

# SAFETY PRECAUTIONS

## SERVICE WARNING

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

## SERVICING THE HIGH VOLTAGE AND CRT

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

## X-RAY RADIATION AND HIGH VOLTAGE LIMITS

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

## GENERAL GUIDELINES

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

## HIGH VOLTAGE SHUTDOWN TEST

Tune in a color bar pattern. Set color and brightness to midrange. Activate the Service Adjustment Mode. Press 36 on the remote to select X Ray item from the service menu. The receiver will shut down indicating that the X Ray detection circuit is working right. Press the power button and the set will turn on.

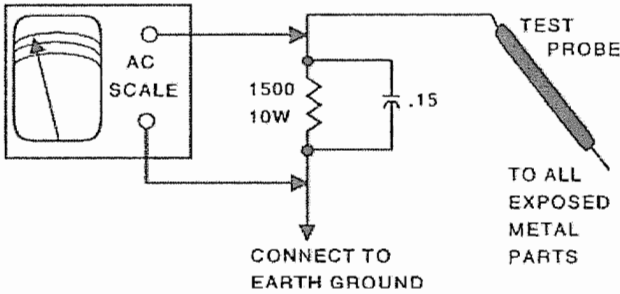
## SAFETY CHECKS — FIRE AND SHOCK HAZARD

### 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.



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

SET 5086

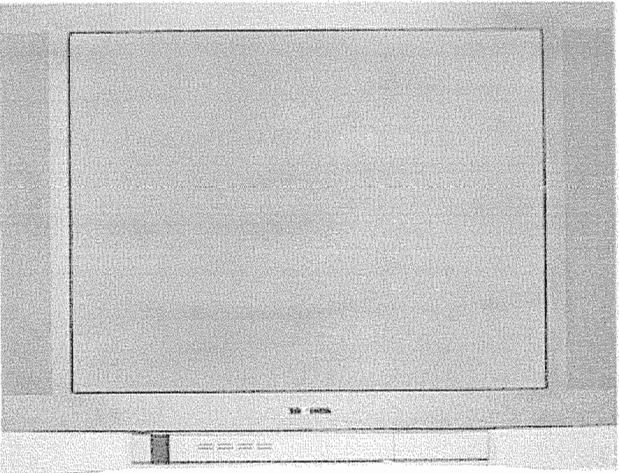
MODEL 27AFX54

TOSHIBA

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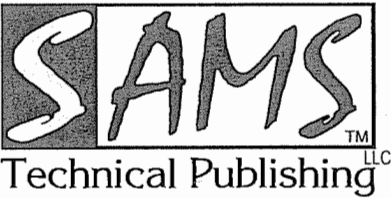
TOSHIBA  
Model 27AFX54



Representative Model

Essential coverage  
for servicing a television receiver...

- Schematics
- Component locations
- Parts list



DECEMBER 2005 SET 5086

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9850 E. 30th St.  
Indianapolis IN 46229  
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Printed in the United States of America 5 4 3 2 1

05PF03248



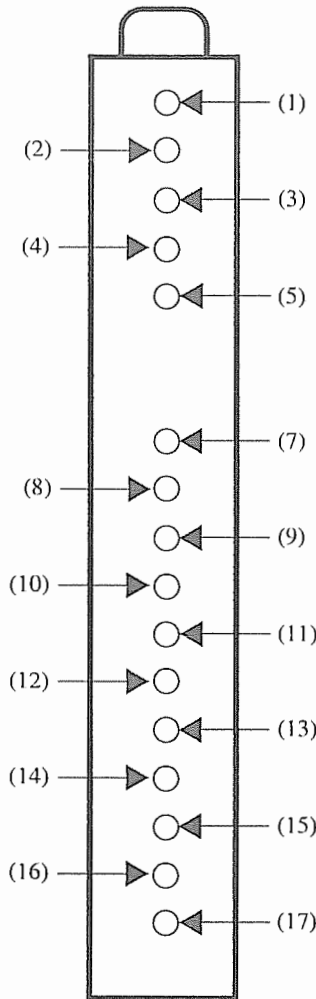
## TUNER INFORMATION

### TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) NC	0V	0V	0V
(2) NC	0V	0V	0V
(3) MB	5.0V	5.0V	5.0V
(4) NC	0V	0V	0V
(5) NC	0V	0V	0V
(7) NC	2.0V	1.8V	2.3V
(8) NC	0V	0V	0V
(9) ADDRESS	0V	0V	0V
(10) SCL	4.7V	4.7V	4.7V
(11) SDA	4.8V	4.8V	4.8V
(12) AFT	3.6V	3.6V	3.5V
(13) AUDIO OUT	.5V	.5V	.5V
(14) SIF OUT	0V	0V	0V
(15) BT	31.3V	31.3V	31.3V
(16) IF OUT	0V	0V	0V
(17) VIDEO OUT	1.4V	1.4V	1.4V

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

### TUNER TERMINAL GUIDE



## MISCELLANEOUS ADJUSTMENTS

### LEVEL

Tune in a monoscope pattern on VHF High channel. Connect an AC voltmeter to pin 6 of CP101. Activate the Service Adjustment Mode. Press 33 on the remote, to select LEVEL. Press the volume up or down button to have a reading of 85mV  $\pm$ 2mV on the AC voltmeter.

### STEREO ADJUSTMENTS

All adjustments were made using a MTS TV/stereo generator connected to the antenna terminal. Set the customer controls to normal listening levels.

#### Separation 1, 2

On generator select pilot, 300Hz audio frequency, and left modulating signal. Connect an oscilloscope to pin 21 of IC902. Activate the Service Adjustment Mode. Press 34 on the remote to select SEP 1. Adjust the data value for minimum amplitude of waveform by pressing volume up or down button on the remote. On generator select 8kHz audio frequency. Press the channel up button on the remote to select SEP 2. Adjust the data value for minimum amplitude of waveform by pressing volume up or down button on the remote. Repeat until no further decrease in amplitude can be obtained.

### PURITY

Tune in a green raster. Loosen deflection yoke and move it back as far as possible. Loosen locking ring and move the purity tabs to center the vertical green band. Slowly slide the deflection yoke forward until a uniform green screen is obtained.

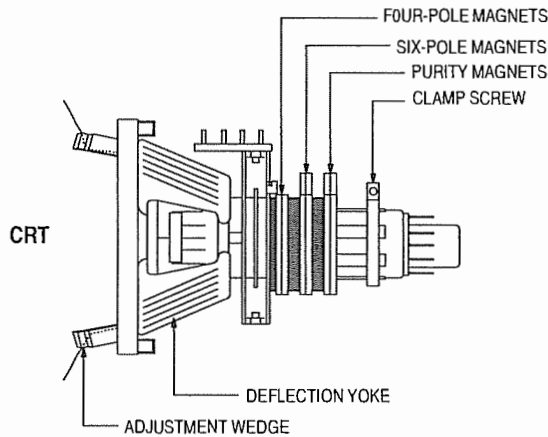
### CONVERGENCE

Connect a signal generator to antenna terminal and tune in a dot pattern. Adjust the four-pole magnets to converge the red and blue dots at the center of the screen. Adjust the six-pole magnets to converge the red/blue dots over the green dots at the center of the screen.

NOTE: 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. Since the four- and six-pole magnets interact, repeat the adjustment until center convergence is correct.

Tune in a crosshatch pattern. Remove rubber wedges between the deflection yoke and CRT. Tilt deflection yoke up or down to converge the vertical lines at the top and bottom of the screen and the horizontal lines at the left and right sides of the screen. Tilt the deflection yoke left or right to converge the horizontal lines at the top and bottom of the screen and the vertical lines at the left and right sides of the screen. Repeat convergence procedure if necessary to obtain the best overall convergence. Replace rubber wedges.

### CRT NECK ASSEMBLY



### B+ CHECK

Using AC power, turn receiver on and tune in an active station. Adjust VR502 to have a reading of 115V  $\pm$ 1V at the collector of Q503.

### HIGH VOLTAGE CHECK

Tune in a picture. Set brightness, color, and picture to minimum. Connect a high voltage probe to the CRT anode. The high voltage should read 28kV to 32kV.

### SERVICE ADJUSTMENT MODE DISPLAY

Turn receiver on and tune in an active station. To access the Service Adjustment Mode display, press the volume down button on the set and at the same time press 09 on the remote for more than one second. The adjustment items will be displayed one at a time on the screen each followed by a number. After selecting the item desired by pressing the item number, or by pressing the channel up or down button, pressing the volume up or down button will change the value. To exit the Service Adjustment Mode press the menu button.

### CUT OFF

Activate the Service Adjustment Mode. Press 01 on the remote, the vertical will collapse to a horizontal line. Adjust the screen control for a faint line.

### WHITE BALANCE

Operate the receiver for 15 minutes. Tune in a white pattern signal. Set the brightness and contrast to normal position. Activate the Service Adjustment Mode. Press 12 on the remote, that will select R BIAS adjustment. Set its value to 30, then press channel up button on the remote to select service numbers 13, 14, 10, and 11. Set the data values to obtain white screen. Set brightness for a visible raster. Alternately adjust data value of service numbers 10 and 11 until a good gray scale with normal white is obtained.

### BRIGHT CENT

Tune in a picture. Set color, contrast, and brightness to minimum. Activate the Service Adjustment Mode. Press 16 on the remote to select BRI CENT. Press the volume up or down to set data value to 75.

### COLOR CENT

Tune in a color bar pattern. Set color and brightness to midrange. Set the contrast to maximum. Activate the Service Adjustment Mode. Press 22 on the remote to select COL CENT. Press the volume up or down button to set data value to 68.

### SUB TINT

Tune in a picture. Set color and brightness to midrange. Set the contrast to maximum. Activate the Service Adjustment Mode. Press 24 on the remote to select TINT. Press the volume up or down button to adjust for best flesh tone. Check other channels.

### HORIZONTAL PHASE

Tune in a crosshatch pattern. Set color and brightness to midrange. Set the contrast to maximum. Activate the Service Adjustment Mode. Press 03 on the remote to select H PHASE. Press the volume up or down button to adjust for best horizontal centering with slight overscan on both sides.

### VERTICAL LINEARITY

Tune in a crosshatch pattern. Set color and brightness to midrange. Set the contrast to maximum. Activate the Service Adjustment Mode. Press 08 on the remote to select V LIN. Press volume up or down button to adjust for equal linearity on top and bottom.

### VERTICAL POSITION

Tune in a crosshatch pattern. Set color and brightness to midrange. Set the contrast to maximum. Adjust VR401 for best vertical centering on screen.

### VERTICAL SIZE

Tune in a crosshatch pattern. Set color and brightness to midrange. Set the contrast to maximum. Activate the Service Adjustment Mode. Press 07 on the remote to select V SIZE. Press volume up or down button to adjust for slight overscan on top and bottom.

## INITIAL SETTING DATA

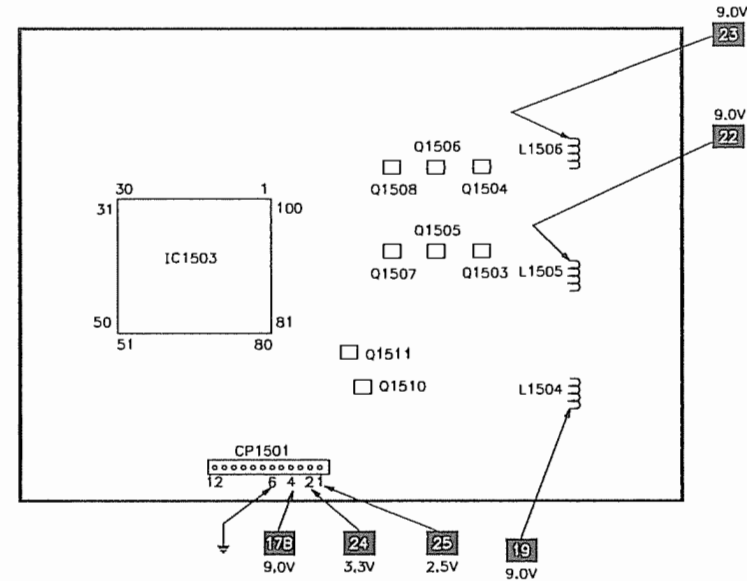
NOTE: Initial setting data is required when replacing the memory IC. If there is an error in the initial setting data, the receiver may indicate a malfunction.

To check the initial setting data, disconnect power from the receiver. Reconnect power and set volume control to minimum. Press the volume down button on the receiver while pressing number 6 button on the remote for more than one second. Press the volume down button on the remote to step through the address and check the data of each address. To change the data of any address, press the enter button. The data will blink. By pressing the volume +/- the data figure can be changed. Turn off the power after making the needed corrections.

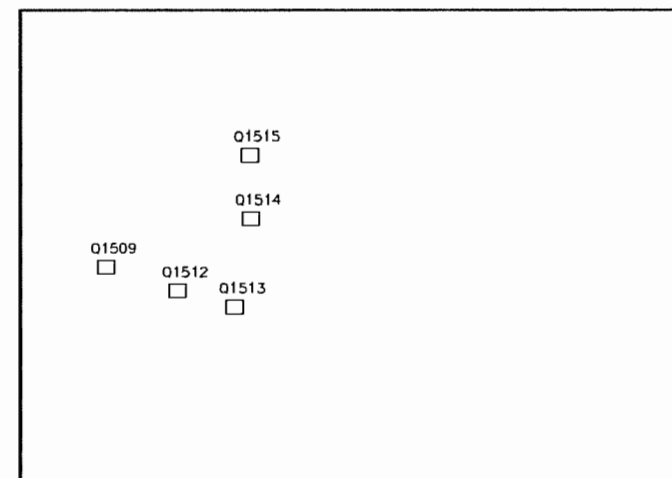
Data																
INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	50	E8	08	A5	5C	B3	34	77	3D	AC	AA	25	30	30	30	0A
10	0A	00	00	00	00	00	08	00	80	00	80	C0	A4	88	35	00

## PLACEMENT CHART

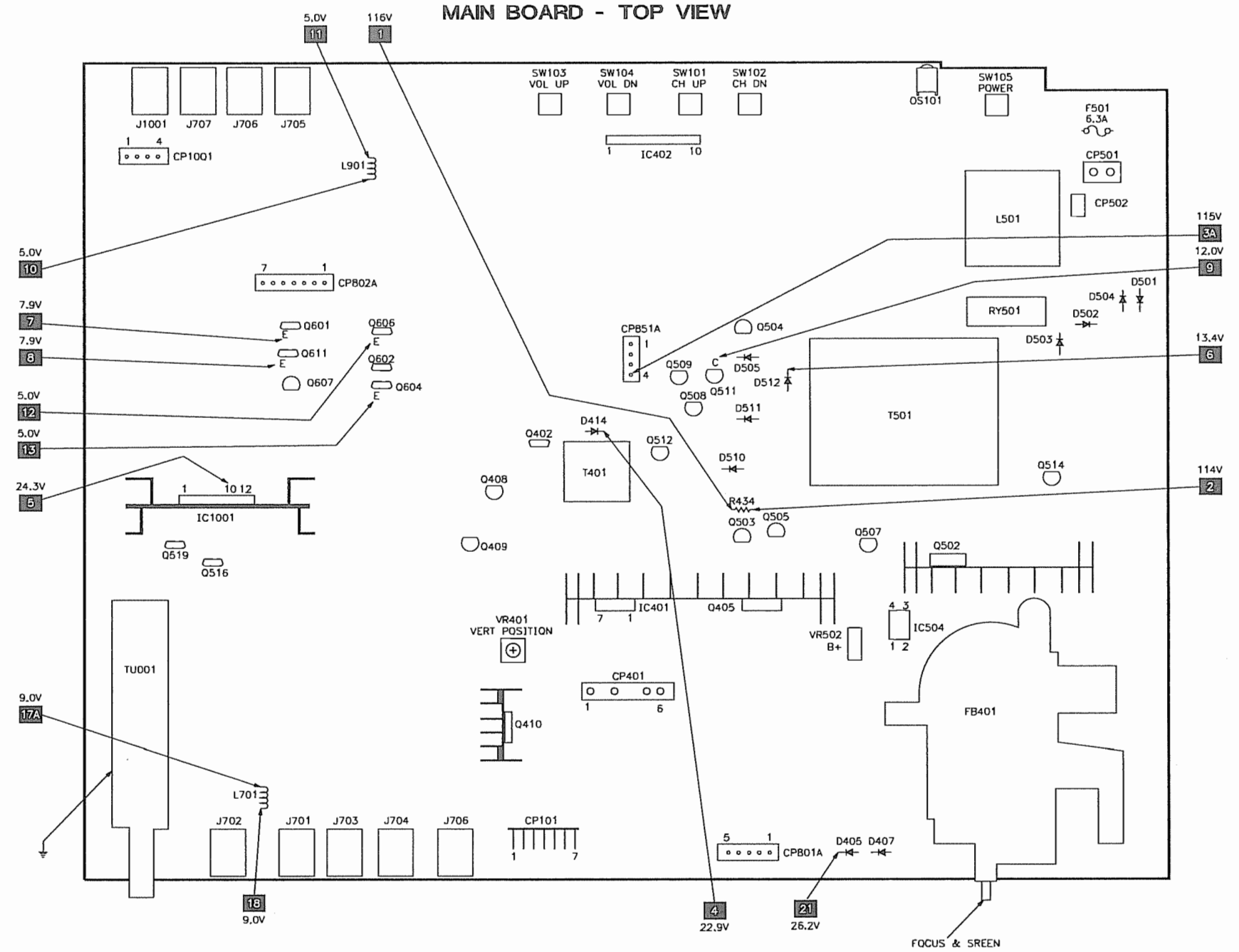
COMB FILTER BOARD - TOP VIEW



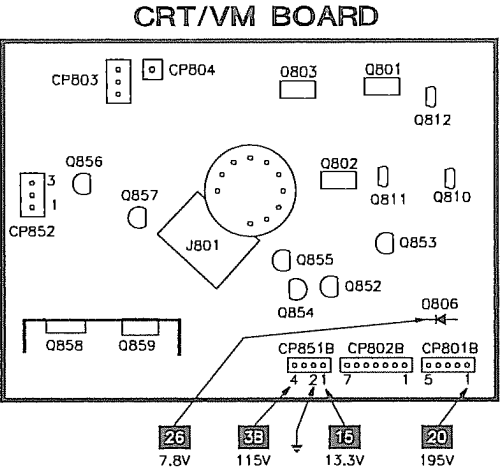
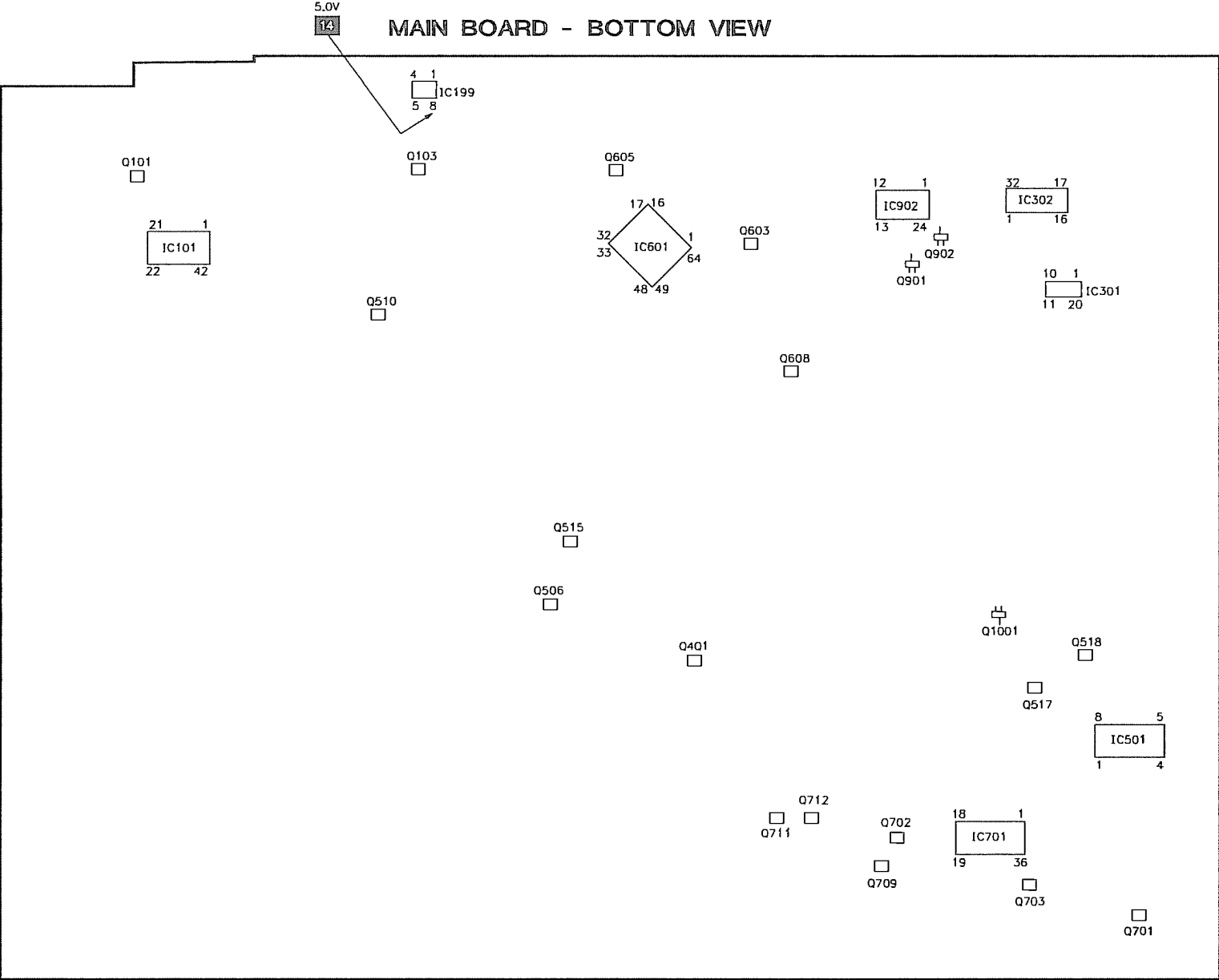
COMB FILTER BOARD - BOTTOM VIEW



### MAIN BOARD - TOP VIEW



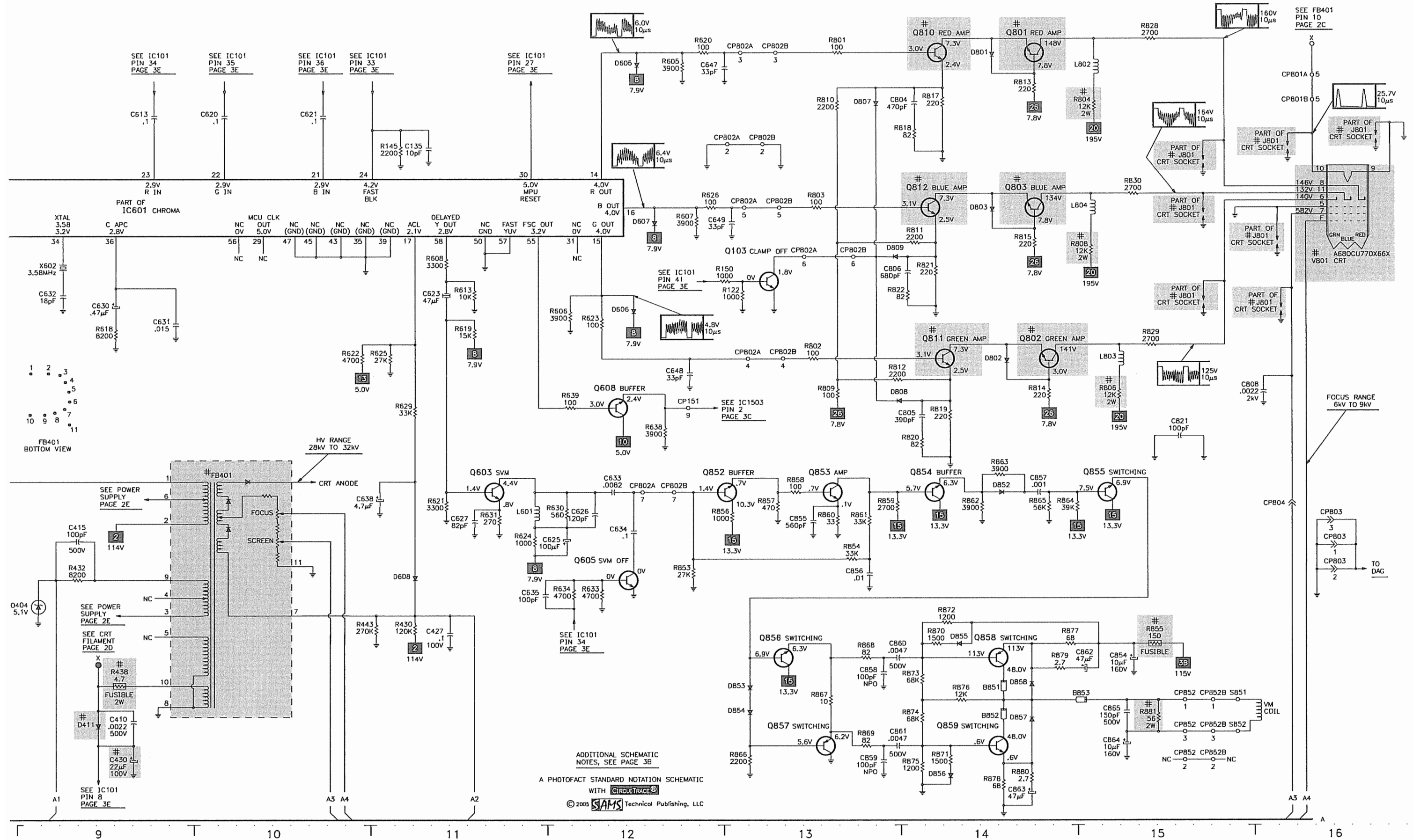
PLACEMENT CHART continued



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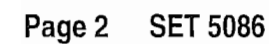
TELEVISION SCHEMATIC continued



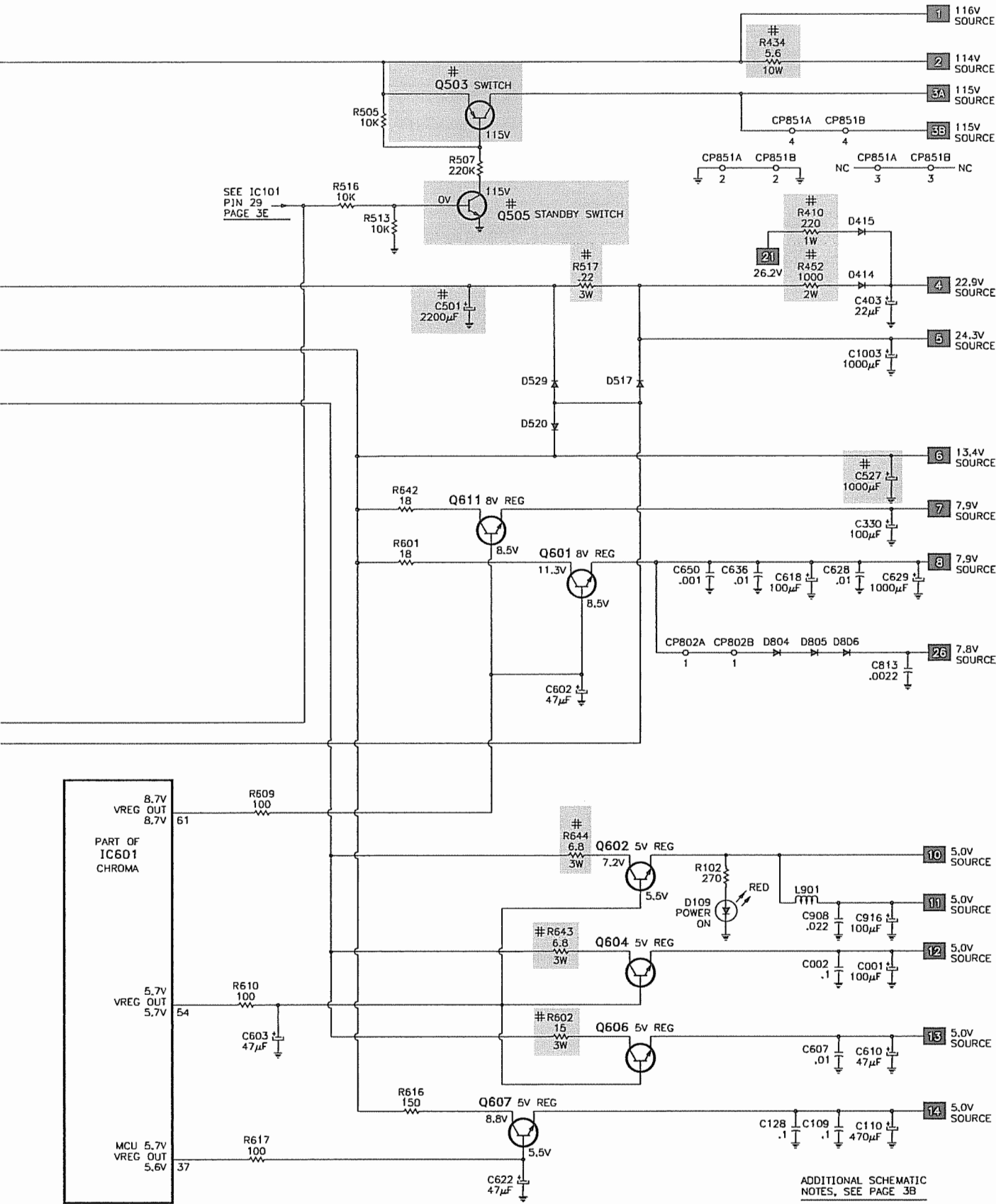
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## F



G  
POWER SUPPLY SCHEMATIC continued



ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 3B

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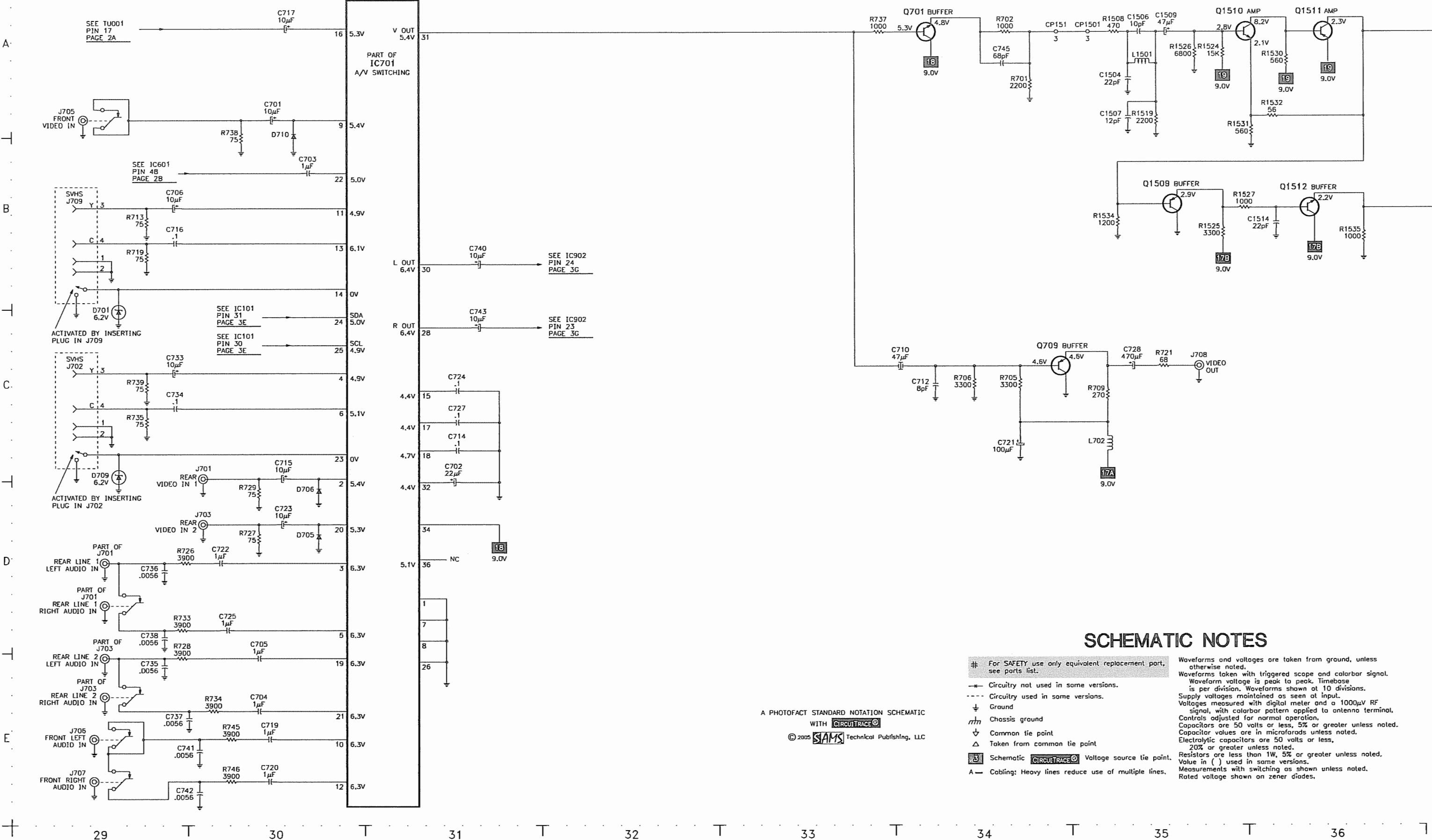
TEST EQUIPMENT

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

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

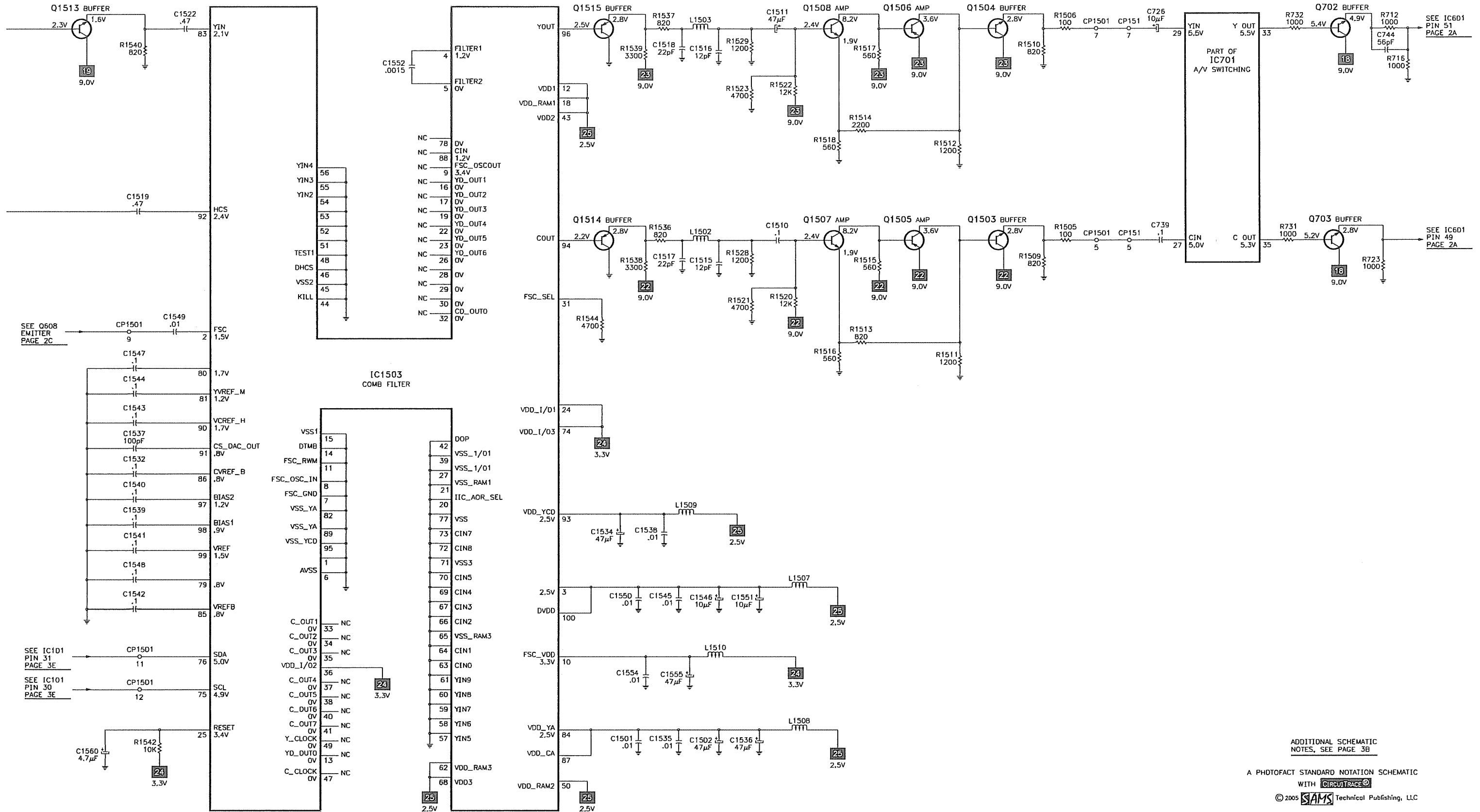


A/V SWITCHING/COMB FILTER SCHEMATIC



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COMB FILTER SCHEMATIC continued

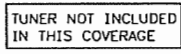


ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 3B

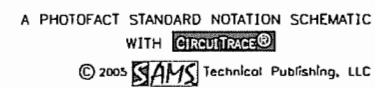
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## F



**H**



SCHEMATIC COMPONENT LOCATION GUIDE																											
B401	E4	C334	C56	C605	C7	C734	C29	C1507	A35	D405	E17	D807	A13	L803	C15	Q858	E14	R303	D55	R460	D8	R617	E25	R812	C13	R1513	C41
B403	E5	C401	D3	C606	D3	C735	E29	C1509	A35	D406	C46	D808	C13	L804	B15	Q859	E14	R304	D55	R500	B18	R618	C9	R813	A14	R1514	B41
B502	C20	C402	E4	C607	E28	C736	D29	C1510	B41	D407	D17	D809	B13	L901	D27	Q901	E58	R305	C57	R501	A19	R619	C11	R814	C14	R1515	B41
B503	E4	C403	B28	C608	B7	C737	E29	C1511	A41	D408	E7	D852	D14	L1501	A35	Q902	E58	R306	C58	R502	C19	R620	A12	R815	B14	R1516	C41
B504	A21	C406	D5	C609	D3	C738	D29	C1514	B36	D409	E7	D853	E13	L1502	B40	Q1001	D58	R307	C57	R503	C19	R621	D11	R817	A14	R1517	A41
B851	E14	C407	D6	C610	E28	C739	B43	C1515	B40	D410	D7	D854	E13	L1503	A40	Q1503	B42	R308	B58	R504	B24	R622	C10	R818	B14	R1518	B41
B852	E14	C408	D5	C611	B7	C740	B31	C1516	A40	D411	E9	D855	E14	L1504	E24	Q1504	A42	R309	B58	R505	A26	R623	C12	R819	C14	R1519	B35
B853	E14	C409	D7	C612	D1	C741	E30	C1517	B40	D412	E51	D856	E14	L1505	E24	Q1505	B41	R311	A58	R506	C17	R624	D11	R820	C14	R1520	C41
C001	D28	C410	E9	C613	A9	C742	E30	C1518	A40	D413	C46	D857	E14	L1506	E24	Q1506	A41	R313	B57	R507	A26	R625	C11	R821	B14	R1521	C41
C002	D28	C411	C24	C614	B5	C743	C31	C1519	B37	D414	B28	D858	E14	L1507	D41	Q1507	B41	R314	B55	R508	C20	R626	B12	R822	C14	R1522	A41
C005	C2	C412	D7	C615	D1	C744	A44	C1521	D24	D415	B28	DY	D7	L1508	E41	Q1508	A41	R331	B57	R509	D23	R627	B4	R828	A15	R1523	A41
C102	B48	C413	E18	C616	D1	C745	A34	C1522	A37	D416	E7	F501	A17	L1509	D40	Q1509	B35	R333	B57	R510	C17	R628	B4	R829	C15	R1524	A35
C104	B47	C414	E52	C617	B5	C804	A14	C1523	E24	D417	E7	FB401	D10	L1510	D40	Q1510	A35	R401	E50	R511	C23	R629	C11	R830	B15	R1525	B35
C106	E48	C415	D9	C618	C27	C805	C14	C1524	E24	D418	E7	FB401	D17	OS101	A45	Q1511	A36	R403	E3	R512	C22	R630	D12	R853	D12	R1526	A35
C108	A45	C416	E4	C619	B5	C806	B14	C1525	E24	D501	B19	IC101	A48	Q101	C51	Q1512	B36	R404	D7	R513	B26	R631	D11	R854	D13	R1527	B35
C109	E28	C417	D6	C620	A10	C808	C16	C1526	D24	D502	A19	IC199	B50	Q103	B13	Q1513	A37	R405	C5	R515	B17	R632	D2	R855	E15	R1528	B41
C110	E28	C418	E7	C621	A10	C809	D18	C1528	E24	D503	A19	IC301	A57	Q401	E5	Q1514	B40	R406	E4	R516	B26	R633	D12	R856	D13	R1529	A41
C111	E48	C419	E17	C622	E26	C813	C28	C1529	E24	D504	B19	IC302	A56	Q402	E3	Q1515	A40	R407	D4	R517	B27	R634	D12	R857	D13	R1530	A36
C113	D47	C420	E8	C623	C11	C821	C15	C1530	E24	D505	B23	IC401	D5	Q405	E5	R001	B2	R408	E5	R518	C22	R635	E1	R858	D13	R1531	B35
C114	C47	C421	E8	C624	B5	C852	B24	C1532	C37	D506	C21	IC402	E51	Q408	E6	R002	C2	R409	E50	R519	C22	R636	E3	R859	D13	R1532	B36
C115	D47	C422	E7	C625	D12	C853	B24	C1534	D40	D507	C19	IC501	D20	Q409	E6	R004	C1	R410	B27	R520	A18	R638	C12	R860	D13	R1534	B35
C116	C47	C425	D8	C626	D12	C854	E15	C1535	E40	D508	C18	IC501	E20	Q410	E6	R005	C1	R411	E49	R521	B24	R639	C12	R861	D13	R1535	B36
C117	D48	C426	D17	C627	D11	C855	D13	C1536	E41	D509	C20	IC504	B18	Q502	C19	R006	B2	R412	E3	R524	E45	R641	D2	R862	D14	R1536	B40
C118	C46	C427	D11	C628	C28	C856	D13	C1537	C37	D510	A22	IC601	B6	Q503	A26	R010	C2	R413	D5	R526	D19	R642	C26	R863	D14	R1537	A40
C119	A48	C430	E9	C629	C28	C857	D14	C1538	D40	D511	B22	IC601	B9	Q504	B17	R101	B45	R414	D5	R527	A23	R643	D27	R864	D14	R1538	B40
C120	D47	C439	C45	C630	C9	C858	E13	C1539	D37	D512	B22	IC601	D1	Q505	B26	R102	D27	R415	D5	R528	E20	R644	D27	R865	D14	R1539	A40
C121	D48	C442	E7	C631	C9	C859	E13	C1540	D37	D513	C18	IC601	D25	Q506	C22	R103	B45	R416	D4	R529	E20	R701	A34	R866	E13	R1540	A37
C122	A47	C443	E8	C632	C9	C860	E13	C1541	D37	D514	D23	IC701	A31	Q507	C17	R105	E49	R417	D5	R531	D20	R702	A34	R867	E13	R1542	E37
C123	E49	C501	B26	C633	D12	C861	E13	C1542	D37	D515	D23	IC701	A43	Q508	C23	R106	B46	R418	D5	R532	C18	R703	E59	R868	E13	R1544	C40
C128	E27	C502	B19	C634	D12	C862	E14	C1543	C37	D516	B18	IC902	A54	Q509	D23	R107	E47	R419	E51	R533	C18	R704	E59	R869	E13	RY501	A18
C134	D50	C503	A19	C635	D11	C863	E14	C1544	C37	D517	B27	IC1001	A59	Q510	E46	R110	D49	R420	D5	R534	D20	R705	C34	R870	E14	RY501	B18
C135	B11	C504	B23	C636	C27	C864	E15	C1545	D40	D518	D18	IC1503	C39	Q511	C23	R112	B46	R421	D7	R535	A24	R706	C34	R871	E14	SP1001	A60
C141	A47	C505	A17	C638	D11	C865	E15	C1546	D40	D519	B21	J701	D29	Q512	A23	R113	B46	R422	D6	R536	A23	R708	E58	R872	D14	SP1002	B60
C142	A47	C506	A18	C641	B4	C901	E58	C1547	C37	D520	B27	J701	D29	Q514	C19	R114	A46	R423	D50	R537	B23	R709	C35	R873	E14	SW101	B45
C301	B55	C507	B20	C642	B4	C902	E57	C1548	D37	D522	C21	J701	D30	Q515	C22	R115	C51	R425	D50	R538	D20	R710	E59	R874	E14	SW102	A45
C302	D55	C508	B17	C643	E3	C903	B54	C1549	C37	D523	B20	J703	D30	Q516	D19	R117	E49	R426	C46	R539	B20	R711	E59	R875	E14	SW103	B45
C303	D56	C509	C20	C647	A12	C904	B54	C1550	D40	D524	C19	J703	E29	Q517	D19	R118	B49	R427	D7	R540	B20	R712	A44	R876	E14	SW104	A46
C304	A55	C510	B21	C648	C12	C905	B54	C1551	D41	D525	C18	J703	E29	Q518	E19	R119	D47	R428	E5	R541	A20	R713	B29	R877	E14	SW105	A46
C305	A55	C511	B22	C649	B13	C907	C54	C1552	A39	D526	D19	J704	A1	Q519	E19	R120	A45	R429	D7	R542	C19	R716	A44	R878	E14	T401	E5
C306	D56	C512	C19	C650	C27	C908	D28	C1553	D22	D527	D19	J704	A1	Q601	C27	R121	D49	R430	D11	R543	C20	R719	B29	R879	E14	T501	A21
C307	C55	C513	B18	C701	B30	C910	C54	C1554	E40	D528	C18	J704	A1	Q602	D27	R122	C13	R431	E50	R544	C20	R721	C35	R880	E14	TH501	B18
C308	C56	C514	B24	C702	D31	C911	C54	C1555	E40	D529	B27	J705	B29	Q603	D11	R124	B49	R432	D9	R545	C19	R723	B44	R881	E15	TU001	B2
C309	C55	C516	B23	C703	B30	C912	C54	C1556	E22	D531	E46	J706	E29	Q604	D27	R125	E49	R433	D7	R547	C18	R725	A1	R901	E59	V801	B16
C310	B55	C517	A22	C704	E30	C913	C53	C1557	E22	D532	B24	J707	E29	Q605	D12	R126	D47	R434	A27	R549	E20	R726	D29	R902	E58	VM	E16
C311	D56	C519	A19	C705	E30	C914	C54	C1558	E22	D533	B22	J708	C35	Q606	E27	R127	C50	R435	E51	R550	E20	R727	D30	R903	E58	VR401	D5
C312	C55	C520	B22	C706	B29	C915	D54	C1559	E21	D601	C7	J708	E60	Q607	E26	R128	C49	R436	C45	R551	E19	R728	E29	R904	E58	VR502	C17
C313	C55	C521	A22	C707	E59	C916	D28	C1560	E37	D602	C7	J708	E60	Q608	C12	R129	C49	R437	D6	R553	C17	R729	D30	R905	E57	X101	B47
C314	D55	C523	D19	C708	D24	C917	C53	C1561	D22	D604	D4	J801	B15	Q611	C26	R130	B49	R438	E9	R554	C17	R731	B43	R906	E57	X602	B9
C315	C55	C524	C19	C710	C33	C918	D54	C1562	E22	D605	A12	J801	B15	Q701	A34	R131	A47	R439	D8	R557	E46	R732	A43	R907	B54		
C316	D55	C527	C28	C711	E58	C919	A53	C1563	D22	D606	C12	J801	B16	Q702	A44	R132	D47	R440	E51	R558	E47	R733	D29	R912	A53		
C317	C56	C533	E19	C712	C34	C1001	A58	C1564	E21	D607	B12	J801	B16	Q703	B44	R133	C47	R441	E5	R601	C26	R734	E30	R916	C54		
C318	B57	C534	B19	C714	C31	C1002	B58	CD501	A17	D608	D11	J801	B16	Q709	C34	R134	C48	R443	D11	R602	E27	R735	C29	R1001	B59		
C319	D56	C535	C20	C715	D30	C1003	B28	D001	C2	D701	C29	J801	C15	Q711	E59	R135	A49	R444	E52	R603	C7	R737	A33	R1002	B59		
C320	D55	C536	D18	C716	B29	C1004	A59	D102	C49	D702	A1	J801	C16	Q712	E59	R136	B49	R445	E52	R604	B7	R738	B30	R1003	A58		
C321	A57	C537	E19	C717	A30	C1006	D59	D103	C49	D703	A1	J1001	B60	Q801	A14	R138	D47	R446	E52	R605	A12	R739	C29	R1004	B58		
C322	D55	C538	D23	C719	E30	C1007	D59	D104	C49	D704	A1	L301	D57	Q802	C14	R139	A49	R447	E5	R606	C12	R745	E30	R1009	D58		
C323	C57	C539	A23	C720	E30	C1008	D59	D1																			



PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.
D001	MTZJ30BT-77	BZ410019	-
D102 Thru			
D105	ISS133T-77	BZ410006	NTE519
D106	MTZJ5.1BT-77	BZ410020	NTE5010T1
D107, 08	ISS133T-77	BZ410006	NTE519
D109	SLR-342VCT32	BZ410054	-
D111	MTZJ5.6BT-77	BZ410021	NTE5011T1
D401	MTZJ15BT-77	AD300670	-
D402	11E1-EIC	BZ410043	-
D403	MTZJ30BT-77	BZ410019	-
D404	MTZJ5.1BT-77	BZ410020	NTE5010T1
# D405	AU02A-EIC	BZ410063	-
# D406	MTZJ5.6BT-77	BZ410021	NTE5011T1
# D407	AU02A-EIC	BZ410063	-
# D408	ERD07-15L50	AD302110	-
# D409	FE201-6L49	AD301980	-
D410	MTZJ30BT-77	BZ410019	-
# D411	AU02A-EIC	BZ410063	-
D412	MTZJ15BT-77	AD300670	-
D413	ISS133T-77	BZ410006	NTE519
D414, 15, 16	11E1-EIC	BZ410043	-
D417	MTZJ12BT-77	AD300070	NTE5021T1
D418	ISS133T-77	BZ410006	NTE519
# D501 Thru			
# D504	RM11C-EIC	BZ410062	NTE125
# D505	30DF6-FC	AD300076	NTE580
# D506	1N4937	AD300731	NTE569
D507, 08	ISS133T-77	BZ410006	NTE519
D509	MTZJ18BT-77	AD300671	-
# D510	FE201-6L49	AD301980	-
# D511	1N4937	AD300731	NTE569
# D512	21DQ09N-TA2B1	BZ410010	-
D513	ISS133T-77	BZ410006	NTE519
D514	MTZJ10BT-77	BZ410061	-
D515	SB10-03A3	BZ410008	-
D516, 17	ISS133T-77	BZ410006	NTE519
D518	21DQ09N-TA2B1	BZ410010	-
# D519	21DQ09N-TA2B1	BZ410010	-
D520, 22	ISS133T-77	BZ410006	NTE519
# D523	MTZJ18BT-77	AD300671	-
D524	ISS133T-77	BZ410006	NTE519
D525	MTZJ3.9BT-77	BZ410064	-
D526	ISS133T-77	BZ410006	NTE519
D527	MTZJ2.2BT-77	BZ410067	-
D528	MTZJ5.6BT-77	BZ410021	NTE5011T1
D529	ISS133T-77	BZ410006	NTE519
D531	MTZJ12BT-77	AD300070	NTE5021T1
D532	ISS133T-77	BZ410006	NTE519
# D533	1N4937	AD300731	NTE569
D601	ISS133T-77	BZ410006	NTE519
D602	MTZJ8.2BT-77	BZ410058	-
D604	MTZJ12BT-77	AD300070	NTE5021T1
D605, 06, 07	ISS133T-77	BZ410006	NTE519
D608	11E1-EIC	BZ410043	-
D701	MTZJ6.2BT-77	BZ410066	NTE5013T1
D702, 03, 04	MTZJ12BT-77	AD300070	NTE5021T1
D705, 06	ISS133T-77	BZ410006	NTE519
D709	MTZJ6.2BT-77	BZ410066	NTE5013T1
D710	ISS133T-77	BZ410006	NTE519
D801 Thru			
D809	ISS133T-77	BZ410006	NTE519

Item No.	Type No.	Mfr. Part No.	NTE Part No.
D852 Thru			
D856	ISS133T-77	BZ410006	NTE519
D857, 58	10ELS2N-TA1B2	BZ410011	-
IC101	OEC7092A	AD302354	-
IC199	-	AE003310	-
IC301	NJM2150AM	AD300055	-
IC302	AN5891SA-E1V	AD301983	-
# IC401	LA78041	AD300414	-
# IC402	LA6510	AD302356	-
# IC501	BA10358F-E2	AD301770	-
# IC504	PS2561L1-1-V(W)	AD301771	-
IC601	M61283FP	AE002803	-
IC701	AN15853B-E1	AD302328	-
IC902	AN5829S	AD300059	-
# IC1001	AN5276	AD300056	-
IC1503	TC90A65FG	AE003311	-
Q101, 03	KTC3875_Y_RTK	BZ510109	-
Q401	KTC3875_Y_RTK	BZ510109	-
# Q402	KTC3227_Y_AT	BZ510097	-
# Q405	2SD2638	AD302136	-
Q408, 09	KTA1266-AT(Y,GR)	BZ510073	-
Q410	2SC4159(D,E)	AD300027	NTE54
# Q502	2SK3326(2)	BZ510098	-
# Q503	2SA1371(D,E)-AE	BZ510005	-
Q504	KTC3198-AT(Y,GR)	BZ510069	-
# Q505	2SC2909(S,T)-AA	BZ510011	-
Q506	KRC102SRTK	BZ510071	-
# Q507	KTC3198-AT(Y,GR)	BZ510069	-
# Q508	KTA1273_Y	AD300611	NTE294
# Q509	KTC3209_Y-AT	BZ510105	-
Q510	KTA1504S_Y_RTK	BZ510108	-
# Q511	KTA1273_Y	AD300611	NTE294
# Q512	2SA1624-AA	BZ510004	NTE288
# Q514	KTC3203_Y-AT	BZ510070	NTE382
Q515	KRC102SRTK	BZ510071	-
# Q516	KTC3209_Y-AT	BZ510105	-
Q517, 18	KTC3875S_Y_RTK	BZ510109	-
# Q519	KTC3209_Y-AT	BZ510105	-
Q601, 02	KTC3209_Y-AT	BZ510105	-
Q603	KTC3875S_Y_RTK	BZ510109	-
Q604	KTC3209_Y-AT	BZ510105	-
Q605	KTC3875S_Y_RTK	BZ510109	-
Q606	KTC3209_Y-AT	BZ510105	-
Q607	KTC3203_Y_AT	BZ510070	NTE382
Q608	KTC3875S_Y_RTK	BZ510109	-
Q611	KTC3209_Y-AT	BZ510105	-
Q701, 02, 03	KTC3875S_Y_RTK	BZ510109	-
Q709	KTA1504S_Y_RTK	BZ510108	-
Q711, 12	KTC3875S_Y_RTK	BZ510109	-
# Q801, 02, 03	KTC4217(O,Y)	BZ510091	-
# Q810, 11, 12	KTC3199_Y-AT	AD301032	-
Q852	KTC3198-AT(Y,GR)	BZ510069	-
Q853	2SC752(G)(TM)_Y	AD300024	NTE85
Q854, 55, 56	KTC3198-AT(Y,GR)	BZ510069	-
Q857	KTA1266-AT(Y,GR)	BZ510073	-
Q858	2SA1837	AD300029	-
Q859	2SC4793	AD300025	-
Q901, 02	KTA1504S_Y_RTK	BZ510108	-
Q1001	KRC111SRTK	BZ510068	-
Q1503, 04	KTC3875S_Y_RTK	BZ510109	-
Q1505, 06	KTA1504S_Y_RTK	BZ510108	-

PARTS LIST continued

Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Function/Rating	Mfr. Part No.	Notes
Q1507, 08	KTC3875S_Y_RTK	BZ510109	-	L701, 02	47µH	BZ310040	-
Q1509	KTA1504S_Y_RTK	BZ510108	-	L802, 03, 04	150µH	AD300123	-
Q1510	KTC3875S_Y_RTK	BZ510109	-	L901	22µH	BZ310039	-
Q1511	KTA1504S_Y_RTK	BZ510108	-	L1501	15µH	AD300613	-
Q1512, 13	KTC3875S_Y_RTK	BZ510109	-	L1502, 03	27µH	AD302362	-
Q1514, 15	KTA1504S_Y_RTK	BZ510108	-	L1504 Thru			
				L1510	22µH	BZ310039	-
				OS101	Receiver	AD301048	Remote, RPM7138-WH5
				# R410	220 5% 1W	AD300783	-
				# R413	12K 1%	-	-
				# R414	22K 1%	-	-
				# R416	2.2 5% 1/2W	BZ210053	-
				# R420	2.7 5% 1/2W	AD301345	-
				# R426	6800 1% 1/6W	AE000913	-
				# R434	5.6 5% 10W	AD301972	-
				# R436	47K 1% 1/6W	AD301594	-
				# R438	4.7 5% 2W Fusible	BZ210079	-
				# R439	1000 5% 1W	AE000676	-
				# R444, 45	12 5% 1W	AD302347	-
				# R452	1000 5% 2W	AD302348	-
				# R455	100 5% 1/2W Fusible	AD302349	-
				# R459	1 5% 1/2W Fusible	AD301595	-
				R460	68 5% 1/2W Fusible	BZ210021	-
				# R500	2.7M 10% 1/2W	BZ210080	-
				# R501	1 5% 7W	AD300035	-
				# R502	330 5% 2W	AD301016	-
				# R503	.56 5% 1W	AD302351	-
				# R506	5600 5% 1/4W	BZ210166	-
				# R517	.22 5% 3W	AD301973	-
				# R520	1.5M 5% 1/2W	BZ210206	-
				# R527	.68 5% 2W	BZ210149	-
				# R541	.22 5% 1W Fusible	BZ210190	-
				# R542	.56 5% 1W	AD302351	-
				# R602	15 5% 3W	AD302352	-
				# R643, 44	6.8 5% 3W	BZ210028	-
				# R804, 06, 08	12K 5% 2W	BZ210050	-
				# R855	150 5% 1/2W Fusible	BZ210185	-
				# R881	56 5% 2W	AD300417	-
				# RY501	Relay	AD300114	Degaussing
				# SP1001, 02	Speaker	BZ614381	8 Ohms
				SW101	Switch	BZ612010	Channel Up
				SW102	Switch	BZ612010	Channel Down
				SW103	Switch	BZ612010	Volume Up
				SW104	Switch	BZ612010	Volume Down
				SW105	Switch	BZ612010	Power
				T401	Horizontal Drive	AD301125	-
				# T501	Switching	AD302363	-
				# TH501	3.6 Cold PTC	BZ410079	-
				# TU001	Tuner	AE000273	K015AR
				# V801	CRT	AE003010	A68QCU770X66L
				VM	Coil	-	-
				VR401	1000 Vertical Position	BZ210108	-
				VR502	22K B+	BZ210101	-
				X101	Crystal	AD302002	8MHz
				X602	Crystal	AD302003	3.58MHz
					PC Board	AE003313	6db Amp, TEAA93B
					PC Board	AE000908	AV, TECB33A
					PC Board	AE003315	Comb Filter, TECB11A
					PC Board	AE003314	CRT/VM, TCA391B
					PC Board	AE003312	Main, TMC566B
					Transmitter	AD302374	Remote, CT-90158
				# For SAFETY use only equivalent replacement part.			
				(1) Bonded part of CRT.			
				(2) Screen and focus controls are part of FB401.			
Item No.	Function/Rating	Mfr. Part No.	Notes				
B401	Ferrite Bead	BZ310129	-				
B403	Ferrite Bead	BZ310122	-				
B502	Ferrite Bead	BZ310045	-				
B503, 04	Ferrite Bead	BZ310121	-				
B851, 52, 53	Ferrite Bead	BZ310121	-				
# C408	2200µF 20% 25V	BZ210176	-				
# C412	.0022 1.5kV	AE000911	-				
# C413	2200µF 20% 35V	AD300066	-				
# C418	.43 5% 250V	AE001019	-				
# C420	.013 1.25kV	AD301978	-				
# C421	.018 5% 630V	AD300048	-				
C425	.001 10% 2kV	BZ110202	-				
# C426	22µF 20% 250V	BZ110204	-				
# C430	22µF 20% 100V	BZ110195	-				
C442	6.8µF 20% 50V NP	AD301601	-				
# C501	2200µF 20% 35V	AD300066	-				
# C502, 03	.001 10% 2kV	BZ110202	-				
# C504	10µF 20% 50V	AD301348	-				
# C505	.22 20% 275VAC	BZ110025	-				
# C506	.1 20% 275VAC	BZ110035	-				
# C507	680µF 20% 200V	AE000700	-				
# C508	.0022 20% 250V	AD301108	-				
# C511	1000µF 16V	-	-				
# C513	.001 20% 250V	AD301026	-				
C517	.001 10% 2kV	BZ110202	-				
# C519	.001 20% 250V	AD301026	-				
# C521	220µF 20% 160V	AD301025	-				
# C527	1000µF 20% 16V	AD300925	-				
C535	.0015 10% 2kV	BZ110191	-				
C623	47µF NP	-	-				
C710	47µF NP	-	-				
C808	.0022 10% 2kV	BZ110226	-				
C858, 59	100pF NPO	-	-				
# CD501	Line Cord	AD300746	AC, Polarized				
# DY (1)	Yoke	-	Horiz 1mH, Vert 15.8mH				
# F501	Fuse	AD301046	6.3Amp				
# FB401 (2)	Horizontal Output	AD302315	-				
FH501, 02	Fuse Holder	AE002634	For F501 (2 Used)				
J701	Jack	AD301038	Assembly				
J702	Jack	AD300108	SVHS				
J703	Jack	AD301038	Assembly				
J704	Jack	AD301037	Assembly				
J705	Jack	AD300110	Front Video Input				
J706	Jack	AD300111	Front Left Audio Input				
J707	Jack	AD300112	Front Right Audio Input				
J708	Jack	AD301038	Assembly				
J709	Jack	AD300108	SVHS				
# J801	Socket	BZ614115	CRT				
# J1001	Jack	BZ614361	Headphone				
L301	22µH	BZ310039	-				
L401	Tilt	AD302359	-				
L402	Horizontal Linearity	AD300400	-				
L403	-	AD301606	-				
L404	4.7mH	BZ310004	-				
# L501	Line Filter	AD301124	-				
# L503	Degaussing	AE003003	-				
L601	33µH	AD301989	-				

### Important Parts Information

- Parts not listed in the parts list are commonly available at your local electronics parts retailer.
- 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

### Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors.

- NTE Electronics, Inc. (NTE)
- Sencore, Inc.

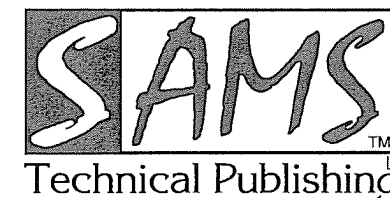
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