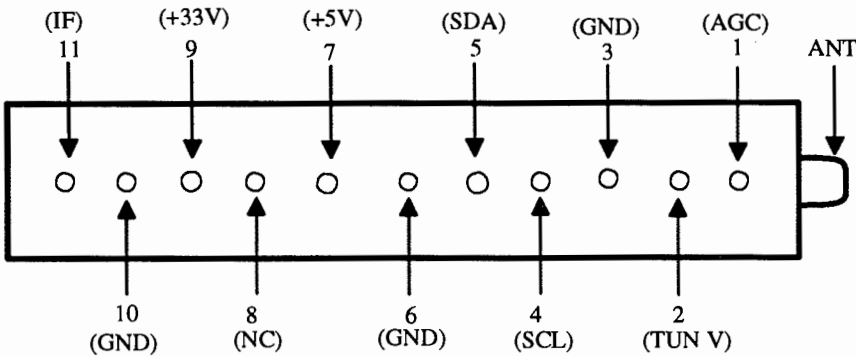
APRIL 1998 SET 3965

For Supplier Address,  
See PHOTOFACT Annual Index

TUNER INFORMATION

TUNER VOLTAGE CHART							
Pin No.	VHF Low Band	VHF High Band	UHF Band	Pin No.	VHF Low Band	VHF High Band	UHF Band
1 (AGC)	2.3V	2.4V	2.2V	9 (+33V)	33.0V	33.0V	33.0V
2 (TUN V)	.7V	2.7V	3.9V	10 (GND)	0V	0V	0V
3 (GND)	0V	0V	0V	11 (IF)	0V	0V	0V
4 (SCL)	5.0V	5.0V	5.0V	NOTE: VHF Low Band voltages taken on channel 2. VHF High Band voltages taken on channel 7. UHF Band voltages taken on channel 14.			
5 (SDA)	4.9V	4.9V	4.9V				
6 (GND)	0V	0V	0V				
7 (+5V)	5.0V	5.0V	5.0V				
8 (NC)	1.3V	1.3V	1.3V				

TUNER TERMINAL GUIDE



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
- 3 Schematic CIRCUITRACE®: Voltage source tie point.
- 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 colorbar signal. 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 a 1000μV RF signal, with colorbar pattern, applied to antenna terminal.  
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.

TROUBLESHOOTING

Important Note:

The DAG of the CRT is above the ground of the chassis.

POWER SUPPLY

Check F400. If fuse is open, check D401, D402, D404, D405, C400, C405, C407, and C409. Apply 120VAC, check for 160V\* at the cathode of D402. If voltage is missing, check L400, and D401, D402, D404, D405. Check for 130V at the cathode of D450. If voltage is missing, check IC400 and T425. Turn receiver on and check for 13.5V at the cathode of D448, check for 9.5V at the emitter of Q466, check for 9.0V at the emitter of Q465, check for 5.0V at the emitter of Q467. If voltages are missing, check D448, F443, and T425. If voltages are present, refer to the "Horizontal" section of this Troubleshooting guide.

\* Taken from common tie point.

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-ray radiation and damage the CRT and associated components. Monitor the high voltage while troubleshooting.

The high voltage from T502 is monitored and rectified by D530. Should the high voltage increase, the output will increase and turn on Q540 which will cause Q541 to turn on. This will shut down the horizontal oscillator and the high voltage. To troubleshoot, remove D530 from the circuit and use a variable transformer for AC power. Start at 90.0VAC and increase as necessary to locate and repair the defect. Return D530 to the circuit.

HORIZONTAL

Determine if the receiver is in shutdown by referring to the "High Voltage Shutdown" section of this Troubleshooting guide. If the receiver is not in shutdown, inject a horizontal signal at the base of Q503. If horizontal deflection is now present, check T504, Q501, Q502, and pins 37, 40, and 41 of IC271. If horizontal deflection is not present, check Q503, T502, Q510, and the components associated with D409, D445, D560, and D530 for defects. The high voltage rectifier is part of T502 and if defective will affect the operation of the horizontal circuits. Horizontal linearity or foldover may be caused by C505, C506, C507, C508, C511, C512, C513, and C514 being defective.

VERTICAL

Check for a proper waveform at pin 7 of IC500. If the waveform is missing, check pin 47 of IC271. If the waveform is present, check IC500. Vertical linearity or height problems may be caused by vertical feedback and bias circuits, check C557, C553, and C554.

IF AGC

Inject a video IF signal at pin 48 of IC271 and check for video on the CRT. If video is present, check the tuner, tuner control, and tuner AFC circuits. Check for a video waveform at pin 6 of IC271. If waveform is present, refer to the "Video" section of this Troubleshooting guide. If waveform is missing, apply AGC bias to pin 54 of IC271. If the waveform is now present, check pins 5, 53, and 54 of IC271. If waveform is still missing, check IC271.

VIDEO

Inject a video signal at pin 6 of IC271 and check for video on the CRT. If video is present, refer to the "IF AGC" section of this Troubleshooting guide. If video is missing on CRT, check for a video waveform at pin 13 of IC271. If waveform is missing, check Q221 and Q225. If waveform is present, check for a video waveform at pin 18 of IC271. If waveform is missing, check IC271. If waveform is present, refer to the "Chroma" section of this Troubleshooting guide.

CHROMA

Check for proper waveforms at pins 19, 20, and 21 of IC271. If the waveforms are missing, check IC271 and the 3.58MHz oscillator at pin 34 of IC271. If waveforms are present at pins 19, 20, and 21 of IC271, refer to the "Raster" section of this Troubleshooting guide.

RASTER

Check the CRT and CRT voltages. If red is missing, check pin 21 of IC271 and pins 3 and 8 of IC51. If green is missing, check pin 20 of IC271 and pins 3 and 8 of IC52. If blue is missing, check pin 19 of IC271 and pins 3 and 8 of IC50. If the raster has a keystone shape, check the deflection yoke. If the raster has height or width problems, refer to the "Vertical," "Horizontal," or "Power Supply" section of this Troubleshooting guide.

AUDIO

Select an active channel and check for an audio waveform at pin 15 of IC271. If the audio is missing, check Q230, and pins 1, 55, and 56 of IC271. Check for an audio waveform at pin 5 of IC700. If the audio is missing, check Q702 and Q703. If the audio is present, select a station that is transmitting a stereo signal and check for audio waveforms at pins 1 and 3 of IC710. If the waveforms are missing, check IC700. If the waveforms are present, check for audio waveforms at pins 7 and 10 of IC720. If the waveforms are missing, check IC710 and Q704. If the waveforms are present, check for audio waveforms at pins 4 and 13 of IC720. If the waveforms are missing, check IC720. If the waveforms are present, check IC730 and IC740.

# MISCELLANEOUS ADJUSTMENTS

## SERVICE MODE INFORMATION

To perform the service mode functio nuse the remote to perform all functions.

When the receiver is in service mode, all normal on-screen displays are suppressed and replaced by a special display.

To enter the service mode, turn the receiver on, then press 0, 6, 2, 5, 9, 6, and press the menu button on the remote, without allowing time out between key entries. The screen display will indicate that the receiver is in service mode by letter S, followed by a letter A thru I for page number, the information on each page will be as follows.

- A = Setting Feature Word and other adjustments.
- B = AFC alignment (IF-PLL).
- C = AGC alignment.
- D = Stereo Input Level.
- E = Wideband/Spectral Stereo Adjustment
- F = **SPECIAL FACTORY STEREO SETUP , DO NOT ADJUST.**
- G = White Balance.
- H = Horizontal center & Vertical Geometry.
- I = Exit Service Mode.

Pressing the menu button will scroll from page to the next page and save the changes on each page. To go to the next page without saving changes press the status button on the remote.

The available service pages can be accessed directly by pressing a corresponding number key on the remote unit, as follows.

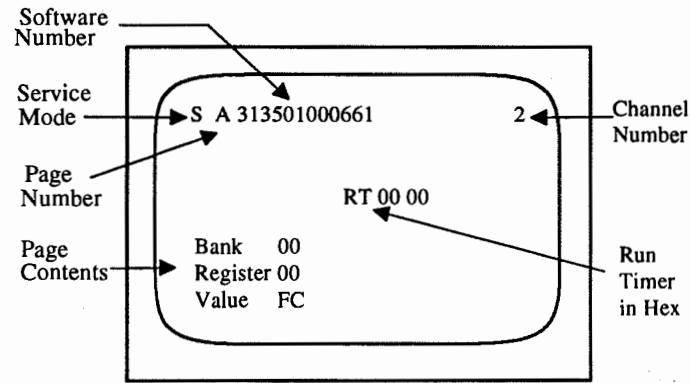
1 = A, 2 = B, 3 = C, 4 = D, 5 = E, 7 = G, 8 = H, 9 = I.

By pressing number 0, the receiver will be in Virtual user Mode which will allow the user to change channel number by pressing channel up or channel down on the remote, by pressing number 0 once more the receiver will toggle back to service mode.

The number of 12 digits, next to page number, is the current level of software in use.

The display in the middle of the screen, RT 00 00, stands for run timer, and the number next to it, is the hexadecimal number of hours the receiver has been turned on.

To exit the service test mode, press the button of number 9, the screen will display the letter I for page number. Press the volume up button, that will save changes, and exit the service mode, then momentarily remove AC power from the chassis, to load the ROM defaults into the EEPROM.



## SETTING FEATURE WORD

This procedure will default all customer, factory, and service settings to the predefined setting. Upon executing this procedure the feature word and service adjustments will not need to be set. Stereo alignment will be lost and stereo alignment has to be performed.

## AGC ALIGNMENT

Enter the service mode, select service page C. Tune in a medium strength station. Press volume up until snow appears, then volume down to a point where snow just disappears. Press the menu button to save the data, or press the status button to change service page without savig data.

To save the current modification of the register data, disconnect the receiver from the AC source.

## STEREO ALIGNMENT

NOTE: Adjustments made while receiver is in in the service test mode using a MTS TV / stereo generator connected to antenna terminals..

## INPUT LEVEL

Enter the service test mode select service page D. Set the generator for 300Hz audio frequency and L+R modulating signal. Connect an oscilloscope to pin 10 of IC700. Adjust register using volume up, and volume down to obtain 1.4Vp-p on the scope. Press the menu button to save the data, or press the status button to change service page without saving data.

To save the current modification of the register data, disconnect the receiver from the AC source.

## WIDEBAND / SPECTRAL

Enter the service test mode select service page E. Set the generator for pilot, 300Hz audio frequency, and L modulating signal. Connect an oscilloscope to pin 33 of IC700. Adjust register for minimum amplitude of the waveform on the scope. Select 8kHz audio frequency on the generator. Adjust register for minimum amplitude of the waveform. Repeat adjustment until no further decrease in amplitude can be obtained. Press the menu button to save the data, or press the status button to change service page without saving data.

To save the current modification of the register data, disconnect the receiver from the AC source.

Skip service page F and go directly to service page G.

## WHITE BALANCE

This chassis incorporates an auto kine bias circuit which continuously monitors and corrects the bias of the CRT, and compensates for normal emission level changes of the picture tube. Set the brightness, picture, and tint controls to mid-range position, and set the color to minimum.

Enter the service test mode, select service page G. Adjust the value of the green and blue registers to the value of 20. Adjust the green register using volume up and down on the remote and adjust the blue register using channel up and down on the remote until a white screen is obtained. Press the zero button on the remote to temporarily exit service mode, press channel up or down select an active channel and check for black and white picture. If the red bias level needs to be adjusted, press the menu button to save the changes, then press number 1 button. Now the receiver is in service mode page A, press the channel up to change the register to 68. Adjust the level of the red bias by pressing volume up and down. To view the change as it affects the picture alter the register number, if additional adjustment is needed, return to register 68. Press the menu button to save changes, press number 9 button to check for white balance gray scale at high and low brightness. Exit and save changes by pressing number 9, then volume up.

To complete saving the changes remove the AC power, then apply the AC power.

## HORIZONTAL CENTERING

Tune in a crosshatch pattern. Enter the service mode, select service page H. Use the volume up or down for the best centering on screen.

## VERTICAL LINEARITY (V-SLOPE)

Tune in a crosshatch pattern. Enter the service mode, select service page H. Use the channel down for little underscan on top and bottom of the screen. Use the status button to increase the linearity or the mute button to reduce the linearity.

## VERTICAL HEIGHT

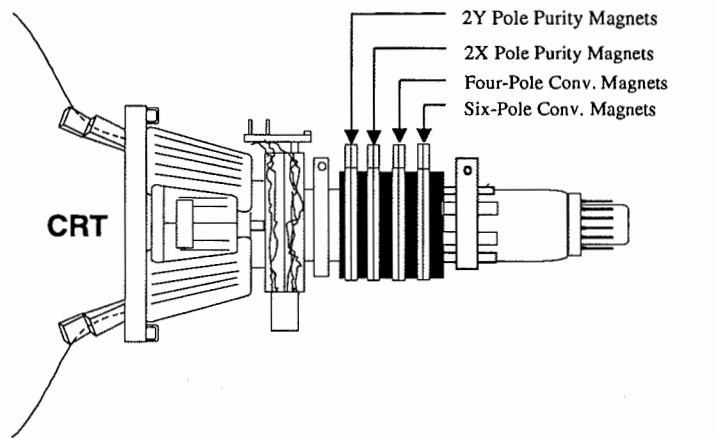
Vertical linearity (V-slope) adjustment should be performed before vertical height adjustment.

Tune in a crosshatch pattern. Enter the service mode, select service page H. Use the channel up or down for little overscan on top and bottom of the screen.

## CONVERGENCE

Operate the receiver for fifteen minutes. Tune in a crosshatch pattern. Adjust the 4 pole magnet tabs to converge the red and blue dots at the center of the screen. Adjust the 6 pole magnet tabs to converge the red/blue dots with the green dots at the center of the screen. Spread 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. The 4 and 6 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 vertical lines at the right and left sides of the screen. Adjust balance coil to correct misconvergence of red and blue horizontal lines at right and left sides of screen. Repeat convergence procedure as necessary to obtain best overall convergence. Replace rubber wedges.

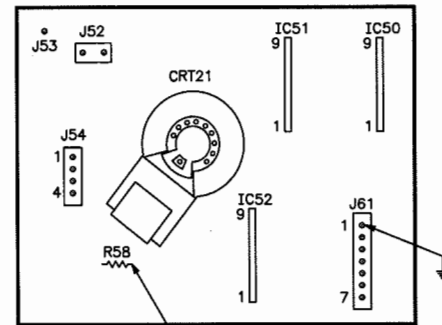
## CRT NECK ASSEMBLY



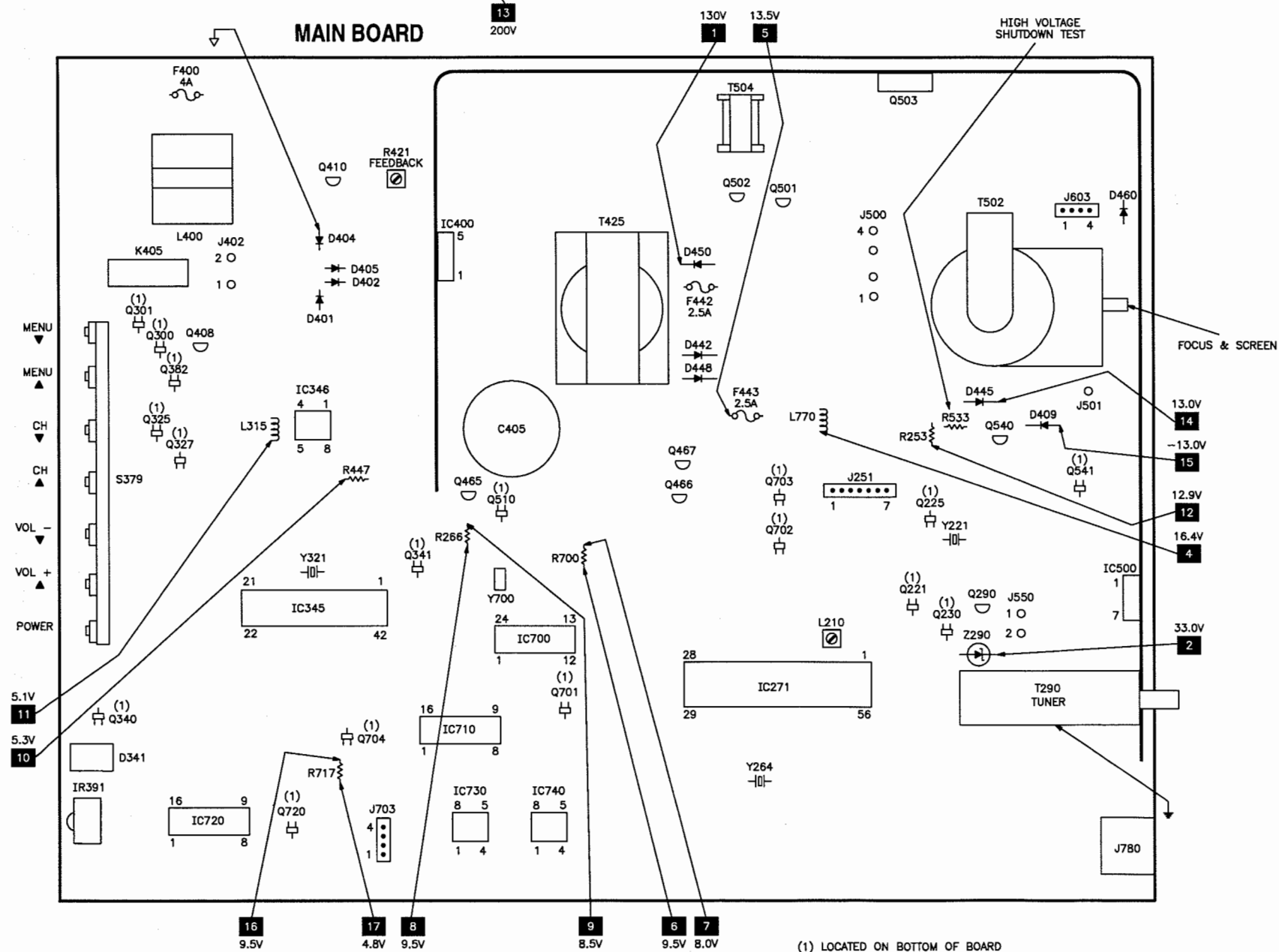
# PLACEMENT CHART

# IC FUNCTIONS

## CRT BOARD



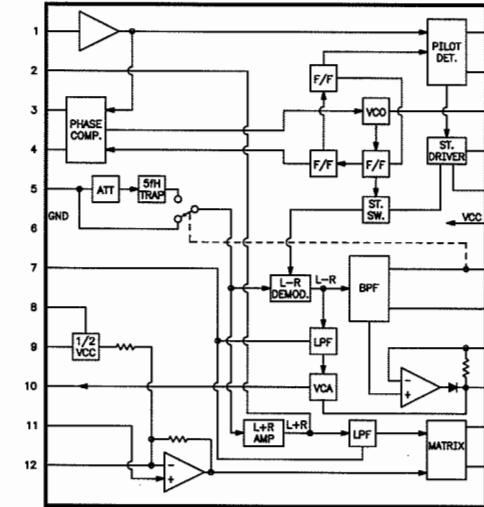
## MAIN BOARD



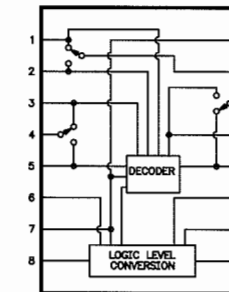
(1) LOCATED ON BOTTOM OF BOARD

COMMON TIE POINT ↓

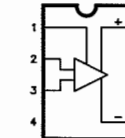
## IC700 LA7765



## IC710 HEF4053BP



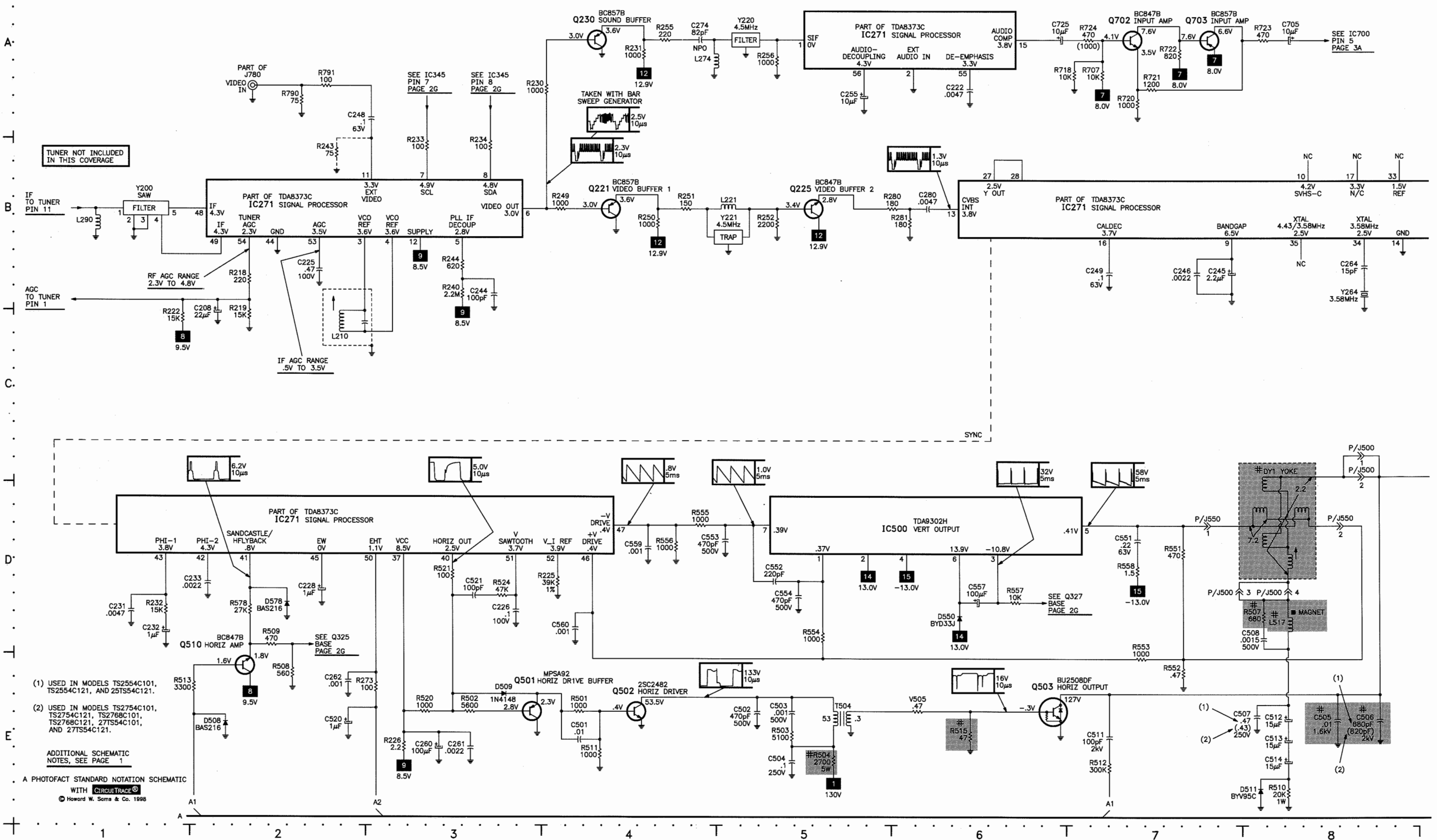
## IC730, IC740 TDA7052B



A

B

TELEVISION SCHEMATIC



TUNER NOT INCLUDED  
IN THIS COVERAGE

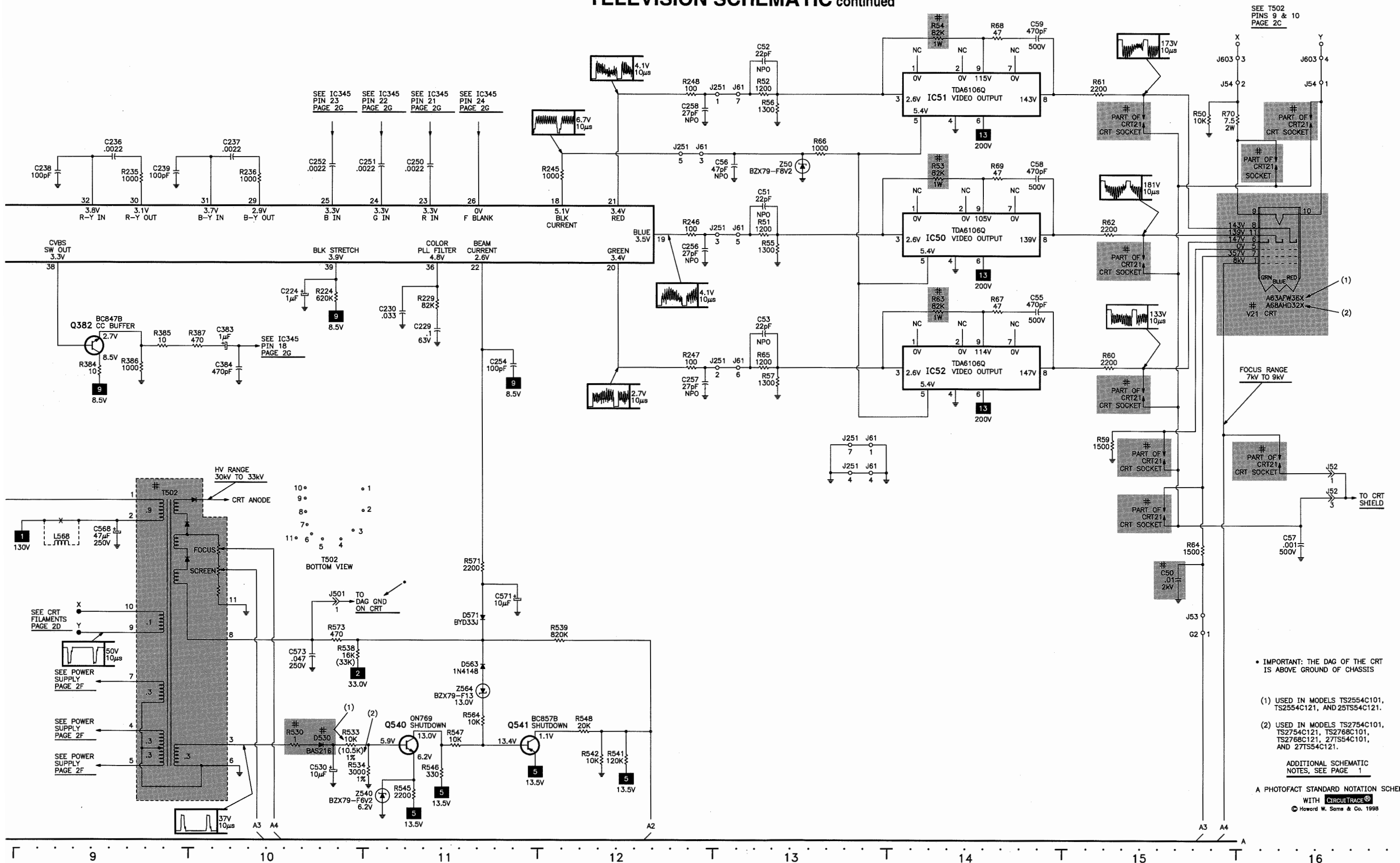
AGC TO TUNER  
PIN 1

- (1) USED IN MODELS TS2554C101,  
TS2554C121, AND 25TS54C121.
- (2) USED IN MODELS TS2754C101,  
TS2754C121, TS2768C101,  
TS2768C121, 27TS54C101,  
AND 27TS54C121.

ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 1

A PHOTOFAC STANDARD NOTATION SCHEMATIC  
WITH **CIRCUITRACE**  
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# TELEVISION SCHEMATIC continued



SEE T502  
PINS 9 & 10  
PAGE 2C

• IMPORTANT: THE DAG OF THE CRT  
IS ABOVE GROUND OF CHASSIS

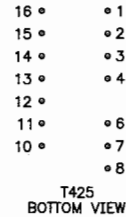
(1) USED IN MODELS TS2554C101,  
TS2554C121, AND 25TS54C121.

(2) USED IN MODELS TS2754C101,  
TS2754C121, TS2768C101,  
TS2768C121, 27TS54C101,  
AND 27TS54C121.

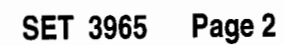
ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 1

A PHOTOFACT STANDARD NOTATION SCHEMATIC  
WITH CIRCUITTRACE®  
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**F**



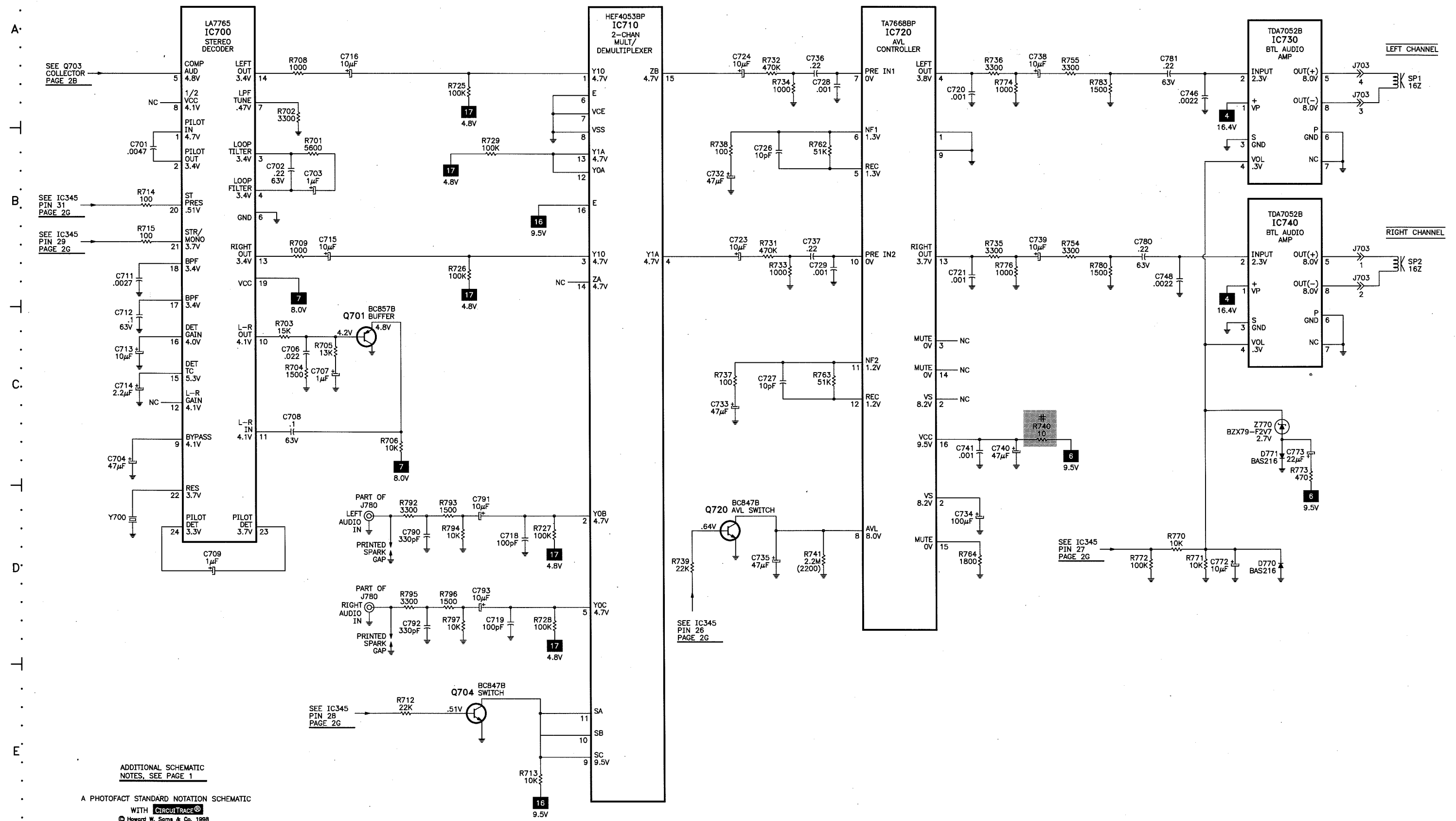
H



A

B

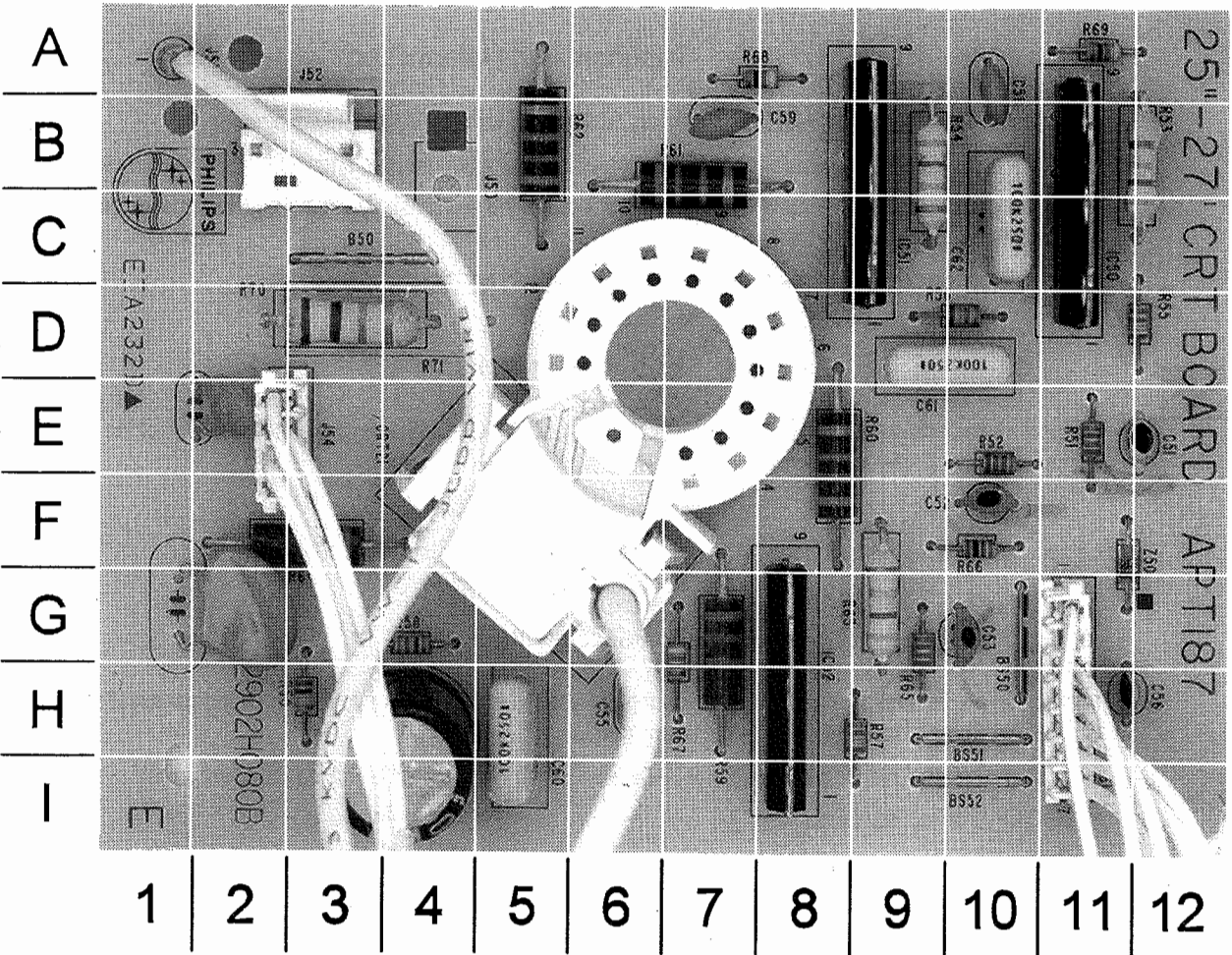
# AUDIO SCHEMATIC



CRT BOARD

SCHEMATIC COMPONENT LOCATION GUIDE

C50	D-15	C350	A-25	C703	B-34	D563	D-11	Q720	D-36	R318	A-31	R425	B-19	R715	B-33
C51	B-13	C375	C-27	C704	C-33	D571	D-11	R50	A-15	R319	A-31	R429	A-22	R716	C-24
C52	A-13	C377	C-27	C705	A-8	D578	D-2	R51	B-13	R320	A-31	R431	A-22	R717	C-23
C53	C-13	C381	B-26	C706	C-34	D770	D-39	R52	A-13	R321	B-27	R436	A-22	R718	A-6
C55	B-14	C383	C-10	C707	C-34	D771	C-39	R53	B-14	R325	D-25	R442	A-22	R720	A-7
C56	B-13	C384	C-10	C708	C-34	DY1	D-7	R54	A-14	R326	D-26	R444	B-23	R721	A-7
C57	D-16	C400	A-17	C709	D-33	F400	A-17	R55	B-13	R327	D-25	R445	E-23	R722	A-7
C58	B-14	C401	B-19	C710	B-24	F442	B-20	R56	A-13	R328	D-26	R446	B-23	R723	A-8
C59	A-14	C405	A-19	C711	B-33	F443	B-21	R57	C-13	R330	B-31	R447	D-23	R724	A-7
C60	E-24	C407	A-18	C712	C-33	FB410	C-19	R58	E-24	R331	C-28	R448	B-21	R725	A-35
C61	E-24	C408	B-17	C713	C-33	FB425	B-19	R59	C-15	R332	C-28	R450	D-22	R726	B-35
C62	E-24	C409	A-18	C714	C-33	FB426	B-19	R60	C-15	R333	C-28	R451	D-22	R727	D-35
C65	E-24	C410	C-17	C715	B-34	IC50	B-14	R61	A-15	R338	C-17	R452	D-23	R728	D-35
C208	C-2	C411	C-19	C716	A-34	IC51	A-14	R62	B-15	R340	B-30	R457	C-22	R729	B-35
C222	A-6	C412	D-19	C718	D-35	IC52	C-14	R63	B-14	R341	C-30	R460	E-22	R730	B-23
C224	B-10	C413	D-18	C719	D-35	IC271	A-5	R64	D-15	R342	E-28	R461	C-23	R731	B-37
C225	B-2	C414	C-18	C720	A-38	IC271	B-2	R65	C-13	R343	D-28	R462	C-22	R732	A-37
C226	D-3	C415	B-19	C721	B-38	IC271	B-7	R66	B-13	R344	E-29	R463	E-23	R733	B-37
C228	D-2	C416	C-18	C722	C-24	IC271	D-2	R67	B-14	R345	E-28	R464	B-23	R734	A-37
C229	C-11	C418	E-23	C723	B-36	IC345	A-27	R68	A-14	R346	C-27	R466	B-21	R735	B-38
C230	B-11	C419	E-24	C724	A-36	IC346	B-29	R69	B-14	R347	E-28	R467	A-22	R736	A-38
C231	D-1	C423	A-19	C725	A-6	IC400	B-18	R70	A-16	R348	A-26	R469	C-22	R737	C-36
C232	D-1	C427	C-18	C726	B-37	IC500	D-6	R218	B-2	R349	D-28	R470	B-22	R738	B-36
C233	D-2	C428	D-19	C727	C-37	IC700	A-34	R219	C-2	R350	A-26	R501	E-4	R739	D-36
C236	B-9	C430	A-22	C728	A-37	IC710	A-36	R222	C-1	R351	E-29	R502	E-3	R740	C-38
C237	B-10	C431	A-24	C729	B-37	IC720	A-37	R224	B-10	R352	D-28	R503	E-5	R741	D-37
C238	B-9	C433	A-22	C730	C-24	IC730	A-39	R225	D-4	R353	D-27	R504	E-5	R754	B-38
C239	B-9	C435	A-24	C731	C-24	IC740	B-39	R226	E-3	R354	D-27	R507	D-8	R755	A-38
C244	B-3	C437	A-22	C732	B-36	IR391	A-26	R229	B-11	R355	C-28	R508	E-2	R762	B-37
C245	B-7	C441	A-21	C733	C-36	J780	A-2	R230	A-3	R357	D-29	R509	E-2	R763	C-37
C246	B-7	C442	A-22	C734	D-38	J780	D-34	R231	A-4	R358	E-30	R510	E-8	R764	D-38
C248	A-3	C443	B-22	C735	D-37	J780	D-34	R232	D-1	R359	E-29	R511	E-4	R770	D-39
C249	B-7	C445	E-23	C736	A-37	K405	B-18	R233	B-3	R362	C-26	R512	E-7	R771	D-39
C250	B-11	C447	E-24	C737	B-37	L210	C-2	R234	B-3	R363	C-26	R513	E-2	R772	D-39
C251	B-11	C448	B-21	C738	A-38	L221	B-4	R235	B-9	R364	D-26	R515	E-6	R773	C-39
C252	B-10	C450	B-24	C739	B-38	L274	A-4	R236	B-10	R365	C-25	R520	E-3	R774	A-38
C253	D-24	C451	D-22	C740	C-38	L290	B-1	R240	B-3	R367	D-28	R521	D-3	R776	B-38
C254	C-11	C453	B-24	C741	C-38	L302	B-26	R243	B-2	R368	C-28	R524	D-3	R780	B-38
C255	A-5	C457	C-22	C746	A-39	L315	D-23	R244	B-3	R369	C-28	R530	E-10	R783	A-38
C256	B-12	C460	D-23	C748	B-39	L318	A-31	R245	B-12	R370	C-28	R533	E-10	R790	A-2
C257	C-12	C461	E-23	C770	B-24	L320	A-31	R246	B-12	R371	D-28	R534	E-11	R791	A-2
C258	A-12	C462	C-23	C772	D-39	L400	A-17	R247	C-12	R372	C-28	R538	D-10	R792	D-35
C260	E-3	C463	E-23	C773	C-39	L410	B-18	R248	A-12	R373	C-28	R539	D-11	R793	D-35
C261	E-3	C498	B-17	C780	B-39	L499	B-18	R249	B-4	R374	C-28	R541	E-12	R794	D-35
C262	E-2	C501	E-4	C781	A-39	L517	D-8	R250	B-4	R375	D-26	R542	E-12	R795	D-35
C264	B-8	C502	E-5	C784	B-23	L568	D-9	R251	B-4	R377	C-27	R545	E-11	R796	D-35
C266	C-23	C503	E-5	C785	B-24	L770	B-23	R252	B-5	R378	C-25	R546	E-11	R797	D-35
C267	C-24	C504	E-5	C790	D-35	P400	A-17	R253	D-23	R379	C-27	R547	E-11	S379	B-25
C268	C-24	C505	E-8	C791	D-35	Q221	B-4	R255	A-4	R380	C-27	R548	E-12	SP1	A-40
C274	A-4	C506	E-8	C792	D-35	Q225	B-5	R256	A-5	R381	B-26	R551	D-7	SP2	B-40
C280	B-6	C507	E-8	C793	D-35	Q230	A-4	R266	C-23	R384	C-9	R552	E-7	T425	A-20
C291	B-32	C508	D-8	D341	C-30	Q290	C-31	R273	E-3	R385	C-9	R553	E-7	T502	D-22
C293	C-31	C511	E-7	D401	A-18	Q300	C-26	R280	B-5	R386	C-9	R554	D-5	T502	D-9
C294	C-32	C512	E-8	D402	A-18	Q301	C-26	R281	B-6	R387	C-10	R555	D-4	T504	E-5
C307	B-26	C513	E-8	D404	A-18	Q325	D-26	R291	A-23	R400	A-17	R556	D-4	V21	B-16
C310	B-30	C514	E-8	D405	A-18	Q327	D-26	R292	A-23	R401	B-17	R557	D-6	V505	E-6
C311	A-30	C520	E-2	D407	C-19	Q340	B-30	R293	B-32	R402	A-18	R558	D-7	Y220	A-5
C314	C-25	C521	D-3	D408	B-17	Q341	E-28	R294	C-32	R404	B-18	R564	E-11	Y221	B-4
C315	D-24	C530	E-10	D409	E-23	Q382	C-9	R296	C-31	R405	B-17	R571	D-11	Y264	B-8
C316	D-24	C550	E-24	D410	C-18	Q408	B-17	R298	C-31	R408	B-17	R573	D-10	Y321	B-26
C317	D-24	C551	D-7	D411	C-19	Q410	D-18	R301	B-25	R410	C-19	R578	D-2	Y700	D-33
C318	D-23	C552	D-5	D412	C-19	Q465	C-22	R302	B-25	R411	C-19	R700	B-23	Z50	B-13
C320	C-27	C553	D-5	D413	D-19	Q466	B-23	R303	B-25	R412	C-18	R701	B-34	Z290	A-24
C321	C-27	C554	D-5	D414	C-18	Q467	D-23	R304	B-25	R413	D-19	R702	B-34	Z291	C-31
C322	B-27	C556	E-24	D442	B-22	Q501	E-3	R305	D-23	R414	D-19	R703	C-34	Z300	C-25
C323	A-26	C557	D-6	D445	E-23	Q502	E-4	R306	C-25	R416	C-19	R704	C-34	Z301	B-17
C325	C-27	C559	D-4	D448	B-21	Q503	E-6	R307	C-25	R417	C-19	R705	C-34	Z410	D-19
C338	C-17	C560	D-4	D450	A-22	Q510	E-2	R308	B-28	R418	B-18	R706	C-35	Z461	C-22
C339	D-27	C568	D-9	D460	E-23	Q540	E-11	R309	B-26	R419	C-18	R707	A-7	Z462	C-22
C340	D-28	C571	D-11	D508	E-2	Q541	E-11	R310	C-25	R420	E-23	R708	A-34	Z463	D-23
C341	C-28	C573	D-10	D509	E-3	Q701	C-34	R311	A-30	R421	D-19	R709	B-34	Z540	E-11
C342	C-28	C700	B-24	D511	E-8	Q702	A-7	R312	A-30	R422	D-18	R712	E-35	Z564	E-11
C343	C-28	C701	B-33	D530	E-10	Q703	A-7	R313	B-28	R423	B-19	R713	E-35	Z770	C-39
C344	E-29	C702	B-34	D550	D-6	Q704	E-35	R316	D-28	R424	A-19	R714	B-33		

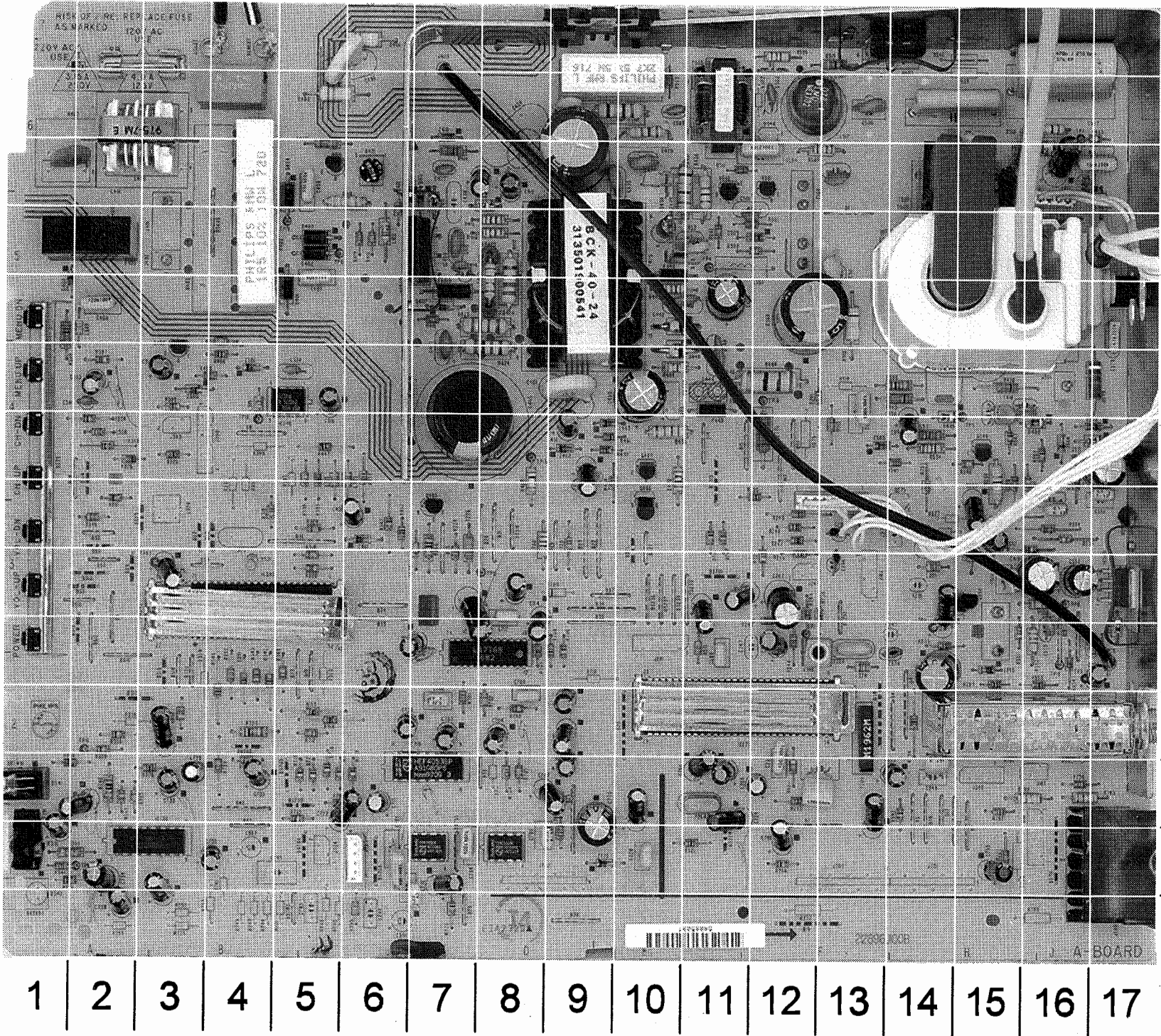


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CRT BOARD, GRIDTRACE LOCATION GUIDE

C50	G-2	C58	A-10	IC51	C-9	R51	E-11	R58	G-4	R65	G-9
C51	E-12	C59	B-7	IC52	I-8	R52	E-10	R59	G-7	R66	F-10
C52	F-10	C60	H-5	J52	B-3	R53	B-12	R60	E-8	R67	G-7
C53	G-10	C61	D-10	J53	A-1	R54	B-9	R61	B-7	R68	A-7
C55	H-6	C62	C-10	J54	E-2	R55	D-12	R62	B-5	R69	A-11
C56	H-11	C65	I-4	J61	G-11	R56	D-10	R63	G-9	R70	D-3
C57	E-2	IC50	D-11	R50	H-3	R57	H-9	R64	F-3	Z50	F-11

MAIN BOARD - TOP VIEW



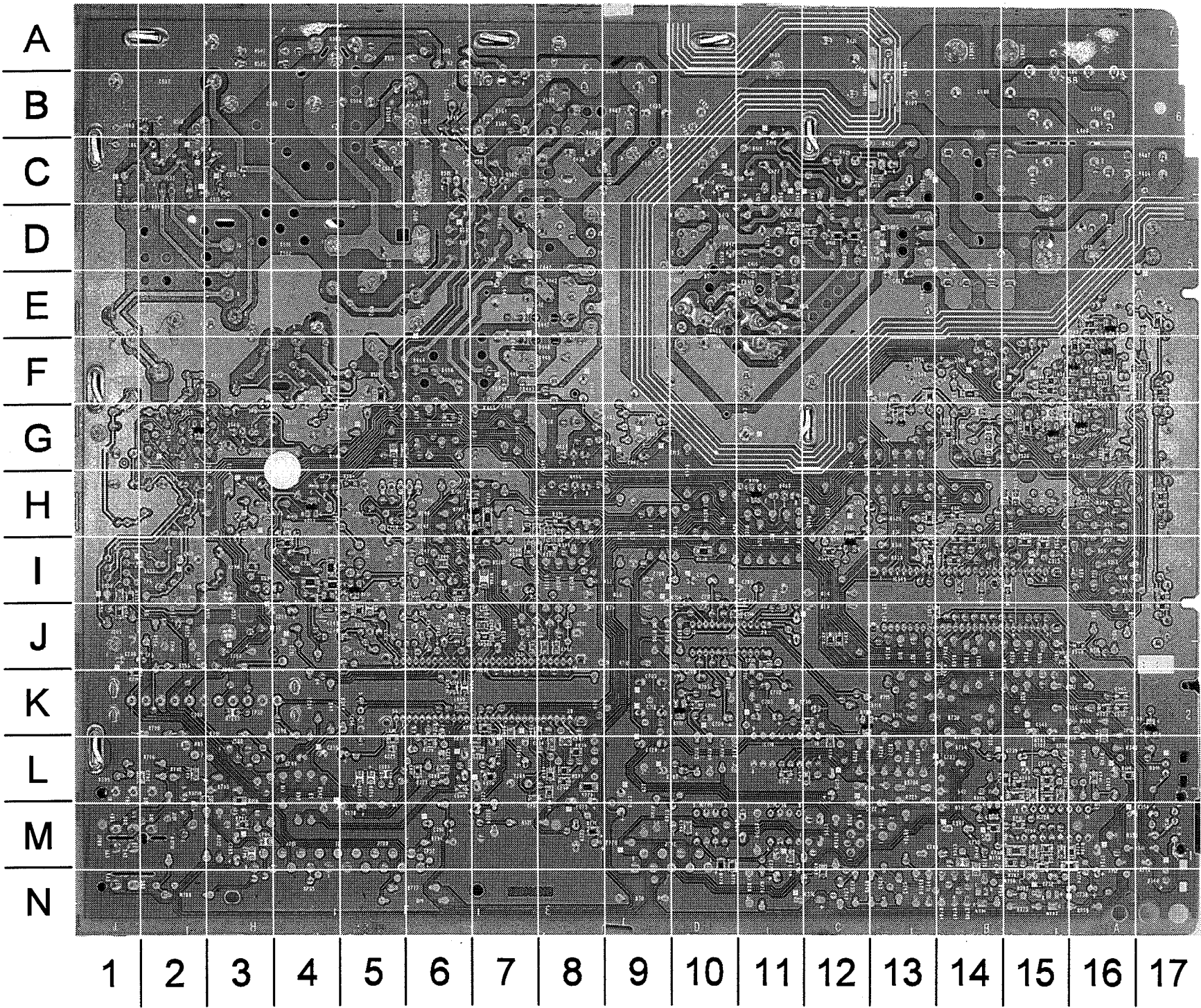
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MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C208	J-17	C505	B-15	D448	F-10	R253	H-14	R452	G-9	R728	L-5
C224	L-11	C506	B-13	D450	D-10	R266	H-7	R457	G-6	R729	L-6
C225	L-13	C507	A-16	D460	C-17	R273	L-12	R460	D-16	R730	K-4
C226	L-12	C508	C-13	D509	D-12	R291	F-12	R461	G-16	R735	L-2
C228	L-12	C511	D-13	D511	C-16	R292	D-11	R462	H-6	R739	L-4
C229	M-10	C512	C-15	D550	J-17	R293	J-15	R463	B-17	R740	L-2
C232	L-11	C513	C-15	D563	G-17	R294	G-15	R464	G-9	R754	L-4
C245	J-12	C514	C-16	D571	G-17	R296	H-15	R466	F-4	R755	N-6
C248	L-14	C520	L-13	F400	A-2	R309	E-1	R467	B-10	R764	L-2
C249	J-11	C530	G-14	F442	D-10	R318	I-5	R469	G-8	R770	N-7
C253	H-15	C550	H-16	F443	F-11	R319	H-4	R470	G-10	R772	M-1
C255	L-14	C551	I-15	FB410	E-7	R320	H-5	R502	D-12	R776	L-3
C256	I-13	C553	J-16	FB425	D-8	R326	G-2	R503	B-10	R780	M-9
C257	H-13	C554	J-17	FB426	E-8	R328	G-3	R504	B-9	R790	K-16
C258	H-13	C556	H-17	IC271	K-13	R330	I-5	R507	C-13	R791	K-15
C260	L-11	C557	I-16	IC345	I-5	R338	G-5	R508	G-2	R792	L-16
C267	I-12	C568	E-12	IC346	F-5	R340	L-2	R509	F-3	R793	L-15
C274	J-14	C571	I-11	IC400	D-7	R341	M-2	R510	B-16	R794	M-12
C291	J-14	C573	E-17	IC500	I-17	R342	J-4	R511	C-11	R795	L-16
C293	H-15	C700	J-8	IC700	J-7	R343	J-4	R512	E-13	R796	L-16
C294	I-14	C702	K-7	IC710	L-6	R344	K-4	R513	G-13	S379	G-1
C314	F-3	C703	K-7	IC720	M-2	R346	H-2	R515	A-13	T290	K-16
C316	F-5	C704	K-8	IC730	M-7	R347	H-6	R521	M-11	T425	D-9
C338	F-5	C705	K-9	IC740	M-8	R349	J-5	R524	L-12	T502	D-15
C344	K-3	C707	L-9	IR391	M-1	R350	M-2	R530	F-14	T504	B-11
C350	M-1	C708	K-8	J251	H-12	R351	J-4	R533	G-14	V505	A-12
C375	I-3	C709	J-6	J402	D-3	R352	J-4	R534	G-14	Y200	K-13
C383	F-2	C712	I-8	J500	D-12	R353	G-2	R538	H-16	Y220	J-13
C384	F-2	C713	I-8	J501	F-16	R354	G-2	R539	H-16	Y221	H-14
C400	B-4	C714	J-8	J550	I-15	R355	G-5	R541	G-16	Y264	L-11
C401	F-9	C715	L-6	J603	C-16	R357	K-3	R542	L-14	Y321	I-4
C405	F-7	C716	K-9	J703	M-6	R358	K-2	R545	G-14	Y700	I-7
C407	E-5	C722	L-6	J780	M-17	R359	K-2	R546	G-15	Z290	I-15
C408	E-2	C723	L-4	K405	D-2	R381	H-2	R547	G-15	Z291	H-15
C409	C-5	C724	L-9	L210	J-13	R387	F-2	R548	G-15	Z300	F-3
C410	C-7	C725	I-11	L221	I-14	R400	B-5	R551	J-15	Z301	F-4
C412	C-12	C730	K-6	L274	J-13	R401	A-6	R552	J-16	Z410	B-7
C414	D-7	C732	M-3	L290	K-14	R402	C-4	R553	J-16	Z461	H-6
C415	D-7	C733	L-3	L302	E-2	R404	C-1	R554	J-16	Z462	G-9
C418	F-16	C734	M-2	L315	F-4	R405	F-4	R557	H-16	Z463	G-9
C419	I-16	C735	M-4	L318	G-5	R408	E-4	R558	I-16	Z540	G-13
C423	F-7	C738	N-2	L320	G-6	R410	D-8	R564	G-16	Z564	G-16
C427	C-7	C739	L-3	L400	B-2	R411	D-6	R571	J-11	Z770	M-9
C430	C-10	C740	L-2	L410	D-6	R412	D-6	R573	F-17		
C431	C-9	C770	M-9	L517	B-12	R413	D-8	R578	I-7		
C433	C-9	C772	M-7	L770	G-12	R414	C-7	R700	H-8		
C435	B-9	C773	L-10	Q290	I-15	R416	E-7	R701	K-7		
C437	D-11	C780	M-9	Q408	F-3	R417	E-8	R702	K-8		
C442	E-10	C781	N-7	Q410	C-5	R418	C-6	R703	K-8		
C443	E-11	C784	M-7	Q465	H-7	R419	D-6	R704	L-8		
C445	F-15	C785	M-6	Q466	H-10	R420	F-15	R705	L-8		
C447	G-17	C791	M-12	Q467	G-10	R421	C-6	R706	J-9		
C448	F-11	C793	M-15	Q501	C-12	R422	C-5	R707	H-11		
C450	F-10	D341	L-1	Q502	C-11	R423	E-8	R708	J-9		
C451	G-9	D401	E-5	Q503	A-14	R424	F-8	R709	J-8		
C453	F-13	D402	D-5	Q540	G-15	R425	E-8	R712	K-5		
C457	H-6	D404	C-5	R222	M-15	R429	B-10	R715	K-5		
C460	C-16	D405	D-5	R224	I-7	R431	C-10	R716	L-6		
C461	C-16	D407	E-7	R226	H-7	R436	C-11	R717	L-5		
C462	G-9	D408	E-1	R230	I-13	R442	E-10	R718	H-11		
C463	C-17	D409	G-16	R233	J-14	R444	F-12	R720	H-12		
C498	A-5	D410	C-7	R234	K-14	R445	F-14	R723	H-9		
C501	D-11	D411	C-7	R240	I-12	R447	G-5	R724	I-12		
C502	B-12	D413	C-8	R244	J-12	R448	F-10	R725	L-5		
C503	B-10	D442	E-10	R245	H-12	R450	G-10	R726	L-5		
C504	C-12	D445	G-14	R249	I-12	R451	G-9	R727	L-5		

MAIN BOARD - BOTTOM VIEW



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LOCATION GUIDE

C222	L-5	C792	L-2	R362	F-16
C230	L-7	D412	D-12	R363	F-16
C231	L-7	D414	D-12	R364	E-16
C233	L-7	D508	F-5	R365	F-15
C236	L-8	D530	F-5	R367	H-7
C237	L-8	D578	L-7	R368	H-8
C238	L-8	D770	M-10	R369	I-7
C239	L-8	D771	M-8	R370	I-8
C244	I-6	Q221	I-5	R371	H-8
C246	J-6	Q225	H-4	R372	I-8
C250	J-7	Q230	I-4	R373	J-12
C251	J-8	Q300	F-16	R374	J-12
C252	J-8	Q301	E-16	R377	F-16
C254	G-6	Q325	G-16	R378	F-15
C261	K-7	Q327	G-15	R379	I-15
C262	L-6	Q340	K-17	R380	I-15
C264	K-8	Q341	I-12	R384	G-16
C266	J-7	Q382	F-16	R385	F-16
C268	J-7	Q510	H-11	R386	F-16
C280	I-6	Q541	G-2	R501	D-12
C307	F-17	Q701	K-10	R520	I-10
C310	I-13	Q702	H-7	R555	I-1
C311	H-14	Q703	H-7	R556	J-1
C315	G-13	Q704	K-12	R713	K-12
C317	G-13	Q720	M-14	R714	K-5
C318	I-14	R218	L-3	R721	H-7
C320	I-14	R219	K-1	R722	H-7
C321	F-16	R225	L-6	R731	L-15
C322	I-14	R229	L-8	R732	M-14
C323	J-14	R231	I-4	R733	L-15
C325	H-16	R232	K-7	R734	M-15
C339	G-16	R235	L-8	R736	M-16
C340	H-8	R236	L-8	R737	L-15
C341	H-8	R246	H-12	R738	M-15
C342	K-16	R247	H-12	R741	M-15
C343	K-16	R248	H-12	R762	M-15
C377	I-14	R250	I-4	R763	L-15
C381	E-17	R251	I-4	R771	M-10
C411	D-11	R252	I-4	R773	L-8
C413	C-13	R255	I-4	R774	M-16
C416	D-12	R256	J-5	R783	N-12
C441	F-7	R280	H-5	R797	M-3
C521	L-6	R281	I-6		
C552	I-1	R298	I-3		
C559	K-6	R301	J-17		
C560	L-6	R302	I-17		
C701	J-11	R303	H-17		
C706	K-10	R304	H-17		
C710	J-10	R305	F-14		
C711	I-11	R306	F-17		
C718	L-12	R307	F-17		
C719	L-11	R308	G-14		
C720	M-15	R310	E-17		
C721	L-15	R311	I-13		
C726	M-15	R312	H-13		
C727	L-15	R313	F-13		
C728	M-15	R316	L-16		
C729	L-15	R321	I-14		
C731	L-12	R325	G-15		
C736	M-15	R327	G-15		
C737	L-15	R331	J-15		
C741	L-16	R332	K-16		
C746	M-11	R333	K-14		
C748	M-10	R345	I-12		
C790	L-2	R348	J-16		

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)
- Terrell & Nobis (TNI Electronics)
  - Sencore, Inc.
  - Thomson Consumer Electronics, Inc. (SK, TCE)

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.	Equipment	Sencore No.
Oscilloscope	SC3100	Isolation Transformer	PR570
Generators		Capacitance Analyzer	LC102
RGB	CM2125	CRT Analyzer	CR7000
Multiburst Signal	VG91	AC Leakage Tester	PR570
Color Bar	VG91	Inductance Analyzer	LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	Field Strength Meter	SL753
Frequency Meter	SC3100	Transistor Tester	TF46
Hi-Voltage Probe	HP200	Horizontal Analyzer	HA-2500
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

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.
D341	LTL-307G	4835 130 97095	NTE3024	-	-
D401, 02	1S1888A	4835 130 37829	-	ECG116	-
D404, 05	1S1888A	4835 130 37829	-	ECG116	-
D407	BAT85	4835 130 37581	NTE585	ECG585	SK9934
D408	1N4148	4835 130 37048	NTE519	ECG519	SK3100
D409, 10	BYD33J	4835 130 37094	NTE580	ECG580	SK5036
D411	1N4148	4835 130 37048	NTE519	ECG519	SK3100
D412	BAS216	4835 130 37905	-	-	-
D413	BYD33J	4835 130 37094	NTE580	ECG580	SK5036
D414	BAS216	4835 130 37905	-	-	-
D442	BYW95C	4835 130 37059	NTE580	ECG580	SK5036
D445	BYD33J	4835 130 37094	NTE580	ECG580	SK5036
D448	BYW95C	4835 130 37059	NTE580	ECG580	SK5036
D450	BYM36C	4835 130 37773	-	-	-
D460	BYD33J	4835 130 37094	NTE580	ECG580	SK5036
D508	BAS216	4835 130 37905	-	-	-
D509	1N4148	4835 130 37048	NTE519	ECG519	SK3100
D511	BYV95C	4835 130 37052	NTE580	ECG580	SK5036
# D530	BAS216	4835 130 37905	-	-	-
D550	BYD33J	4835 130 37094	NTE580	ECG580	SK5036
D563	1N4148	4835 130 37048	NTE519	ECG519	SK3100
D571	BYD33J	4835 130 37094	NTE580	ECG580	SK5036
D578	BAS216	4835 130 37905	-	-	-
D770, 71	BAS216	4835 130 37905	-	-	-
IC50, 51, 52	TDA6106Q	9351 833 80112	-	-	-
IC271	TDA8373C	-	-	-	-
	TDA8373C/N3	4835 209 88544	-	-	-
IC345	LC864725	4835 209 88525	-	-	-
IC346	ST24C04FB1	4835 209 88527	-	-	-
IC400	STRF6514	-	-	-	-
	STRF6514-LF1352	4835 209 88535	-	-	-
IC500	TDA9302H	4835 209 88531	-	-	-
IC700	LA7765	4835 209 88533	-	-	-
IC710	HEF4053BP	4835 209 17033	NTE4053B	ECG4053B	SK4053B
IC720	TA7668BP	4835 209 88534	-	-	SK7679
IC730, 40	TDA7052B	-	-	-	-
	TDA7052B/N1	4835 209 88542	-	-	-
Q221	BC857B	5322 130 60508	NTE2409	ECG2409	SK10100
Q225	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Q230	BC857B	5322 130 60508	NTE2409	ECG2409	SK10100
Q290	2SC2383-O	4835 130 48111	NTE31	ECG31	SK3866A
Q300, 01	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Q325, 27	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Q340, 41	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Q382	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Q408, 10	BC327-25	4835 130 48112	NTE298	ECG298	SK3450
Q465, 66	2SC2383-O	4835 130 48111	NTE31	ECG31	SK3866A
Q467	BC337-25	4835 130 48113	NTE123AP	ECG298123AP	SK3854
Q501	MPSA92	4835 130 48115	NTE288	ECG288	SK3434
Q502	2SC2482	4835 130 47073	NTE399	ECG399	SK9352

# For SAFETY use only equivalent replacement part.

PARTS LIST continued

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.
Q503	BU2508DF	4835 532 47018	NTE2353	ECG2353	-
Q510	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Q540	ON769	4835 130 48116	NTE47	ECG47	SK9459
Q541	BC857B	5322 130 60508	NTE2409	ECG2409	SK10100
Q701	BC857B	5322 130 60508	NTE2409	ECG2409	SK10100
Q702	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Q703	BC857B	5322 130 60508	NTE2409	ECG2409	SK10100
Q704	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Q720	BC847B	4822 130 60511	NTE2408	ECG2408	SK10099
Z50	BZX79-F8V2	3198 010 38280	-	-	-
Z290	BZX79-F33	4835 130 37915	-	-	-
Z291	BZX79-F5V6	4835 130 37916	-	-	-
Z300	BZX79-F9V1	4835 130 37299	-	-	-
Z301	BZX79-F10	4835 130 37912	-	-	-
Z410	BZX79-C7V5	4835 130 37584	NTE138A	ECG138A	SK7V5
Z461, 62	BZX79-F10	4835 130 37912	-	-	-
Z463	BZX79-F6V2	4835 130 37917	-	-	-
Z540	BZX79-F6V2	4835 130 37917	-	-	-
Z564	BZX79-F13	4835 130 37913	-	-	-
Z770	BZX79-F2V7	4835 130 37914	-	-	-

CAPACITORS & ELECTROLYTICS		
Item No.	Rating	Mfr. Part No.
# C50	.01 +80% -20% 2kV	2020 558 90433
C51, 52, 53	22pF 5% 50V NPO	2020 552 90594
C56	47pF 5% 50V NPO	2020 552 90598
C256, 57, 58	27pF 5% 50V NPO	4835 122 47607
C274	82pF 5% 50V NPO	4835 122 47612
# C400	.22 20% 275VAC	-
	.22 250VAC	4835 121 47597
C401	.0047 20% 250VAC	4835 122 97023
C415, 23	.001 10% 1kV	4835 122 47373
C430	680pF 10% 1kV	4835 122 47633
C433	.001 10% 1kV	4835 122 47373
C435, 37	470pF 10% 1kV	4835 122 47459
# C498	.0047 20% 250VAC	4835 122 97023
# C505	.01 1.6kV	4835 121 47611
# C506 (1)	680pF 10% 2kV	4835 122 47584
# C506 (2)	820pF 10% 2kV	4835 122 47639
C511	100pF 10% 2kV	4835 122 47631
# For SAFETY use only equivalent replacement part.		
(1) Used in models TS2554C101, TS2554C121, and 25TS54C121.		
(2) Used in models TS2754C101, TS2754C121, TS2768C101, TS2768C121, 27TS54C101, and 27TS54C121.		



Created with pride by the employees  
of Howard W. Sams & Company.

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PARTS LIST continued

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
# R53, 54, 63	82K 5% 1W	0023 033 58235	1W382
R225	39K 1% 1/10W	4835 111 27041	-
# R253	22 5% 1/2W	4835 111 37234	HW022
# R266	10 5% 1/3W	4822 111 30508	-
# R294	39 5% 1W	4835 116 67259	1W039
# R305	10 5% 1/8W	4835 111 37132	-
R309	10K 1% 1/6W	4822 116 53022	-
# R400, 01	4.7M 5% 1/2W	4835 116 57009	HW547
R402	1.5 5% 10W Wirewound	4835 112 37029	10W1D5
# R404	12.5 Cold PTC	4835 116 47001	-
R414	7500 1% 1/6W	4822 116 53028	-
# R420	1 5% 1/3W	4835 116 57109	-
R421	1000 Feedback	4835 103 17001	-
R422	23.2K 1% 1/6W	4835 116 57677	-
# R425	.27 5% 1W	-	1WD27
	.22 5% 1W	4835 116 67254	1WD22
# R429	82 5% 2W	4835 116 67233	2W082
# R431	68 5% 2W	4835 116 57573	2W068
# R436	82 5% 2W	4835 116 67233	2W082
# R444	15 5% 3W	4835 116 67244	3W015
	30 5% 3W	4835 116 67168	3W030
# R445	1 5% 1/3W	4835 116 57109	-
# R446	1 5% 2W	4835 116 67235	2W1D0
# R447	10 5% 1/2W	4835 116 57097	HW010
# R450	150 5% 1W	4835 116 67252	1W115
# R460	2.2 5% 1/3W	4822 052 10228	-
# R467	68 5% 2W	4835 116 57573	2W068
# R504	2700 5% 5W	4835 116 67257	5W227
# R507	680 5% 1/2W	4835 116 57381	HW168
# R515	47 5% 1/3W	4835 116 57745	-
# R530	1 5% 1/3W	4835 116 57109	-
R533 (1)	10K 1% 1/6W	4822 116 53022	-
R533 (2)	10.5K 1% 1/6W	4835 116 57673	-
R534	3000 1% 1/6W	4835 116 57678	-
# R700	51 5% 1/2W	4835 116 67086	HW051
# R730	1 5% 1/3W	4835 116 57109	-
# R740	10 5% 1/3W	4822 111 30508	-

# For SAFETY use only equivalent replacement part.

(1) Used in models TS2554C101, TS2554C121, and 25TS54C121.

(2) Used in models TS2754C101, TS2754C121, TS2768C101, TS2768C121, 27TS54C101, and 27TS54C121.

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
# DY1 (1)	Yoke Horiz 1.35mH Vert 18.5mH	4835 150 17108
# DY1 (2)	Yoke	4835 804 80001
# DY1 (3)	Yoke	4835 150 17139
FB410	Ferrite Bead	4835 157 67084
FB425	Ferrite Bead	4835 157 67085
FB426	Ferrite Bead	4835 157 67085
L210	VCO	4835 150 57079
L221	10μH	4835 157 67074
L274	22μH	4835 157 67076
L290	1μH	4835 157 67054
L302	2.2μH	4835 157 67056
L315	2.7μH	4835 157 67049
L318	2.2μH	4835 157 67056
L320	2.2μH	4835 157 67056
# L400	Line Filter	4835 152 17001
L410	.68μH	4835 157 67048
# L499 (1)	Degaussing	4835 157 97077
# L499 (4)	Degaussing	4835 157 97058
# L517	Horizontal Linearity	4835 157 57002
L568	12μH	4835 157 67086
L770	5.6μH	4835 157 67051
# T425	SMPS Power	4835 140 67174
# T502 (5)	Horizontal Output	4835 140 67168
T504	Horizontal Driver	4835 142 47021

# For SAFETY use only equivalent replacement part.

(1) Used in models TS2554C101, TS2554C121, and 25TS54C121.

(2) Used in models TS2754C101 and TS2754C121.

(3) Used in models TS2768C101, TS2768C121, 27TS54C101, and 27TS54C121.

(4) Used in models TS2754C101, TS2754C121, TS2768C101, TS2768C121, 27TS54C101, and 27TS54C121.

(5) Focus and screen controls are part of T502.

PARTS LIST continued

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
# CRT21	Socket	2422 500 80037	CRT
# F400	Fuse	4835 253 97095	4Amp, 125VAC, Slow Blow
# F442	Fuse	4835 253 97031	2.5Amp
F443	Fuse	4835 253 97031	2.5Amp
IR391	Receiver	4835 210 27035	Remote (TFMS5360)
J780	Jack	2422 026 04769	Assembly
# K405	Relay	4835 280 47043	Degaussing
# P400	Line Cord	4835 321 17012	AC, Polarized
S379	Switch	4835 276 57004	Assembly
SP1, 2 (1)	Speaker	4835 240 37002	3", 16 Ohms, 1W
SP2, 2 (2)	Speaker	4835 240 27007	2 1/4" X 5"
SP2, 2 (3)	Speaker	2422 264 00273	3"
T290 (4)	Tuner	4835 210 47096	UHF/VHF (UF1336/F)
# V21 (5)	CRT	4835 131 27127	A63AFW36X
# V21 (6)	CRT	0033 029 00032	A68AHD32X
# V21 (10)	CRT	4835 131 27153	A68AHD32X
Y200	Filter	4835 153 97022	SAW
Y220	Filter	4835 153 57004	4.5MHz
Y221	Trap	4835 154 17001	4.5MHz
Y264	Crystal	4835 242 77276	3.58MHz
Y321	Crystal	4835 242 77023	-
Y700	Crystal	4835 122 97103	-
	Adapter		Antenna 75 To 300 Ohms
	Fuse Holder		For FXXX (2 Used)
#	Magnet	4835 150 27008	Purity/Convergence
	PC Board	-	CRT (00APT187)
	PC Board (5)	4835 219 28704	Main (00EMB865)
	PC Board (7)	4835 219 28708	Main (00EMB885)
	PC Board (3)	4835 219 28776	Main (00EMB886)
	Transmitter (5)	4835 219 17694	Remote (T217JGPM01)
	Transmitter (3)	-	Remote (Y147KAAA01)
	Transmitter (7)	-	Remote (Y227JAAA01)
	Wedges (8)	4835 535 27001	Yoke Positioning (3 Used)
	Wedges (9)	4835 535 27006	Yoke Positioning (3 Used)

# For SAFETY use only equivalent replacement part.

(1) Used in models TS2554C101, TS2554C121, TS2754C101, TS2754C121, and 25TS54C121.

(2) Used in models 27TS54C101 and 27TS54C121.

(3) Used in models TS2768C101 and TS2768C121.

(4) Contact TNI Electronics for replacement; order by part number on tuner.

(5) Used in models TS2554C101, TS2554C121, and 25TS54C121.

(6) Used in models TS2754C101, TS2754C121, TS2768C101, TS2768C121, 27TS54C101, and 27TS54C121.

(7) Used in models TS2754C101, TS2754C121, 27TS54C101, and 27TS54C121.

(8) Used in models TS2554C121, TS2754C121, TS2768C121, 25TS54C121, and 27TS54C121.

(9) Used in models TS2554C101, TS2754C101, TS2768C101, and 27TS54C101.

(10) Used in model TS2768C101 and TS2768C121.

CABINET PARTS

Item	Mfr. Part No.
MODELS TS2554C101 AND TS2554C121	
Button Assembly	4835 410 97024
Cabinet Front	0014 722 40016
Cabinet Rear	4835 432 97593
Crystal	4835 450 67203
Jack Panel	0014 747 20016
Lens IR	4835 450 67202
Nameplate	0015 235 40011
MODELS TS2754C101 AND TS2754C121	
Button Assembly	4835 432 37244
Cabinet Front	0014 716 70033
Cabinet Rear	0014 734 00003
Crystal	4835 450 67214
Jack Panel	0014 747 20016
Nameplate	0015 235 40011
MODELS TS2768C101 AND TS2768C121	
Button Assembly	4835 432 37244
Cabinet Front	0014 716 70033
Cabinet Rear	0014 734 00003
Crystal	4835 450 67214
Jack Panel	0014 747 20017
Nameplate	0015 235 40011
MODEL 25TS54C121	
Button Assembly	4835 410 37239
Cabinet Front	0014 709 60063
Cabinet Rear	4835 432 97593
Jack Panel	0014 747 20016
Lens IR	4835 450 67202
MODELS 27TS54C101 AND 27TS54C121	
Button Assembly	4835 432 17667
Cabinet Front	4835 430 67151
Cabinet Rear	0014 734 00003
Crystal	4835 450 67213
Jack Panel	0014 747 20016
Lens IR	4835 450 67202

REMOTE TRANSMITTER

Battery Door (1)	4835 432 37087
(1) Used in models TS2554C101, TS2554C121, and 25TS54C121.	

PHILIPS/MAGNAVOX  
MODEL 25TS54C121