

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.

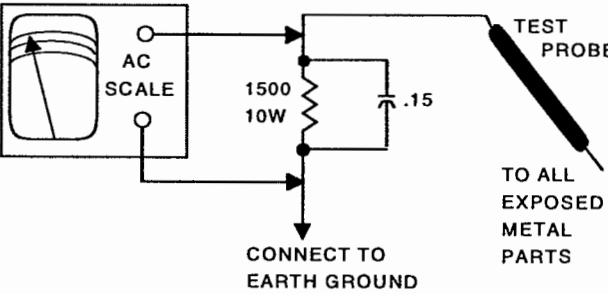
SAFETY CHECKS — FIRE AND SHOCK HAZARD

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

Apply 120VAC, turn receiver on and set all customer controls for normal operation. Measure the voltage at TP7. Voltage should measure between 52.0V and 62.0V. If the voltage exceeds this range the circuit must be repaired. Momentarily connect a jumper between TP7 and the cathode of D418. The receiver should lose raster and sound. If the receiver does not lose raster and sound the shutdown circuit should be repaired. To resume normal operation remove the AC power for 30 seconds and then restore AC power.

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

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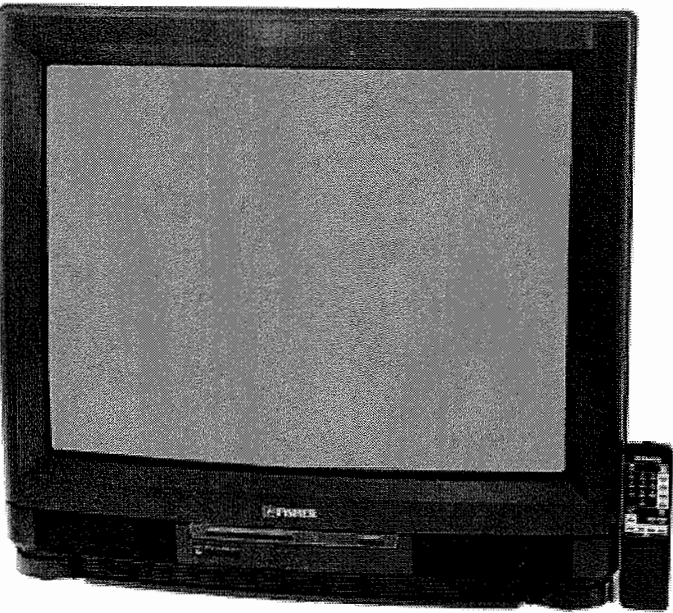
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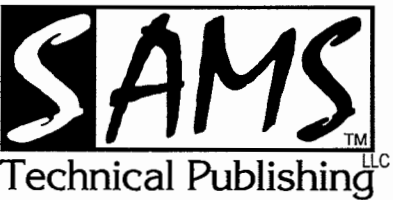
FISHER
Model PC2525 (Chassis G3F-25250)



Representative Model

Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list



JUNE 2004 SET 4893

SET 4893

MODEL PC2525 (CHASSIS G3F-25250)

FISHER

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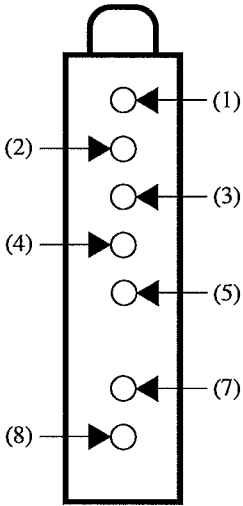
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) UB	0V	0V	0V
(2) TU	1.6V	5.0V	6.0V
(3) HB	0V	0V	0V
(4) AGC	3.2V	3.5V	3.8V
(5) LB	11.0V	0.0V	0.0V
(7) MB	12.0V	12.0V	12.0V
(8) IF	0V	0V	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.

TUNER TERMINAL GUIDE



MISCELLANEOUS ADJUSTMENTS

HIGH VOLTAGE CHECK

Tune in a picture. Set brightness, color, picture, and screen control to minimum. Connect a high voltage probe to CRT anode. High voltage should measure 27kV to 30kV.

B+ CHECK

Connect a digital DC voltmeter to pin 4 of IC001. Set brightness and picture to maximum. With AC line set to 120VAC, B+ should read 130V ±2.0V.

RF AGC DELAY

Tune in a picture. Adjust VR101 to a point where no snow (noise) appears in picture. Check all channels for proper operation.

VERTICAL SIZE

Tune in a crosshatch pattern. Adjust VR451 to have the proper vertical size and best vertical linearity.

VERTICAL CENTERING

Tune in a crosshatch pattern. Check that the pattern is centered. If too low, install resistor R460 (470 ohms, 1W). If too high, install resistor R461 (470 ohms, 1W).

GRAY SCALE

Tune in an active channel. Set the drive controls VR704, and VR705 to mid position. Set the bias controls VR701, VR702, and VR703 to minimum. Set service tip to service position. Set screen control, color, brightness, and picture to minimum. Adjust screen control, if necessary, to obtain a barely visible horizontal line. Adjust the bias controls for a white line. Adjust the drive controls for a normal black and white picture at all brightness levels.

SUB BRIGHTNESS

Tune in a color bar pattern. Set picture and brightness to normal. Connect positive lead of a digital voltmeter to TP51 and the negative lead to TP50. Set the MTC, Micro Tune Color, key to the off position. Adjust brightness level control VR301 for a reading of 0.28V DC on the voltmeter. Check all channels for proper brightness level.

SUB TINT

Tune in a picture. Set tint at center of its range level. Adjust VR302 for normal flesh tones with the MTC key in the on and off positions. Repeat as necessary.

AFT CENTERING

Connect a short jumper lead between the base of Q131 and the chassis ground. Connect a digital voltmeter to TP113 and the negative lead to ground. Connect a short jumper lead between TP113 and the chassis ground. Turn the TV set on, and tune in an active channel, remove the jumper lead between TP113 and the chassis ground. Turn the AFT centering coil T102 fully clock wise, then turn the coil counter clock wise until the voltage reading on the voltmeter indicates maximum (approximately 8 volts). Continue to turn the coil same direction until the voltage reading on the voltmeter indicates minimum (approximately 1 volt). Turn the coil opposite direction until the voltage reading on the voltmeter indicates 4.5 volts. Remove the short jumper lead between the base of Q131 and the chassis ground, and remove the digital voltmeter. Check all the active channels on TV.

PURITY

Operate the receiver for 15 minutes. Tune in a green raster. Use a degaussing coil to demagnetize the CRT and mounting brackets. Loosen the deflection yoke clamp screw and slide the deflection yoke backward to obtain a vertical green band. Rotate and spread the purity magnet tabs until the green band is centered on the screen. Move the deflection yoke forward to obtain a uniform green screen.

SOUND

Tune in a local channel. Set the volume control to middle level. Adjust T151 for best sound and minimum noise.

1.5FH B.P.F.

Connect an external DC supply of +15V to the anode of D474. Connect a signal generator to TP301 (the negative end of C221) through an electrolytic capacitor (10 uF, 16V, Non-Polarized), and ground. Connect a audio voltmeter to TP310 (pin 36 of IC201) and the negative lead to ground. Set the signal output of the signal generator to 22.9 kHz, 700 mV p-p. Adjust VR204 control for minimum voltage reading on the audio voltmeter.

STEREO VCO

Connect a signal generator to TP301 (the negative end of C221) through an electrolytic capacitor (10 uF, 16V, Non-Polarized), and ground. Set the signal output to 15.734 kHz, 140 mV p-p. Connect a digital voltmeter to TP312 (pin 33 of IC201) and the negative lead to ground. Adjust VR203 control to have the same voltage reading at TP312 (pin 33 of IC201) and at TP313 (pin 40 of IC201).

LOW LEVEL SEPARATION & HIGH LEVEL SEPARATION

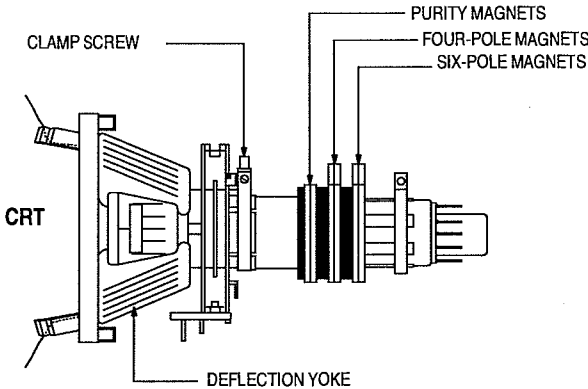
On generator select pilot, 300H z audio frequency, and left modulating signal. Connect an oscilloscope to pin21 of IC201. Adjust VR201 for minimum amplitude of waveform. On generator select 8kHz audio frequency. Adjust VR202 for minimum amplitude of the waveform. Repeat until no further decrease in amplitude can be obtained.

CONVERGENCE

Operate the receiver for 15 minutes. Connect a color bar generator to the antenna terminals and tune in a dot 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 over the green dots at the center of the screen. NOTE: Rotate the two tabs of each set of magnets equally and opposite to converge vertically and rotate both tabs in the same direction to converge horizontally. The 4-pole and 6-pole magnets interact, repeat adjustment until center convergence is correct.

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

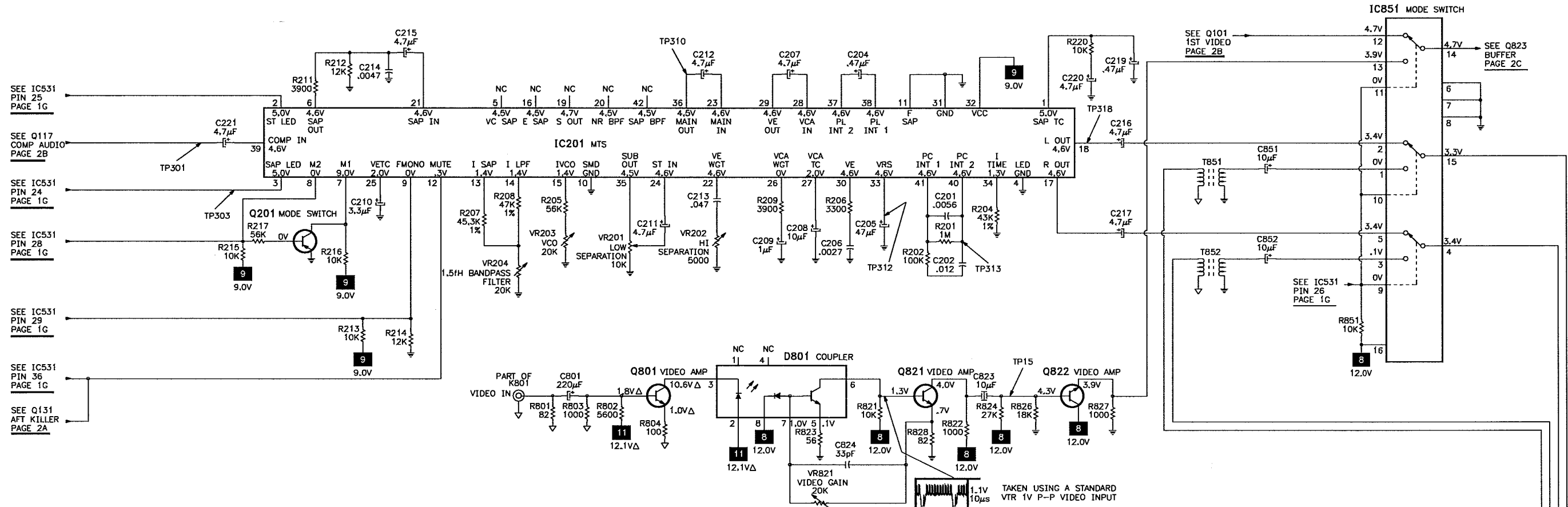
CRT NECK ASSEMBLY



AUDIO SCHEMATIC

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D



ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2E

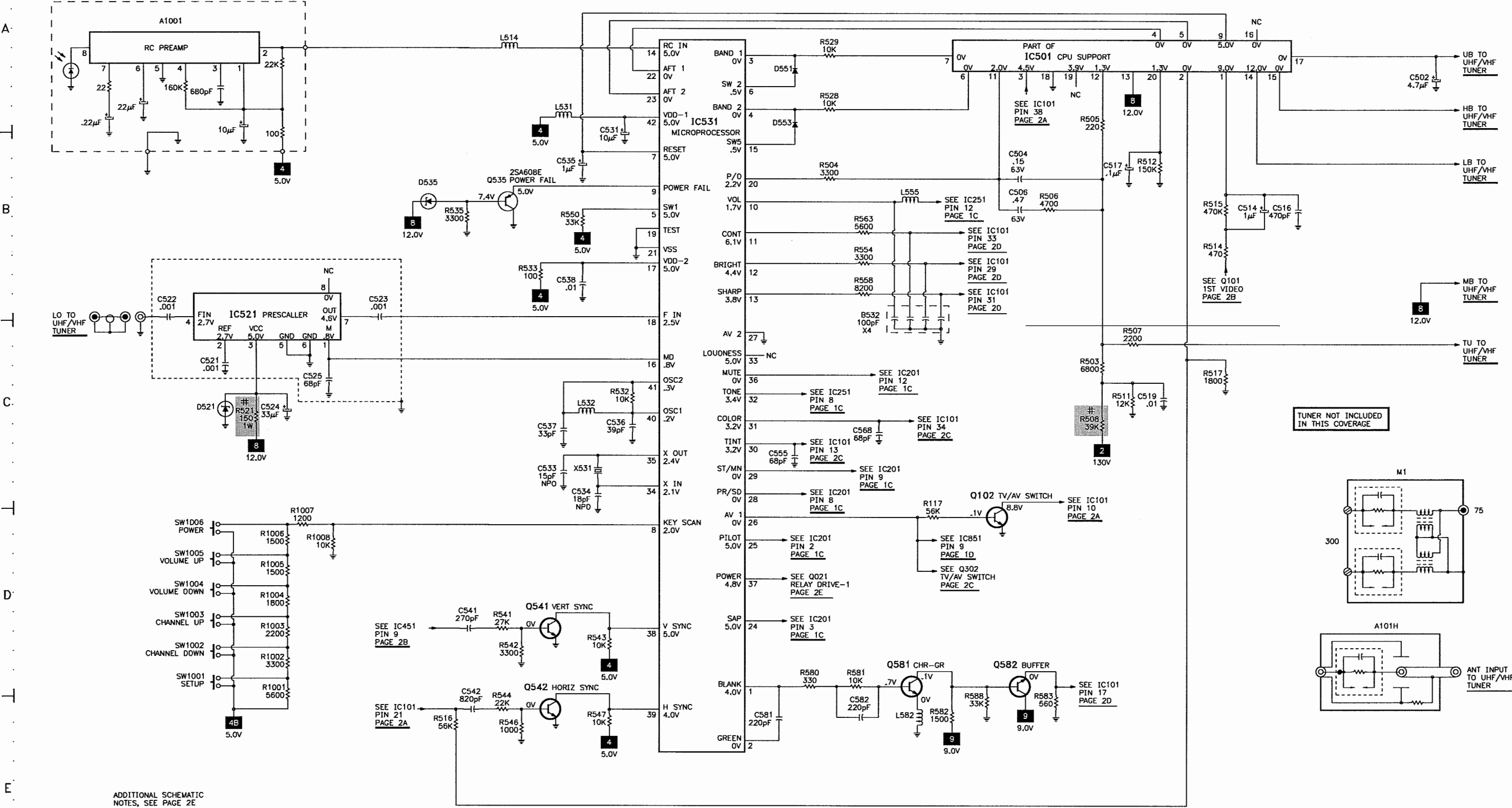
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SYSTEM CONTROL SCHEMATIC

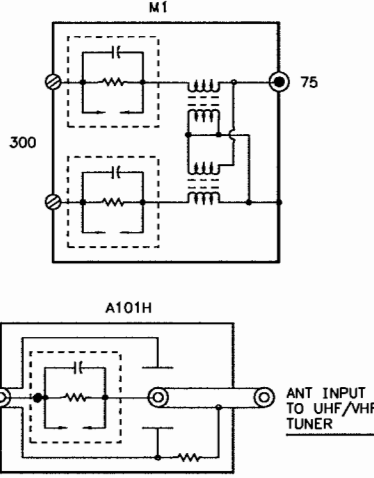
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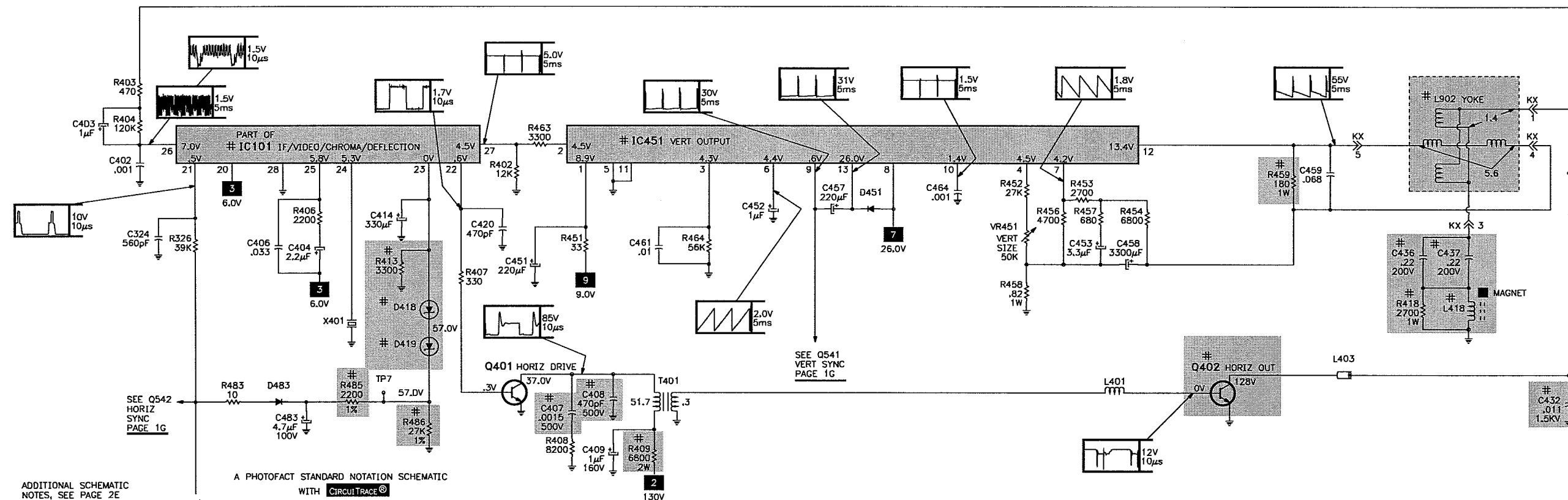
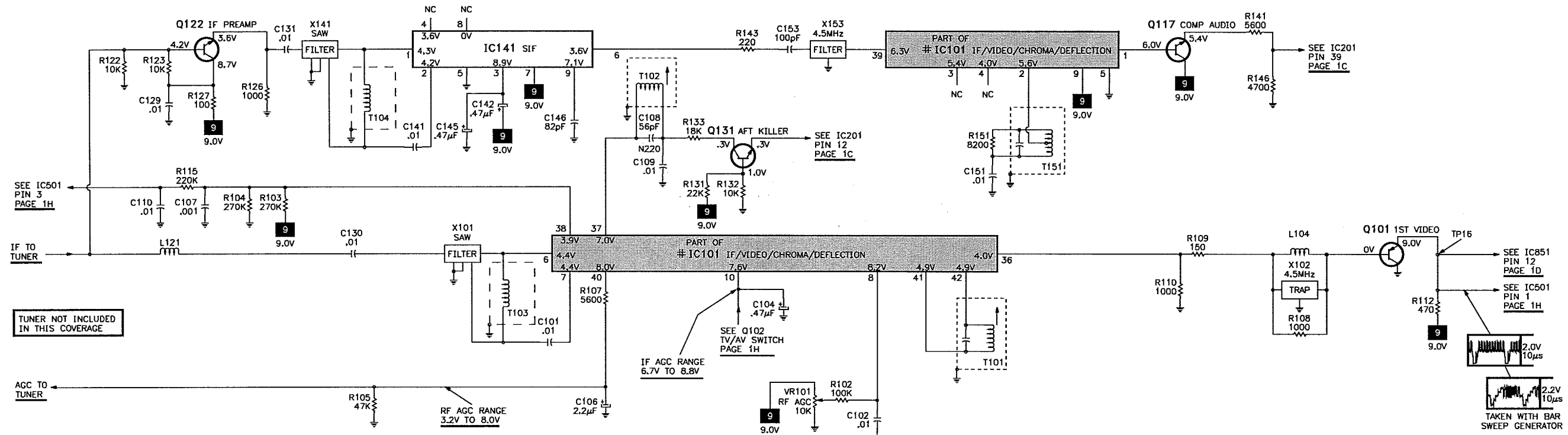
MODEL PC2525 (CHASSIS G3F-25250)



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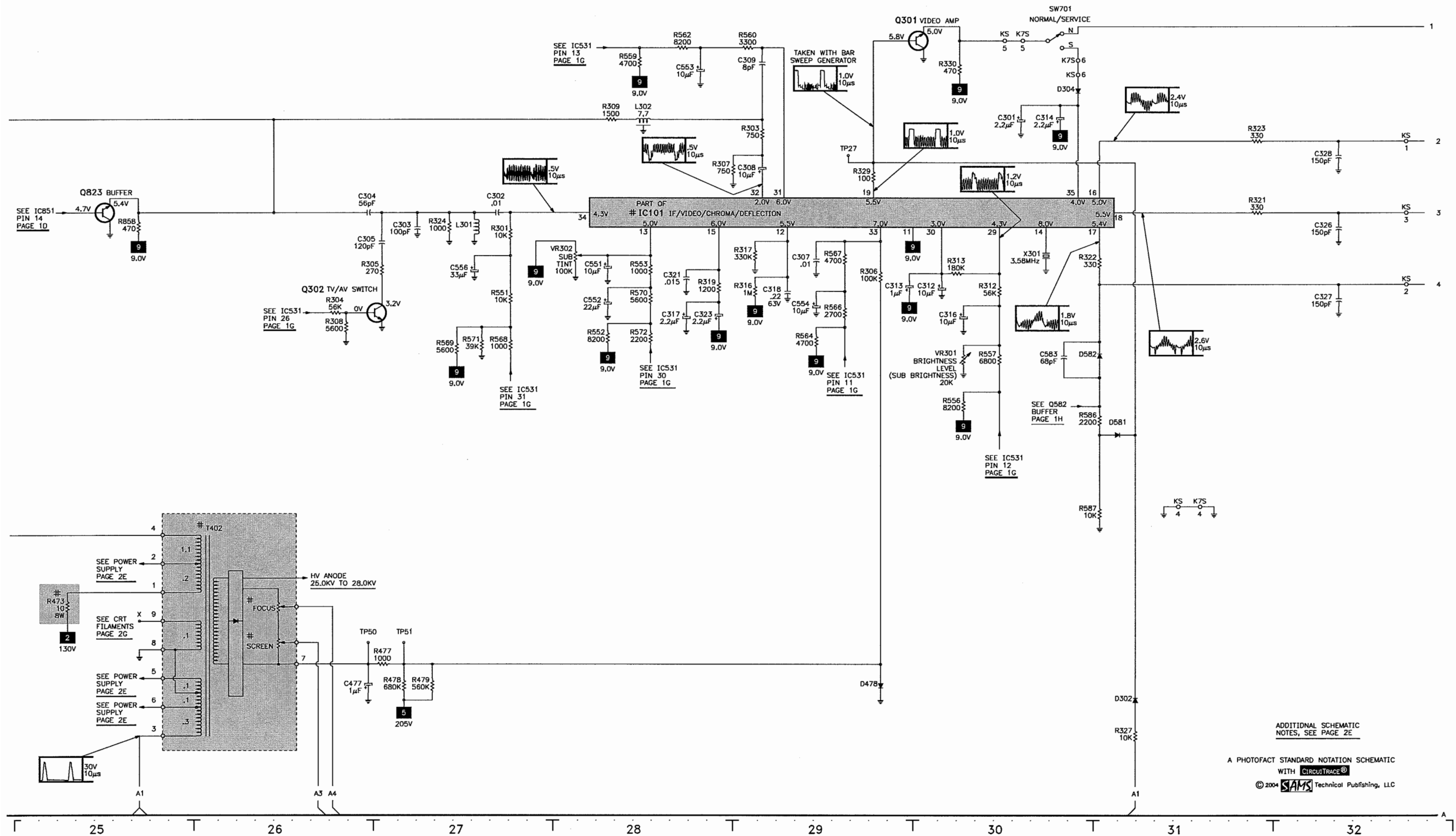
TELEVISION SCHEMATIC

B



ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2E

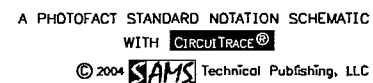
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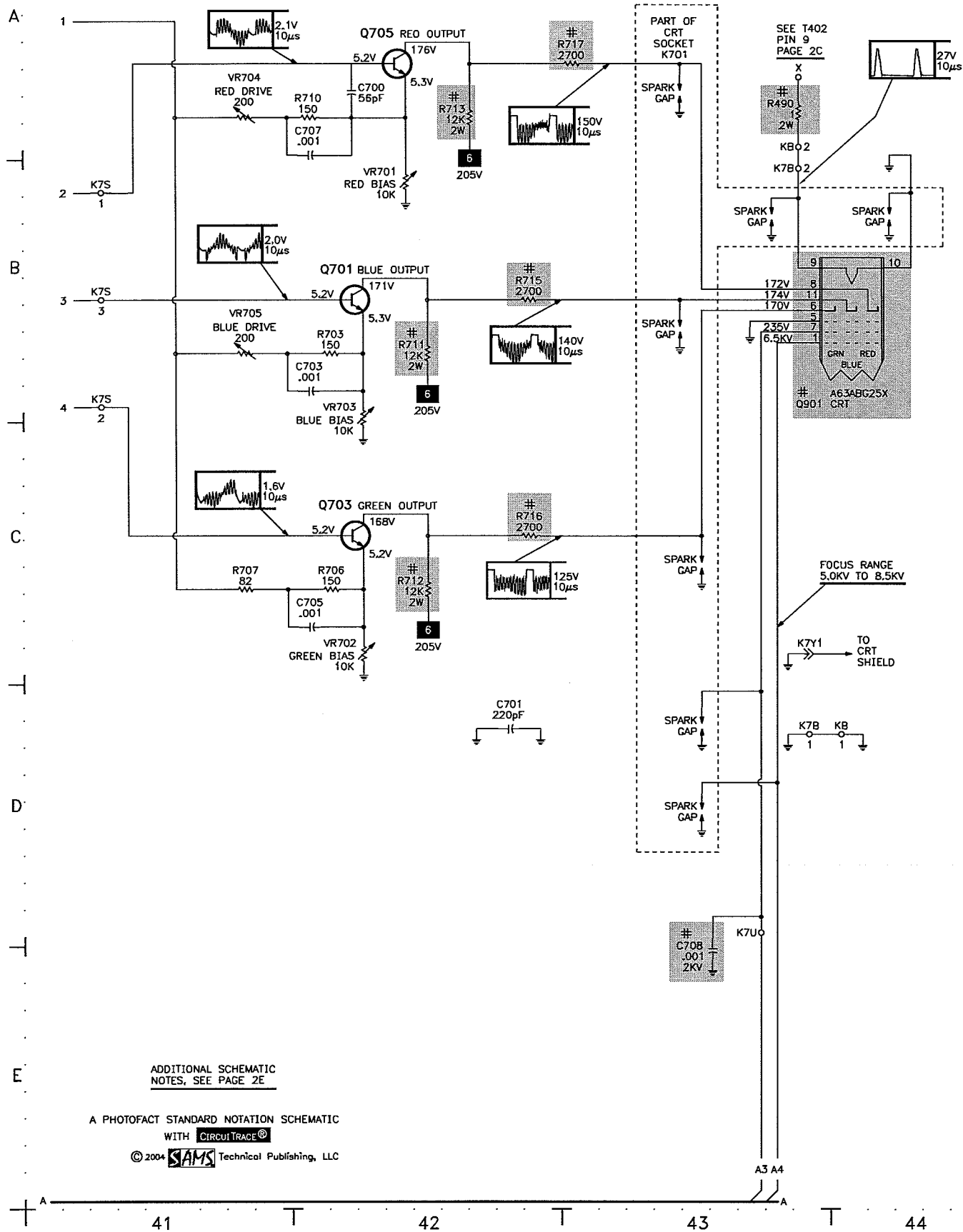
ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2E

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CRT SCHEMATIC



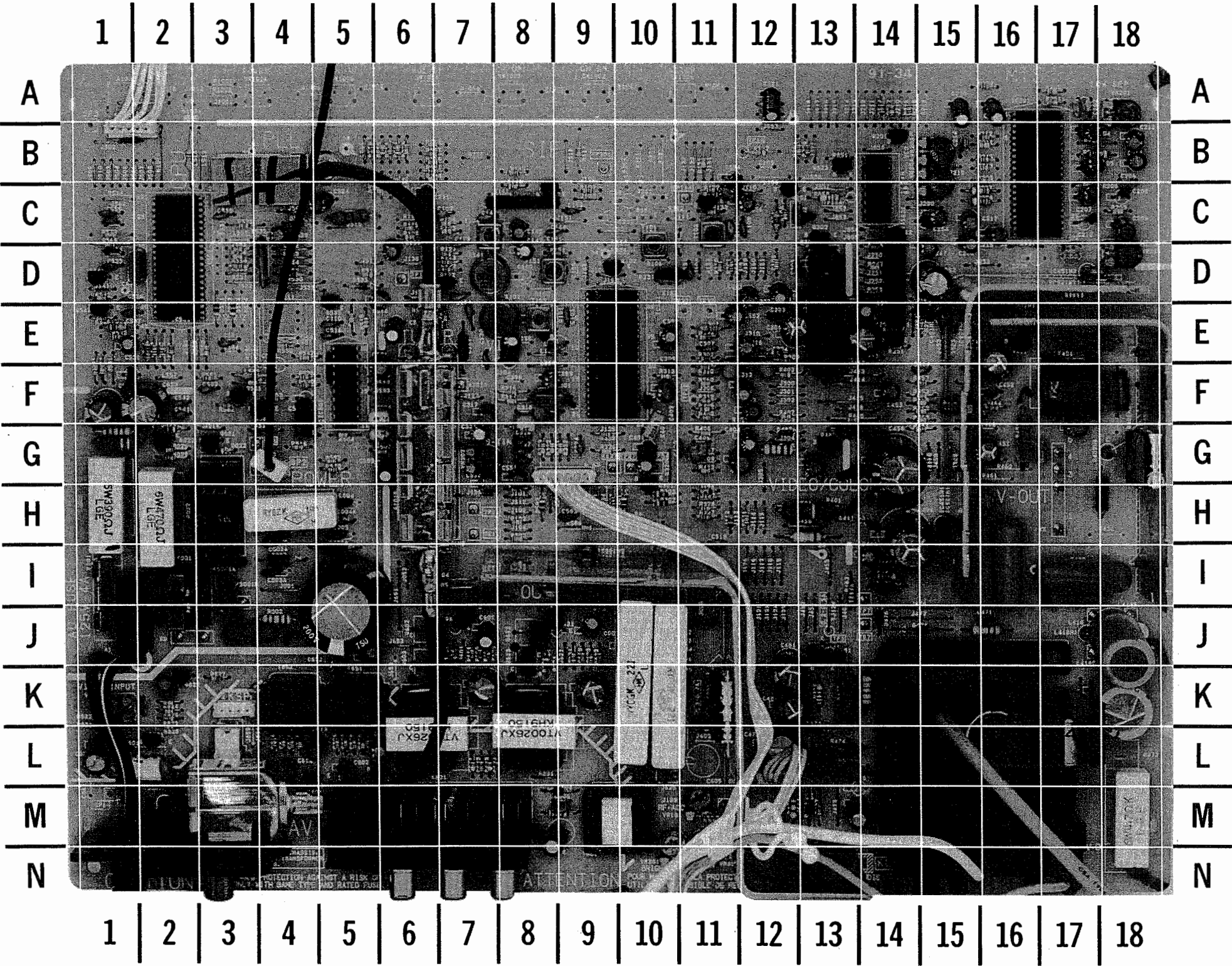
SCHEMATIC COMPONENT LOCATION GUIDE

A101H	D16	C323	C28	C621	D3	L301	B27	R110	B22	R413	D18	R580	E13	SW601	D5
B532	C13	C324	D17	C622	D5	L302	B28	R112	B23	R418	E23	R581	E13	SW601	E5
C001	A33	C326	B32	C700	A42	L401	E21	R115	B17	R451	D19	R582	E13	SW1001	D10
C002	A35	C327	C32	C701	D42	L403	E22	R117	D13	R452	D21	R583	E14	SW1002	D10
C003	A35	C328	B32	C703	C42	L418	E23	R122	A17	R453	D21	R586	C31	SW1003	D10
C004	A35	C399	D39	C705	C42	L514	A11	R123	A17	R454	D22	R587	D31	SW1004	D10
C005	A35	C401	B39	C707	B42	L531	B11	R126	A18	R456	D21	R588	E13	SW1005	D10
C006	A39	C402	D17	C708	E43	L532	C11	R127	A18	R457	D21	R601	E3	SW1006	D10
C007	B36	C403	D17	C801	C3	L555	B13	R131	B20	R458	D21	R602	E3	T101	B21
C021	B34	C404	D18	C802	D7	L582	E13	R132	B20	R459	D22	R603	E4	T102	A20
C022	C35	C406	D18	C803	D7	L701	C37	R133	B20	R463	D19	R604	E4	T103	B19
C023	B35	C407	E19	C804	E37	L901	A34	R141	A22	R464	D20	R607	E4	T104	A18
C101	C19	C408	E19	C806	E36	L902	D23	R143	A20	R471	C35	R608	E5	T151	B21
C102	C21	C409	E19	C812	E7	LF001	A34	R146	A22	R473	D25	R609	E5	T401	E19
C104	B20	C414	D18	C813	E7	PS001	A34	R151	B21	R474	C35	R611	E5	T402	D26
C106	C19	C420	D19	C821	D39	Q021	B33	R201	B5	R475	C36	R619	D5	T402	D35
C107	B18	C432	E23	C823	C5	Q022	B34	R202	B5	R476	C35	R621	D3	T601	E5
C108	B20	C436	D23	C824	C4	Q101	B23	R204	B5	R477	E27	R622	D3	T621	D5
C109	B20	C437	D23	C851	B6	Q102	D13	R205	B3	R478	E27	R623	D4	T801	E35
C110	B17	C451	D19	C852	B6	Q117	A22	R206	B5	R479	E27	R624	D4	T851	B6
C129	A17	C452	D20	C860	E37	Q122	A18	R207	B3	R480	D37	R627	D4	T852	B6
C130	B18	C453	D21	D002	A35	Q131	B20	R208	B3	R481	D36	R628	D5	VR101	C20
C131	A18	C456	C39	D003	A35	Q201	B2	R209	B4	R482	D37	R631	D5	VR201	B4
C141	B18	C457	D20	D004	A35	Q251	D37	R211	A2	R483	E18	R641	E5	VR202	B4
C142	A19	C458	D21	D005	A35	Q301	A29	R212	A2	R485	E18	R642	E5	VR203	B3
C144	D39	C459	D22	D021	B34	Q302	C26	R213	B2	R486	E19	R643	D5	VR204	B3
C145	B19	C461	D20	D022	C34	Q401	E19	R214	B3	R490	A43	R644	D5	VR301	C30
C146	B19	C464	D21	D023	B35	Q402	E22	R215	B2	R503	C14	R703	B42	VR302	B28
C151	B21	C471	C36	D302	E31	Q481	D36	R216	B2	R504	B13	R706	C42	VR451	D21
C153	A20	C472	C36	D304	A30	Q482	D38	R217	B2	R505	B14	R707	C41	VR701	B42
C199	D39	C473	B39	D418	E19	Q535	B11	R220	A6	R506	B14	R710	A42	VR702	C42
C201	B5	C476	C35	D419	E19	Q541	D11	R223	E2	R507	C14	R711	B42	VR703	C42
C202	B5	C477	E26	D451	D20	Q542	E11	R234	E2	R508	C14	R712	C42	VR704	A41
C204	A5	C481	D36	D471	C36	Q581	E13	R238	E2	R511	C14	R713	A42	VR705	B41
C205	B5	C482	D38	D474	C36	Q582	E14	R239	E2	R512	B14	R715	B42	VR821	C4
C206	B5	C483	E18	D476	C35	Q601	E4	R245	E3	R514	B15	R716	C42	W901	A33
C207	A4	C484	D36	D478	E29	Q602	E4	R246	D3	R515	B15	R717	A42	X101	B19
C208	B4	C501	D40	D482	D37	Q603	E4	R247	D3	R516	E11	R801	C3	X102	B22
C209	B4	C502	A16	D483	E18	Q621	D4	R251	D37	R517	C15	R802	C3	X141	A18
C210	B2	C504	B14	D521	C10	Q622	D4	R252	D37	R521	C10	R803	C3	X153	A20
C211	B4	C506	B14	D535	B11	Q623	D4	R253	D2	R528	B13	R804	C4	X301	B30
C212	A4	C514	B15	D551	A13	Q701	B42	R254	D2	R529	A13	R806	D7	X401	E18
C213	B4	C516	B15	D553	B13	Q703	C42	R301	B27	R531	B33	R807	D7	X531	C11
C214	A2	C517	B14	D581	C31	Q705	A42	R303	B29	R532	C12	R808	D7		
C215	A2	C519	C14	D582	C31	Q801	C4	R304	C26	R533	B11	R809	D7		
C216	B6	C521	C10	D601	E4	Q802	D7	R305	B27	R535	B11	R811	E36		
C217	B6	C522	C9	D621	D4	Q812	E7	R306	B29	R541	D11	R816	E7		
C219	A6	C523	C10	D801	C4	Q821	C5	R307	B28	R542	D11	R817	E7		
C220	A6	C524	C10	D802	E36	Q822	C6	R308	C26	R543	D12	R818	E7		
C221	B2	C525	C10	D804	E36	Q823	B25	R309	B28	R544	E11	R819	E7		
C231	E2	C531	B12	D1004	D36	Q901	B43	R312	C30	R546	E11	R821	C5		
C247	D3	C533	C11	F001	A33	R001	A34	R313	C30	R547	E12	R822	C5		
C251	E37	C534	C11	IC001	B36	R002	B34	R316	C29	R550	B11	R823	C4		
C252	D39	C535	B11	IC101	A21	R004	B35	R317	B29	R551	C27	R824	C5		
C253	D2	C536	C12	IC101	B20	R005	B35	R319	C28	R552	C28	R826	C5		
C254	D2	C537	C11	IC101	B28	R006	B36	R321	B31	R553	B28	R827	C6		
C301	B30	C538	B11	IC101	D18	R007	B35	R322	B31	R554	B13	R828	C5		
C302	B27	C539	B37	IC141	A19	R008	A37	R323	B31	R556	C30	R851	B7		
C303	B27	C541	D11	IC201	B3	R009	A37	R324	B27	R557	C30	R858	B25		
C304	B26	C542	E11	IC251	D2	R021	B34	R326	D18	R558	B13	R1001	E10		
C305	B27	C551	B28	IC451	D20	R022	B34	R327	E31	R559	A28	R1002	D10		
C307	B29	C552	C28	IC501	A14	R023	B35	R329	B29	R560	A29	R1003	D10		
C308	B29	C553	A28	IC501	B35	R024	B34	R330	A30	R562	A28	R1004	D10		
C309	A29	C554	C29	IC521	C10	R025	B34	R401	B37	R563	B13	R1005	D10		
C311	D39	C555	C13	IC531	B13	R026	B34	R402	D19	R564	C29	R1006	D10		
C312	C30	C556	B27	IC851	A7	R102	C20	R403	D17	R566	C29	R1007	D10		
C313	C29	C568	C13	K801	C3	R103	B18	R404	D17	R567	B29	R1008	D10		
C314	B30	C581	E12	K801	D5	R104	B18	R405	B37	R568	C27	R1012	D36		
C316	C30	C582	E13	K801	D6	R105	C18	R406	D18	R569	C27	RL001	A34		
C317	C28	C583	C30	K801	E5	R107	B19	R407	D19	R570	C28	RL001	C34		
C318	C29	C601	E3	L104	B22	R108	C22	R408	E19	R571	C27	SP901	D6		
C321	B28	C602	E5	L121	B17	R109	B22	R409	E19	R572	C28	SP902	E6		

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MODEL PC2525 (CHASSIS G3F-25250)

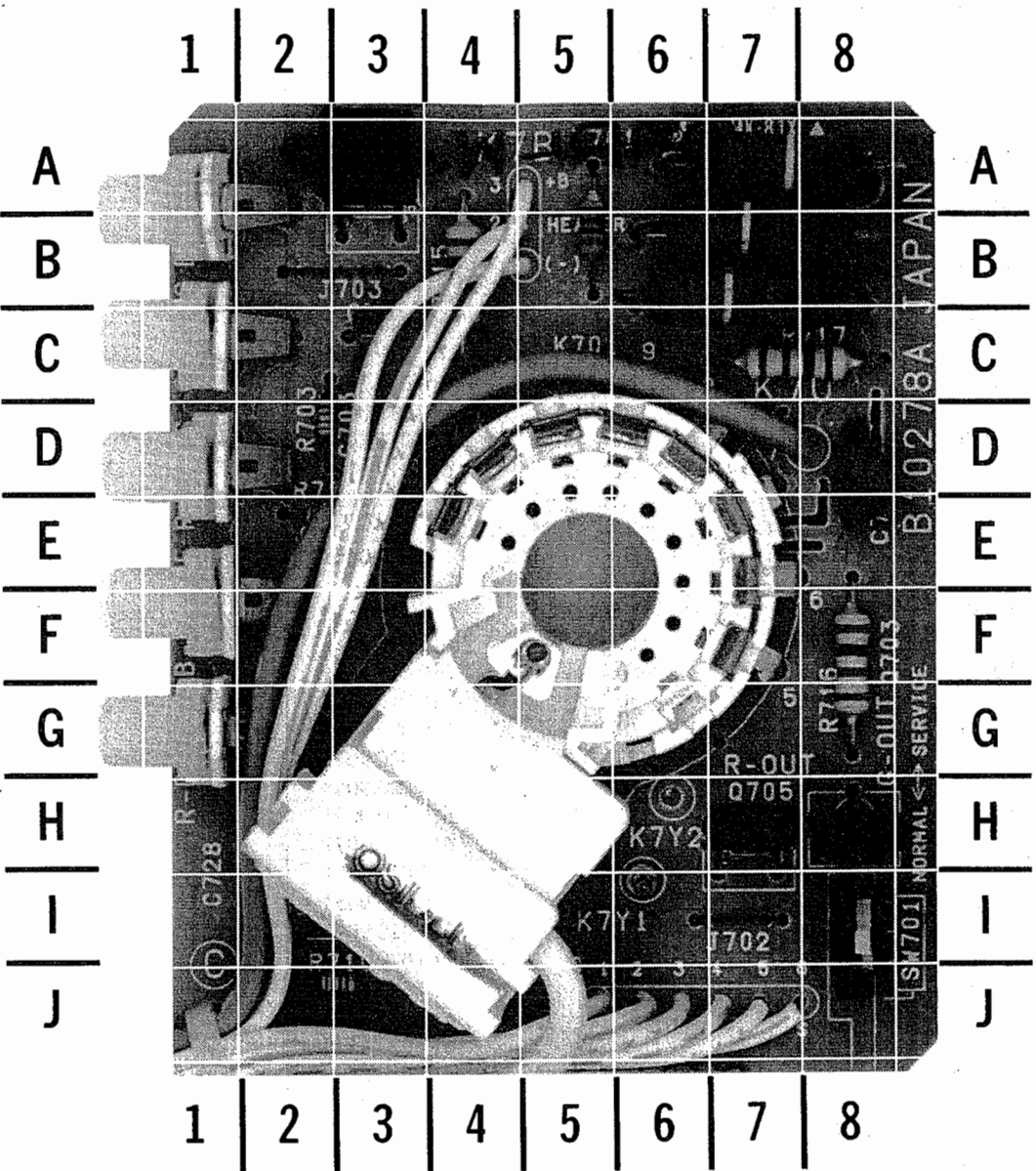
MAIN BOARD



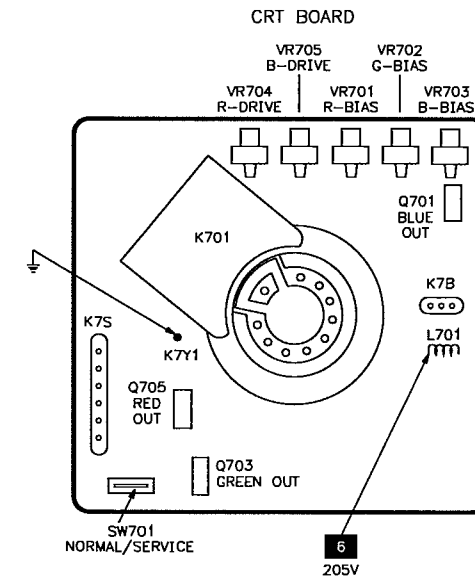
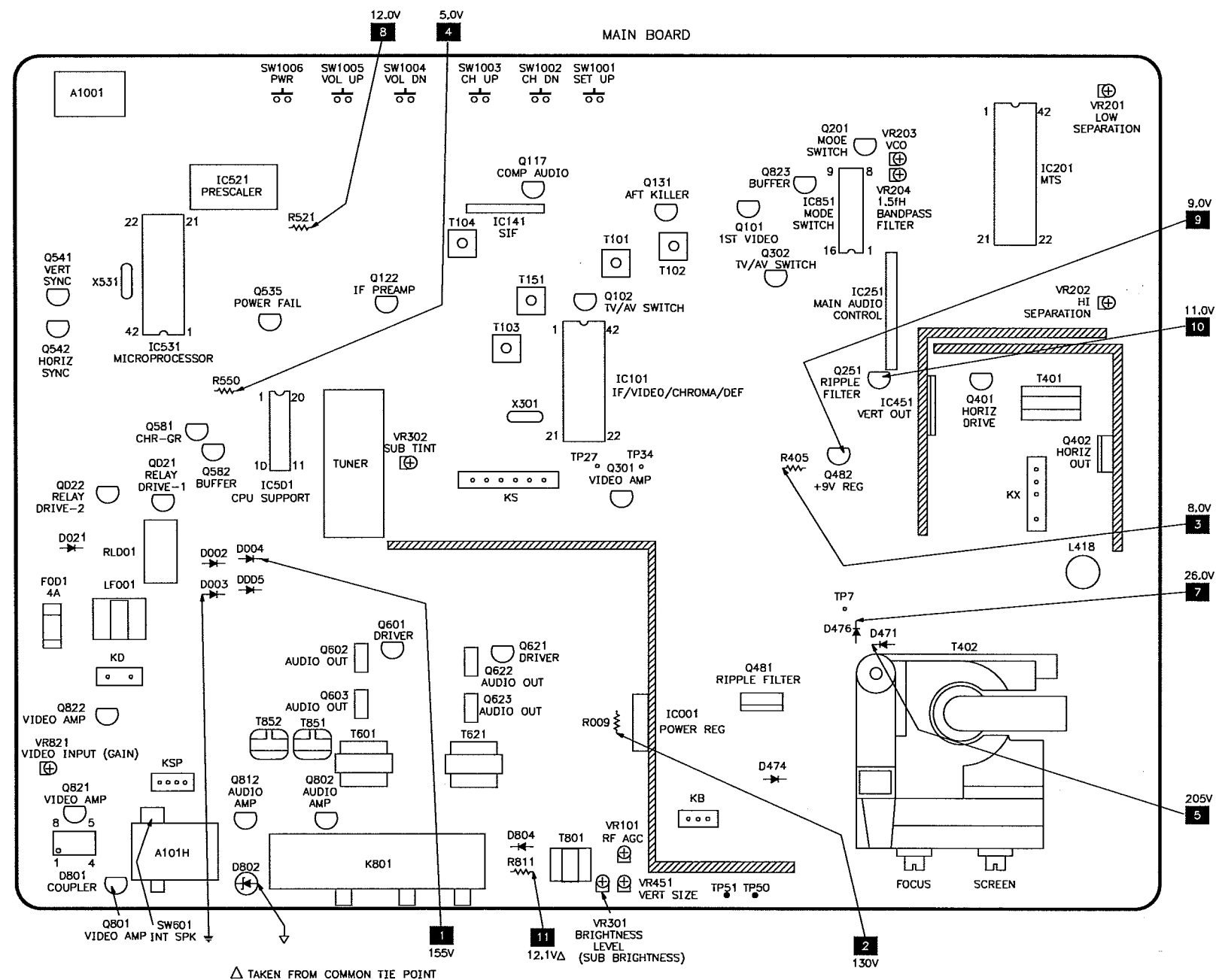
MAIN BOARD, GRIDTRACE LOCATION GUIDE

A1001	A1	C327	G8	C821	L1	Q251	E14	R217	A14	R507	G6	R808	L5
B532	D4	C328	G8	C823	K2	Q301	H10	R220	A16	R508	H13	R809	L5
C001	J1	C399	F8	C824	K2	Q302	C13	R233	B6	R511	H12	R811	M8
C002	H4	C401	G10	C851	J5	Q401	E16	R234	B7	R512	E6	R816	L4
C003	I4	C402	F11	C852	J5	Q402	G18	R238	D15	R514	D5	R817	L4
C004	H5	C403	F12	C860	L2	Q481	J13	R239	E15	R515	E5	R818	L4
C005	H5	C404	G12	D002	H4	Q482	G13	R245	A12	R516	G4	R819	L4
C006	J5	C406	G11	D003	I4	Q535	E5	R246	E14	R517	E4	R821	K1
C007	J10	C407	D16	D004	H5	Q541	D1	R247	D14	R521	C5	R822	K1
C021	G1	C408	E16	D005	I5	Q542	E1	R251	E14	R528	F4	R823	K2
C022	F1	C409	G17	D021	H1	Q581	F3	R252	E15	R529	F4	R824	K2
C023	F1	C414	G12	D022	G3	Q582	F4	R253	D14	R531	E2	R826	K2
C101	E9	C420	G11	D023	G2	Q601	J7	R254	D14	R532	E1	R827	K3
C102	E7	C432	I17	D302	H10	Q602	J6	R301	D11	R533	C3	R828	L2
C104	E8	C436	I16	D304	E12	Q603	J6	R303	F11	R535	E5	R851	B13
C106	D6	C437	I16	D418	H11	Q621	J8	R304	B13	R541	F1	R858	C13
C107	C7	C451	G16	D419	H11	Q622	J8	R305	D13	R542	D1	R1001	A11
C108	C11	C452	F16	D451	F15	Q623	J8	R306	F11	R543	E2	R1002	A10
C109	C12	C453	F14	D471	J15	Q801	M2	R307	E11	R544	F1	R1003	A9
C110	E5	C456	H16	D474	L13	Q802	L5	R308	B13	R546	E1	R1004	A7
C129	D7	C457	E16	D476	J14	Q812	L4	R309	E12	R547	E2	R1005	A6
C130	E7	C458	G14	D478	M13	Q821	L2	R312	F11	R550	E4	R1006	A4
C131	D7	C459	G17	D482	G12	Q822	K2	R313	F10	R551	B7	R1007	A3
C141	C7	C461	F16	D483	I14	Q823	B13	R316	F8	R552	G5	R1008	A3
C142	D8	C464	F15	D521	C4	R001	H4	R317	F8	R553	H8	R1012	B2
C144	C9	C471	J16	D535	D5	R002	J4	R319	G8	R554	D3	RL001	H3
C145	C8	C472	L12	D551	E3	R004	J10	R321	G9	R556	B6	SW601	L3
C146	C9	C473	K18	D553	E3	R005	K10	R322	G8	R557	B7	SW1001	A11
C151	D9	C476	H14	D581	H10	R006	J10	R323	G8	R558	D3	SW1002	A9
C153	D11	C477	M13	D582	H8	R007	K10	R324	E11	R559	B6	SW1003	A8
C199	E9	C481	K12	D601	J7	R008	K10	R326	G9	R560	F11	SW1004	A6
C201	A17	C482	G13	D621	J8	R009	K10	R327	H11	R562	B7	SW1005	A5
C202	A17	C483	I14	D801	L2	R021	H1	R329	G9	R563	D3	SW1006	A4
C204	B17	C484	K12	D802	M4	R022	H2	R330	H9	R564	B6	T101	D10
C205	B17	C501	F6	D804	M8	R023	G1	R401	H13	R566	B7	T102	C11
C206	B18	C502	G6	D1004	A2	R024	G1	R402	F11	R567	D12	T103	E8
C207	C17	C504	G6	F001	I1	R025	G2	R403	F12	R568	D1	T104	C7
C208	C18	C506	F6	IC001	K11	R026	G2	R404	F12	R569	B5	T151	D8
C209	C18	C514	D6	IC101	E9	R102	H8	R405	G12	R570	G5	T401	F17
C210	C17	C516	E5	IC141	C8	R103	C7	R406	G11	R571	C5	T402	K15
C211	B18	C517	E6	IC201	B16	R104	C7	R407	F12	R572	C1	T601	L6
C212	B18	C519	I11	IC251	D14	R105	C6	R408	D17	R580	E3	T621	K8
C213	D17	C524	C5	IC451	F15	R107	C9	R409	E17	R581	F3	T801	M9
C214	B15	C531	E1	IC501	F5	R108	C12	R413	G11	R582	F3	T851	K5
C215	C16	C533	D1	IC521	B4	R109	D12	R418	I17	R583	F4	T852	K4
C216	D15	C534	D1	IC531	D2	R110	D11	R451	G15	R586	H9	TP7	I14
C217	C15	C535	F4	IC851	C14	R112	B12	R452	F15	R587	H9	TP27	G10
C219	A16	C536	D1	K801	M6	R115	C6	R453	F15	R588	F3	TP34	G10
C220	A15	C537	E1	KA	B1	R117	B9	R454	G15	R601	J9	TP50	N13
C221	A12	C538	C3	KB	J2	R122	D7	R456	F15	R602	J7	TP51	N12
C231	C6	C539	C4	KSP	K3	R123	D7	R457	F15	R603	J7	VR101	M11
C247	D15	C541	F2	KX	G17	R126	E7	R458	H14	R604	J7	VR201	A18
C251	E14	C542	F2	L104	C12	R127	D7	R459	G16	R607	L10	VR202	D18
C252	D15	C551	G8	L121	E7	R131	B11	R463	F15	R608	I7	VR203	B15
C253	E14	C552	G7	L301	E11	R132	C11	R464	F16	R609	J7	VR204	B15
C254	C15	C553	E11	L302	F12	R133	C11	R471	J16	R611	J7	VR301	N10
C301	D12	C554	B11	L401	F18	R141	B8	R473	M18	R619	J9	VR302	G7
C302	E10	C555	C1	L403	H18	R143	C11	R474	L13	R621	J9	VR451	N11
C303	E12	C556	C12	L418	J18	R146	C8	R475	K13	R622	J9	VR701	D1
C304	D13	C568	C1	L514	B2	R151	D9	R476	K14	R623	J9	VR821	K1
C305	D13	C581	E3	L531	E2	R201	A17	R477	M13	R624	J9	X101	E8
C307	E11	C582	F3	L532	E1	R202	A17	R478	M12	R627	L10	X102	C13
C308	E10	C583	H9	L555	D4	R204	B17	R479	M12	R628	I9	X141	D7
C309	F10	C601	J7	L582	F3	R205	B16	R480	F13	R631	J9	X153	D10
C312	F10	C602	K7	LF001	I2	R206	C17	R481	K13	R641	L7	X301	F8
C313	F12	C621	J9	PS001	I3	R207	C16	R482	G13	R642	L7	X401	G10
C314	D12	C622	K9	Q021	G3	R208	C16	R483	I13	R643	L7	X531	D2
C316	E12	C801	M2	Q022	G2	R209	C18	R485	I14	R644	L7		
C317	F7	C802	L5	Q101	C12	R211	B16	R486	I14	R801	M4		
C318	F8	C803	L6	Q102	D9	R212	B16	R490	L13	R802	M3		
C321	F8	C804	M8	Q117	C8	R213	B16	R503	H8	R803	M3		
C323	G7	C806	M8	Q122	D7	R214	A14	R504	G5	R804	M3		
C324	G9	C812	L4	Q131	C11	R215	B16	R505	G6	R806	L5		
C326	G8	C813	L4	Q201	B14	R216	A14	R506	G6	R807	L5		

CRT BOARD



PLACEMENT CHART



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.

PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Function/Rating	Mfr. Part No.	Notes	Item No.	Function/Rating	Mfr. Part No.	Notes
# D002 Thru				# C471	470pF 10% 500V	403 076 3607	-	T102	AFT	610 037 6557	-
# D005	EM2B	407 005 7605	NTE125	C533	15pF 5% 50V NPO	403 012 4002	-	T103	-	610 205 6822	-
# D021	ERA15-02	407 005 8602	NTE552	C534	18pF 5% 50V NPO	403 014 0200	-	T104	SIF	610 205 6839	-
D022, 23	DS442X	407 005 4505	NTE519	# C708	.001 +100% -0% 2kV	403 077 2708	-	T151	SIF	610 037 7615	-
D302, 04	DS442X	407 005 4505	NTE519	C823	10µF 20% 16V NP	403 085 4008	-	T401	Horizontal Drive	610 000 7901	-
# D418, 19	HZ33-2L	407 143 2708	NTE5036A	# F001	Fuse	423 007 1601	4Amp, 125V	# T402 (1)	Horizontal Output	610 018 0277	-
D451	ERA15-02	407 005 8602	NTE552	F001A, B	Fuse Holder	610 012 4356	For F001 (2 Used)	T601, 21	Sound Output	610 055 6751	-
# D471	ES1	407 007 6606	NTE552	K701	Socket	610 010 4181	CRT	T801	Pulse	610 000 3286	-
D474	EU2	407 007 7603	NTE552	K801	Jack	610 230 0475	Assembly	T851, 52	Sound Input	610 055 4979	-
D476	ES1	407 007 6606	NTE552	L104	56µH	610 029 6381	-	VR101	10K RF AGC	610 019 3413	-
D478	ERA15-02	407 005 8602	NTE552	L121	Filter	610 032 9355	-	VR201	10K Low Separation	610 019 3413	-
D482	EQA02-10A	407 048 5606	NTE5019T1	L301	8.2µH	610 029 6466	-	VR202	5000 High Separation	610 019 3390	-
D483	TVR1G	407 011 4407	NTE552	L302	Delay Line	610 030 0699	-	VR203	20K VCO	610 019 3451	-
D521, 35	EQA02-05M1	407 048 1608	NTE5010A	L401	Filter	610 032 4381	-	VR204	20K BPF	610 019 3451	-
D551, 53	DS442X	407 005 4505	NTE519	L403	Ferrite Bead	610 031 9998	-	VR301	20K Brightness Level	610 019 3451	-
D581, 82	DS442X	407 005 4505	NTE519	# L418	Horizontal Linearty	610 000 1046	-	VR302	100K Sub Tint	610 019 3512	-
D601, 21	DS442X	407 005 4505	NTE519	L514, 31	5.6µH	610 029 6367	-	VR451	50K Vertical Size	610 019 3499	-
D801	TLP551	408 000 0301	NTE3092	L532	22µH	610 029 6121	-	VR701	10K Red Bias	610 020 9053	-
D802	EQA02-11D	407 048 6603	NTE5020A	L555, 82	5.6µH	610 029 6367	-	VR702	10K Green Bias	610 020 9053	-
D804	ES1	407 007 6606	NTE552	L701	270µH	610 029 6183	-	VR703	10K Blue Bias	610 020 9053	-
D1004	SLP-177B-60	407 029 1207	-	# L901	Degaussing	610 030 3676	-	VR704	200 Red Drive	610 020 8599	-
# IC001	STR30130	409 243 0806	NTE1777	# L902	Yoke	610 003 4846	-	VR705	200 Blue Drive	610 020 8599	-
# IC101	LA7655	409 146 7001	NTE1863		Yoke	610 003 4853	-	VR821	20K Video Gain	610 019 3451	-
IC141	LA7510	409 147 9905	NTE7067		Yoke	610 003 4860	-	# W901	Line Cord	610 011 6788	AC, Polarized
IC201	CXA1124AS	409 173 5209	-	# Q901	Yoke	610 203 3175	-	X101	Filter	421 001 8909	SAW
IC251	AN5836	409 001 0604	NTE1780		CRT	413 007 3309	A63ABG25X	X102	Trap	610 015 3059	4.5MHz
# IC451	LA7838	409 173 2802	NTE7039		CRT	413 007 3408	A63ADG25X	X141	Filter	421 001 9500	SAW
IC501	LA7916	409 083 0103	NTE7004	# LF001	Line Filter	610 031 5938	-	X153	Filter	610 015 2946	4.5MHz
IC521	M54477L	409 135 5407	NTE7069	# PS001	6.8 Cold PTC	408 000 3203	-	X301	Crystal	610 012 0655	3.58MHz
IC531	M50442-626SP	409 242 6007	-	# R001	1 10% 6W	402 055 3201	-	X401	Crystal	610 012 2970	-
IC851	HD14053BP	409 009 2709	NTE4053B	# R002	1M 5% 1/2W	401 007 2903	-	X531	Crystal	610 015 3509	-
Q021, 22	2SC1740-Q	405 011 7305	NTE85	# R004	10K 5% 1/4W	401 012 7009	-		Antenna Adapter	610 221 7605	-
Q101	2SA1015-0(SAN)	405 001 7407	NTE290A	# R005	220K 5% 1/4W	401 016 5803	-		Magnet	610 003 1678	Purity/Convergence
Q102	2SC1740-Q	405 011 7305	NTE85	# R006	47 5% 1/2W Nonflammable	401 010 2600	-		PC Board	610 229 5191	CRT
Q117, 22, 31	2SC1740-Q	405 011 7305	NTE85	# R007	5.6 5% 2W	401 068 6209	-		PC Board	610 229 5177	Main
Q201, 51	2SC1740-Q	405 011 7305	NTE85	# R008, 09	220 10% 10W	402 060 4606	-		PC Board	610 231 1792	Remote
Q301	2SA1015-0(SAN)	407 001 7407	NTE290A	# R021	390 10% 6W	402 057 9300	-		Transmitter	610 229 8536	Remote
Q302	2SC1740-Q	405 011 7305	NTE85	# R022	470 10% 6W	402 058 0009	-		Wedge	610 117 0154	Yoke Positioning (3 Used)
Q401	2SC2271-D-CTV	405 013 6207	NTE399	# R023	82 5% 1/2W	401 011 4900	-				
# Q402	2SD1879-CTV-YB	405 082 2407	NTE2331	# R024	330 5% 1W	401 061 2505	-				
Q481	2SD1913-Q-RA	405 059 9804	NTE152	R204	43K 1% 1/4W	401 048 2405	-				
Q482	2SD400-E-MP	405 023 5009	NTE382	R207	45.3K 1% 1/4W	401 048 5000	-				
Q535	2SA1015-0(SAN)	407 001 7407	NTE290A	R208	47K 1% 1/4W	401 048 7608	-				
Q541, 42	2SC1740-Q	405 011 7305	NTE85	# R401	6800 5% 2W	401 069 3702	-				
Q581, 82	2SC1740-Q	405 011 7305	NTE85	# R405	1800 5% 1/2W	401 008 1608	-				
Q601	2SC1473NC-Q	405 010 6606	NTE399	# R409	6800 5% 2W	401 069 3702	-				
Q602	2SA1507-S-CTV-YA	405 114 6700	NTE2520	# R413	3300 5% 1/6W	401 026 4308	-				
Q603	2SC3902-S-CTV-YA	405 114 7103	NTE2519	# R418	2700 5% 1W Nonflammable	401 009 1607	-				
Q621	2SC1473NC-Q	405 010 6606	NTE399	# R459	180 5% 1W	401 059 6706	-				
Q622	2SA1507-S-CTV-YA	405 114 6700	NTE2520	# R471	47 5% 1/4W Nonflammable	401 019 9709	-				
Q623	2SC3902-S-CTV-YA	405 114 7103	NTE2519	# R473	10 5% 8W	402 057 5708	-				
Q701, 03, 05	2SC2568(1)-K	405 014 8408	NTE157	# R474	1.5 5% 1W	401 057 9907	-				
Q801, 02	2SC1740-Q	405 011 7305	NTE85	# R475	8.2 5% 2W	401 069 5607	-				
Q812, 21, 22	2SC1740-Q	405 011 7305	NTE85	# R476	1.5 5% 1/2W Nonflammable	401 006 8500	-				
Q823	2SA1015-O(SAN)	405 001 7407	NTE290A	# R482	10 5% 1W	401 058 1108	-				
				# R485	2200 1% 1/4W	401 044 9606	-				
				# R486	27K 1% 1/4W	401 045 9506	-				
				# R490	1 5% 2W	401 064 3806	-				
				# R508	39K 5% 1/2W	401 010 0309	-				
				# R521	150 5% 1W	401 059 2807	-				
				# R607	18K 5% 1W	401 059 8502	-				
				# R608	680 5% 2W	401 069 2804	-				
				# R627	18K 5% 1W	401 059 8502	-				
				# R628	680 5% 2W	401 069 2804	-				
				# R711, 12, 13	12K 5% 2W	401 065 4604	-				
				# R715, 16, 17	2700 5% 1/2W	401 009 1508	-				
				# RL001	Relay	610 009 5540	-				
				SP901, 02	Speakers	610 055 5457	-				
				SW601	Switch	610 011 2667	-				
				SW701	Switch	610 011 4227	-				
				SW1001	Switch	610 011 2698	-				
				SW1002	Switch	610 011 2698	-				
				SW1003	Switch	610 011 2698	-				
				SW1004	Switch	610 011 2698	-				
				SW1005	Switch	610 011 2698	-				
				SW1006	Switch	610 011 2698	-				
				T101	VIF	610 037 6007	-				