

SAFETY PRECAUTIONS

SERVICE WARNING

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

SERVICING THE HIGH VOLTAGE AND CRT

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

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

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

GENERAL GUIDELINES

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

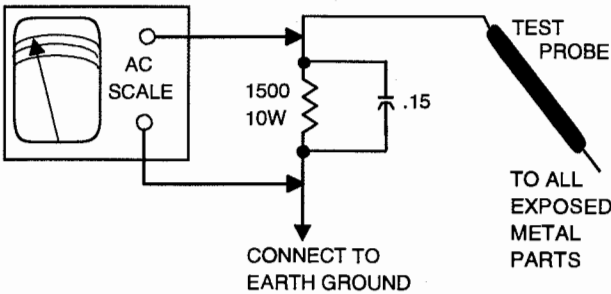
SAFETY CHECKS -- FIRE AND SHOCK HAZARD

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.



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

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PHOTOFACT® Technical Service Data

SET 4108

MODEL KV-13M40 (CHASSIS SCC-S01E-A)

SONY

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SONY
Model KV-13M40 (Chassis SCC-S01E-A)



Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models and chassis:

MODELS	CHASSIS
KV-13M40	SCC-S03D-A
KV-13M50	SCC-S01G-A
KV-13M51	SCC-S01F-A
KV-14MB40	SCC-S04P-A



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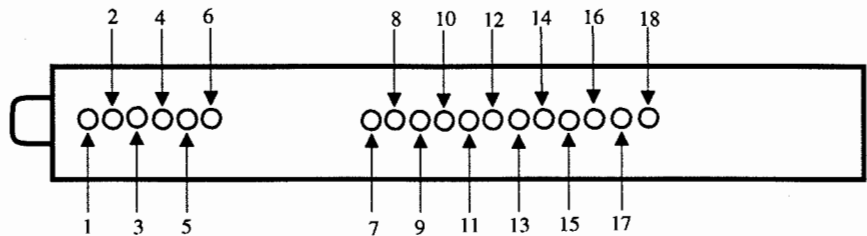
MARCH 1999 SET 4108

TUNER / VIF / SIF MODULE INFORMATION

TUNER / VIF / SIF MODULE VOLTAGE CHART					
Pin	Pin Name	Voltage	Pin	Pin Name	Voltage
1	9V	8.9V	10	AFT OUT	4.4V
2	30V	30.4V	11	NC	0V
3	5V	5.1V	12	NC	0V
4	CLOCK	4.8V	13	VOL CONT	0V
5	DATA	4.8V	14	AF OUT	4.7V
6	ENABLE	0V	15	AF IN	3.0V
7	RF AGC	4.9V	16	DE-EM OUT	4.2V
8	IF OUT	1.6V	17	MUTE	4.0V
9	9V	9.0V	18	DET OUT	4.3V

NOTE: Voltages do not change on different bands.

TUNER / VIF / SIF MODULE TERMINAL GUIDE



SCHEMATIC NOTES

- # For SAFETY use only equivalent replacement part, see parts list.
- ✖

Circuitry not used in some versions.
- Circuitry used in some versions.
- ⏏

Ground
- ⏏

Chassis ground
- ▽

Common tie point
- △

Taken from common tie point
- 3

Schematic **CIRCUITRACE®** Voltage source tie point.
- A

Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless noted otherwise.

Waveforms taken with triggered scope and colorbar signal. Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.

Supply voltages maintained as seen at input.

Voltages measured with digital meter and a 1000µV RF signal, with colorbar pattern, applied to antenna terminal.

Controls adjusted for normal operation.

Capacitors are 50 volts or less, 5% or greater unless noted.

Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.

Resistors are 1/2W or less, 5% or greater unless noted.

Value in () used in some versions.

Measurements with switching as shown, unless noted.

Rated voltage shown on zener diodes.

SAFETY RELATED ADJUSTMENTS

R582 CONFIRMATION METHOD (HV HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components IC301, IC521, IC602, D572, D573, D574, DY, C507, C511, C574, C575, R578, R582, R583, R584, R585, R586, R625, R626, R634, R635, and T504.

Check that voltage at the cathode of D574 is higher than 95.0V with brightness and picture at maximum before performing confirmation procedure.

1. Unplug receiver. Unsolder pin 11 of T504. Connect a current meter to pin 11 of T504 and the part of the circuit where pin 11 of T504 would normally connect. Reapply 120VAC and turn on the receiver.
2. Receive a white screen. Adjust picture and brightness so ABL current is 40µA +100µA -40µA. Confirm the voltage at the cathode of D610 is 117V ±3V.
3. Connect a voltmeter to the cathode of D574. Connect a DC power supply positive lead to the anode of a blocking diode 1SS119 and the cathode to the cathode of D574. Increase DC power supply voltage gradually until picture just blanks out.
4. Check voltage on voltmeter and immediately turn DC power supply off.
5. Voltage should be less than or equal to 117.75V.
6. Receive a dot pattern. Adjust picture and brightness to maximum. Repeat steps 3 and 4.
7. Voltage should be less than or equal to 117.75V.
8. If R582 Confirmation Method (HV Hold-down Confirmation) cannot be satisfied, readjustment should be performed by altering the resistance value of R582.

B+ VOLTAGE CONFIRMATION AND READJUSTMENT

The following adjustment should always be performed when replacing the following components IC001, IC602, R030, R624, R626, R632, R633, R635, R636, R637, R638, and R639.

1. Supply 130VAC +2.0VAC -0VAC with variable AC transformer.
2. Receive a dot signal. Set picture and brightness to minimum.
3. Enter digital service adjustment mode, (see Miscellaneous Adjustment) select PADJ, and adjust for value of 0.
4. Confirm the voltage at the cathode of D610 is less than 125V.
5. If step 4 cannot be satisfied, replace the components. Repeat above steps.
6. Adjust AC supply to 120VAC ±2.0VAC.
7. Adjust data value of PADJ for 117.0V ±.3V at the cathode of D610.
8. Write into memory by pressing the mute button then the enter button.

SERVICE INFORMATION

SELF DIAGNOSTIC FUNCTION

This receiver contains a self diagnostic function that will display error codes when problems are detected in certain circuits. The standby indicator on the receiver front will flash to indicate an error has been detected. The way the indicator flashes can be used to determine the location of the error. The error code will be a series of flashes that repeat after 3 seconds. Any errors can also be displayed using the on screen function of the self diagnostics. The following list explains the error codes.

Error Codes		
Number of Flashes	Description of Code	Possible Malfunction
0	Power does not turn on.	Loss of AC supply or F601 open.
2	High voltage hold down is activated.	Q502 or IC751 shorted.
4	No vertical deflection.	Failure of IC541 or loss of 13.0V supply to pin 2 of IC541.
5	White balance failure.	Failure of Q392 thru Q394 or IC301. Screen control out of adjustment

ON SCREEN DISPLAY OF THE SELF DIAGNOSTIC FUNCTION

The on screen display of the self diagnostic function shows a list of the past failures detected. The 2, 4, and 5 rows correspond to the error code flashes described in the above chart. To enter the on screen display, tune in a picture, turn receiver off, and press display, 5, volume (-), and power without allowing time between buttons. The on screen display will be display as shown in the following drawing. After errors have been corrected clear the on screen display information by pressing 8 and enter. To exit the on screen display, press the power button.

On Screen Display of Self Diagnostic Function

SELF DIAGNOSTICS	
2:	0
3:	N/A
4:	0
5:	0
101:	N/A

MISCELLANEOUS ADJUSTMENTS

DIGITAL SERVICE ADJUSTMENT PROCEDURES

Entering / Exiting the Digital Service Adjustment Mode

- 1. Tune in a picture and turn receiver off.
- 2. Press the display button, the 5 button, the volume (+) button, and the power button in sequence. Press each button within a second.
- 3. The CRT will display the item being adjusted.
- 4. To exit service adjustment mode, turn receiver off and then on.

Making Adjustments

- 1. Enter the digital service adjustment mode.
- 2. Select adjustment by pressing the 1 or 4 button.
- 3. Make changes on selected adjustment by pressing the 3 or 6 button.

Saving Adjustments to Memory

- 1. Adjustments must be saved to memory.
- 2. To save adjustment, press the mute button and then the enter button.

Memory Write Confirmation

- 1. Disconnect AC plug from outlet.
- 2. Plug receiver in and enter the digital service adjustment mode.
- 3. Select adjustment and confirm that setting was saved to memory.

NOTE: Set all adjustments that are not listed in the following adjustment procedures to the nominal value as per Digital Service Adjustment Mode chart.

RF AGC

Tune in a active channel. Adjust AGC control, on TU101, counterclockwise until snow appears and then clockwise until snow just disappears.

HORIZONTAL FREQUENCY CHECK

Connect a frequency counter to the base of Q501. Tune in a colorbar pattern. Enter the digital service adjustment mode. Select AFC and set to 3. Horizontal will lose sync. Horizontal frequency should be 15735Hz ± 200Hz. Select AFC adjustment and set level to 0. Save adjustment to memory.

HORIZONTAL CENTER (HPOS)

Perform horizontal frequency check. Tune in a crosshatch pattern. Enter the digital service adjustment mode. Select HPOS and adjust level for best horizontal centering. Save adjustment to memory.

VERTICAL FREQUENCY CHECK

Select video 1 with no signal. Connect a frequency counter to pin 5 of IC541. Vertical frequency should be 60Hz ± 2Hz.

DISPLAY POSITION (DISP)

Enter the digital service adjustment mode. Select DISP and adjust to center display. Save adjustment to memory.

VERTICAL POSITION (VPOS) AND VERTICAL SIZE (VSIZ)

Tune in a crosshatch pattern. Enter the digital service adjustment mode. Select VPOS and adjust level to center picture vertically. Select VSIZ and adjust level for slight vertical overscan. Save adjustments to memory.

VERTICAL LINEARITY (VLIN) AND VERTICAL CORRECTION

Tune in a crosshatch pattern. Enter the digital service adjustment mode. Select VLIN and adjust level for equal vertical spacing of pattern at top and bottom of screen. Vertical correction will be adjusted automatically for equal vertical spacing of pattern at center of screen. Save adjustments to memory.

SUB BRIGHTNESS (SBRT)

Tune in a crosshatch pattern. Set picture and brightness to minimum. Enter the digital service adjustment mode. Select SBRT and adjust level for visible highlights. Save adjustment to memory.

SUB CONTRAST

Connect an oscilloscope to pin 3 of CN752. Tune in a colorbar pattern. Set picture to maximum and color and brightness to minimum. Enter the digital service adjustment mode. Select RON and set level to 1. Select GON and set level to 0. Select BON and set level to 0. Select RDRV and adjust level so that signal portion of waveform is 1.5V± .05V p-p. Set GON and BON to 1. Save adjustment to memory.

SUB HUE (SHUE), SUB COLOR (SCOL), AND SUB SHARPNESS (SSHP)

Tune in an active channel. Enter the digital service adjustment mode. Select and adjust SHUE and SCOL for proper flesh tones. Select SSHP and adjust for best sharpness. Save adjustments to memory.

B+ ADJUST (PADJ)

Connect a digital voltmeter to the junction of L504 and R571. Enter the digital service adjustment mode. Select PADJ and adjust for 115V ± 4.0V. Save adjustment to memory.

COLOR PURITY

Use a degaussing coil to demagnetize the CRT and mounting brackets. Tune in a green raster signal. Loosen deflection yoke clamp screw and slide deflection yoke backward to obtain a vertical green band. Adjust purity rings to center the vertical green band. Slide the deflection yoke forward until a uniform green screen is obtained. Tune in a blue and red raster signal and check blue and red purity. Tighten the deflection yoke clamp screw.

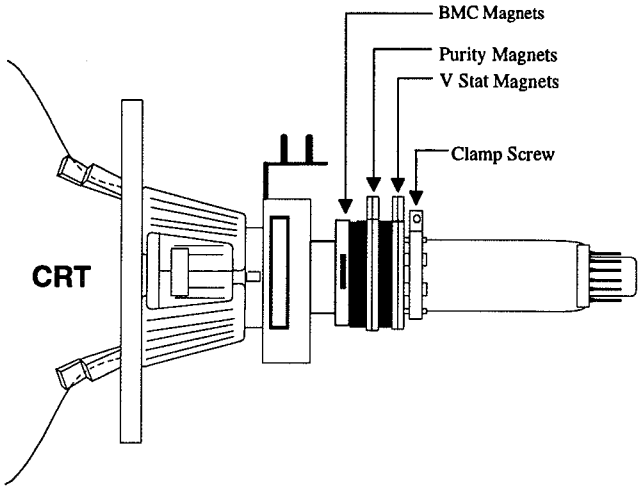
COLOR TEMPERATURE (BCUT, GCUT, GDRV, BDRV)

Tune in a crosshatch pattern. Set picture and brightness to minimum. Adjust screen control for a visible pattern. Enter the digital service adjustment mode. Select GCUT and BCUT and adjust levels for best white balance. Save adjustment to memory. Set picture and brightness to maximum. Select GDRV and BDRV and adjust levels for best white balance. Save adjustments to memory.

CONVERGENCE

Adjust focus and perform vertical position, size, and linearity adjustment. Set brightness to minimum. Tune in a dot pattern. Rotate vertical static magnets to converge red, green, and blue dots vertically at center of screen. If blue dots do not converge with green and red dots, slide BMC magnet in and out to correct for insufficient horizontal static convergence, rotate the BMC magnet to correct for insufficient vertical static convergence. Tune in a crosshatch pattern, loosen deflection yoke clamp screw, and remove rubber wedges between deflection yoke and CRT. Tilt 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 screen. Tilt deflection yoke right or left to converge vertical lines at the right and left sides of screen and horizontal lines at top and bottom of screen. Apply adhesive to wedges and carefully replace on CRT.

CRT NECK ASSEMBLY



DIGITAL SERVICE ADJUSTMENT MODE

No.	Display	Item	Data Range	Initial Value	On-Set Value	No.	Display	Item	Data Range	Initial Value	On-Set Value
1	HSIZ	Horiz Size	0 - 63	31	31	40	CTRP	Y Trap Filter	0, 1	0	0
2	HPOS	Horiz Center	0 - 63	21	19	41	COFF	Color	0, 1	0	0
3	VBOW	Vert Lin Bowing	0 - 15	6	6	42	KOFF	Color Killer	0, 1	0	0
4	VANG	Vert Lin Bowing Slant	0 - 15	6	9	43	SSHP	Sub Sharpness	0 - 15	10	10
5	TRAP	Horiz Trapezoid	0 - 15	15	15	44	SHPF	Sharpness Circuit F0	0, 1	1	1
6	PAMP	Horiz Pin Distortion	0 - 63	31	31	45	PREL	Pre/Overshoot Switching	0, 1	0	0
7	CPIN	Horiz Pin Distortion Top/Bot	0 - 63	31	31	46	Y-DC	DC Trans Ratio Switching	0, 1	1	1
8	VSIZ	Vert Size	0 - 63	43	46	47	GAMM	Gamma Correction Amount	0 - 3	0	0
9	VPOS	Vert Position	0 - 63	35	41	48	ABLM	ABL Mode Switching	0, 1	1	1
10	VLIN	Vert Linearity	0 - 15	7	10	49	VTH	ABL C D VTH Switching	0, 1	1	1
11	SCOR	Vert Amount	0 - 15	7	7	50	YDEL	Y Delay Time Control	0 - 15	7	7
12	VZOM	16:9 CRT Z Mode	0, 1	0	0	51	NCOL	No Color ID	0, 1	1	1
13	EHT	Vert Hi-Volt Correction	0 - 15	15	15	52	FSC	FSC Out	0, 1	0	0
14	ASP	Aspect Ratio Control	0 - 63	47	47	53	K-ID	Killer ID Control Switching	0, 1	0	0
15	SCRL	16:9 CRT Z Mode SCRL	0 - 15	31	31	54	HOSC	Horiz VCO Osc Freq	0 - 15	10	7
16	HBLK	RGB Out Width Control	0, 1	1	1	55	VSS	Vert Sync Slice Level	0, 1	0	0
17	LBLK	Left Screen HBLK Control	0 - 15	15	15	56	HSS	Horiz Sync Slice Level	0, 1	0	0
18	RBLK	Right Screen HBLK Control	0 - 15	3	3	57	HMSK	-	0, 1	1	1
19	VUSN	V Saw Waveform Compress	0, 1	0	0	58	VTMS	Select Signal Vtim Pin	0 - 3	0	0
20	HDW	Horiz Drive Pulse Width	0, 1	0	0	59	CDMD	Vert Countdown	0 - 3	0	0
21	EWDC	EW/DC	0, 1	0	0	60	AFC	AFC Loop Gain	0 - 3	0	0
22	LVLN	Bottom Vert Linearity	0 - 15	0	0	61	FIFR	Field Freq	0 - 3	3	3
23	UVLN	Top Vert Linearity	0 - 15	0	0	62	SBAL	Sub Balance	0 - 15	13	13
24	RDRV	Red Drive	0 - 63	30	19	63	DISP	Display Position	0 - 63	15	14
25	GDRV	Green Drive	0 - 63	24	16	64	PADJ	B+ Adjust	0 - 63	51	51
26	BDRV	Blue Drive	0 - 63	21	16	65	ID0	Model Identification	0 - 256	25	25
27	RCUT	Red Cutoff	0 - 15	15	10	66	ID1 (1)(4)	Model Identification	0 - 256	1	1
28	GCUT	Green Cutoff	0 - 15	7	7		ID1 (2)(3)	Model Identification	0 - 256	3	3
29	BCUT	Blue Cutoff	0 - 15	7	8	67	ID2	Model Identification	0 - 256	0	0
30	DCOL	Dynamic Color	0, 1	0	1	68	ID3	Model Identification	0 - 256	3	3
31	SHUE	Sub Hue	0 - 31	15	16	69	ID4 (1)(2)(3)	Model Identification	0 - 256	19	19
32	SCOL	Sub Color	0 - 31	14	17	69	ID4 (4)	Model Identification	0 - 256	51	51
33	SBRT	Sub Brightness	0 - 31	7	12	70	ID5 (1)	Model Identification	0 - 256	0	0
34	RON	Red Out	0, 1	1	1		ID5 (2)(3)(4)	Model Identification	0 - 256	1	1
35	GON	Green Out	0, 1	1	1						
36	BON	Blue Out	0, 1	1	1						
37	AXPL	Axis PAL	0, 1	0	0						
38	AXNT	Axis NTSC	0, 1	0	0						
39	CBPF	Chroma BPF	0, 1	1	1						

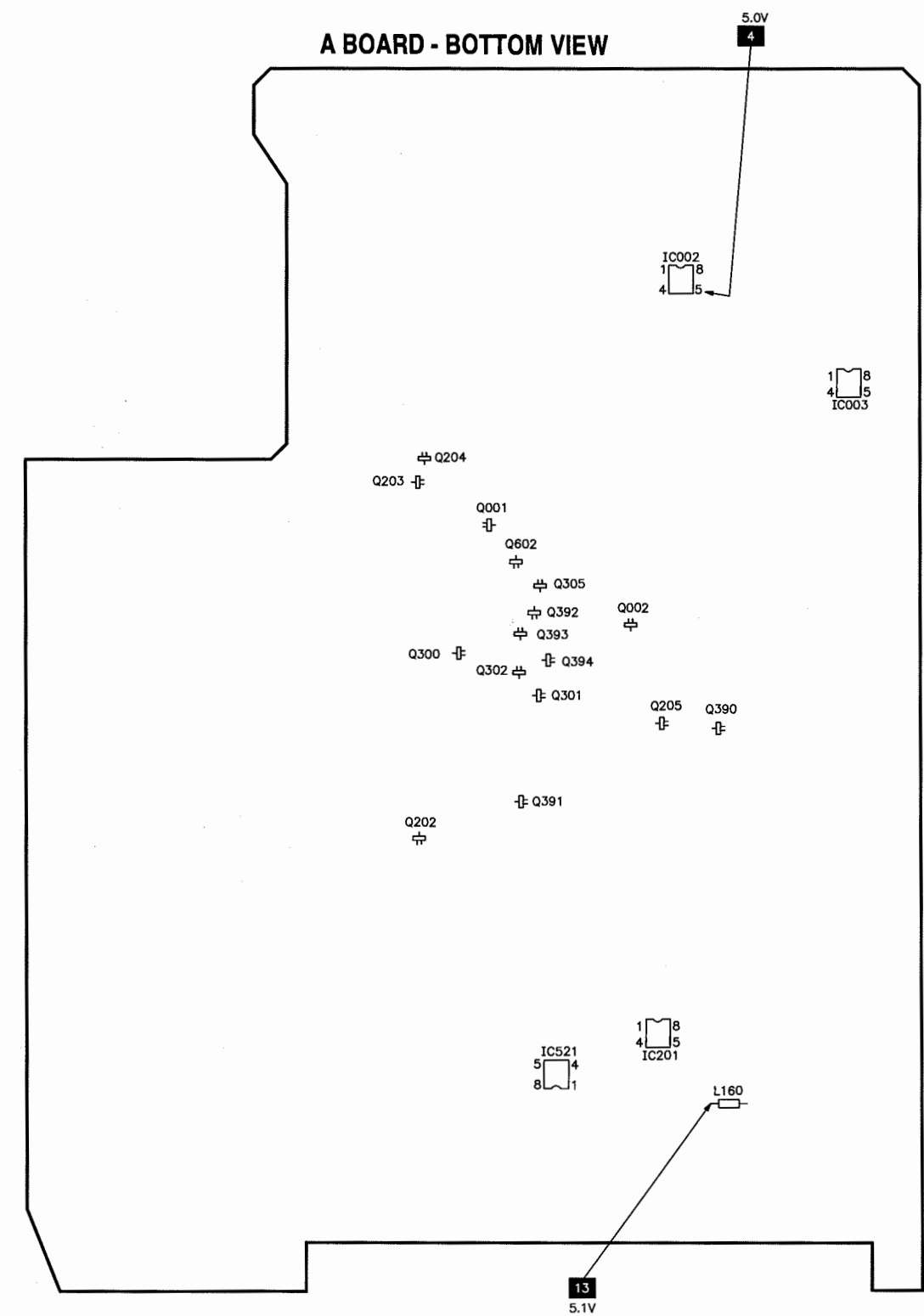
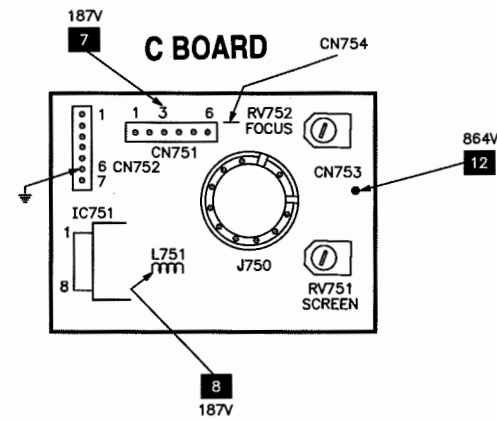
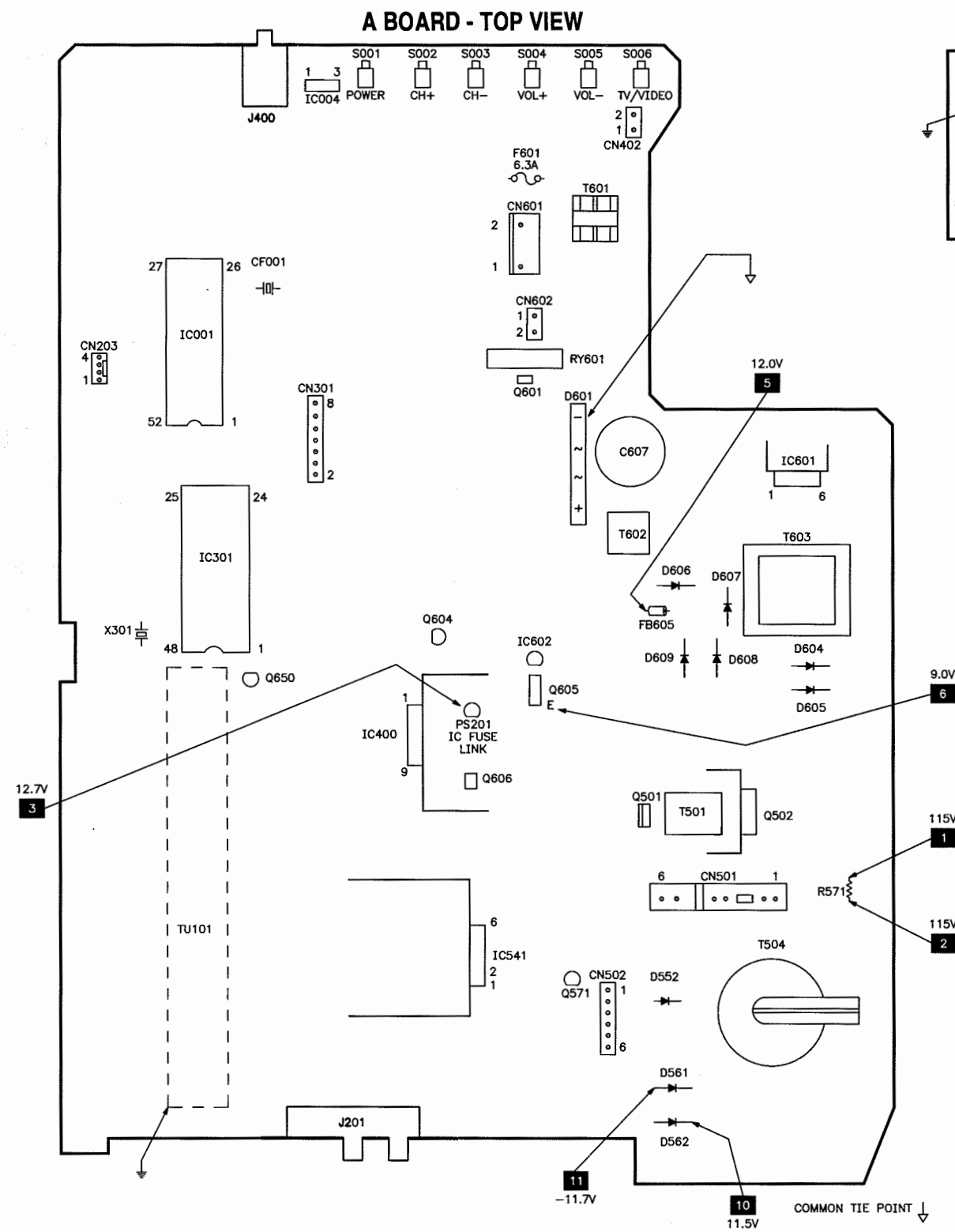
(1) Used in model KV-13M40.

(2) Used in model KV-13M50.

(3) Used in model KV-13M51.

(4) Used in model KV-14MB40.

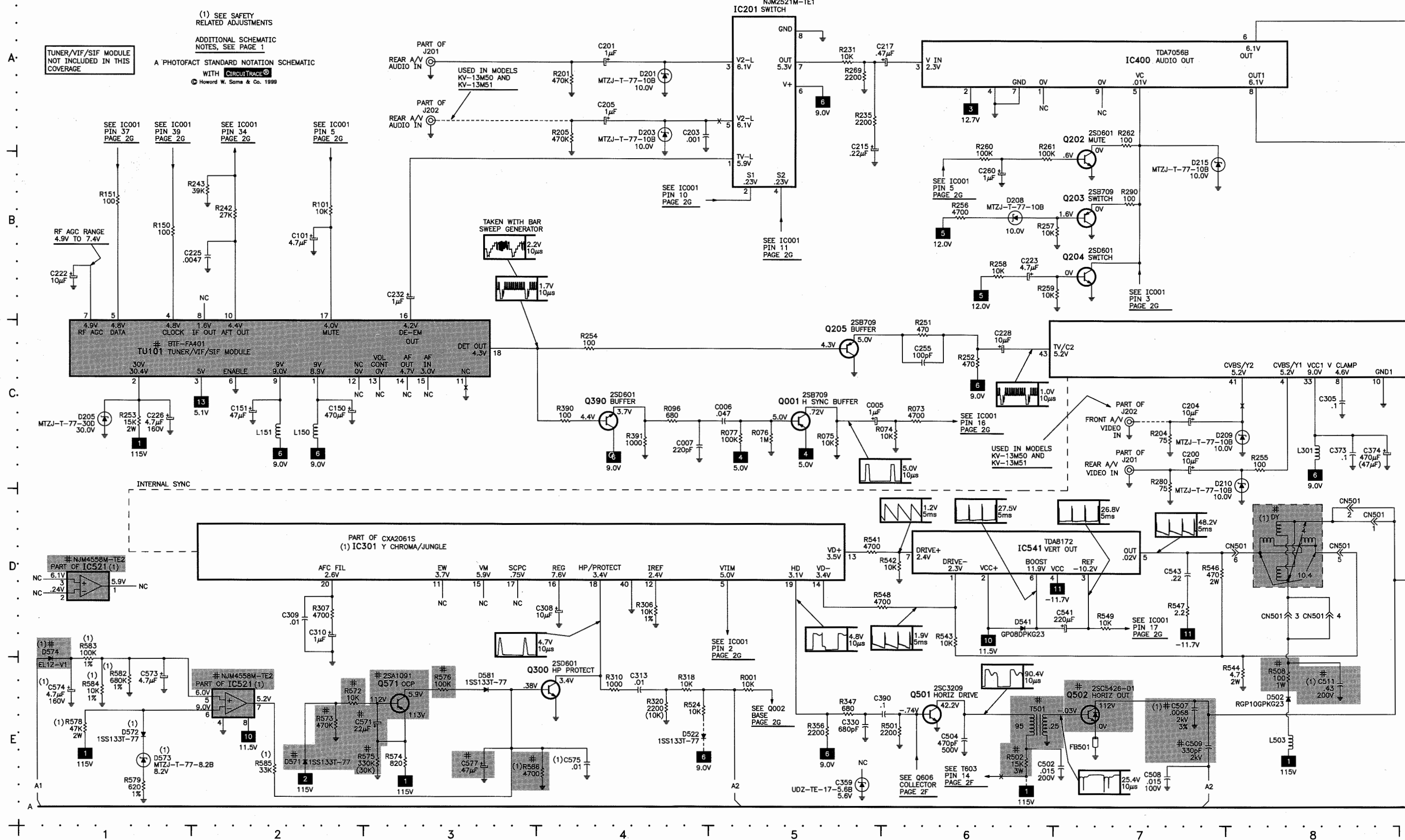
PLACEMENT CHART

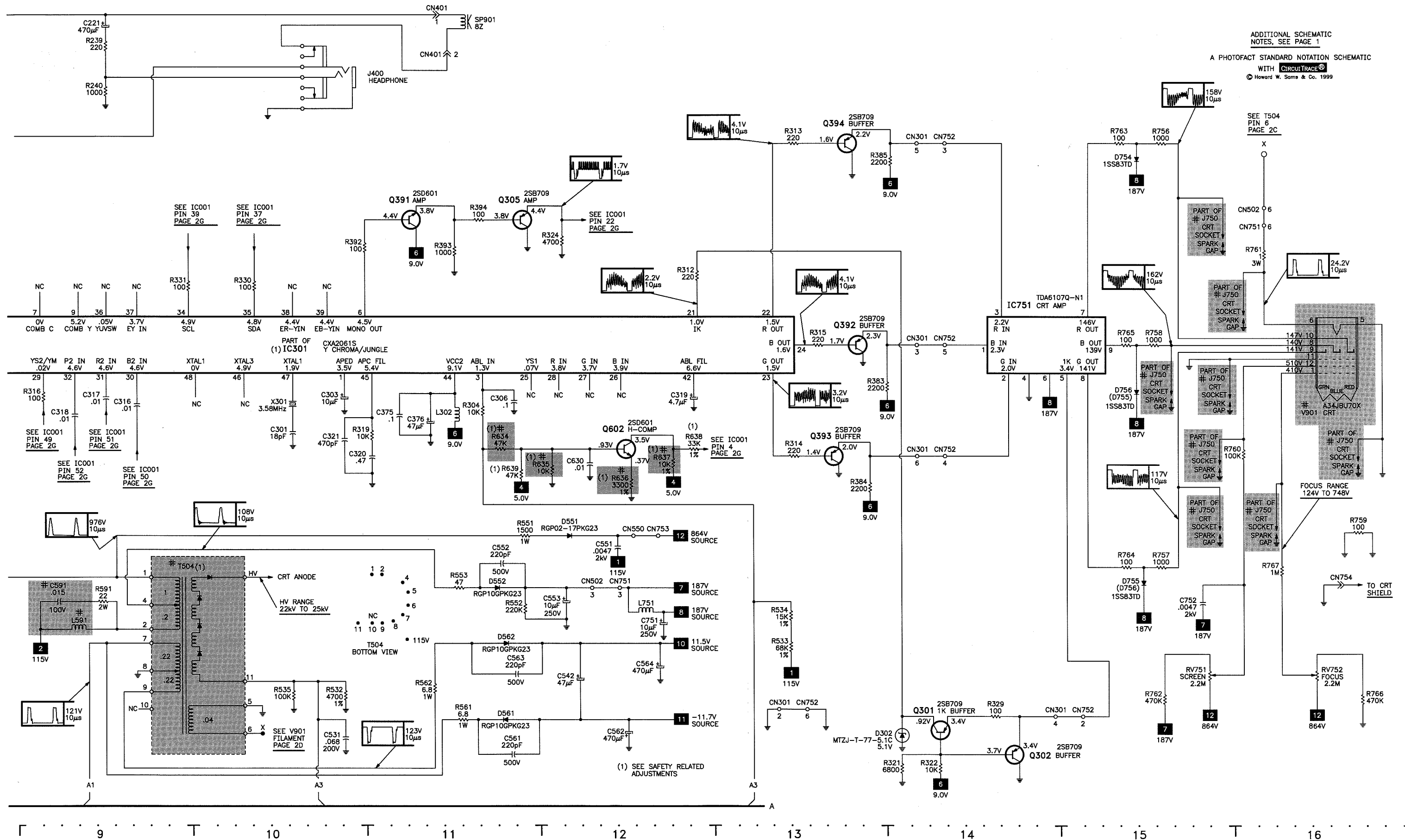


B

WITH **CIRCUITRACE®**
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SEE IC001	SEE IC001	SEE IC001	SEE IC001
PIN 37	PIN 39	PIN 34	PIN 5
PAGE 2G	PAGE 2G	PAGE 2G	PAGE 2G

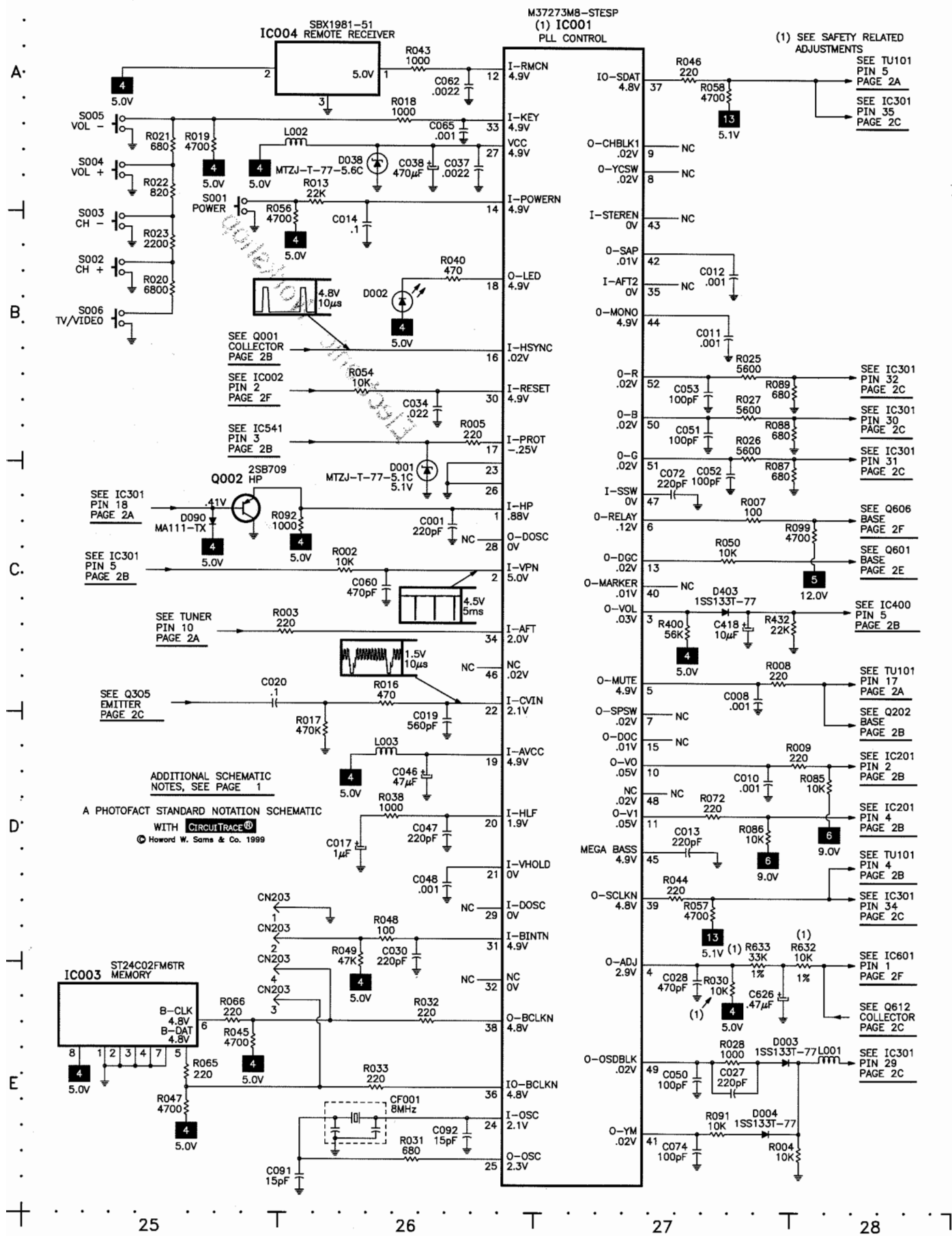




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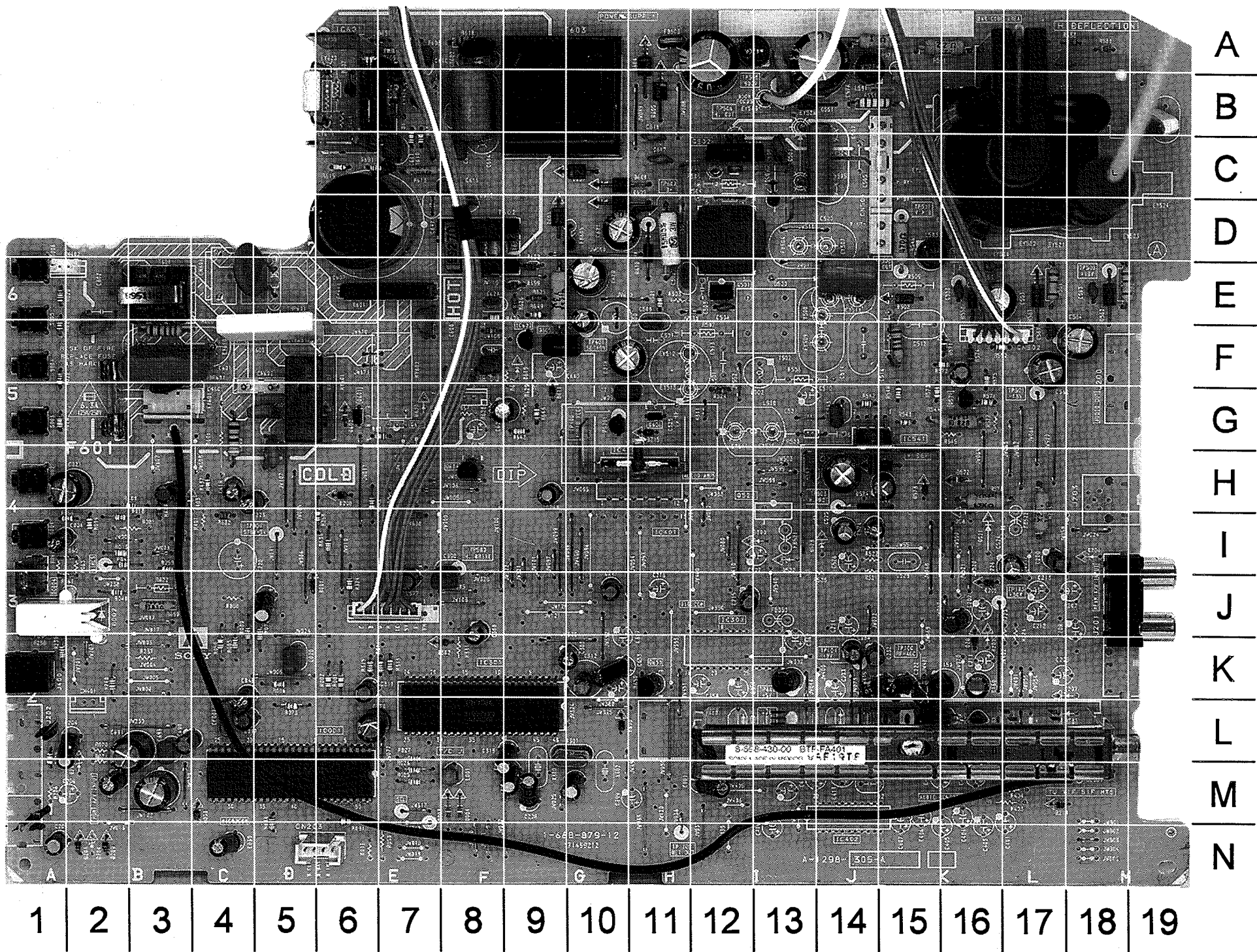
SYSTEM CONTROL SCHEMATIC



SONY

MODEL KV-13M40 (CHASSIS SCC-S01E-A)

A BOARD - TOP VIEW

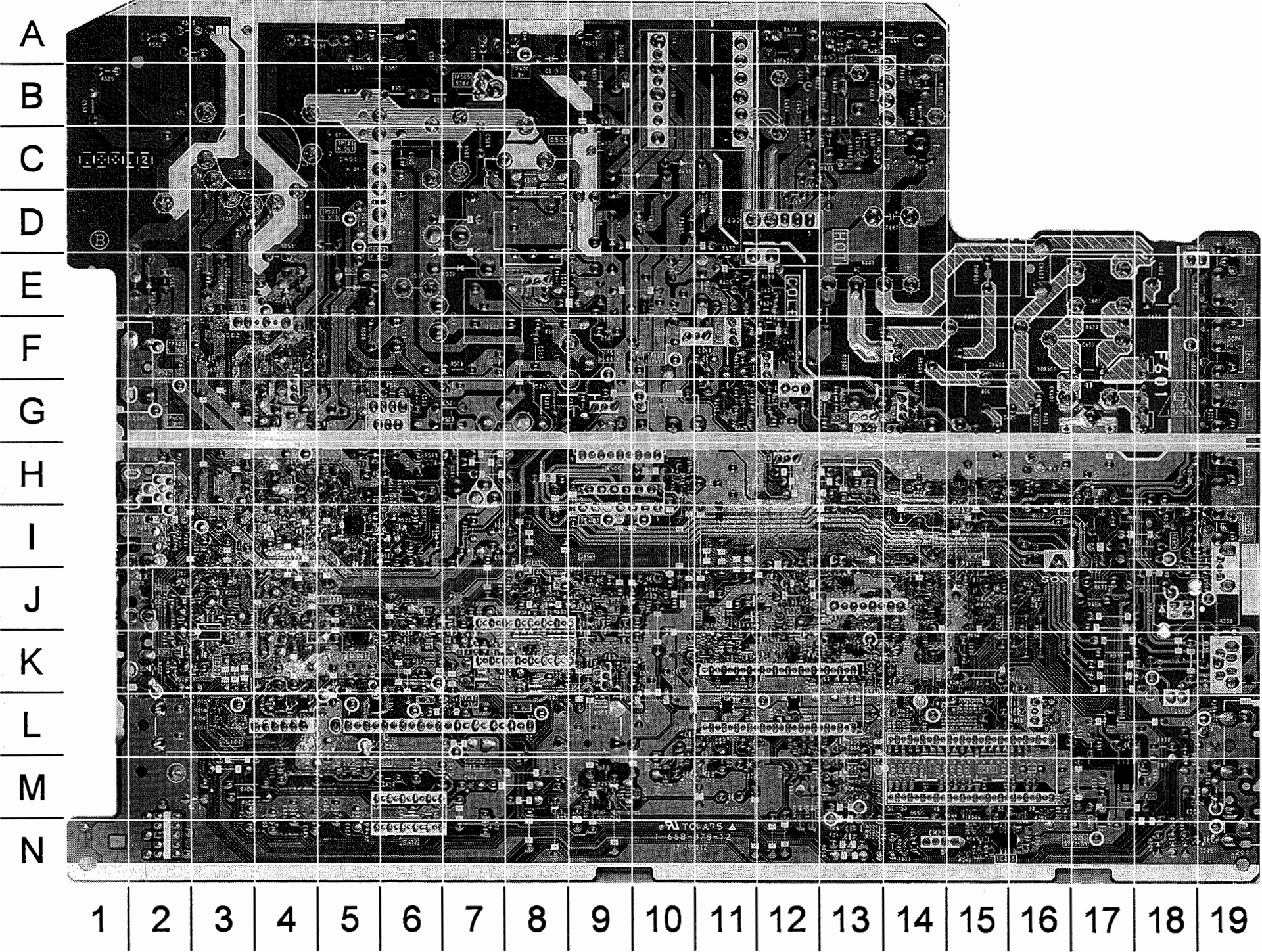


A HOWARD W. SAMS GridTrace™ PHOTO

A BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C004	I-1	C608	F-7	D609	D-10	R258	I-6	S001	I-1
C005	J-5	C609	F-8	D610	D-11	R313	K-7	S002	H-1
C017	L-4	C610	A-7	D611	G-9	R314	K-7	S003	G-1
C020	K-5	C611	C-7	D650	L-10	R315	K-6	S004	F-1
C038	M-3	C612	B-8	D690	C-7	R324	J-6	S005	E-1
C039	N-4	C613	D-8	D691	A-6	R400	I-3	S006	E-1
C046	L-4	C614	B-8	F601	G-2	R432	H-4	T501	D-12
C101	M-12	C615	C-8	FB501	D-13	R501	E-11	T504	C-17
C150	K-16	C616	C-8	FB601	B-6	R502	D-11	T601	E-3
C151	K-15	C617	C-11	FB602	B-7	R508	F-15	T602	D-8
C160	K-16	C618	C-11	FB603	A-11	R524	G-12	T603	B-9
C200	I-17	C619	A-12	FB605	D-10	R532	A-18	THP601	E-5
C201	J-16	C620	E-10	IC001	L-6	R533	A-18	TU101	L-18
C204	L-2	C621	D-10	IC002	M-17	R534	A-18	VDR601	G-3
C205	N-1	C623	F-6	IC004	J-1	R535	B-19	VDR602	A-8
C215	J-12	C624	E-8	IC301	K-9	R542	G-14	X301	L-10
C217	J-10	C626	H-3	IC400	H-10	R543	G-15		
C218	F-10	C627	G-8	IC541	G-15	R544	G-16		
C219	G-10	C629	F-10	IC601	B-6	R546	D-15		
C221	H-2	C651	K-13	IC602	F-9	R547	H-13		
C222	K-15	C653	K-10	J201	J-18	R548	G-15		
C223	H-4	C690	L-3	J400	K-1	R551	B-14		
C226	I-17	C691	M-2	L001	M-8	R552	F-16		
C228	M-9	C692	M-2	L503	D-15	R553	E-16		
C232	K-14	C693	L-3	L504	A-13	R561	E-17		
C234	K-14	C699	C-7	L591	A-14	R562	E-18		
C260	H-9	CF001	L-4	PS201	G-10	R571	A-14		
C303	K-10	CN203	N-6	Q501	E-12	R572	F-16		
C308	K-8	CN301	J-6	Q502	C-12	R573	G-15		
C310	K-6	CN401	E-2	Q571	G-16	R574	F-16		
C312	K-10	CN501	B-15	Q601	G-6	R575	F-16		
C319	M-8	CN502	F-16	Q604	H-8	R576	G-16		
C320	M-10	CN601	G-3	Q605	F-9	R578	H-16		
C374	L-6	CN602	G-4	Q606	G-11	R591	A-16		
C376	M-9	D001	J-5	Q650	K-11	R600	G-4		
C390	J-8	D002	J-1	R001	K-6	R603	F-5		
C418	H-4	D003	M-8	R002	K-6	R606	B-5		
C502	E-11	D004	M-8	R005	K-4	R608	A-7		
C504	E-12	D038	M-4	R009	J-4	R609	A-6		
C507	C-14	D201	K-16	R013	I-2	R610	C-7		
C508	E-11	D203	N-2	R016	K-5	R611	C-7		
C509	C-13	D205	J-16	R018	I-2	R612	B-7		
C511	E-14	D208	H-6	R019	I-2	R613	C-7		
C531	B-19	D209	N-2	R020	E-1	R615	C-6		
C541	H-14	D210	M-17	R021	F-1	R618	A-8		
C542	H-15	D215	G-11	R022	F-1	R620	F-3		
C543	G-14	D302	K-8	R023	G-1	R622	E-9		
C551	B-13	D403	H-3	R025	M-7	R623	F-8		
C552	E-16	D502	E-15	R026	M-7	R624	E-8		
C553	E-16	D541	H-15	R027	L-7	R625	E-9		
C561	F-17	D551	B-13	R030	I-3	R626	E-9		
C562	F-17	D552	E-16	R033	N-5	R630	I-6		
C563	E-18	D561	E-17	R040	J-2	R631	G-7		
C564	F-18	D562	E-18	R043	I-2	R632	I-4		
C571	F-16	D571	F-16	R050	K-4	R633	I-3		
C573	I-14	D572	H-17	R056	I-2	R638	I-7		
C574	I-14	D573	H-16	R072	K-5	R641	E-9		
C576	A-14	D574	H-14	R073	L-5	R642	G-9		
C577	J-7	D581	I-16	R091	M-6	R643	G-9		
C591	A-15	D601	E-6	R099	I-3	R649	E-9		
C601	F-3	D602	G-6	R205	M-1	R650	K-11		
C602	E-2	D604	A-11	R239	K-1	R690	J-3		
C603	F-2	D605	B-11	R240	K-2	R691	C-6		
C604	H-5	D606	D-9	R242	M-15	R692	A-7		
C605	G-5	D607	C-10	R253	H-17	R699	E-9		
C607	D-6	D608	C-10	R256	H-6	RY601	G-5		

A BOARD - BOTTOM VIEW



A HOWARD W. SAMS GridTrace™ PHOTO

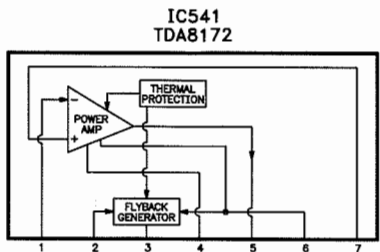
A BOARD - BOTTOM VIEW, GRIDTRACE
LOCATION GUIDE

C001	L-14	Q300	J-13	R310	J-12
C006	J-15	Q301	K-13	R312	K-13
C007	J-15	Q302	J-13	R316	L-12
C008	L-14	Q305	K-14	R318	J-12
C010	L-15	Q390	M-9	R319	M-10
C011	M-15	Q391	J-11	R320	J-12
C012	M-15	Q392	K-14	R321	K-13
C013	M-14	Q393	J-13	R322	J-13
C014	L-15	Q394	K-13	R329	K-13
C019	K-13	Q602	J-14	R330	M-12
C027	M-13	R003	N-14	R331	M-12
C028	L-14	R004	M-13	R347	K-12
C030	M-16	R007	K-15	R356	J-12
C034	M-16	R008	L-13	R383	J-13
C037	M-17	R017	K-15	R384	J-13
C047	L-16	R028	M-13	R385	J-13
C048	L-16	R031	L-16	R390	M-9
C050	M-14	R032	N-15	R391	M-9
C051	M-14	R038	L-15	R392	K-11
C052	M-14	R044	N-15	R393	J-12
C053	M-14	R045	N-15	R394	J-15
C060	L-14	R046	M-15	R541	H-7
C062	L-15	R047	N-15	R549	H-6
C065	M-16	R048	M-16	R579	I-4
C072	M-15	R049	N-14	R582	H-6
C074	M-15	R054	M-16	R583	H-6
C091	L-16	R057	L-3	R584	H-6
C092	L-16	R058	L-3	R585	H-5
C203	M-18	R065	N-15	R586	I-13
C225	L-5	R066	N-15	R634	J-14
C255	M-9	R074	J-15	R635	J-14
C301	M-10	R075	J-15	R636	J-14
C305	K-11	R076	J-15	R637	J-14
C306	K-11	R077	J-15	R639	J-14
C309	K-12	R085	I-14		
C311	K-10	R086	I-13		
C313	J-12	R087	M-13		
C316	L-13	R088	L-13		
C317	L-12	R089	M-13		
C318	L-12	R092	K-15		
C321	L-11	R096	J-15		
C330	K-12	R101	M-8		
C359	K-8	R150	L-3		
C373	L-12	R151	L-3		
C375	L-11	R201	J-2		
C575	J-13	R204	L-19		
C630	J-14	R231	J-5		
D090	L-15	R235	J-8		
IC003	N-15	R243	M-5		
IC201	K-5	R251	M-9		
IC521	I-5	R252	M-9		
L002	M-17	R254	M-8		
L003	L-17	R255	M-10		
L150	L-4	R257	H-14		
L151	L-5	R259	H-15		
L160	L-4	R260	H-10		
L301	L-12	R261	H-10		
L302	L-11	R262	H-10		
Q001	J-15	R269	J-9		
Q002	L-14	R280	H-2		
Q202	H-10	R290	H-15		
Q203	H-15	R304	K-11		
Q204	H-15	R306	K-12		
Q205	M-9	R307	K-13		

SONY

MODEL KV-13M40 (CHASSIS SCC-S01E-A)

IC FUNCTIONS



Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

- Custom Components Corporation (Chek-A-Color)
- Sencore, Inc.
- NTE Electronics, Inc. (NTE)
- Thomson Consumer Electronics, Inc. (SK, TCE)
- Terrell & Nobis (TNI Electronics)

PARTS LIST

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	TCE Part No.
C359	UDZ-TE-17-5.6B	8-719-158-15	-	-
	RD5.6SB	-	-	-
D001	MTZJ-T-77-5.1C	8-719-921-44	-	-
D002	-	1-810-039-21	-	-
D003, 04	1SS133T-77	8-719-991-33	NTE519	SK3100
D038	MTZJ-T-77-5.1C	8-719-109-89	-	-
D090	MA111-TX	8-719-404-49	-	-
D201	MTZJ-T-77-10B	8-719-110-17	NTE5019A	SK101A
D203	MTZJ-T-77-10B	8-719-110-17	NTE5019A	SK101A
	RD10ESB2	-	NTE5019A	SK10A
D205	MTZJ-T-77-30D	8-719-982-22	-	-
D208	MTZJ-T-77-10B	8-719-110-17	NTE5019A	SK101A
D209	MTZJ-T-77-10B	8-719-110-17	NTE5019A	SK101A
	RD10ESB2	-	NTE5019A	SK10A
D210	MTZJ-T-77-10B	8-719-110-17	NTE5019A	SK101A
D215	MTZJ-T-77-10B	8-719-110-17	NTE5019A	SK101A
	RD10ESB2	-	NTE5019A	SK10A
D302	MTZJ-T-77-5.6C	8-719-921-44	NTE5011A	SK5A6
D403	1SS133T-77	8-719-991-33	NTE519	SK3100
D502	RGP10GPKG23	8-719-302-43	NTE552	SK9000
D522	1SS133T-77	8-719-991-33	NTE519	SK3100
D541	GP08DPKG23	8-719-908-03	NTE156	SK3051
D551	RGP02-17PKG23	8-719-028-72	-	-
	RGP02-17EL-6433	-	-	-
D552	RGP10GPKG23	8-719-302-43	NTE552	SK9000
D561, 62	RGP15GPKG23	8-719-979-85	NTE580	SK5036
# D571	1SS133T-77	8-719-991-33	NTE519	SK3100
D572	1SS133T-77	8-719-991-33	NTE519	SK3100
D573	MTZJ-T-77-8.2B	8-719-110-08	-	-
# D574	EL1Z-V1	8-719-302-43	NTE552	SK9000
D581	1SS133T-77	8-719-991-33	NTE519	SK3100
# D601	D3SB60F	8-719-510-51	NTE5310	SK5030
D602	1SS133T-77	8-719-991-33	NTE519	SK3100
D604, 05	D2L40-TA	8-719-052-86	-	-
D606, 07	D2S4MTA1	8-719-022-97	-	-
D608, 09	D2S6MTA1	8-719-018-84	-	-
# D610	EZ0150V1	8-719-057-52	-	-
D611	MTZJ-T-77-10B	8-719-110-17	NTE5019A	SK101A
D650	MTZJ-T-77-5.6C	8-719-109-89	NTE5011A	SK5A6
D690, 91	1SS133T-77	8-719-991-33	NTE519	SK3100
D754, 55, 56	1SS83TD	8-719-901-83	NTE177	SK9091
IC001	M37273M8-STESP	8-759-540-75	-	-
IC002	MM1319AFBE	8-759-371-21	-	-
IC003	ST24C02FM6TR	8-759-354-28	-	-
IC201	NJM2521M-TE1	8-759-450-93	-	-
IC301	CXA2061S	8-752-083-09	-	-
IC400	TDA7056B	-	-	-
	TDA7056B/N1	8-759-490-18	-	-
# IC521	NJM4558M-TE2	8-759-100-96	NTE778SM	SK10061
IC541	TDA8172	8-759-980-58	NTE1788	SK9875
# IC601	MX0541AB-F	8-729-039-65	-	-
# IC602	UPC1093J-1-T	8-759-198-31	-	-
IC751	TDA6107Q	-	-	-
	TDA6107Q-N1	8-759-491-92	-	-
Q001, 02	2SB709A-QRS-TX	8-729-216-22	NTE2409	SK10100
Q202	2SD601A-QRS-TX	8-729-422-27	NTE2408	SK10099
Q203	2SB709A-QRS-TX	8-729-216-22	NTE2409	SK10100
Q204	2SD601A-QRS-TX	8-729-422-27	NTE2408	SK10099
Q205	2SB709A-QRS-TX	8-729-216-22	NTE2409	SK10100
Q300	2SD601A-QRS-TX	8-729-422-27	NTE2408	SK10099
Q301, 02, 05	2SB709A-QRS-TX	8-729-216-22	NTE2409	SK10100
Q390, 91	2SD601A-QRS-TX	8-729-422-27	NTE2408	SK10099
Q392, 93, 94	2SB709A-QRS-TX	8-729-216-22	NTE2409	SK10100
Q501	2SC3209LK	8-729-140-50	NTE399	SK9352
# Q502	2SC5426-01	8-729-043-43	-	-

For SAFETY use only equivalent replacement part.

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	TCE Part No.
Q601	2SC3311A-QRSTA	8-729-119-78	NTE2361	SK3124A
Q602	2SD601A-QRS-TX	8-729-422-27	NTE2408	SK10099
Q604	2SD1292	8-729-111-55	NTE31	SK3866A
Q605	2SD2137-OP-TA	8-729-423-99	-	-
Q606	2SC3311A-QRSTA	8-729-119-78	NTE2361	SK3124A
Q650	2SD1292	8-729-111-55	NTE31	SK3866A
# Q571	2SA1091-O-TPE2	8-729-200-17	NTE288	SK3434

For SAFETY use only equivalent replacement part.

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

PARTS LIST continued

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
# C507	.0068 3% 2kV	1-117-836-11
# C509	330pF 10% 2kV	1-162-115-00
# C511	.43 5% 200V	1-119-967-11
C551	.0047 2kV	1-162-114-00
# C571	22µF 20% 50V	1-126-965-11
# C577	.47µF 20% 50V	1-126-959-11
# C591	.015 10% 100V	1-137-350-11
# C601	.47 20% 125VAC	1-136-311-51
# C602 Thru		
# C605	.0022 20% 250V	1-113-920-11
# C607	470µF 20% 250V	1-117-893-11
# C614	.056 5% 630V	1-129-723-00
C752	.0047 2kV	1-115-350-51

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
# DY	Yoke Horiz 2.7mH Vert 20.3mH	8-451-418-11
FB501	Ferrite Bead	1-410-396-41
FB601, 02	Ferrite Bead	1-410-396-41
FB603	Ferrite Bead	1-412-911-11
FB605	Ferrite Bead	1-410-396-41
L001	10µH	1-410-470-11
L002, 03	100µH	1-412-032-11
L150	100µH	1-412-032-11
L151	10µH	1-412-029-11
L160	10µH	1-412-029-11
L301, 02	10µH	1-412-029-11
L503	3.3µH	1-412-553-11
L504	47µH	1-412-533-21
# L591	33µH	1-412-531-31
L601	Degaussing	1-411-985-31
L751	47µH	1-410-478-11
# T501	Horizontal Drive	1-437-210-11
# T504 (1)	Horizontal Output	1-453-210-11
# T601	Line Filter	1-423-895-11
# T602	Converter PRT	1-429-992-11
# T603	Converter PIT	1-431-674-11

For SAFETY use only equivalent replacement part.
(1) Screen and Focus controls are part of T504.

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
R306	10K 1% 1/10W	1-216-675-11	-
# R502	15K 5% 3W Nonflammable	1-215-924-00	3W315
# R508	100 5% 1W Nonflammable	1-215-863-11	1W110
R532	4700 1% 1/4W	1-215-437-00	-
R533	68K 1% 1/4W	1-215-465-00	-
R534	15K 1% 1/4W	1-215-449-00	-
# R571	1 5% 2W Nonflammable	1-216-369-00	2W1D0
# R572	10K 5% 1/4W Nonflammable	1-249-429-11	QW310
# R573	470K 5% 1/4W	1-247-895-91	QW447
# R575	330K 5% 1/4W	-	QW433
	30K 5% 1/4W	1-247-891-00	QW330
# R576	100K 5% 1/4W	1-249-441-11	QW410
R579	620 1% 1/10W	1-208-777-11	-
R582	680K 1% 1/10W	1-208-850-11	-
R583	100K 1% 1/10W	1-208-830-11	-
R584	10K 1% 1/10W	1-208-806-11	-
# R586	4700 5% 1/10W	1-216-065-91	-
# R600	4.7M 5% 1/2W	1-219-513-11	HW547
# R603	1 5% 10W Wirewound	1-205-998-11	10W1D0
R618	10 5% 1/4W Fusible Nonflammable	1-212-857-00	-
# R620	2.2M 5% 1/2W	1-219-512-11	HW522
# R625	2200 1% 1/4W	1-215-429-00	-
# R626	100K 1% 1/4W	1-215-469-00	-
R632	10K 1% 1/4W	1-215-445-00	-
R633	33K 1% 1/4W	1-215-457-00	-
# R634	47K 5% 1/10W	1-216-089-91	-
# R635	10K 5% 1/10W	1-216-073-00	-
# R636	3300 1% 1/4W Nonflammable	1-208-794-11	-
# R637	10K 1% 1/10W	1-208-806-11	-
R638	33K 1% 1/4W	1-215-457-00	-
R641	4.7 5% 3W Nonflammable	1-216-397-11	3W4D7
R761	1 5% 3W	1-216-389-11	3W1D0
RV751	2.2M Screen	1-230-641-11	-
RV752	2.2M Focus	1-230-641-11	-
THP601	5.3 Cold PTC	1-810-597-11	-
# VDR601 (1)	VDR, ERZV10D471	1-809-267-41	-
# VDR601 (2)	VDR, ERZV10D271	1-801-074-41	-
VDR602 (1)	VDR, ERZV10D471	1-809-267-41	-
VDR602 (2)	VDR, ERZV10D271	1-801-074-41	-

For SAFETY use only equivalent replacement part.
(1) Used in models KV-13M40 and KV-14MB40.
(2) Used in models KV-13M50 and KV-13M51.

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
CF001	Crystal	1-767-487-11	8MHz
# F601	Fuse	1-533-795-11	6.3A, Fast Acting
IC004	Receiver	8-742-014-11	Remote, SBX1981-51
J201	Jack	1-580-441-71	Assembly
J202 (1)	Jack	1-580-441-41	Assembly
J400	Jack	1-568-267-21	Headphone
# J750	Socket	1-251-192-11	CRT
# P601 (2)	Line Cord	1-751-057-11	AC, Polarized
# P601 (3)	Line Cord	1-751-058-11	AC, Polarized
# RY601	Relay	1-755-146-11	Power
PS201	Fuse Link	1-532-637-00	IC
S001	Switch	1-571-532-21	Power
S002	Switch	1-571-532-21	Channel +
S003	Switch	1-571-532-21	Channel -
S004	Switch	1-571-532-21	Volume +
S005	Switch	1-571-532-21	Volume -
S006	Switch	1-571-532-21	TV/Video
SP901	Speaker	1-505-828-11	2" X 3 1/2", 8 Ohm, 3W
# TU101 (4)	Module	8-598-430-00	Tuner/VIF/SIF, VHF/UHF, BTF-FA401
# V901	CRT	8-735-562-05	A34JBU70X
X301	Crystal	1-567-505-11	3.58MHz
	Magnet	1-452-277-00	BMC
	Magnet	1-452-032-00	Disc
	Magnet	4-051-735-22	Piece
	PC Board (5)	A-1298-451-A	A
	PC Board (1)	A-1298-452-A	A
	PC Board	A-1331-729-A	C
	Transmitter	-	Remote, RM-Y156
	Wedge	4-053-005-01	Yoke Positioning (3 Used)

For SAFETY use only equivalent replacement part.
(1) Used in models KV-13M50 and KV-13M51.
(2) Used in models KV-13M40, KV-13M50, and KV-14MB40.
(3) Used in model KV-13M51.
(4) Contact TN1 Electronics for replacement; order by part number on tuner.
(5) Used in models KV-13M40 and KV-14MB40.

CABINET PARTS

Item	Mfr. Part No.
Model KV-13M40	
Beznet Assembly	X-4035-709-1
Button Assembly	4-051-567-01
Door	4-051-569-21
Emblem, SONY	4-046-162-01
Rear Cover	4-051-870-51
Model KV-13M50	
Beznet Assembly	X-4035-710-1
Button Assembly	4-051-567-01
Door	4-051-569-21
Emblem, SONY	4-046-162-01
Rear Cover	4-051-870-51
Model KV-13M51	
Beznet Assembly	X-4035-711-1
Button Assembly	4-051-567-11
Door	4-051-569-31
Emblem, SONY	4-046-162-01
Rear Cover	4-051-570-11
Model KV-14MB40	
Beznet Assembly	X-4035-712-1
Button Assembly	4-051-567-01
Door	4-051-569-21
Emblem, SONY	4-046-162-01
Rear Cover	4-051-570-41



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