

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.

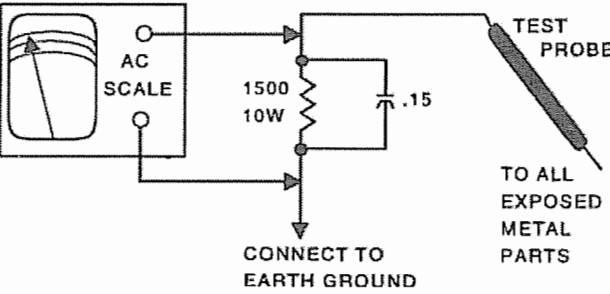
SAFETY CHECKS — FIRE AND SHOCK HAZARD

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.

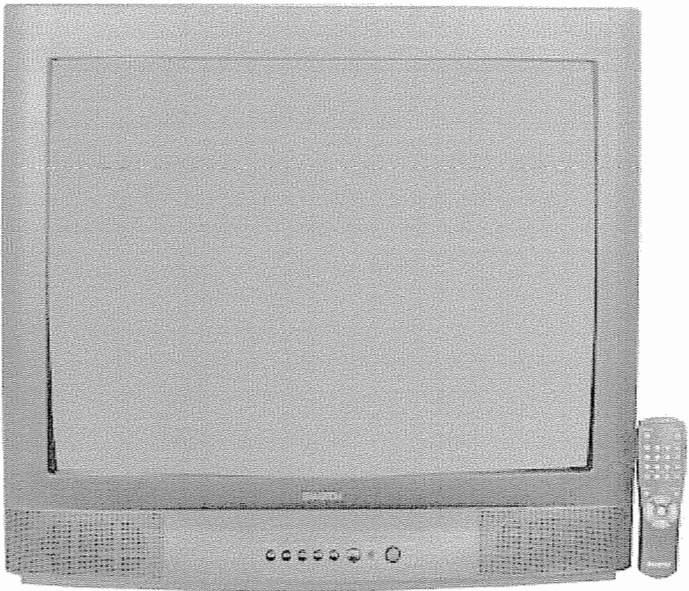


PHOTOFACT® Technical Service Data

5118

SAMTRON

Models SAM25405C/XAA, SAM27405C/XAA (Chassis KS3A(N))



Representative Model

Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

SET 5118

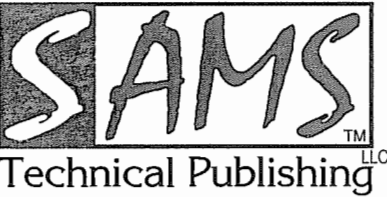
MODELS SAM25405C/XAA, SAM27405C/XAA (CHASSIS KS3A(N))

SAMTRON

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MARCH 2006 SET 5118

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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

06PF03269



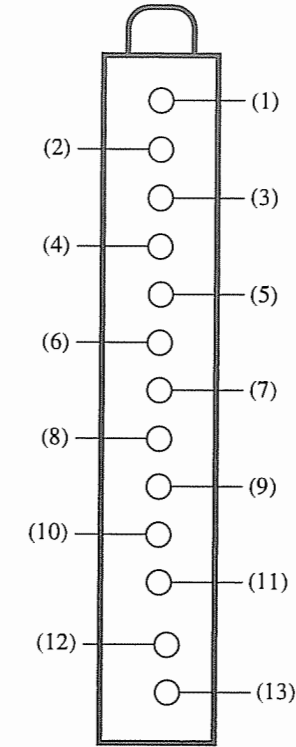
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	2.6V	2.5V	2.9V
(2) NC	0V	0V	0V
(3) ID	0V	0V	0V
(4) SCL	2.0V	2.0V	2.0V
(5) SDA	2.0V	2.0V	2.0V
(6) 5V	4.9V	4.9V	4.9V
(7) 33V	33.0V	33.0V	33.0V
(8) NC	0V	0V	0V
(9) IF	0V	0V	0V
(10) MON	2.3V	2.3V	2.3V
(11) SIF	2.0V	2.0V	2.0V
(12) AFT	.9V	2.0V	1.9V
(13) CVBS	.9V	.9V	1.0V

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



SCHEMATIC COMPONENT LOCATION GUIDE

C101	B24	C505	B15	C817	B21	D413	D8	IC902	E33	Q202	D12	R313	D3	R705	C4	R928	B34
C103	A2	C506	B28	C818	B21	D502	D16	IC903	D23	Q203	D13	R314	D4	R706	A10	R929	A34
C104	A2	C507	C15	C819	B21	D601	C42	IC904	D30	Q204	E3	R315	D3	R707	A11	R930	A35
C105	A2	C508	B28	C820	B23	D602	D30	IC201S	B4	Q401	E6	R401	B26	R708	A11	R931	A33
C106	A2	C509	A15	C821	D20	D801	B18	IC201S	B9	Q402	E4	R402	B27	R709	E42	R932	B33
C113	B24	C511	D28	C822	E21	D801S	A20	IC201S	D1	Q501	E13	R403	C27	R710	D41	R933	B34
C115	D38	C512	D28	C823	E22	D802	A21	IC801S	B19	Q601	C41	R404	E6	R711	E41	R934	B35
C116	C38	C513	E12	C824	D22	D803	C19	J501	E12	Q701	D41	R405	A16	R712	C3	R935	B32
C201	C5	C513	E12	C825	E24	D804	C20	J901	B42	Q802	B17	R409	E4	R715	C29	R936	E32
C202	C5	C514	B27	C826	E24	D805	B21	J904	D23	Q901	B30	R410	E4	R716	C29	R937	B32
C203	C4	C515	D15	C827	E22	D806	E21	JA701	A37	Q902	A33	R412	E6	R717	C29	R938	D32
C204	C5	C516	E16	C829	D22	D807	B21	JA701	B37	Q903	A34	R424	B26	R718	C29	R939	A29
C205	C5	C601	C40	C831	C24	D808	B18	JA701	C4	Q904	A33	R425	C25	R719	C5	R940	D33
C208	D12	C603	C40	C832	C23	D810	C24	L102	A2	Q905	A34	R426	E8	R723	A10	R941	D33
C210	E24	C604	D30	C833	D20	D811	C23	L103	A2	Q906	B32	R429	E11	R724	D41	R942	E32
C212	D1	C605	D38	C835	E22	D816	E21	L201	C5	Q908	B33	R432	E10	R725	D40	R943	A33
C213	D3	C607	A40	C837	B22	D901	E31	L202	C7	Q909	C32	R433	E7	R726	D41	R945	C32
C214	C7	C608	A40	C838	B23	D902	D31	L204	E23	Q910	C32	R434	B22	R802	B18	R946	C33
C215	C7	C610	A40	C839	B24	D903	C31	L207	C1	Q911	B35	R436	D7	R803	B18	R948	E32
C216	C7	C611	A40	C840	C22	D904	D31	L208	B2	QR01S	D35	R501	B14	R804	B18	R949	B32
C217	C7	C612	A40	C841	E21	D905	A30	L209	C4	QR02S	D34	R502	C14	R805	A20	RL801S	A19
C218	B10	C613	A40	C899	C20	D906	C41	L210	C5	R102	A1	R503	A14	R806	A20	RL801S	B18
C219	B9	C617	C42	C901	B31	D907	E23	L211	C4	R103	A1	R504	C14	R807	C20	RM901	A29
C220	B9	C620	B42	C902	B30	DR01S	D35	L212	C3	R105	B2	R505	D14	R808	C20	RP802S	B18
C221	B11	C621	B42	C903	D30	DY	D8	L301	E5	R106	B2	R506	B14	R809	C19	RR01S	D35
C222	B11	C622	C38	C904	A29	DZ201	C10	L302	D7	R202	C6	R507	C14	R810	C19	RR02S	D35
C223	B10	C623	C38	C905	A30	DZ202	D4	L303	D7	R203	B3	R508	C15	R811	C19	RR03S	D35
C224	D3	C624	C38	C907	D24	DZ203	D12	L401	E6	R204	B4	R509	B15	R812	D22	RR04S	D35
C225	D2	C625	C38	C908	A33	DZ302	C27	L403	E7	R205	E2	R510	C14	R813	C19	RR05S	D34
C228	C6	C626	C38	C909	D31	DZ303	B27	L412	A24	R206	E2	R511	D15	R816	D19	RR06S	D34
C229	C6	C627	B38	C910	B32	DZ304	D6	L601	B40	R207	C11	R512	C15	R817	D19	RR07S	D35
C230	E24	C628	B38	C911	A32	DZ305	D6	L604	B41	R208	C10	R513	B14	R818	D20	RR08S	D34
C231	E24	C629	C38	C912	E32	DZ306	D6	L605	B38	R209	C11	R514	B15	R819	D20	RR09S	D32
C232	B3	C630	B40	C913	D24	DZ402	E6	L606	B38	R210	C11	R515	A15	R820	D20	RR10S	D33
C233	B5	C631	B40	C914	D24	DZ502	D27	L607	A38	R212	B6	R517	D26	R821	D20	RR430S	E10
C234	B3	C632	B40	C915	E24	DZ503	D27	L608	B38	R213	E3	R518	D27	R822	E21	RY802S	C17
C235	B4	C634	B41	C916	E24	DZ504	E14	L609	B40	R214	C7	R519	E13	R823	E21	SG501	B15
C236	B4	C635	E37	C917	D23	DZ601	C40	L701	C38	R215	C7	R520	E12	R824	E21	SG502	C16
C237	C6	C636	E38	C918	D24	DZ602	B40	L702	C38	R216	C7	R521	E13	R825	C19	SG503	A15
C244	C3	C637	B38	C919	E34	DZ603	B40	L705	B37	R223	A9	R522	A16	R827	E22	SP1	A44
C245	C4	C638	B38	C920	E34	DZ801	D19	L706	C37	R224	C9	R523	B16	R828	C22	SP2	A44
C248	C2	C639	B38	C921	D24	DZ802	C19	L707	C37	R225	C9	R524	B27	R829	B22	SW901	B30
C249	C4	C640	B38	C922	E23	DZ803	C18	L708	C37	R226	C10	R525	D15	R831	C23	SW902	B30
C250	C3	C641	A38	C999	D31	DZ804	B27	L709	E41	R228	E4	R526	E16	R832	B18	SW903	B30
C301	D4	C642	A38	CR01S	D35	DZ805	D20	L710	C3	R231	B3	R601	D38	R833	B17	SW904	B29
C302	D5	C643	B38	CR02S	D35	DZ806	D20	L711	D41	R232	B4	R602	D38	R835	A23	SW905	B29
C303	C5	C644	B38	CR03S	D34	DZ808	C19	L801	B20	R234	B9	R603	C40	R836	A23	SW906	B29
C304	D6	C645	E40	CR04S	D32	DZ901	A29	L802	B20	R235	B9	R604	D38	R901	E32	T401	E5
C305	D7	C646	E40	CW901	A32	DZ902	E33	L803	B20	R236	B13	R605	C38	R903	D33	T444S	B26
C306	D4	C647	A38	CW901	C34	DZ903	C30	L804	A21	R237	C13	R606	D38	R904	D32	T444S	D9
C307	B28	C649	B40	CX801S	A18	DZ904	C30	L806	B20	R238	A13	R607	A40	R905	A31	T801S	A21
C308	D6	C652	B40	CX802S	A18	DZ905	B2	L807	B21	R241	B2	R608	A40	R906	C32	TU01S	A2
C401	C25	C654	E40	CY802S	C17	DZ906	E32	L808	A23	R242	C3	R610	C38	R907	C33	V1	B16
C402	C28	C656	E38	D201	C10	DZ907	E32	L809	C17	R243	D13	R611	C38	R908	C32	VP801S	B17
C403	B27	C657	E38	D202	C6	DZR01S	D35	L901	D23	R244	D13	R612	C38	R909	C33	VX801S	A17
C404	B27	C701	C5	D203	D2	FA802S	C21	L902	D32	R245	D12	R613	B38	R910	C30	X201	D2
C405	E7	C702	C3	D204	D2	FA803S	B21	L903	D23	R246	D12	R614	B38	R911	B30	X601	E38
C406	E7	C703	E41	D205	D1	FP801S	A17	L904	D23	R247	E11	R615	B38	R912	C31	X901	A32
C407	E7	C707	D40	D206	D1	HIC202	A12	L905	D31	R248	C9	R616	A38	R913	B30		
C408	E6	C708	D41	D207	E5	HIC203	C12	L907	E34	R249	C9	R617	B38	R914	B31		
C410	B24	C803	A20	D208	B13	HIC204	B12	L908	D31	R250	C9	R620	C42	R915	B30		
C412	E4	C804	B19	D209	C13	IC301	D5	L909	E31	R251	E3	R621	A40	R916	B30		
C413	B27	C805	A20	D210	A13	IC501	B15	LC801S	B19	R252	E3	R622	A40	R917	B29		
C414	C28	C807	C20	D211	D13	IC502	C15	LD901	E32	R301	D3	R627	C42	R918	B29		
C420	D11	C808	C18	D301	D5	IC503	A15	LX801S	A18	R302	D4	R628	C42	R919	C30		
C421	A25	C809	C19	D401	C26	IC601	A39	LX802S	A19	R303	D6	R629	C41	R920	D30		
C422	A25	C810	C19	D402	B27	IC602	B43	NT802S	A19	R304	D4	R631	B42	R921	A30		
C424	E8	C811	C19	D403	C27	IC802	E23	P800	A17	R305	D7	R701	A10	R923	E32		
C426	D8	C814	A21	D406	B22	IC803	B23	PC801S	D19	R306	D7	R702	A11	R924	D30		
C427	D8	C815	A21	D407	E10	IC804	C23	PT801S	A19	R309	D5	R703	A11	R925	A32		
C504	B27	C816	A23	D411	A25	IC901	A31	Q201	C7	R310	D5	R704	A10	R927	B32		

MISCELLANEOUS ADJUSTMENTS

BASIC ADJUSTMENTS DISPLAY

Turn receiver on and tune in an active station. There is a hole below the TV button on the remote. Insert the point of a paper clip into the hole and press once. To access the service mode, turn receiver off and press the mute, 1, 8, and 2 buttons on the remote. The basic adjustments display items will appear on the screen. If the Factory remote control is used turn the set on, press display button, then Factory button on the remote. The basic adjustments will be displayed as shown below. After selecting the item desired by pressing the CHANNEL UP OR DOWN button. Pressing the volume up or down button will change the value. To select a different adjust mode after selecting or adjusting an item, press the menu button, to exit the adjust mode and save changes press the power button when in the main menu.

Service

Deflection
Video Adjust 1
Video Adjust 2
Video Adjust 3
Option (01h 01h 80h 09h)
Reset
G2-Adjust
Others
VDP Version : B

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 between 28kV and 30kV.

B+ CHECK

Turn receiver on and tune in an active station. Set picture and brightness to normal. Check the voltage at the cathode of D802, it should be 130V ±1V.

SCREEN ADJUST

Tune in a color bar pattern. Access the service mode. Select “G2-Adjust”. Set the data values as follow:

IBRM = 200 ; WDRV = 35 ; CDL = 200 ; COL RGB = 120 120 120.

Turn the screen control on the high voltage transformer until the data value of item “MRC RGB” is about 120. Press menu button to return to service mode. Select “Video Adjust 1”, adjust the data value of red and blue cut off by one point up or down then restore the old value if necessary. Save the changes.

SUB BRIGHTNESS

Tune in a picture. Access the service mode, select “ Video Adjust 1”. Select “Sub Bright” item from the menu. Press the volume up or down button to set data to a point where highlights are just visible.

SUB CONTRAST

Tune in a picture. Access the service mode, select “ Video Adjust 1”. Select “Sub Contrast” item from the menu. Press the volume up or down button to set data to obtain the best contrast on the picture.

WHITE BALANCE

Operate the receiver for 15 minutes. Tune in a white pattern. Access the service mode, select “ Video Adjust 1”. Select “Red Drive” item from the menu. Press the volume up or down button to set data to a point where the screen is yellow in color. Select “Blue Drive” item from the menu. Press the volume up or down button to set the data values to obtain white screen. Set brightness for a visible raster. Alternately adjust data value of service items “Red Cut Off” and “Blue Cut Off” until a good gray scale with normal white is obtained. Set the data values for normal color level. Use the red and blue drive to adjust high-light, and the red and blue cut off to adjust low-light. Repeat the process if necessary.

PURITY

NOTE: Operate the receiver for 15 minutes to allow warm-up of CRT. Use a degaussing coil to demagnetize the CRT.

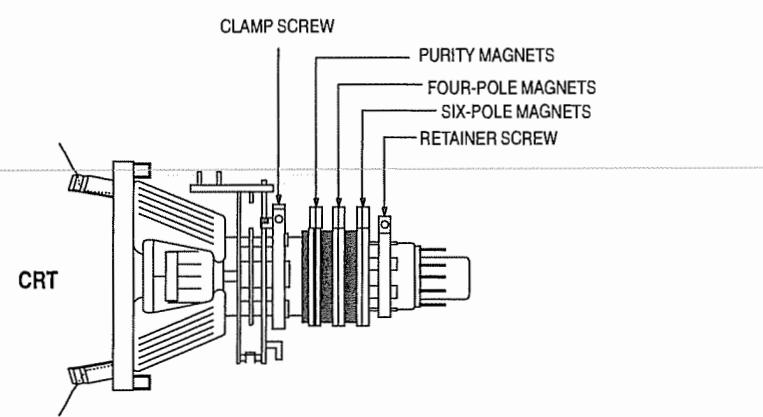
Set contrast to maximum. Set brightness and color to minimum. Tune in a green raster. Loosen the clamp screw and slide the deflection yoke back. Loosen the retainer screw. Adjust purity tabs to center the vertical green band. Slide the deflection yoke forward to produce a uniform green screen. Tighten the clamp and retainer screws.

CONVERGENCE

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.

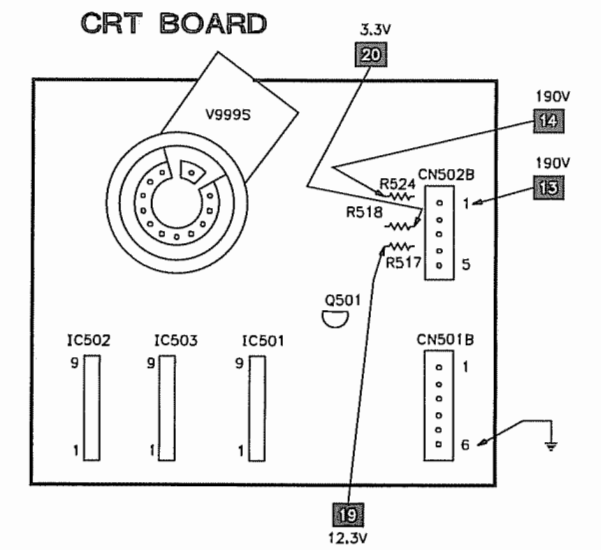
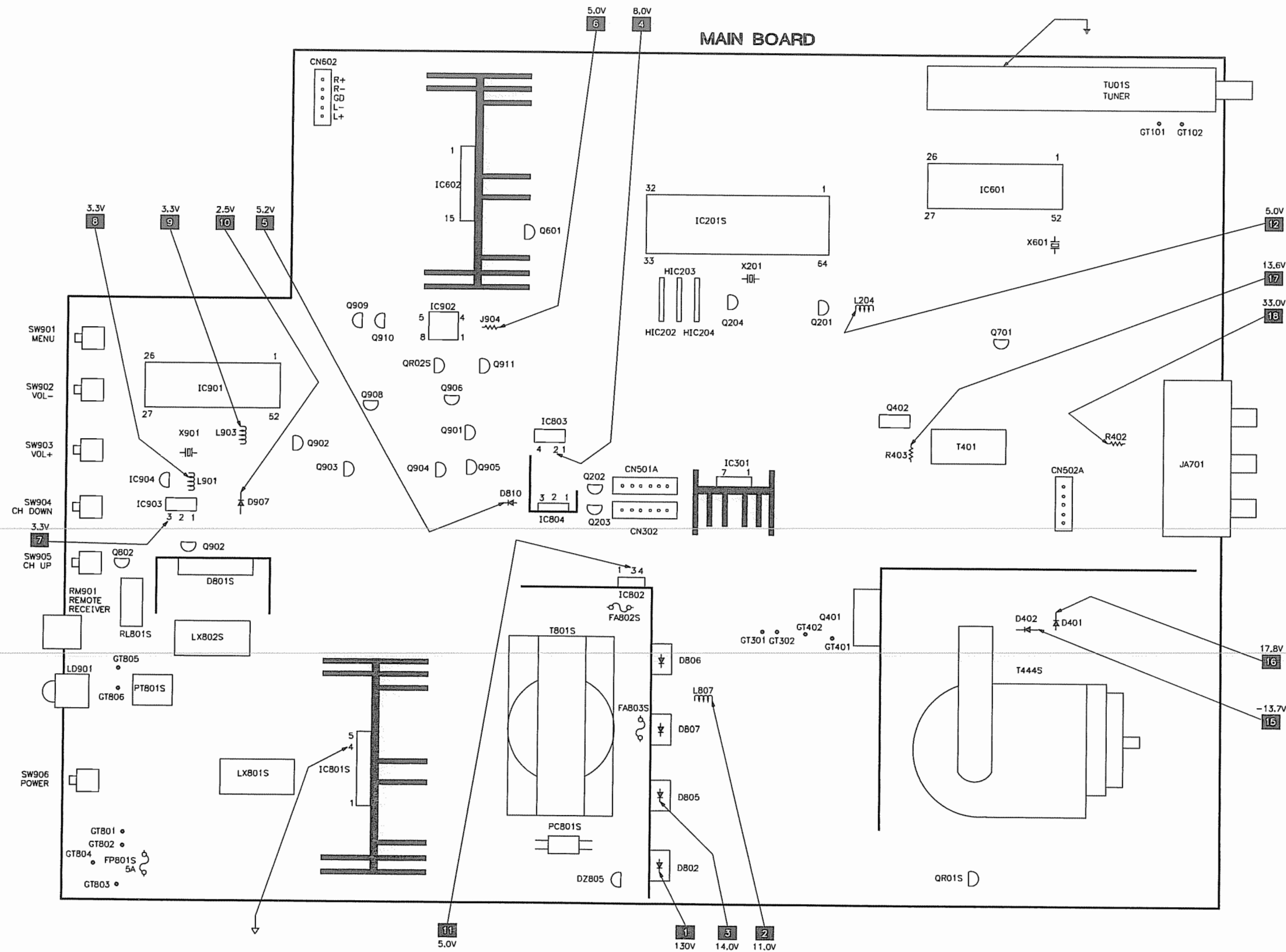
CRT NECK ASSEMBLY



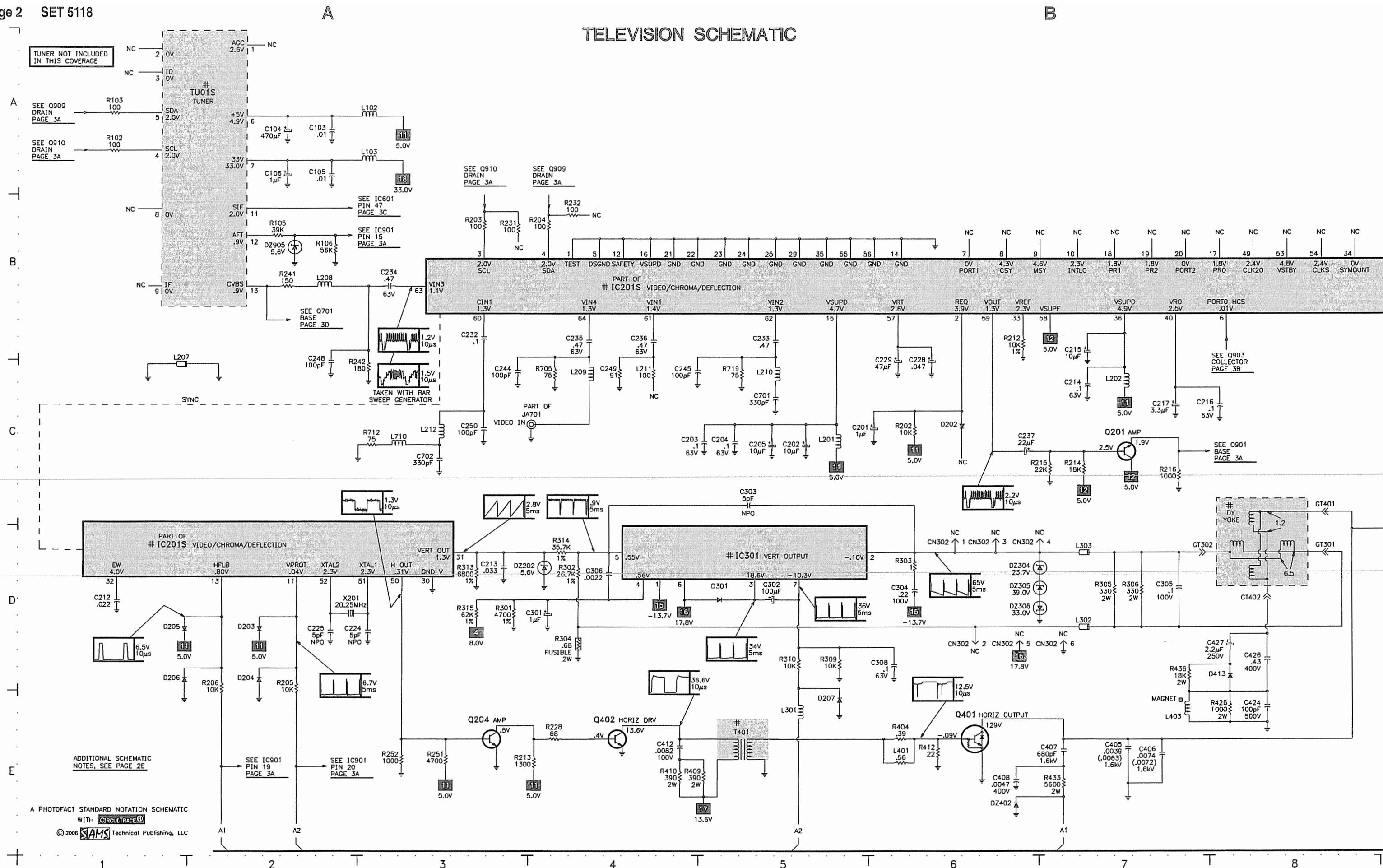
Item	Value	Notes
DEFLECTION		
H Bow	0	Fixed do not adjust.
H Angle	0	
H DSCC	1	Fixed do not adjust.
V Shift	-18A	Adjust for proper vertical size.
V Amp	18	Adjust for proper vertical centering.
V Slope	-4	Adjust for proper vertical linearity.
V SC	-13	Fixed do not adjust.
H EW	24	
H Trapezium	20	
H Parabola	17	
H Symmetry	13	Fixed do not adjust.
H Corner	69	
H Shift	13	
VIDEO ADJUST 1		
RED CUT OFF	127	
GREEN CUT OFF	127	Fixed do not adjust.
BLUE CUT OFF	127	
RED DRIVE	127	
GREEN DRIVE	127	Fixed do not adjust.
BLUE DRIVE	127	
SUB BRIGHT	100	
SUB CONTRAST	52	
SUB COLOR	50	Fixed do not adjust.
SUB TINT	70	Fixed do not adjust.
BCL THRESHOLD	58	Fixed do not adjust.
BCL GAIN	8	Fixed do not adjust.
BCL Time	10	Fixed do not adjust.
DVD SUB TINT		Fixed do not adjust.
N. YC Delay	3	-
VIDEO ADJUST 2		
B Stretch - BTHR	50	Fixed do not adjust.
B Stretch - BTLT	8	Fixed do not adjust.
B Stretch - BAM	4F	Fixed do not adjust.
Coring	31	Fixed do not adjust.
NTSC Comb Filter	1	-
RGB Bright	0	Fixed do not adjust.
RGB Contrast	0	Fixed do not adjust.
EHT Time	0	Fixed do not adjust.
EHT Vertical	60	Fixed do not adjust.
DTI Coring	0	Fixed do not adjust.
DTI Gain	1	Fixed do not adjust.
DTI Band	1	Fixed do not adjust.
VIDEO ADJUST 3		
Peak Threshold	255	Fixed do not adjust.
Soft Limit Slope B	4	Fixed do not adjust.
Hard Limit	255	Fixed do not adjust.
Modulation On/Off	0	Fixed do not adjust.
A Tilt Point	0	Fixed do not adjust.
B Tilt Point	114	Fixed do not adjust.
Gain 1 (Video)	11	Fixed do not adjust.
Delay 1 (Video)	3	Fixed do not adjust.
Peak Video Ref	0	Fixed do not adjust.
Peak Video Gain	0	Fixed do not adjust.
Limit Value	74	Fixed do not adjust.
Velocity Delay	7	Fixed do not adjust.
Velocity Coring	10	Fixed do not adjust.
ACC Ref	20	Fixed do not adjust.
ACCR	21	Fixed do not adjust.

Item	Value	Notes
OPTION		
System	CT(EN+SP+FR)	-
ACS (CT, CTA)	ON	-
Sound	Stereo	-
CRT	4:3	-
AV Mode	1 RCA	-
Audio Mute	ON	-
X-Ray	ON	-
Video Mute	OFF	-
Tilt Control	OFF	
Game+Demo(CN)	OFF	
LNA	OFF	
PIP	OFF	
V Chip (CT, CTA)	ON	
Blue Screen	OFF	
AKB	OFF	
Auto Power On	OFF	
Hotel	OFF	
Option Byte	01 01 80 09	These are hexa check sum Value data of the E2PROM, displayed on the service mode menu by the item of Option.
RESET		
After the service adjustments are completed, Do not select “RESET” in the service mode menu. Press power button to save the new data values.		
OTHERS		
VSU	105	-
VSU2	0	-
H QEWE	0	-
H Zoom Parabola	8	-
H 16:9 Parabola	-18	-
DVD Tint Control	0	-
PAL V Shift	-29	-
PAL H Shift	18	-
Melidy Volume	7	-
G2 - ADJUST		
IBRM	210	-
WDRV	35	-
CDL	150	-
COL	130	-
VDP Version		
VDP Version	B	Check the version mode “Y”, or “B” from IC201S on unit number. VDD3130“Y”, or VDD3112“B”, or VDD3108“B”.
NOTE:		
It is important to record the data values before making any changes, in case the set won't operate in a normal way, refer to the old data values.		

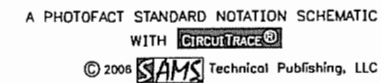
PLACEMENT CHART



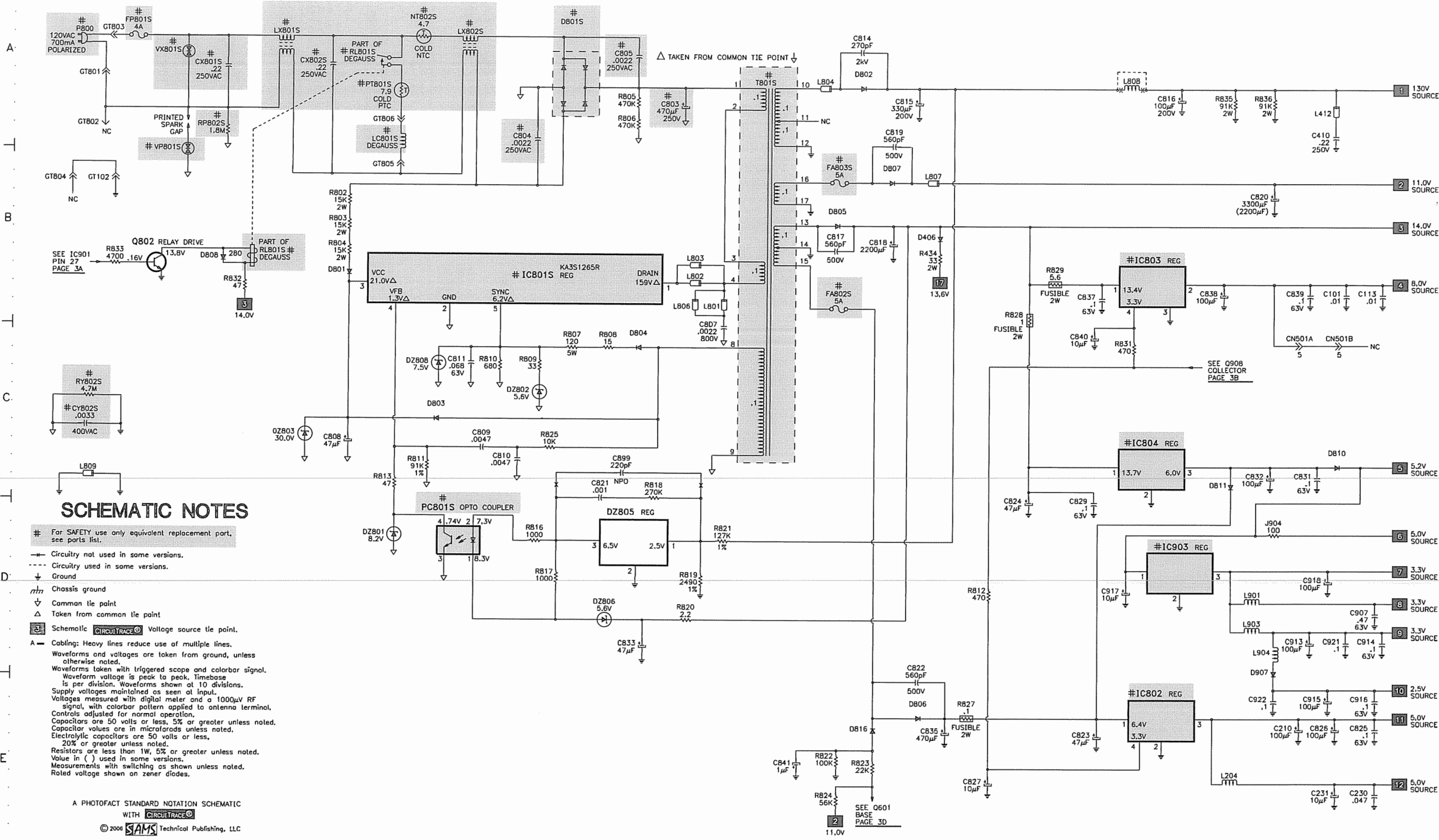
TELEVISION SCHEMATIC



D



POWER SUPPLY SCHEMATIC

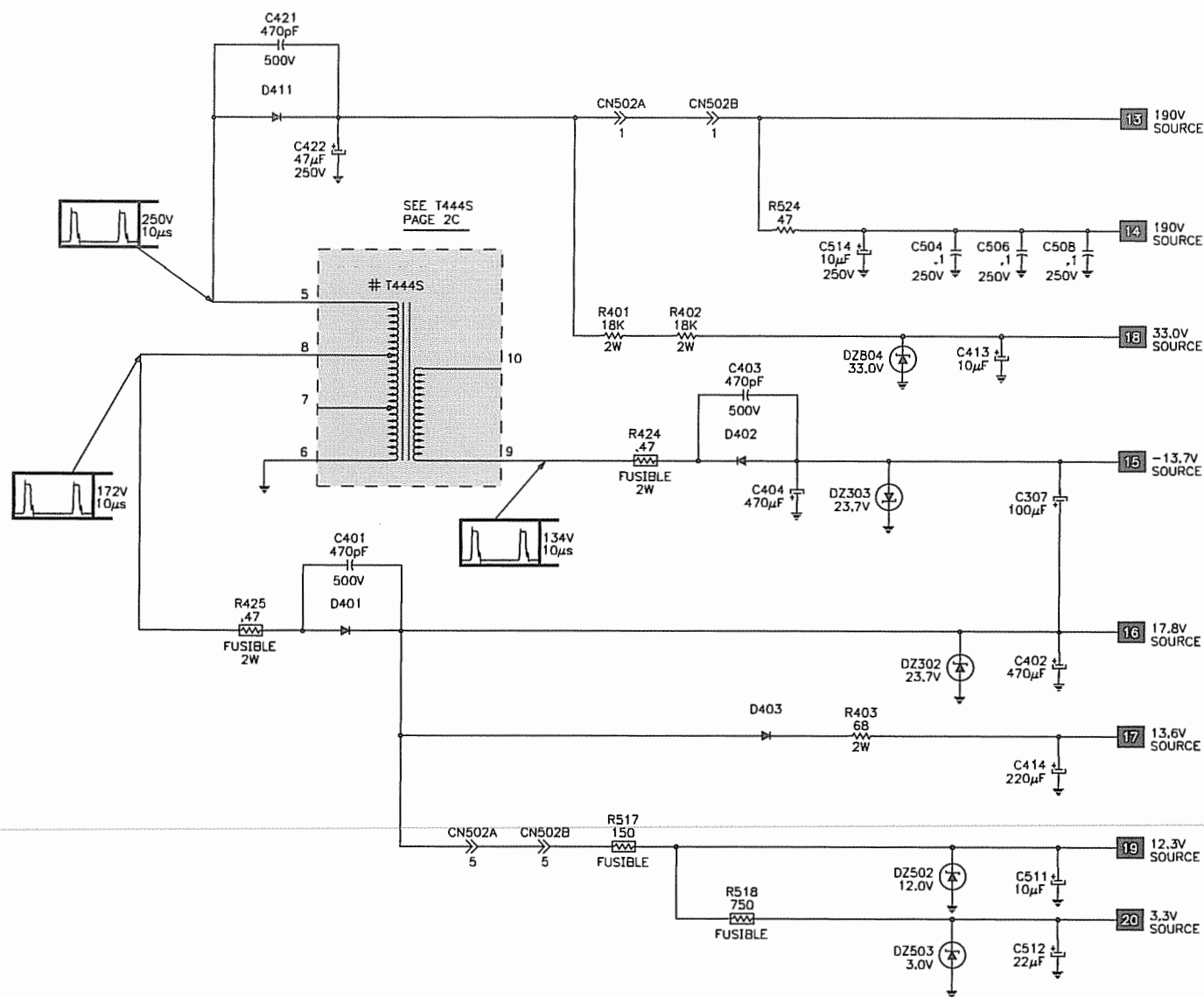


SCHEMATIC NOTES

- # 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 CIRCUITACE Voltage source tie point.
- A Cabling: Heavy lines reduce use of multiple lines. Waveforms and voltages are taken from ground, unless otherwise noted. Waveforms taken with triggered scope and colorbar signal. Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions. Supply voltages maintained as seen at input. Voltages measured with digital meter and a 1000μV RF signal, with colorbar pattern applied to antenna terminal. Controls adjusted for normal operation. Capacitors are 50 volts or less, 5% or greater unless noted. Capacitor values are in microfarads unless noted. Electrolytic capacitors are 50 volts or less, 20% or greater unless noted. Resistors are less than 1W, 5% or greater unless noted. Value in () used in some versions. Measurements with switching as shown unless noted. Rated voltage shown on zener diodes.

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G
POWER SUPPLY SCHEMATIC continued



ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2E

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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.

TEST EQUIPMENT

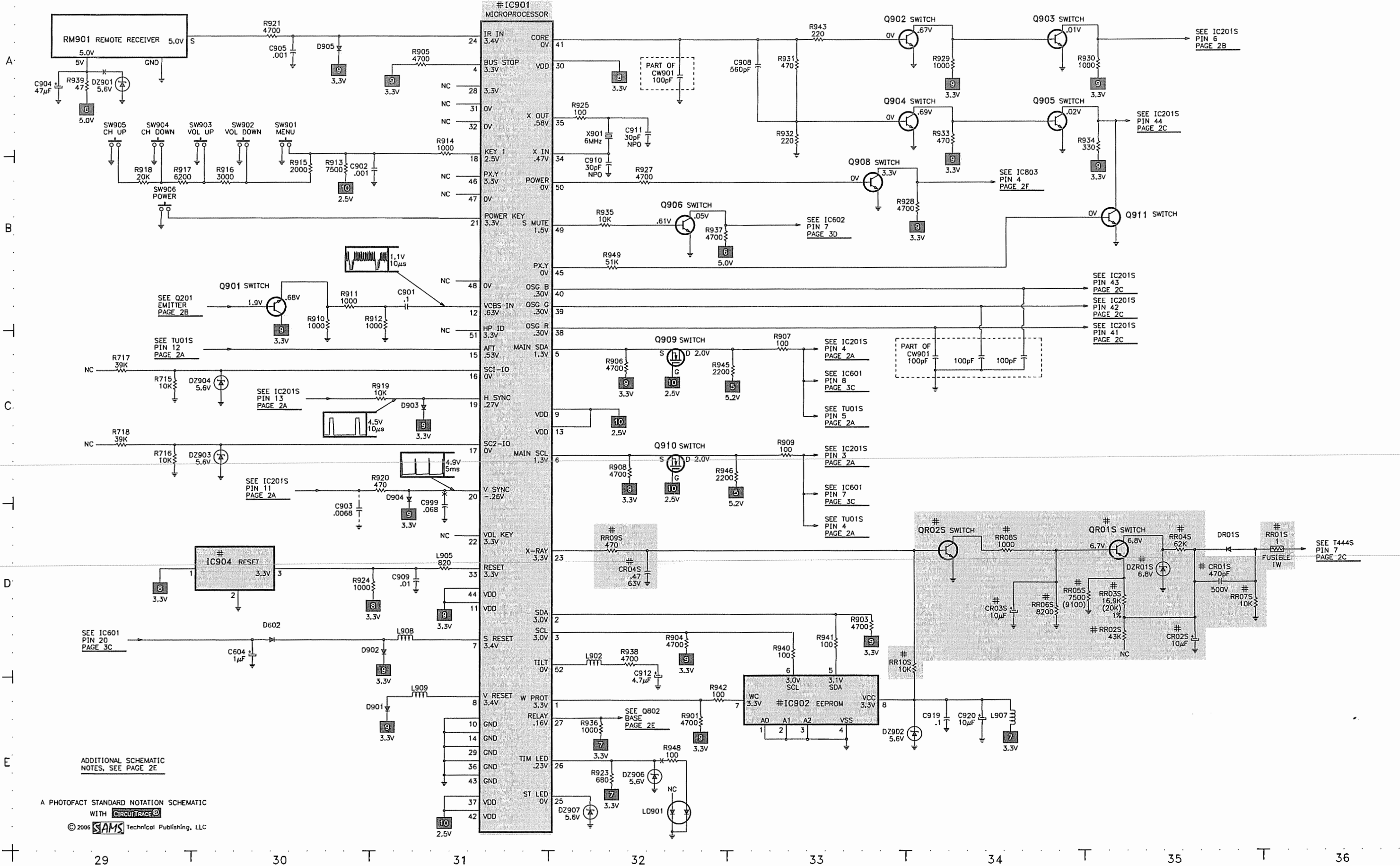
Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

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

SAMTRON

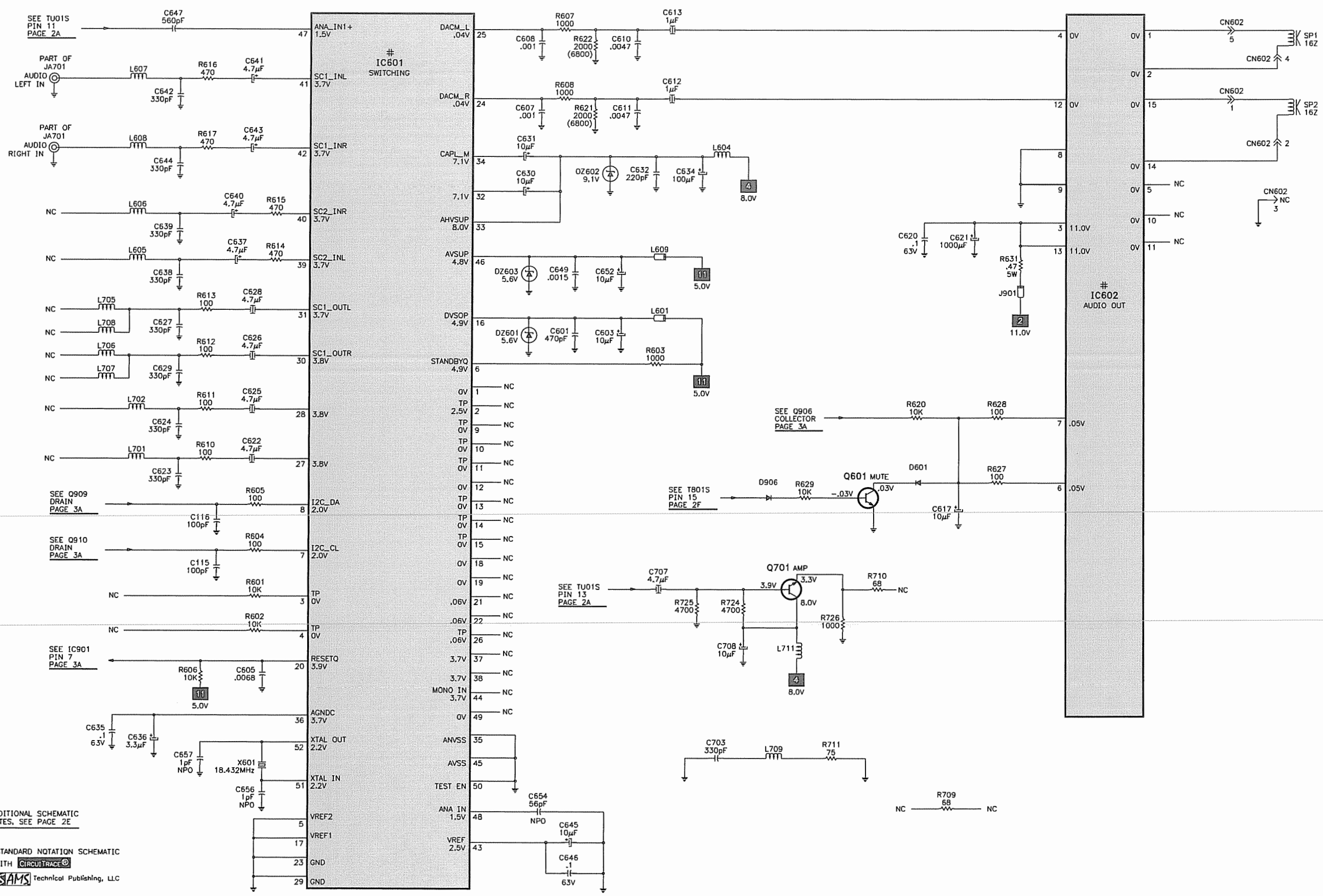
MODELS SAM25405C/XAA, SAM27405C/XAA (CHASSIS KS3A(N))

SYSTEM CONTROL SCHEMATIC



A/V SWITCHING, AUDIO SCHEMATIC

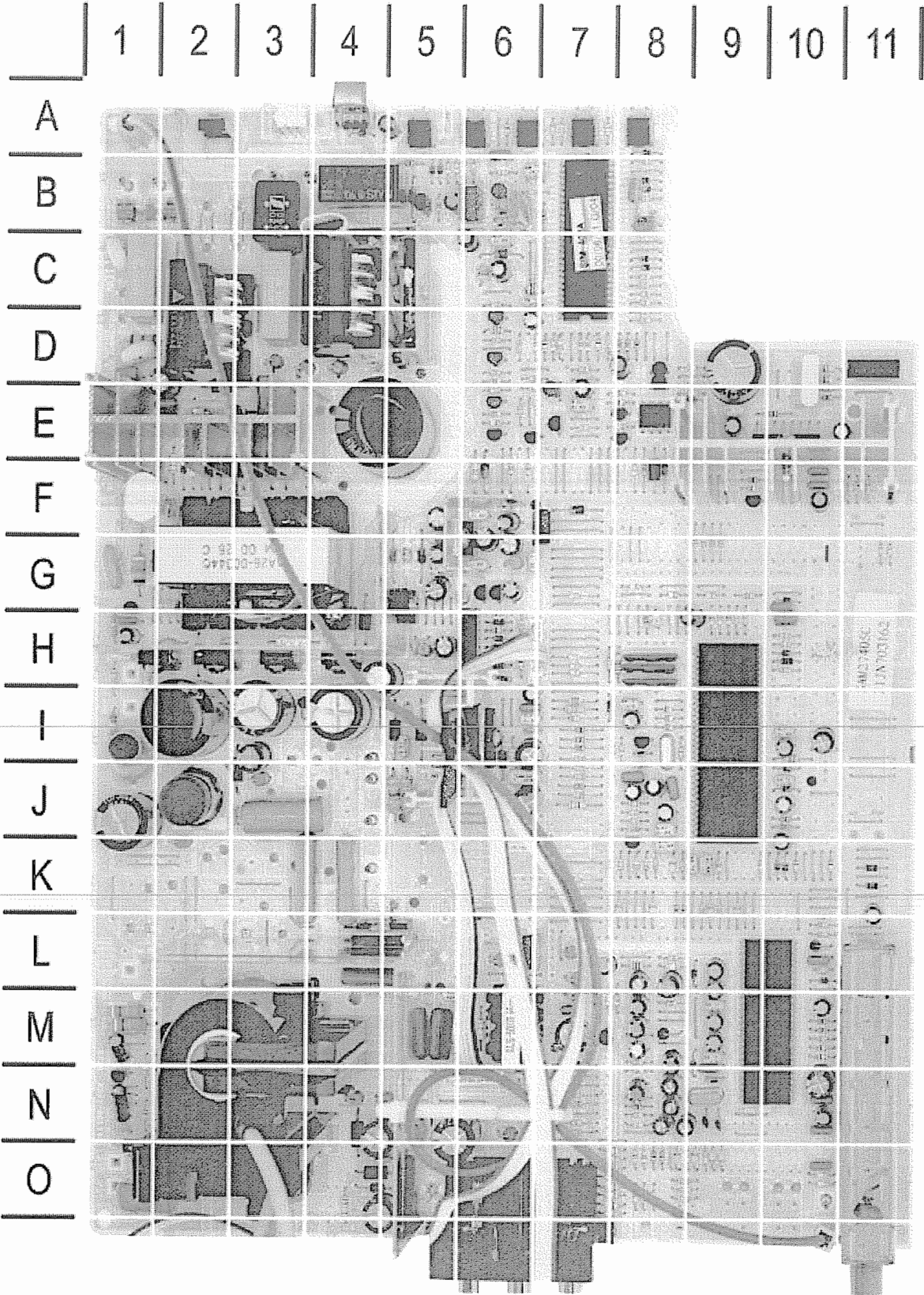
SAMTRON
MODELS SAM25405C/XAA, SAM27405C/XAA (CHASSIS KS3A(N))



ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2E

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MAIN BOARD



MAIN BOARD, GRIDTRACE LOCATION GUIDE

C101	O10	C622	N8	C918	C6	DZ906	B5	LD901	A3	R404	M5	R832	F6
C103	N10	C623	O9	C919	E8	DZ907	B5	LX801S	D2	R405	N6	R833	B5
C104	N10	C624	O8	C920	D8	DZ901S	N1	LX802S	C4	R409	L7	R835	M1
C105	N10	C625	N8	C921	B8	FA802S	H4	NT802S	B4	R410	M7	R836	M1
C106	N10	C626	N8	C922	D9	FA803S	H3	PC801S	G2	R412	M5	R901	D8
C113	O11	C627	N8	C999	B8	FP801S	B1	PT801S	B3	R424	N4	R903	D8
C115	M11	C628	N8	CN302	H6	GT102	O10	Q201	K8	R425	N4	R904	C8
C116	M11	C629	N8	CN501A	H6	GT301	I4	Q202	G6	R426	J2	R905	C8
C201	K1	C630	L9	CN502A	N5	GT302	J4	Q203	G6	R429	O5	R906	C8
C202	J10	C631	L9	CN602	D11	GT401	K4	Q204	I8	R432	O5	R907	D10
C203	J10	C632	L8	CR01S	N1	GT402	J4	Q401	L4	R433	L5	R908	C8
C204	I10	C634	L8	CR02S	N1	GT801	B2	Q402	L6	R434	L7	R909	E10
C205	I10	C635	M9	CR03S	M1	GT802	B1	Q601	F9	R436	J3	R910	E6
C208	G6	C636	M9	CR04S	E7	GT803	B1	Q701	M7	R601	M10	R911	E6
C210	I10	C637	N8	CW901	C6	GT804	A1	Q802	B5	R602	M10	R912	D6
C212	H10	C638	M8	CX801S	C1	GT805	B3	Q901	E6	R603	M10	R913	C8
C213	G10	C639	N8	CX802S	C3	GT806	B3	Q902	D6	R604	M10	R914	B8
C214	H8	C640	M8	CY802S	G1	HIC202	H8	Q903	D6	R605	M10	R915	A7
C215	H9	C641	M8	D201	H10	HIC203	H8	Q904	E6	R606	K10	R916	A7
C216	I8	C642	O8	D202	K11	HIC204	H8	Q905	E6	R607	G11	R917	A7
C217	I8	C643	M8	D203	K10	IC201S	J9	Q906	E7	R608	G11	R918	A6
C218	H9	C644	O8	D204	J10	IC301	I6	Q908	E7	R610	O8	R919	D7
C219	H9	C645	M9	D205	K10	IC601	N10	Q909	D8	R611	O8	R920	D7
C220	H9	C646	M9	D206	J10	IC602	E10	Q910	D8	R612	N8	R921	B5
C221	I8	C647	K10	D207	I7	IC801S	E2	Q911	E8	R613	N8	R923	B6
C222	I8	C649	M9	D208	H6	IC802	G5	QR01S	N1	R614	M8	R924	B6
C223	I8	C652	M8	D209	H6	IC803	F7	QR02S	E8	R615	M8	R925	B7
C224	I8	C654	N9	D210	H6	IC804	F6	R102	O11	R616	O8	R927	D7
C225	I8	C656	N9	D211	H6	IC901	C7	R103	O11	R617	O8	R928	D6
C228	J8	C657	N9	D301	I6	IC902	E8	R105	L11	R620	E9	R929	D6
C229	J8	C701	N9	D401	O4	IC903	B6	R106	K10	R621	F11	R930	D6
C230	J8	C702	O9	D402	N4	IC904	B6	R202	K10	R622	F11	R931	D6
C231	J8	C703	O9	D403	L6	J901	F8	R203	J10	R627	F9	R932	E6
C232	K9	C707	L8	D406	F7	J904	F8	R204	J10	R628	E10	R933	E6
C233	J8	C708	L8	D407	O4	JA701	O7	R205	K7	R629	F9	R934	E6
C234	K8	C803	E4	D411	M5	L102	O11	R206	K9	R631	D10	R935	D7
C235	K9	C804	D5	D413	J3	L103	O11	R207	H10	R701	I7	R936	B6
C236	K9	C805	C5	D601	F9	L201	I10	R208	H10	R702	J7	R937	F8
C237	J8	C807	E3	D602	K11	L202	H8	R209	H10	R703	J7	R938	D7
C244	K8	C808	D1	D801	D2	L204	K8	R210	H10	R704	J7	R939	B5
C245	K8	C809	E2	D801S	C5	L207	K7	R212	H8	R705	K8	R940	D8
C248	J8	C810	E2	D802	H1	L208	K9	R213	I7	R706	I7	R941	D8
C249	K9	C811	D1	D803	E2	L209	K8	R214	J8	R707	I7	R942	D8
C250	K9	C814	H2	D804	E2	L210	K8	R215	J8	R708	I7	R943	C6
C301	I6	C815	I2	D805	H2	L211	K9	R216	I8	R709	N9	R945	D9
C302	I6	C816	J1	D806	H4	L212	K9	R223	G9	R710	N7	R946	D9
C303	I6	C817	H2	D807	H3	L301	I7	R224	G9	R711	O9	R948	B5
C304	J7	C818	I3	D808	B5	L302	I5	R225	G9	R712	O9	R949	E8
C305	I5	C819	I3	D810	F6	L303	I5	R226	G9	R715	N11	RL801S	B4
C306	I6	C820	I4	D811	G5	L401	M5	R228	J7	R716	O11	RM901	A4
C307	J6	C821	H1	D816	H4	L403	J2	R231	K8	R717	O10	RP802S	D1
C308	I6	C822	H5	D901	C8	L412	M5	R232	K8	R718	O10	RR01S	O1
C401	O4	C823	H5	D902	C8	L601	L10	R234	H9	R719	K8	RR02S	N2
C402	O4	C824	G6	D903	B8	L604	L8	R235	H9	R723	J7	RR03S	N2
C403	N4	C825	G5	D904	B8	L605	O8	R236	H7	R724	M7	RR04S	N1
C404	N4	C826	G5	D905	A8	L606	O8	R237	H7	R725	M8	RR05S	N2
C405	K4	C827	G5	D906	F8	L607	O8	R238	H7	R726	N7	RR06S	N1
C406	K3	C829	G5	D907	C6	L608	O8	R241	K8	R802	D4	RR07S	N2
C407	L4	C831	F6	DR01S	O1	L609	M8	R242	J8	R803	D3	RR08S	E7
C408	M5	C832	F5	DZ201	H10	L701	O8	R243	G6	R804	D3	RR09S	D7
C410	M5	C833	H1	DZ202	G10	L702	O8	R244	G6	R805	E3	RR10S	E8
C412	M7	C835	H4	DZ203	H6	L705	O8	R245	H6	R806	E3	RR430S	O4
C413	N7	C837	G6	DZ302	I5	L706	O8	R246	H6	R807	F1	RY802S	G1
C414	M7	C838	G6	DZ303	I5	L707	O9	R247	G7	R808	E1	SW901	A8
C420	O1	C839	G6	DZ304	I5	L708	O9	R248	G8	R809	E1	SW902	A7
C421	O5	C840	F6	DZ305	I5	L709	K9	R249	G8	R810	E1	SW903	A6
C422	N5	C841	G4	DZ306	J5	L711	L8	R250	G9	R811	E2	SW904	A6
C424	J2	C899*	G1	DZ402	L6	L801	E3	R251	I8	R812	F6	SW905	A5
C426	J3	C901	D6	DZ601	L10	L802	E2	R252	I8	R813	E2	SW906	A2
C427	I3	C902	B8	DZ602	L9	L803	E2	R301	H8	R816	G2	T401	M6
C601	L10	C904	A5	DZ603	M9	L804	H2	R302	I6	R817	G2	T444S	M2
C603	M10	C905	B8	DZ801	E2	L806	E3	R303	I6	R818	H1	T801S	G3
C604	K11	C907	B6	DZ802	E1	L807	I3	R304	I5	R819	I1	TU01S	O11
C605	L10	C908	D6	DZ803	E2	L808	I1	R305	J5	R820	H1	VP801S	D1
C607	L10	C909	A6	DZ804	M7	L809	H4	R306	J5	R821	H1	VX801S	C1
C608	L10	C910	C6	DZ805	G1	L901	B6	R309	I5	R822	G4	X201	I8
C610	F10	C911	B6	DZ806	G2	L902	D7	R310	I7	R823	G4	X601	N9
C611	F10	C912	E7	DZ808	E1	L903	C6	R313	G9	R824	G4	X901	B6
C612	E10	C913	D6	DZ901	A4	L904	C6	R314	I7	R825	E1		
C613	F10	C914	C6	DZ902	E8	L905	A6	R315	H7	R827	H5		
C617	E9	C915	C6	DZ903	N11	L907	D6	R401	N6	R828	G6		
C620	E9	C916	C6	DZ904	M11	L908	D10	R402	N7	R829	G6		
C621	D9	C917	B5	DZ905	L11	L909	D10	R403	L6	R831	F6		

* Located on bottom of board.

PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Function/Rating	Mfr. Part No.	Notes
D201, 02	1N4148	0401-000005	NTE519	Q911	KSC815	0501-000389	NTE123AP	R212	10K 1% 1/8W	2004-000218	-
D203 Thru				# QR01S	KSA539	0501-000283	NTE159	R301	4700 1% 1/2W	2004-001397	-
D206	RB441Q	0404-000156	-	# QR02S	KSC815	0501-000389	NTE123AP	R302	26.7K 1% 1/2W	2004-001984	-
D207 Thru								R304	.68 5% 2W Fusible	2008-000254	-
D211	1N4148	0401-000005	NTE519	Item No.	Function/Rating	Mfr. Part No.	Notes	R313	6800 1% 1/8W	2004-001137	-
D301	TVR10G	0402-000546	NTE552	C224, 25	5pF ±.5pF 50V NPO	2201- 002031	-	R314	35.7K 1% 1/2W	2004-001986	-
D401	RU20A	0402-000540	-	C303	5pF ±.5pF 50V NPO	2201- 002031	-	R315	62K 1% 1/8W	2004-004970	-
D402	RG10V	0402-000534	-	C405	.0039 5% 1.6kV	2301-001219	-	R405	.47 5% 1W Fusible	2008-000253	-
D403, 06, 07	1N4004	0402-000132	NTE116		.0063 3% 1.6kV	2306-000327	-	R424, 25	.47 10% 2W Fusible	2008-001018	-
D411	TVR10G	0402-000546	NTE552	C406	.0074 3% 1.6kV	2306-000255	-	R432	6800 1% 1/2W	2004-001402	-
D413	RH1A	0402-000537	NTE552		.0072 5% 1.6kV	2306-000253	-	R517	150 5% 1/2W Fusible	2008-001036	-
D502	1N4004	0402-000132	NTE116	C407	680pF 5% 1.6kV	2301-001338	-	R518	750 5% 1/2W Fusible	2008-001057	-
D601, 02	1N4148	0401-000005	NTE519	C516	.01 +80% -20% 3kV	2201-002063	-	R522	1.5 5% 1/2W Fusible	2008-001129	-
D801	1N5397GP	0402-001111	NTE5806	C612, 13	1µF 20% 50V NP	2401-001914	-		1 5% 1/2W Fusible	2008-000266	-
# D801S	RBV-606	0402-000549	NTE5330	C622, 25	4.7µF 20% 50V NP	2401-001989	-	R523	1.5 5% 1/2W Fusible	2008-001129	-
D802	FMG-26S	-	NTE6241	C626, 28	4.7µF 20% 50V NP	2401-001989	-	R631	.47 10% 5W	2009-000022	-
D803	TVR10G	0402-000546	NTE552	C654	56pF 5% 50V NPO	2201-000611	-	R807	120 5% 5W	2006-001083	-
D804	1N4148	0401-000005	NTE519	C656, 57	1pF±.25pF 50V NPO	2201-000304	-	R811	91K 1% 1/2W	2004-001408	-
D805, 06, 07	FML-G12S	-	NTE597	C707	4.7µF 20% 50V NP	2401-001989	-	R819	2490 1% 1/2W	2004-001983	-
D808, 10, 11	1N4004	0402-000132	NTE116	# C803	470µF 20% 250V	2401-001386	-	R821	127K 1% 1/2W	2004-001889	-
D816	TVR10G	0402-000546	NTE552	# C804, 05	.0022 20% 250VAC	2201-000332	-	R827	.1 10% 2W Fusible	2008-000284	-
D901 Thru				C814	270pF 10% 2kV	2201-000406	-	R828	1 5% 2W Fusible	2008-000266	-
D905	RB441Q	0404-000156	-	C899	220pF NPO	-	-	R829	5.6 5% 2W Fusible	2008-001029	-
D906	1N4148	0401-000005	NTE519	C910, 11	30pF 5% 50V NPO	2201-000980	-	# RL801S	Relay	3501-001040	Degaussing
D907	1N4004	0402-000132	NTE116	# CR01S	470pF 10% 500V	2201-000556	-	# RP802S	1.8M 5% 1/2W	2002-001010	-
DR01S	RG10V	0402-000534	-	# CR02S	10µF 20% 25V	2401-002212	-	# RR01S	1 5% 1W Fusible	2008-000264	-
DZ201, 02	MTZJ5.6B	0403-000508	NTE5011T1	# CR03S	10µF 20% 16V	2401-002235	-	# RR02S	43K 5% 1/8W	2001-000766	-
DZ203	MTZJ6.8C	0403-001321	-	# CR04S	.47 5% 63V	2305-000412	-	# RR03S	16.9K 1% 1/2W	2004-001386	-
DZ302, 03, 04	MTZJ24B	0403-001329	NTE5031A	CW901	100pF 20% 50V X 4 Network	2503-000156	-		20K 5% 1/8W	2001-000009	-
DZ305	UZ39BSB	0403-001221	-	# CX801S, 02S	.22 20% 250VAC	2306-000318	-	# RR04S	62K 5% 1/8W	2001-000908	-
DZ306	TZP33A	0403-000700	-	# CY802S	.0033 20% 400VAC	2201-000446	-	# RR05S	7500 5% 1/8W	2001-000947	-
DZ402	1N4148	0401-000005	NTE519	# DY	Yoke	AA27-00083A	Horiz 1.2mH, Vert 16.8mH		9100 5% 1/8W	2001-001015	-
DZ502	MTZJ12B	0403-001211	NTE5021T1	# FA802S, 03S	Fuse	3601-001086	5A, 125V, Fast Acting	# RR06S	8200 5% 1/8W	2001-000977	-
DZ503	MTZJ3.0A	0403-001316	-	# FP801S	Fuse	3601-001012	4A, 250V, Slow Blow	# RR07S	10K 5% 1/8W	2001-000290	-
DZ504	MTZJ12B	0403-001211	NTE5021T1	J901	Ferrite Bead	3301-000287	-	# RR08S	1000 5% 1/8W	2001-000429	-
DZ601	MTZJ5.6B	0403-000508	NTE5011T1	JA701	Jack	3722-001543	Assembly	# RR09S	470 5% 1/8W	2001-000780	-
DZ602	MTZJ9.1B	0403-000720	NTE5018A	L102	22µH	2701-000159	-	# RR10S	10K 5% 1/8W	2001-000290	-
DZ603	MTZJ5.6B	0403-000508	NTE5011T1	L103	10µH	2701-000115	-	# RR430S	1000 5% 1/2W	2001-001088	-
DZ801	MTZJ8.2B	0403-001322	NTE5016A	L201, 02	10µH	2701-000114	-	# RY802S	4.7M 5% 1/2W	2002-001013	-
DZ802	MTZJ5.6B	0403-000508	NTE5011T1	L204	4.7µH	2701-000184	-	RM901	Receiver	AA59-60001U	Remote
DZ803	MTZJ30D	0403-001167	-	L207	Ferrite Bead	3301-000287	-	SG501, 02, 03	Spark Gap	AA27-00084A	-
DZ804	TZP33A	0403-000700	-	L208 Thru				SP1, 2	Speaker	3001-001038	2 1/4" X 5", 16 Ohms, 6W
DZ805	KA431LZ	1203-001217	NTE999	L212	3.3µH	2701-000168	-	SW901	Switch	3404-000244	Menu
DZ806	MTZJ5.6B	0403-000508	NTE5011T1	L301	10µH	2701-000114	-	SW902	Switch	3404-000244	Volume Down
DZ808	MTZJ7.5B	0403-000719	NTE5015A	L302, 03	Ferrite Bead	3301-000287	-	SW903	Switch	3404-000244	Volume Up
DZ901 Thru				L403 (1)	Horizontal Linearity	AA27-00074A	-	SW904	Switch	3404-000244	Channel Down
DZ907	MTZJ5.6B	0403-000508	NTE5011T1	L403 (2)	Horizontal Linearity	AA27-00075A	-	SW905	Switch	3404-000244	Channel Up
# DZR01S	MTCJ6.8C	0403-001321	-	L412	Ferrite Bead	3301-000287	-	SW906	Switch	3404-001004	Power
HIC202, 03, 04	DRGB001A	AA13-00093A	-	L601	Ferrite Bead	2901-000297	-	# T401	Horizontal Drive	AA26-50001L	-
# IC201S	VDP3108B-C3	1204-001632	-	L604	Ferrite Bead	2701-000169	-	# T444S (3)	Horizontal Output	AA26-00057A	-
# IC301	LA7845	1204-000517	NTE7167	L605 Thru	3.9µH			# T801S	Switching	AA26-00044C	-
# IC501, 02, 03	TDA6101Q	1201-000539	-	L608	33µH	2701-000177	-	# TU01S	Tuner	AA40-00021A	UHF/VHF, TCPN3081PA09A(S)
# IC601	MSP3440G	1204-001594	-	L609	Ferrite Bead	2901-000297	-	# V1 (1)	CRT	AA03-00032A	A63QDB891X
# IC602	TDA7266S	1201-001308	-	L701, 02	33µH	2701-000177	-	# V1 (2)	CRT	AA03-00147A	A68QDN891X001
# IC801S	KA3S1265R	1203-001482	-	L705 Thru				# V999S	Socket	3704-001105	CRT
# IC802	KA78R05	-	-	L708	33µH	2701-000177	-	# VP801S	Varistor	1405-000152	-
# IC803	KA78R08	1203-001697	-	L709, 10	3.3µH	2701-000168	-	# VX801S	Varistor	1405-000152	-
# IC804	KA7806	1203-000284	NTE962	L711	10µH	2701-000114	-	X201	Crystal	2801-003432	20.25MHz
# IC901	SDA555X-OTP	AA09-00041A	-	L801	Ferrite Bead	3301-001223	-	X601	Crystal	2801-003903	18.432MHz
# IC902	24L161	1103-001171	-	L802, 03, 04	Ferrite Bead	3301-000287	-	X901	Crystal	2801-003728	6 MHz
# IC903	78RM33	1203-001944	-	L806	Ferrite Bead	3301-001223	-		Magnet	AA27-00002A	Purity/Convergence
# IC904	KIA7025AP	1203-001943	-	L807	Ferrite Bead	2901-000297	-		PC Board	AA97-00700B	CRT, Assembly
LD901	DL-G5RGA	AA96-30001B	-	L808	24µH	AA27-10002L	-		PC Board (1)	AA94-02629A	Main
# PC801S	TR130	0604-001038	-	L809	Ferrite Bead	3301-000287	-		PC Board (2)	AA94-02629B	Main
Q201 Thru				L901	10µH	2702-001094	-		Transmitter	AA59-10110R	Remote
Q204	KSC815	0501-000389	NTE123AP	L902	4.7µH	2701-000184	-		Wedge	AA63-60028A	Yoke Positioning (3 Used)
Q401	C5802D	-	-	L903, 04	10µH	2702-001094	-				
Q402	KSC2073-H2	0502-001007	NTE375	L907	10µH	2701-000114	-				
Q501	KSA539	0501-000283	NTE159	L908, 09	47µH	2701-000191	-				
Q601	KSC815	0501-000389	NTE123AP	# LC801S (1)	Degaussing	AA27-20001W	-				
Q701	KSC815	0501-000389	NTE123AP	# LC801S (2)	Degaussing	AA27-20001N	-				
Q802	KSC2331-Y	0501-000369	NTE24	# LX801S, 02S	Line Filter	AA29-00011A	-				
Q901 Thru				# NT802S	4.7 Cold NTC	1404-001045	-				
Q906	KSC815	0501-000389	NTE123AP	# P800	Line Cord	AA39-10007Y	AC, Polarized				
Q908	KSC815	0501-000389	NTE123AP	# PT801S	7.9 Cold PTC	1404-000002	-				
Q909, 10	2N7000	0505-000109	NTE491								

SAMTRON

MODELS SAM25405C/XAA, SAM27405C/XAA (CHASSIS KS3A(N))

For SAFETY use only equivalent replacement part.

(1) Used in model SAM25405C/XAA.

(2) Used in model SAM27405C/XAA.

(3) Screen and focus controls are part of T444S.