

SAFETY PRECAUTIONS

SERVICE WARNING

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

SERVICING THE HIGH VOLTAGE AND CRT

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

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

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

GENERAL GUIDELINES

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

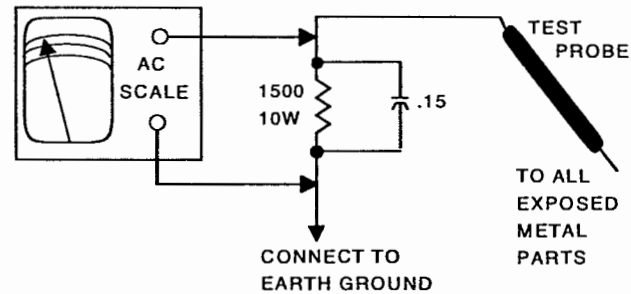
SAFETY CHECKS — FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

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

Hot Leakage Current Check

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



HIGH VOLTAGE SHUTDOWN TEST

Tune in a color bar pattern. Set color and brightness to midrange. Activate the service adjustment mode. Press the channel button (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.

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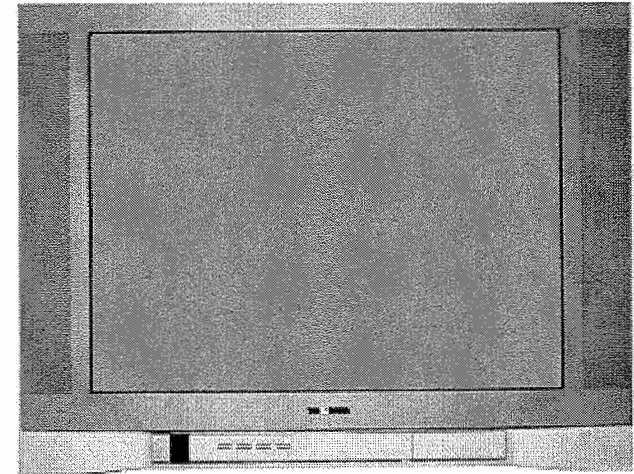
PHOTOFACT[®] Technical Service Data

SILVER

4892

4892

TOSHIBA
Models 24AF43, 27AF43



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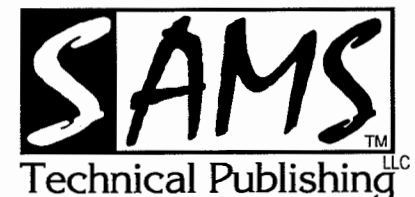
SET 4892

MODELS 24AF43, 27AF43

TOSHIBA

Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list



JUNE 2004 SET 4892

For a Complete List of Manuals,
Visit www.samswebsite.com

UPC
HERE

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MISCELLANEOUS ADJUSTMENTS

B+ CHECK

Using AC power, turn receiver on and tune in an active station. Adjust VR502 to have a reading of 115V ±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 the 9 button 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 the (01) button 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 the (12) button 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 the channel button (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 the channel button (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 the channel button (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 the (03) button 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 the (08) button 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 the (07) button on the remote to select V SIZE. Press volume up or down button to adjust for slight overscan on top and bottom.

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 the (33) button on the remote, to select LEVEL. Press the volume up or down button to have a reading of 85mV ±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 the (34) button 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.

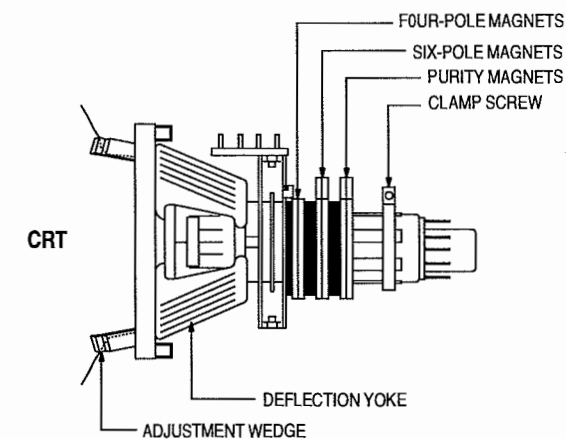
CONVERGENCE

Connect a signal generator to antenna terminal and tune in a dot pattern. Adjust the 4-pole magnets to converge the red and blue dots at the center of the screen. Adjust the 6-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



SERVICE MODE ADJUSTMENT CHART

Service No.	Service Adjustment	Data Value Range	Initial Data Value	On-Set Data Value	Notes
00	OSD H	00 - 63	33	33	Adjust for best horizontal centering on screen.
01	CUT OFF	-	-	-	No vertical sweep. Adjust screen control for a dim line.
02	H. VCO	00 - 07	03	03	Must be set to 03.
03	H. PHASE	00 - 15	12	12	Adjust for best horizontal centering on screen.
04	AFC GAIN	00 - 07	04	04	Must be set to 04.
05	V. SHIFT	00 - 07	02	02	Must be set to 02.
06	H. SIZE	00 - 63	25	25	Must be set to 25.
07	V. SIZE	00 - 63	48	48	-
08	V. LIN	00 - 63	27	27	Must be set to 27.
09	VS. CORR.	00 - 63	38	38	Must be set to 38.
10	R. DRV	00 - 127	67	67	-
11	B. DRV	00 - 127	64	64	-
12	R. BIAS	00 - 255	127	127	-
13	G. BIAS	00 - 255	167	167	-
14	B. BIAS	00 - 255	156	156	-
15	BRI. MAX	00 - 255	150	150	Must be set to 150.
16	BRI. CENT	00 - 255	79	79	Adjust for normal brightness level. Set to 79.
17	BRI. MIN	00 - 255	50	50	Must be set to 50.
18	CONT MAX	00 - 127	101	101	-
19	CONT CENT	00 - 127	64	64	Must be set to 64.
20	CONT MIN	00 - 127	16	16	Must be set to 16.
21	COL. MAX	00 - 127	90	90	Must be set to 90.
22	COL. CENT	00 - 127	68	68	Adjust for normal color level. Set to 68.
23	COL. MIN	00 - 127	00	00	Must be set to 00.
24	TINT	32 - 95	48	48	Must be set to 48.
25	SHARP	24 - 40	40	40	Must be set to 40.
26	CB DL	00 - 03	00	00	Must be set to 00.
27	CR DL	00 - 03	00	00	Must be set to 00.
28	CB PED	00 - 15	08	08	Must be set to 08.
29	CR PED	00 - 15	08	08	Must be set to 08.
30	PARABOLA	00 - 63	16	16	Must be set to 16.
31	CORNER	00 - 63	33	33	Must be set to 33.
32	TRAPEZIU	00 - 63	30	30	Must be set to 30.
33	LEVEL	00 - 63	15	15	Must be set to have 85mV±2mVAC at pin 6 of CP101.
34	SEP 1	00 - 15	07	07	-
35	SEP 2	00 - 63	39	39	-
36	X - Ray				The TV Set will shut down when this item (36) is selected, indicating that the X - Ray detection circuit is working right.
88	READ DATA	R0	10100101		

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 For 24AF43

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	50	E8	0A	A4	5E	B3	24	B7	3D	AC	AA	04	40	40	40	7F
10	50	00	00	00	00	00	00	99	3F	0F	0D	C2	A4	88	43	00

Data For 27AF43

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	50	E8	0A	64	5E	B3	24	B7	3D	AC	AA	04	40	40	40	7F
10	50	00	00	00	00	00	06	00	3F	0F	0D	C1	A8	21	43	00

TUNER INFORMATION

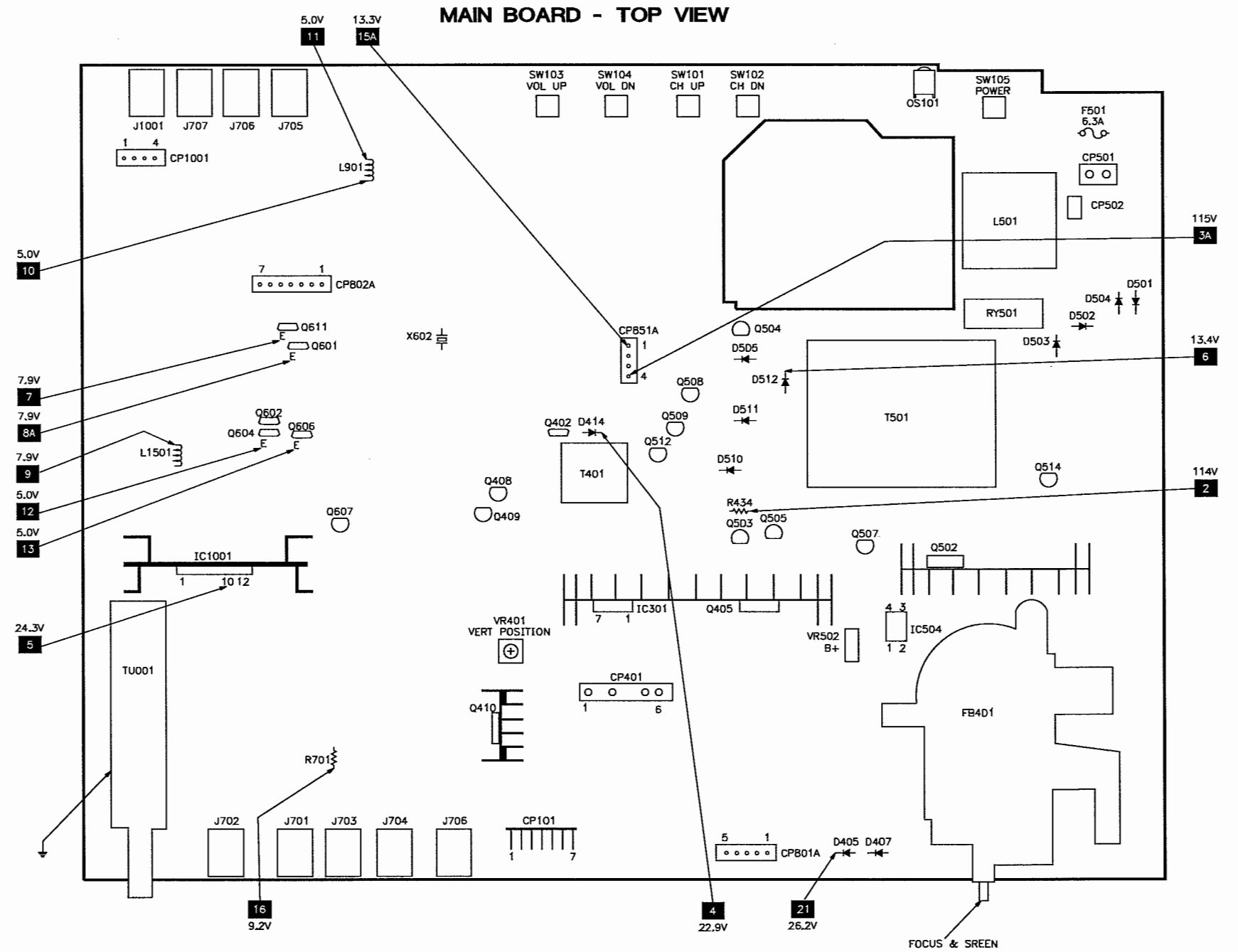
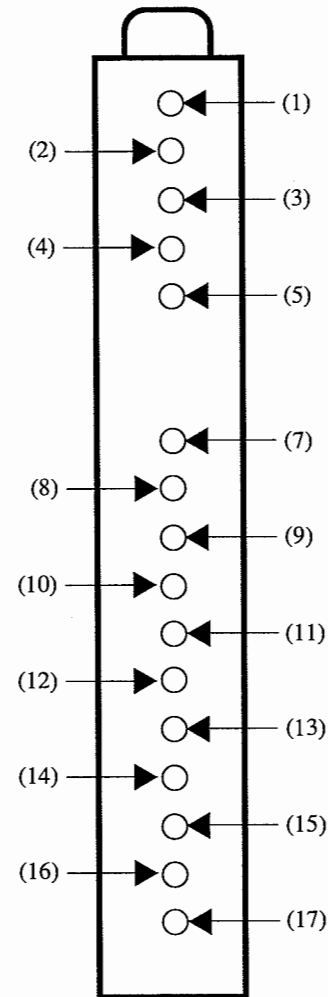
PLACEMENT CHART

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

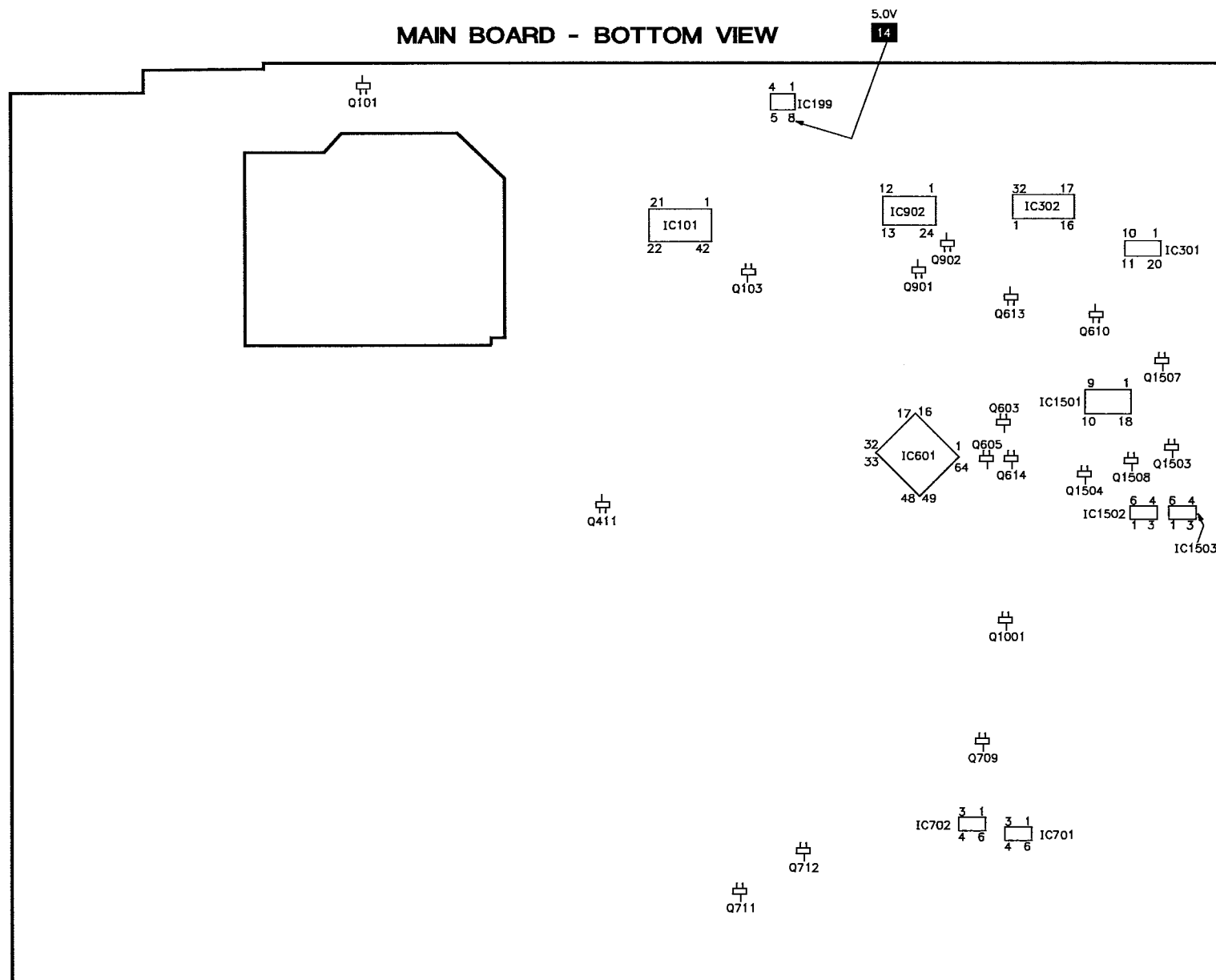
NOTE: VHF Low Band voltages taken on channel 2.
 VHF High Band voltages taken on channel 7.
 UHF Band voltages taken on channel 14.

TUNER TERMINAL GUIDE

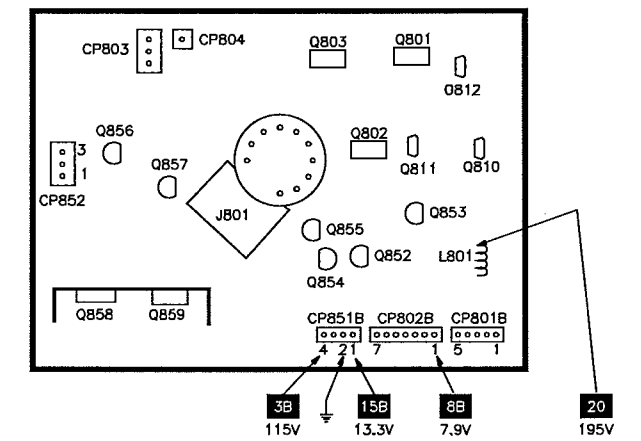


PLACEMENT CHART continued

MAIN BOARD - BOTTOM VIEW



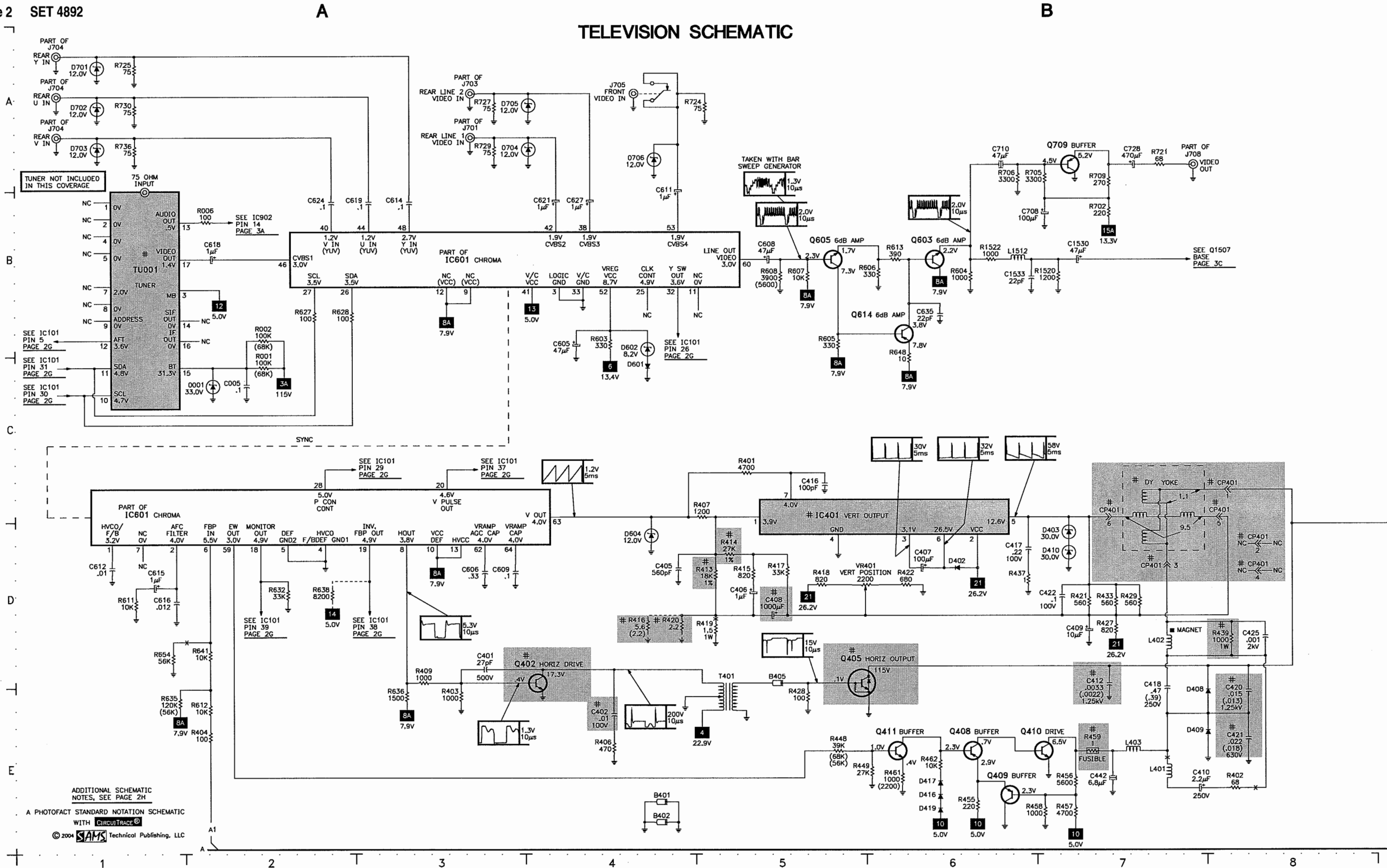
CRT/VM BOARD



TOSHIBA

MODELS 24AF43, 27AF43

TELEVISION SCHEMATIC

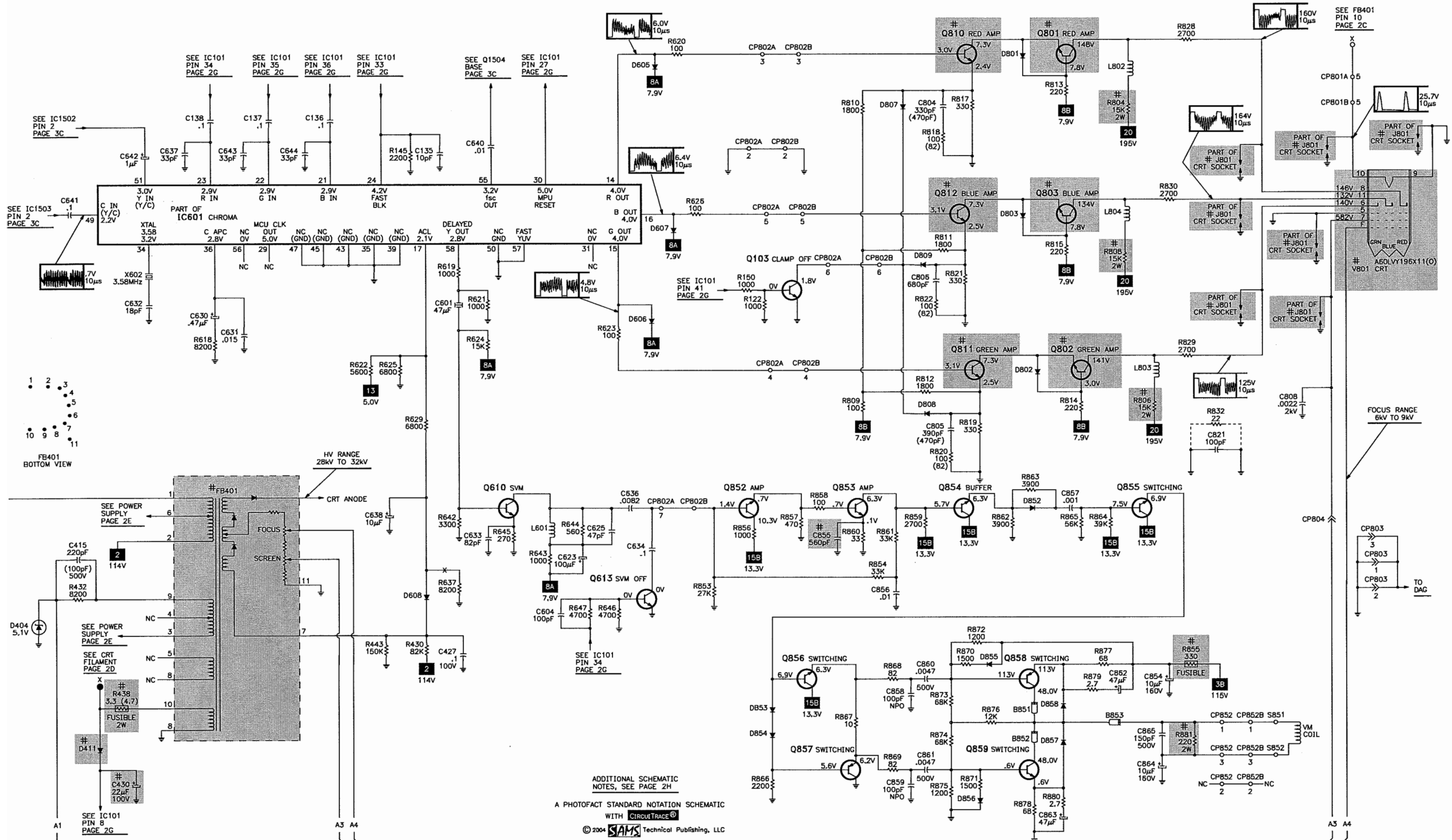


ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2H

A PHOTOFAC STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE

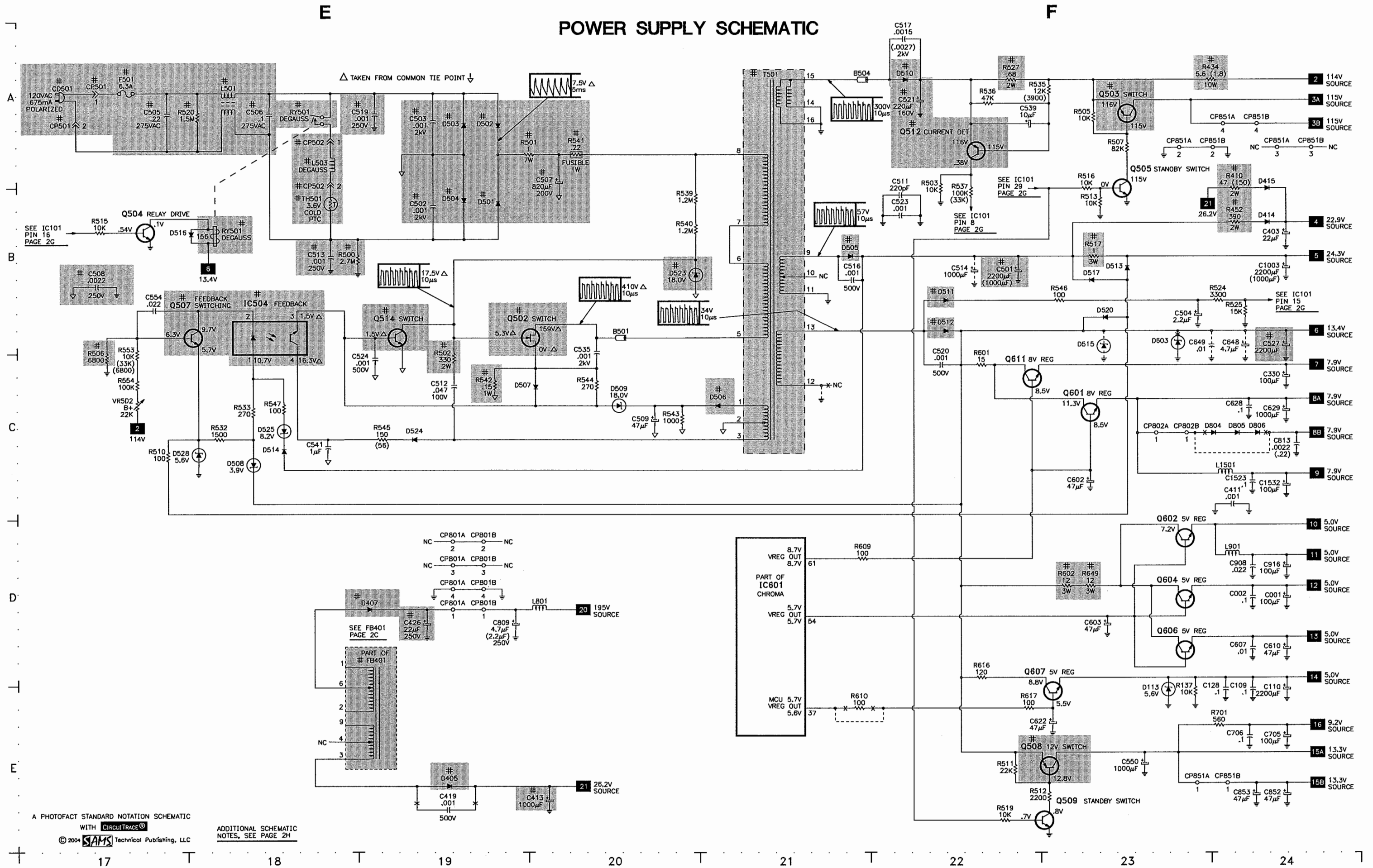
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TELEVISION SCHEMATIC continued



ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2H
 A PHOTOFAC STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®
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POWER SUPPLY SCHEMATIC

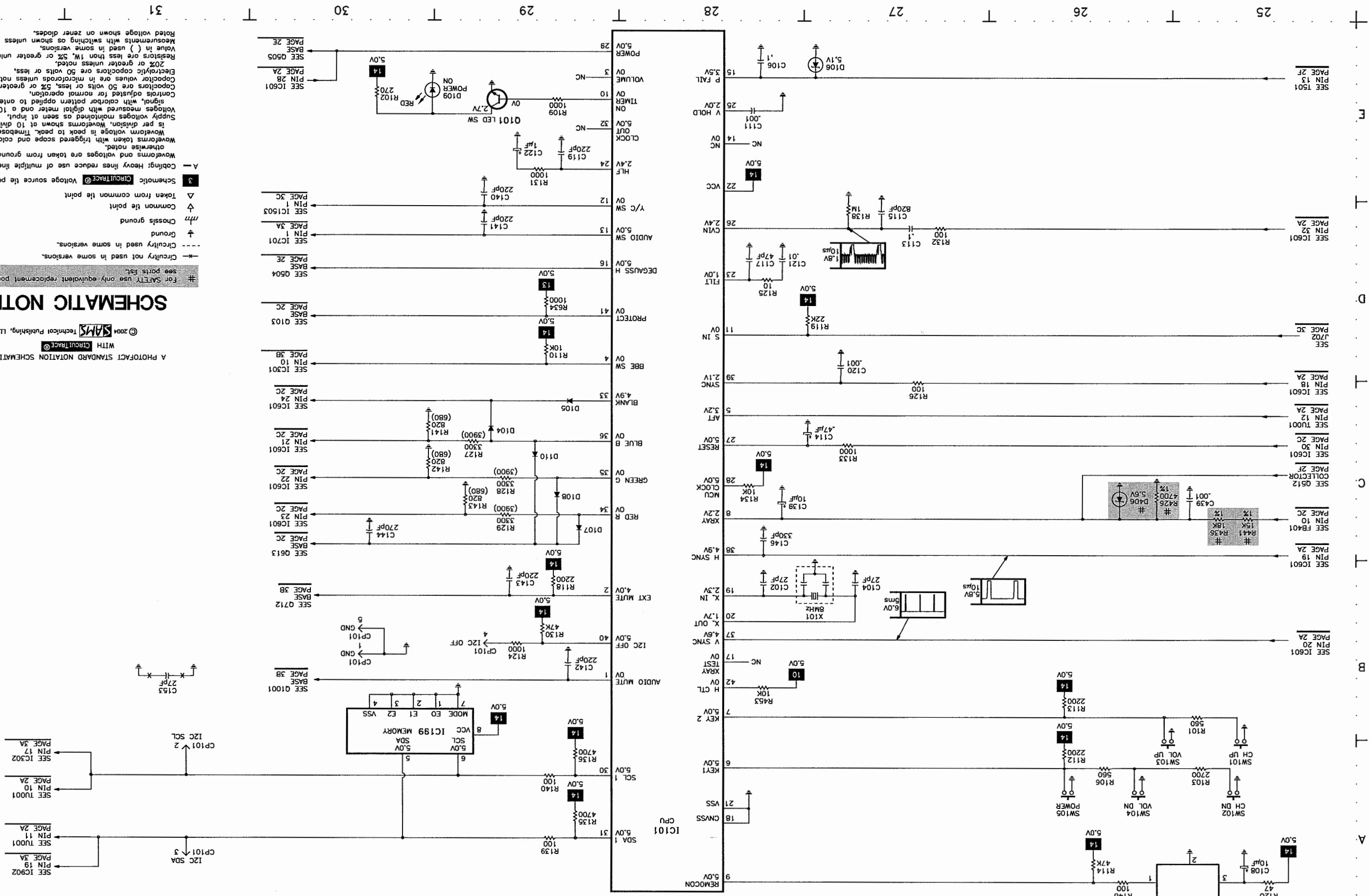


A PHOTOFAC STANDARD NOTATION SCHEMATIC
WITH CIRCUIT TRACE[®]
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ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2H

SYSTEM CONTROL SCHEMATIC

TUNER NOT INCLUDED IN THIS COVERAGE



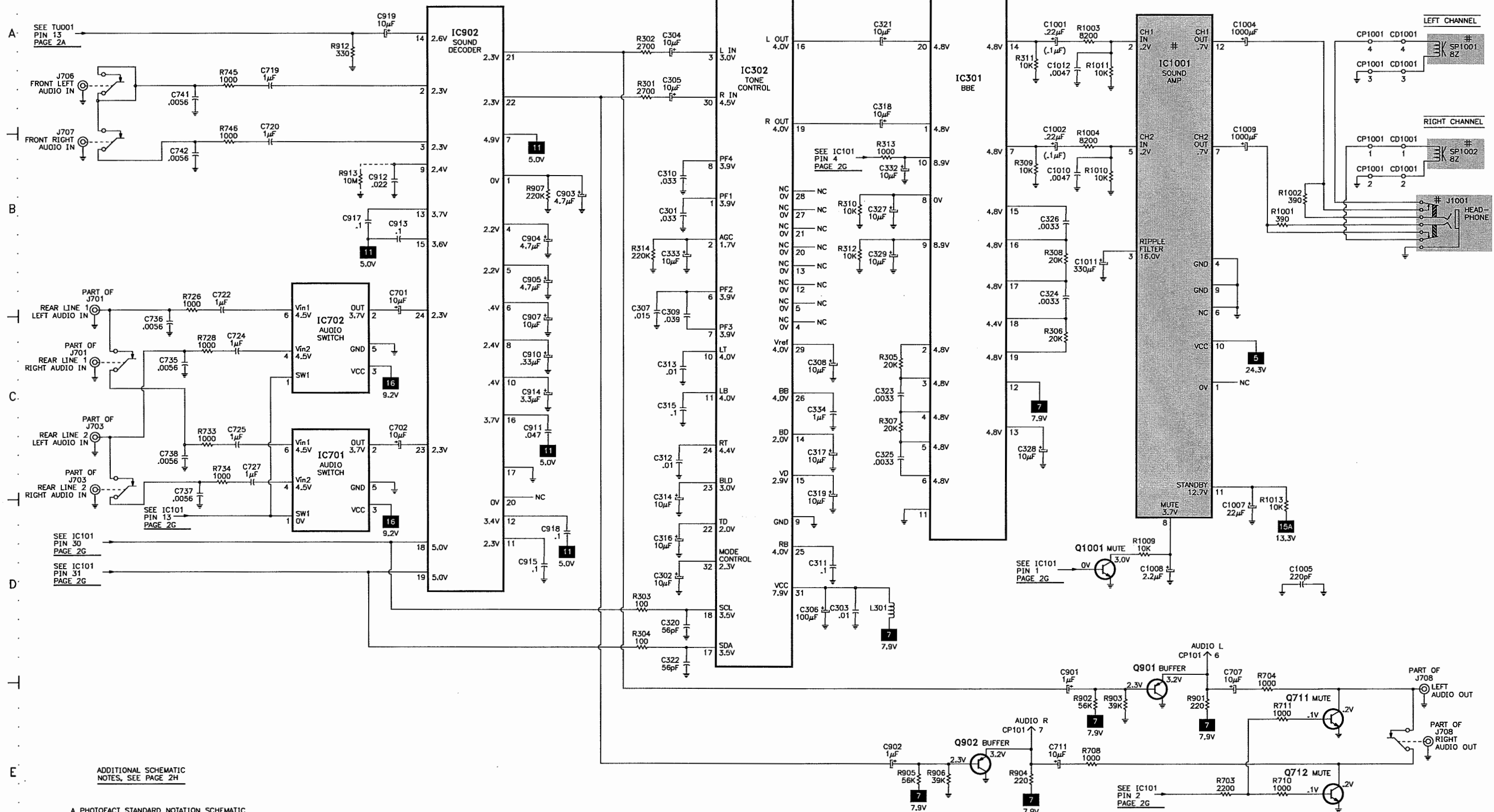
SCHEMATIC NOTES

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 CIRCUIT TRACE
 Voltage source tie point.
 Cobling: Heavy lines reduce use of multiple lines.
 Waverforms and voltages are taken from ground, unless otherwise noted.
 Waverforms taken with triggered scope and colorbar signal. Waverform voltage is peak to peak. Timebase is per division. Waverforms shown at 10 divisions. Supply voltages mentioned as seen at input. Voltages measured with digital meter and a 1000Ω RF. Capacitors are 50 volts or less, 5% or greater unless noted. Electrolytic capacitors are 50 volts or less. Resistors are less than 1W, 5% or greater unless noted. Value in () used in some versions. Measurements with switching as shown unless noted. Roted voltage shown on zener diodes.

A

AUDIO SCHEMATIC

B



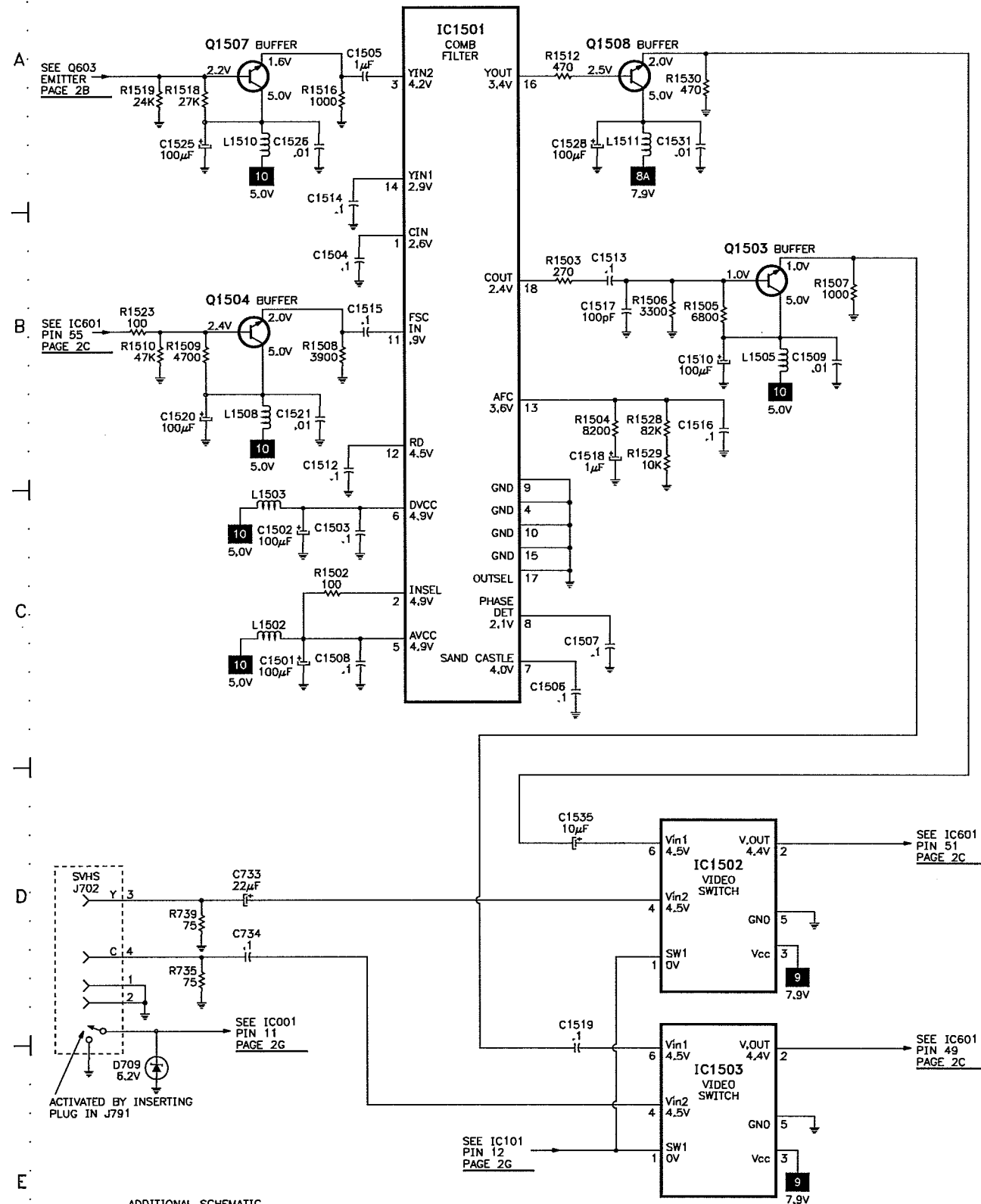
ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2H

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C COMB FILTER SCHEMATIC

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

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2H

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

WITH CIRCUITRACE®

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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:

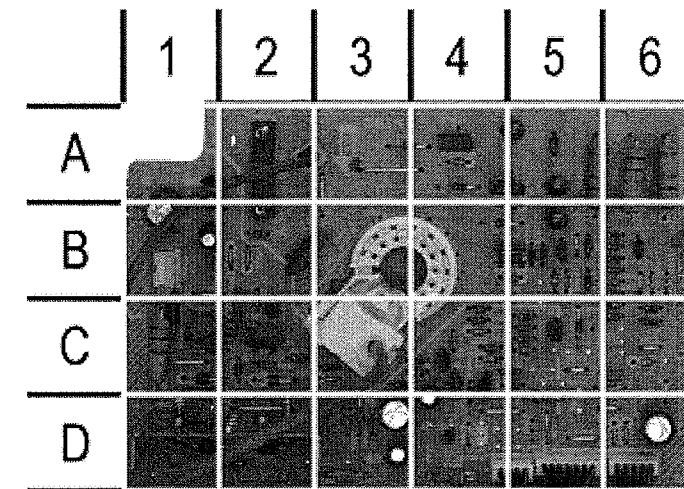
800-428-7267

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.

CRT/VM BOARD

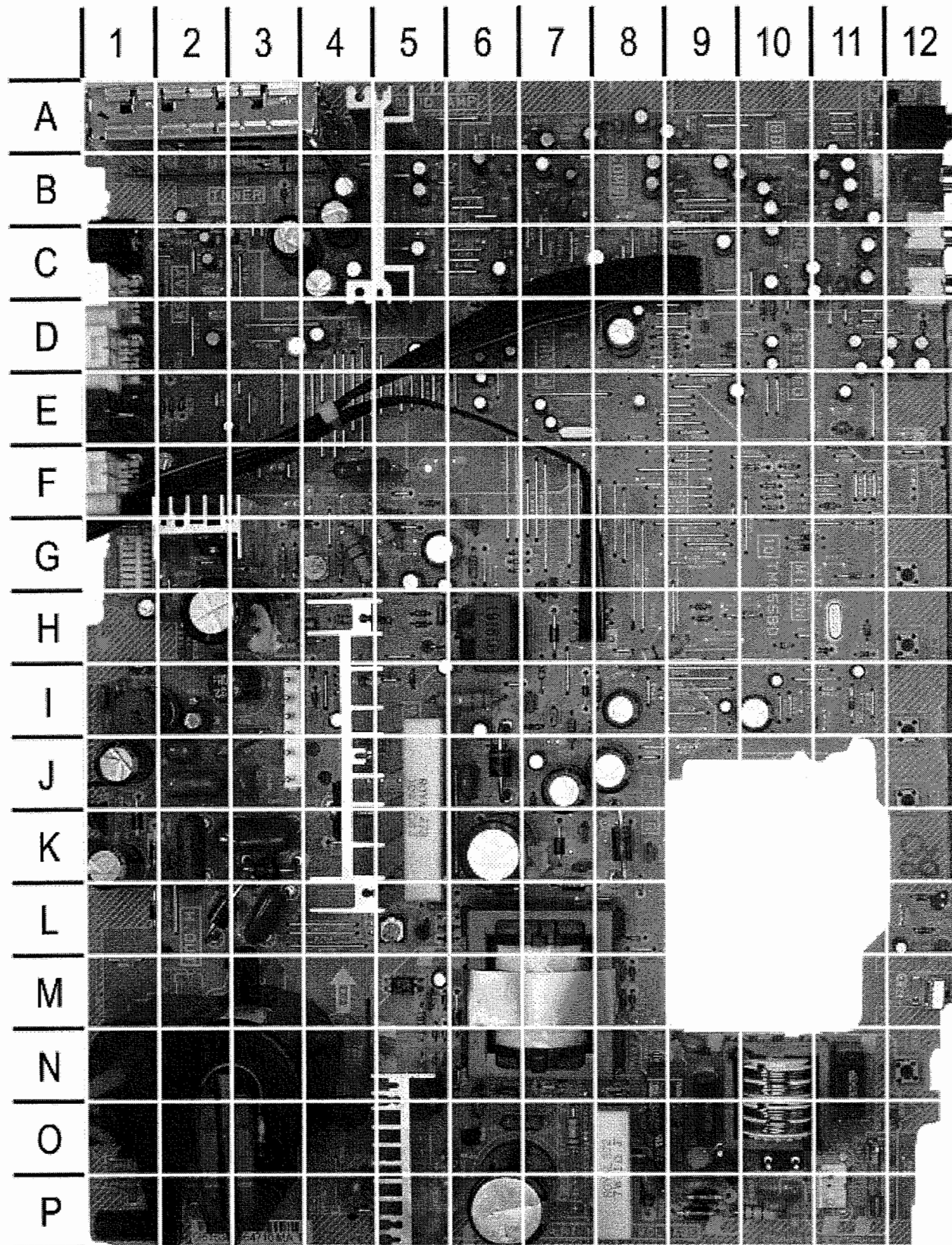


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CRT/VM BOARD, GRIDTRACE LOCATION GUIDE

B851	D1	C858	C1	D806	C6	Q802	B5	R809	B5	R853	C5	R869	C2
B852	D2	C859	C2	D807	B6	Q803	A4	R810	B6	R854	C4	R870	C3
B853	C1	C860	C1	D808	B5	Q810	B6	R811	B6	R855	D4	R871	C3
C804	B6	C861	C2	D809	B6	Q811	B5	R812	B5	R856	C5	R872	D3
C805	B5	C862	D3	D852	C4	Q812	A5	R813	B6	R857	D5	R873	C1
C806	C6	C863	A1	D853	B2	Q852	C4	R814	B5	R858	C5	R874	C2
C808	B2	C864	B1	D854	B2	Q853	C5	R815	B6	R859	C4	R875	C2
C809	D6	C865	B1	D855	D3	Q854	C4	R817	B6	R860	C5	R876	C2
C813	C6	CP803	A2	D856	C3	Q855	C4	R818	C6	R861	C5	R878	D1
C821	B2	CP804	A2	D857	C2	Q856	B1	R819	B5	R862	C4	R879	D3
C852	B1	CP852	B1	D858	C1	Q857	C2	R820	C5	R863	C4	R880	D1
C853	D4	D801	B5	J801	B3	Q858	D1	R821	C6	R864	C4	R881	C1
C854	D3	D802	B5	L802	A5	Q859	D2	R822	C6	R865	C4		
C855	C5	D803	A4	L803	B5	R804	A6	R828	A4	R866	C2		
C856	C4	D804	D6	L804	A5	R806	A5	R829	B4	R867	C2		
C857	C4	D805	D6	Q801	A4	R808	A6	R830	A3	R868	C1		

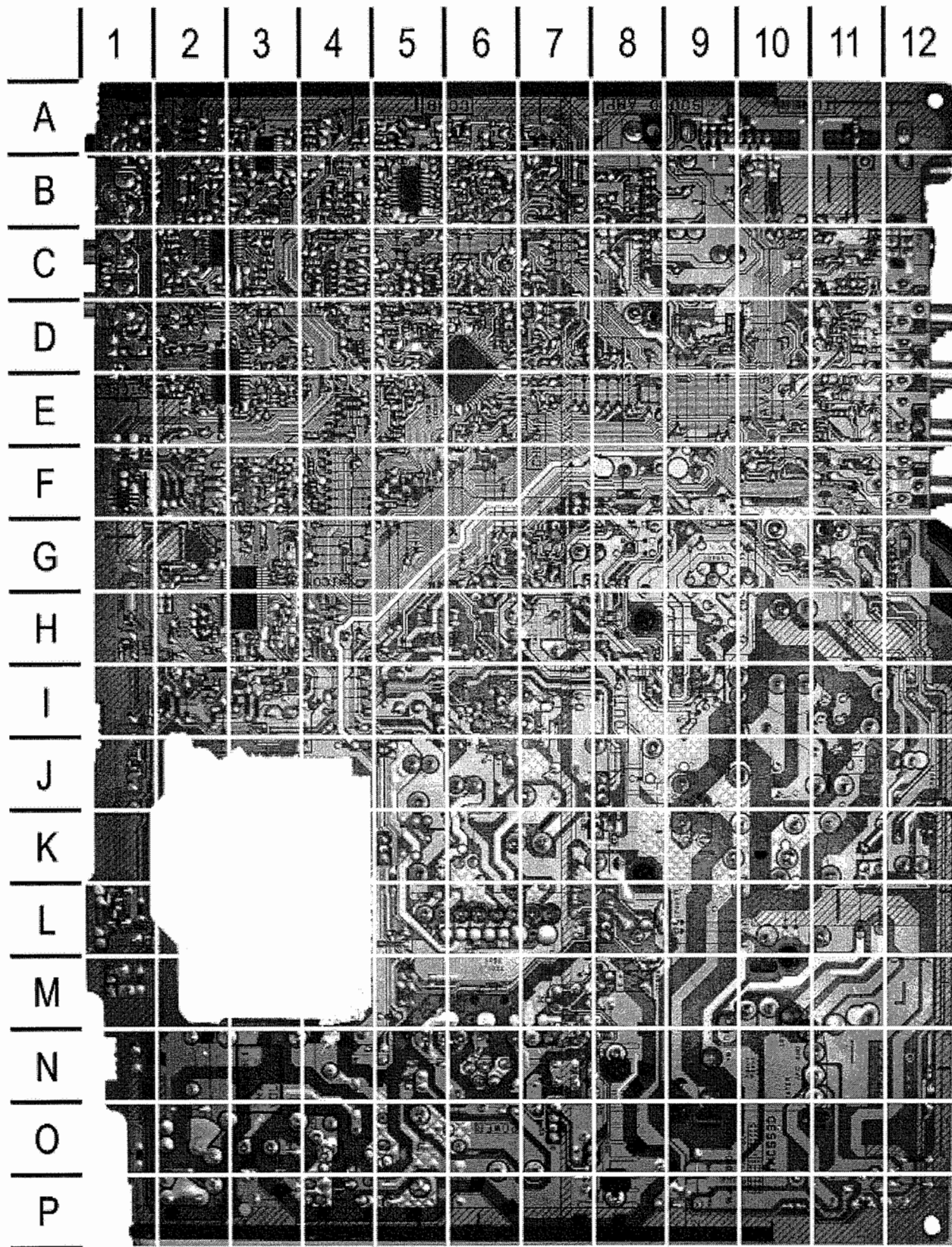
MAIN BOARD - TOP VIEW



MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

B401	I1	C430	H1	C733	C2	D406	I7	IC1001	B4	R120	L12	R517	F4
B402	I1	C442	H2	C901	D10	D407	L1	J701	C1	R124	H9	R520	O11
B405	H5	C501	J8	C902	D10	D408	K3	J702	C1	R130	G10	R524	J7
B501	N7	C502	P9	C903	D11	D409	L2	J703	D1	R132	H9	R527	I6
B504	L6	C503	P8	C904	D12	D410	I4	J704	E1	R133	I11	R535	I6
C001	B2	C504	J7	C905	D12	D411	K1	J705	C12	R139	G10	R536	J6
C108	L12	C505	N11	C907	D12	D414	H7	J706	C12	R140	G10	R537	I7
C109	H10	C506	O9	C910	D11	D415	G5	J707	B12	R146	H11	R539	N8
C110	I10	C507	P6	C914	E11	D416	G6	J708	F1	R301	C11	R540	N8
C113	H10	C508	P4	C916	D12	D417	G6	J1001	A12	R302	C10	R541	O7
C114	I11	C509	M5	C919	E9	D419	G6	L301	C11	R303	B10	R542	P5
C122	I10	C512	N6	C1001	B5	D501	P9	L401	J2	R304	B10	R543	M5
C139	I9	C513	P10	C1002	B5	D502	P8	L402	I2	R313	B10	R544	P5
C153	F11	C516	K7	C1003	C3	D503	O8	L403	I1	R402	I2	R545	N5
C302	C11	C517	J6	C1004	C4	D504	P9	L501	N10	R406	H6	R546	J7
C304	C10	C519	N9	C1005	B4	D505	K8	L601	B9	R410	G4	R547	M8
C305	C11	C520	K7	C1007	C4	D506	M6	L901	E11	R413	H5	R553	L5
C306	C11	C521	K6	C1008	C5	D507	P5	L1501	B6	R414	H5	R554	L5
C308	B11	C523	J9	C1009	B4	D508	M8	L1502	A9	R418	D4	R601	C8
C314	B11	C524	M5	C1011	B4	D509	M5	L1503	B9	R419	G5	R602	B7
C316	B11	C527	J7	C1501	B8	D510	J6	L1505	A8	R421	H4	R603	C6
C317	C10	C535	O6	C1502	B8	D511	K7	L1508	B6	R422	G3	R616	D6
C318	B11	C539	I6	C1510	A7	D512	L7	L1510	A8	R426	I8	R623	C9
C319	B10	C550	I8	C1518	B7	D513	F4	L1511	A7	R427	G3	R626	C9
C321	B10	C601	C8	C1520	B7	D514	L8	L1512	C9	R428	I5	R648	C7
C327	A11	C602	C8	C1525	A8	D516	N8	OS101	M12	R429	H4	R649	B6
C328	B9	C603	C7	C1528	A7	D517	K8	Q402	G7	R430	P2	R701	D3
C329	B11	C605	D6	C1530	A9	D520	L8	Q405	J4	R432	O2	R702	D4
C330	B10	C606	C8	C1532	B6	D523	N8	Q408	G6	R433	H4	R710	F3
C332	B11	C608	C7	C1535	A7	D524	N5	Q409	F6	R434	J5	R901	D9
C333	C11	C609	D7	CP101	G1	D525	M8	Q410	G2	R436	G3	R902	D9
C401	G7	C610	C6	CP401	I3	D528	L5	Q502	O5	R437	H4	R904	D10
C402	H5	C611	D6	CP501	P11	D601	D6	Q503	J5	R438	P1	R905	D10
C403	I5	C615	D8	CP502	O10	D602	D6	Q504	K8	R439	J3	R1001	A11
C406	G5	C618	E6	CP801A	K1	D603	D6	Q505	K5	R441	G2	R1002	A11
C407	G5	C621	E6	CP802A	C9	D604	C9	Q507	L5	R443	P1	R1009	C5
C408	G5	C622	D5	CP851A	H7	D605	D9	Q508	I7	R452	H8	RY501	N11
C409	I4	C623	C9	CP1001	B11	D606	D9	Q509	I7	R455	G6	SW101	I12
C410	I2	C627	E7	D001	B3	D607	E8	Q512	I7	R456	F5	SW102	J12
C412	L3	C629	D8	D104	F10	D608	G2	Q514	O6	R457	F5	SW103	G12
C413	J1	C630	E7	D105	F10	D701	E2	Q601	C8	R459	H2	SW104	H12
C415	O1	C638	E8	D106	H11	D702	E2	Q602	D6	R500	P10	SW105	N12
C417	H4	C642	D6	D107	F10	D703	E2	Q604	C6	R501	O8	T401	H6
C418	J2	C701	C2	D108	F10	D704	C2	Q606	D6	R502	O6	T501	M7
C419	K2	C702	C2	D109	L12	D705	D2	Q607	D5	R503	I7	TH501	O9
C420	K3	C705	D2	D110	F10	D706	D12	Q611	C8	R505	J5	TU001	A3
C421	K2	C707	F3	D113	H11	D709	C2	R001	H7	R506	L5	VR401	G4
C422	H3	C708	D4	D402	G4	F501	P12	R002	H7	R507	K5	VR502	L5
C425	J3	C710	D3	D403	I4	FB401	O2	R102	L12	R510	M8	X101	H11
C426	K1	C711	E2	D404	P1	IC401	I4	R118	G11	R512	I7	X602	E7
C427	I1	C728	F2	D405	K1	IC504	M5	R119	F11	R515	I11		

MAIN BOARD - BOTTOM VIEW



MAIN BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

C002	A11	C416	I8	C911	E3	Q411	G7	R145	E3	R613	C6	R733	C11
C005	B9	C439	G9	C912	E1	Q603	C5	R150	G3	R617	E6	R734	D11
C102	H2	C511	L6	C913	E3	Q605	C6	R305	A3	R618	F6	R735	C11
C104	H2	C541	M7	C915	E2	Q610	B4	R306	A4	R619	C6	R736	E11
C106	I3	C554	L8	C917	E3	Q613	C4	R307	A3	R620	C4	R739	C11
C111	H3	C604	F1	C918	E2	Q614	C6	R308	A4	R621	C6	R745	C1
C115	H3	C607	C7	C1010	B8	Q709	D10	R309	A2	R622	E5	R746	B1
C117	H3	C612	D6	C1012	B8	Q711	F11	R310	A2	R624	C4	R903	E3
C119	H3	C614	E6	C1503	B5	Q712	E11	R311	B4	R625	E5	R906	D3
C120	G3	C616	D5	C1504	B5	Q901	D3	R312	B2	R627	F5	R907	D2
C121	I3	C619	E11	C1505	A6	Q902	D3	R314	C2	R628	F5	R912	E4
C128	F1	C624	E6	C1506	B5	Q1001	C8	R401	G7	R629	E5	R1003	B8
C135	F3	C625	B4	C1507	B5	Q1503	A6	R403	H7	R632	F5	R1004	B8
C136	F4	C628	D5	C1508	B5	Q1504	B6	R404	N12	R634	E5	R1010	B8
C137	F4	C631	E6	C1509	A5	Q1507	A5	R407	H8	R635	B5	R1011	B8
C138	F4	C632	E6	C1512	B5	Q1508	B6	R409	G6	R636	D5	R1013	D9
C140	F3	C633	B4	C1513	B6	R006	A10	R415	G7	R637	E5	R1502	A5
C141	F3	C634	C4	C1514	B5	R101	H1	R417	G7	R641	D5	R1503	B5
C142	F2	C635	C6	C1515	B6	R103	J1	R448	G7	R642	C5	R1504	B6
C143	E4	C636	C4	C1516	B5	R106	J1	R449	G8	R643	C4	R1505	A6
C144	F2	C637	F5	C1517	A6	R109	H1	R453	H6	R644	C4	R1506	B6
C146	G3	C640	D6	C1519	A6	R110	G2	R458	G8	R645	B4	R1507	A6
C301	C3	C641	D6	C1521	B6	R112	I1	R461	G7	R646	E1	R1508	B6
C303	C2	C643	F5	C1523	B7	R113	I2	R462	G6	R647	F1	R1509	B6
C307	C3	C644	F5	C1526	A5	R114	I2	R511	I6	R654	D5	R1510	B6
C309	C3	C706	D11	C1531	A6	R122	G3	R513	K8	R703	E9	R1512	B5
C310	C3	C719	C1	C1533	B4	R125	H3	R516	K8	R704	F10	R1516	A5
C311	C2	C720	B1	IC101	G3	R126	G3	R519	I5	R705	D9	R1518	A5
C312	B2	C722	D11	IC199	F1	R127	F3	R525	J6	R706	D10	R1519	A4
C313	C3	C724	D11	IC301	A3	R128	G3	R532	M6	R708	E11	R1520	B4
C315	C3	C725	C11	IC302	C2	R129	F3	R533	M6	R709	D9	R1522	C5
C320	B3	C727	D11	IC601	D6	R131	I3	R604	C5	R711	F11	R1523	D6
C322	B2	C734	C11	IC701	C11	R134	F3	R605	C6	R721	F11	R1528	B6
C323	A3	C735	E11	IC702	D11	R135	G3	R606	C6	R724	D1	R1529	B6
C324	A4	C736	D11	IC902	D2	R136	F3	R607	D6	R725	E11	R1530	A6
C325	A3	C737	D11	IC1501	B5	R137	I3	R608	D6	R726	D11		
C326	A4	C738	C11	IC1502	A7	R138	H3	R609	D6	R727	E11		
C334	C2	C741	C1	IC1503	A7	R141	F3	R610	D6	R728	E11		
C405	I8	C742	B1	Q101	L1	R142	F3	R611	D5	R729	C11		
C411	G11	C908	D1	Q103	G3	R143	F3	R612	D4	R730	E12		

PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.
D001	MTZJ33BT-77	BZ410037	-
D104, 05	1SS133T-77	BZ410006	NTE519
D106	MTZJ5.1BT-77	BZ410020	NTE5010T1
D107, 08	1SS133T-77	BZ410006	NTE519
D109	SLR-342VCT32	BZ410054	-
D110	1SS133T-77	BZ410006	NTE519
D113	MTZJ5.6BT-77	BZ410021	NTE5011T1
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	-
D414, 15	11E1-EIC	BZ410043	-
D416, 17, 19	1SS133T-77	BZ410006	NTE519
# D501 Thru			
# D504	RM11C-EIC	BZ410062	NTE125
# D505	30DF6-FC	AD300076	NTE580
# D506	1N4937	AD300731	NTE569
D507	1SS133T-77	BZ410006	NTE519
D508	MTZJ3.9BT-77	BZ410064	-
D509	MTZJ18BT-77	AD300671	-
# D510	FE201-6L49	AD301980	-
# D511	1N4937	AD300731	NTE569
# D512	21DQ09N-TA2B1	BZ410010	-
D513, 14	1SS133T-77	BZ410006	NTE519
D515 (2)	MTZJ15BT-77	AD300670	-
D516, 17, 20	1SS133T-77	BZ410006	NTE519
# D523	MTZJ18BT-77	AD300671	-
D524	1SS133T-77	BZ410006	NTE519
D525	MTZJ18BT-77	AD300671	-
D528	MTZJ5.6BT-77	BZ410021	NTE5011T1
D601	1SS133T-77	BZ410006	NTE519
D602	MTZJ8.2BT-77	BZ410058	-
D603	MTZJ15BT-77	AD300670	-
D604	MTZJ12BT-77	AD300070	NTE5021T1
D605, 06, 07	1SS133T-77	BZ410006	NTE519
D608	11E1-EIC	BZ410043	-
D701 Thru			
D706	MTZJ12BT-77	AD300070	NTE5021T1
D709	MTZJ6.2BT-77	BZ410066	NTE5013T1
D801 Thru			
D809	1SS133T-77	BZ410006	NTE519
D852 Thru			
D856	1SS133T-77	BZ410006	NTE519
D857, 58	10ELS2N-TA1B2	BZ410011	-
IC101	OEC7090A	AD301981	-
IC199 (1)	S-24C16AFJA-TB-01	AD302135	-
IC199 (2)	S-24C16AFJA-TB-01	AE000902	-
IC301	NJM2150AM	AD300055	-
IC302	AN5891SA-E1V	AD301983	-
# IC401	LA78041	AD300414	-
# IC504	LTV-817M-VB	BZ410088	-
IC601	M61283FP	AD301984	-
IC701, 02	MM1501XNRE	AD301988	-
IC902	AN5829S	AD300059	-
# IC1001	AN5276	AD300056	-
IC1501	LA76600M-TLM	AD301029	-

Item No.	Type No.	Mfr. Part No.	NTE Part No.
IC1502, 03	MM1501XNRE	AD301988	-
Q101, 03	KTC3875S_Y_RTK	BZ510109	-
# Q402	KTC3227_Y_AT	BZ510097	-
# Q405	2SD2638	AD302136	-
Q408, 09	KTA1266-AT(Y,GR)	BZ510073	-
Q410	2SC4159(D,E)	AD300027	NTE54
Q411	KTC3875S_Y_RTK	BZ510109	-
# Q502	2SK3326(2)	BZ510098	-
# Q503	2SA1371(D,E)-AE	BZ510005	-
Q504	KTC3198-AT(Y,GR)	BZ510069	-
Q505	2SC2909(S,T)-AA	BZ510011	-
# Q507	KTC3198-AT(Y,GR)	BZ510069	-
# Q508	KTA1271_Y-AT	BZ510077	-
Q509	KTC3198-AT(Y,GR)	BZ510069	-
# Q512	2SA1624-AA	BZ510004	NTE288
# Q514	KTC3203_Y-AT	BZ510070	NTE382
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
Q610	KTC3875S_Y_RTK	BZ510109	-
Q611	KTC3209_Y-AT	BZ510105	-
Q613	KTC3875S_Y_RTK	BZ510109	-
Q614	KTA1504S_Y_RTK	BZ510108	-
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	KRC111SR TK	BZ510068	-
Q1503, 04	KTC3875S_Y_RTK	BZ510109	-
Q1507, 08	KTC3875S_Y_RTK	BZ510109	-

Item No.	Function/Rating	Mfr. Part No.	Notes
B401, 02, 05	Ferrite Bead	BZ310129	-
B501	Ferrite Bead	BZ310045	-
B504	Ferrite Bead	BZ310121	-
B851, 52, 53	Ferrite Bead	BZ310121	-
# C402	.01 100V	AE000416	-
# C408	1000µF 25V	BZ110032	-
# C412	.0033 1.25kV	AD301303	-
	.0022 1.25kV	BZ110060	-
# C413	1000µF 20% 35V	AD301977	-
# C420	.015 1.25kV	AD300723	-
	.013 1.25kV	AD301978	-
# C421	.022 5% 630V	AD301600	-
	.018 5% 630V	AD300048	-
C425	.001 10% 2kV	BZ110182	-
	.001 10% 2kV	BZ110202	-
# C426	22µF 20% 250V	AD300061	-
# C430	22µF 20% 100V	BZ110195	-
C442	6.8µF 20% 50V NP	AD301601	-
# C501	2200µF 20% 25V	BZ210176	-
	1000µF 20% 35V	AD300067	-

PARTS LIST continued

Item No.	Function/Rating	Mfr. Part No.	Notes	Item No.	Function/Rating	Mfr. Part No.	Notes
# C502, 03	.001 10% 2kV	BZ110182	-	# R420	2.2	-	-
	.001 10% 2kV	BZ110202	-	# R426	4700 1% 1/4W	BZ210030	-
# C505	.22 20% 275VAC	BZ110025	-	# R434	5.6 5% 10W	-	-
# C506	.1 20% 275VAC	BZ110035	-		1.8 5% 10W	BZ210259	-
# C507	820µF 20% 200V	AE000417	-	# R436	18K 1% 1/4W	BZ210023	-
# C508	.0022 20% 250V	AD301108	-	# R438	3.3 5% 2W Fusible	AD302133	-
# C513	.001 20% 250V	AD301026	-		4.7 5% 2W Fusible	BZ210169	-
C517	.0015 10% 2kV	BZ110191	-	# R439	1000 5% 1W	BZ210003	-
	.0027 10% 2kV	BZ110213	-		1000 5% 1W	AE000676	-
# C519	.001 20% 250V	AD301026	-	# R441	15K 1% 1/6W	AD300037	-
# C521	220µF 20% 160V	AD301025	-	# R452	390 5% 2W	AD301385	-
# C527	2200µF 20% 16V	BZ110119	-	# R459	1 5% 1/2W Fusible	AD301595	-
C535	.001 10% 2kV	BZ110182	-	# R500	2.7M 10% 1/2W	BZ210080	-
	.001 10% 2kV	BZ110202	-	# R501	1 5% 7W	AD301596	-
C601	47µF NP	-	-	# R502	330 5% 2W	AD301016	-
C710	47µF NP	-	-	# R506	6800 5% 1/4W	BZ210162	-
C808	.0022 10% 2kV	BZ110226	-	# R517	1 5% 3W	BZ210191	-
C858, 59	100pF NPO	-	-	# R520	1.5M 5% 1/2W	BZ210206	-
# C855	560pF 5% 50V	AE000418	-	# R527	.68 5% 2W	BZ210149	-
# CD501	Line Cord	AD300746	AC, Polarized	# R541	.22 5% 1W Fusible	BZ210190	-
# DY (4)	Yoke	-	Horiz 1mH, Vert 18.5mH	# R542	.15 5% 1W	AD301017	-
# F501	Fuse	AD301046	6.3Amp	# R602, 49	12 5% 3W	AD301975	-
# FB401 (1)(5)	Horizontal Output	AD302140	-	# R804, 06, 08	15K 5% 2W	BZ210026	-
# FB401 (2)(5)	Horizontal Output	AD302315	-	# R855	330 5% 1/2W Fusible	AD301019	-
FH501, 02	Fuse Holder	BZ614005	For F501	# R881	220 5% 2W	BZ210087	-
J701	Jack	AD301038	Assembly	# RY501	Relay	AD300114	Degaussing
J702	Jack	AD300108	SVHS	# SP1001, 2 (1)	Speaker	AD301050	2" X 5", 8 Ohms, 10W
J703	Jack	AD301038	Assembly	# SP1001, 2 (2)	Speaker	BZ614381	-
J704	Jack	AD301037	Assembly	SW101	Switch	BZ612010	Channel Up
J705	Jack	AD300110	Front Video Input	SW102	Switch	BZ612010	Channel Down
J706	Jack	AD300111	Front Left Audio Input	SW103	Switch	BZ612010	Volume Up
J707	Jack	AD300112	Front Right Audio Input	SW104	Switch	BZ612010	Volume Down
J708	Jack	AD301038	Assembly	SW105	Switch	BZ612010	Power
# J801	Socket	BZ614115	CRT	T401	Horizontal Drive	AD301125	-
# J1001	Jack	BZ614361	Headphone	# T501 (1)	Switching	AD301034	-
L301	100µH	BZ310041	-	# T501 (2)	Switching	AD301355	-
L401	-	-	-	# TH501	3.6 Cold PTC	BZ410079	-
L402	Horizontal Linearity	AD300400	-	# TU001	Tuner	AE000273	115-V-K015AR B
L403	-	AD301606	-	# V801 (1)	CRT	AD301131	A60LVY196X11(O)
# L501	Line Filter	AD301124	-	# V801 (2)	CRT	AD302375	A68LXZ696X04
# L503 (1)	Degaussing	AD300401	-	VM	Coil	-	-
# L503 (2)	Degaussing	AD302360	-	VR401	2200 Position	BZ210218	-
L601	33µH	AD301989	-	VR502	22K B+	BZ210101	-
L801	100µH	BZ310002	-	X101	Crystal	AD302002	8MHz
L802, 03, 04	150µH	AD300123	-	X602	Crystal	AD302003	3.58MHz
L901	100µH	BZ310041	-	PC Board (1)	AE000422	CRT/VM, TCA391B	
L1501	100µH	BZ310041	-	PC Board (2)	AE000905	CRT/VM, TCA391B	
L1502 (1)	220µH	AD301417	-	PC Board (1)	-	Main, TMC559D	
L1502 (2)	22µH	BZ310039	-	PC Board (1)	AE000420	Main, TMC559B	
L1503 (1)	220µH	AD301417	-	PC Board (2)	AE000903	Main, TMC559B	
L1503 (2)	22µH	BZ310039	-	PC Board (3)	AE000906	Main, TMC559B	
L1505	15µH	AD300613	-	PC Board (1)	AE000421	VM, TEAA93B	
L1508	100µH	BZ310041	-	PC Board (2)	AE000904	VM, TEAA93B	
L1510, 11	15µH	AD300613	-	Transmitter	AD302001	Remote, R25-1911	
L1512	22µH	AD301608	-				
OS101	Receiver	AD301048	Remote, RPM7138-H5				
# R410	47 5% 2W	AD302107	-				
	150 5% 2W	AD301344	-				
# R413	18K 1% 1/6W	-	-				
# R414	27K 1% 1/6W	-	-				
# R416	5.6	-	-				
	2.2	-	-				

For SAFETY use only equivalent replacement part.
 (1) Used in model 24AF43.
 (2) Used in model 27AF43.
 (3) Used in model 27AF43 Canadian versions.
 (4) Bonded to CRT.
 (5) Screen and focus controls are part of FB401.

TOSHIBA
 MODELS 24AF43, 27AF43