

SAFETY PRECAUTIONS

SERVICE WARNING

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

SERVICING THE HIGH VOLTAGE AND CRT

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

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

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

GENERAL GUIDELINES

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

HIGH VOLTAGE SHUTDOWN TEST

Apply AC power and turn on the receiver. Momentarily short test point TP-R to test point TP-X. The receiver should lose sound and raster. If the receiver does not lose sound and raster, the shutdown circuit should be repaired. To return to normal operation, press the power button.

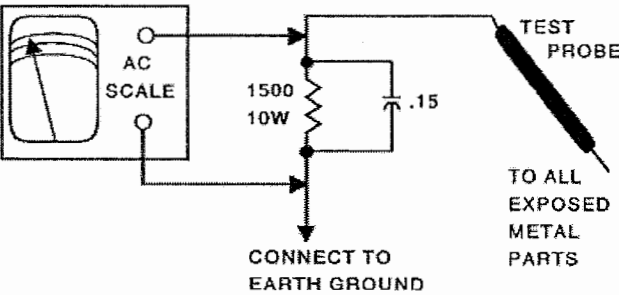
SAFETY CHECKS — FIRE AND SHOCK HAZARD

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
SILVER

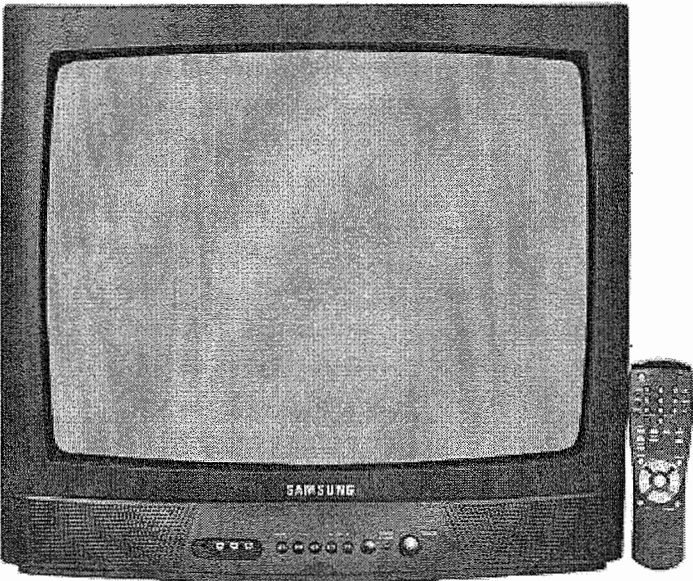
SET 5076

MODEL TXJ3278X/XAA (CHASSIS K51A)

SAMSUNG

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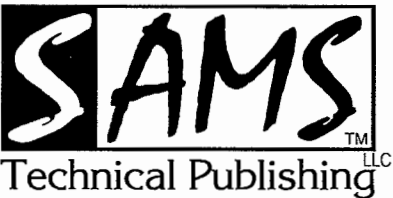
Representative Model

Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes this additional model and chassis:

Model	Chassis
TXJ3678X/XAA	K51A



NOVEMBER 2005 SET 5076

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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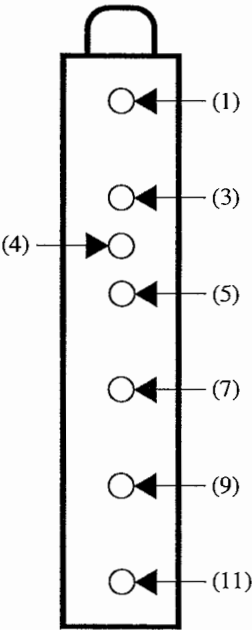
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	5.1V	5.0V	5.4V
(3) GND	0V	0V	0V
(4) SCL	4.9V	4.9V	4.9V
(5) SDA	4.8V	4.8V	4.8V
(7) 5V	5.6V	5.6V	5.6V
(9) 33V	32.5V	32.5V	32.5V
(11) 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



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

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.

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 28.5kV to 29.5kV.

B+ CHECK

Tune in a picture. Connect voltmeter to the emitter of Q801. Check for 130V ±1V.

CONVERGENCE

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 four and six pole magnets interact, repeat adjustment until center convergence is correct.

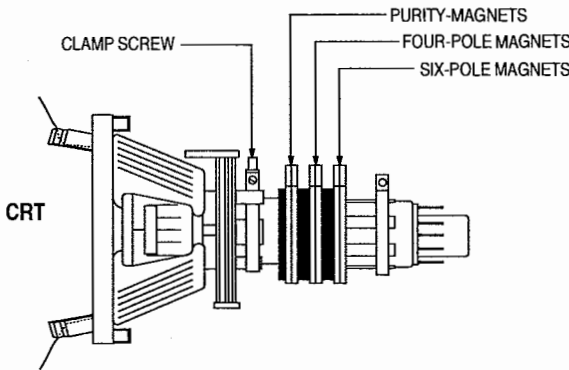
Connect a color bar generator to the antenna input and tune in a dot pattern. Adjust the four pole magnets to converge the red and blue dots at the center of the screen. Adjust the six pole magnets to converge the red/blue dots over the green dots at the center of the screen. Tune in a cross-hatch pattern. Remove the rubber wedges between deflection yoke and the CRT. Tilt the deflection yoke up or down to converge the vertical lines at the top and bottom of the screen and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke to the right or left to converge the horizontal lines at the top and bottom of the screen and the vertical lines at the right and left sides of the screen. Replace the rubber wedges.

PURITY

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

Set contrast and brightness to maximum, and color to minimum. Tune in a green raster pattern. Slide the deflection yoke back. Adjust purity tabs to center the vertical green band. Slide the deflection yoke forward to produce a uniform green screen.

CRT NECK ASSEMBLY



FACTORY SERVICE MODE

The adjustments for this receiver are all accomplished using the Factory Service Mode.

Entering the Factory Service Mode

To enter the Factory Service Mode, turn off the receiver. Without pausing between buttons, press mute, 1, 8, 2, and power. The receiver should come on with the Factory Service Mode displayed on the CRT. To select between

menus, use the channel up or down buttons. To enter the selected menu, use the volume + or - buttons. After adjusting, press the menu button to return to the menu. To exit the Factory Service Mode, press the power button.

* Service *

Adjustment
MTS
PIP
Option
Reset

ADJUSTMENT MENU

Item	Function	Data Range	Factory Value
AGC	Auto Gain Control	0 - 63	15
VCO	Voltage Control Oscillator	0 - 127	62
SBT	Sub Brightness	0 - 15	7
SCT	Sub Contrast	0 - 13	11
SCR	Sub Color	0 - 13	8
STT	Sub Tint	0 - 13	8
RG	Red Gain	0 - 63	32
GG	Green Gain	0 - 63	32
BG	Blue Gain	0 - 63	32
SCO	S-Correction	0 - 63	20
VSL*	Vertical Slope	0 - 63	26
VS*	Vertical Shift	0 - 63	32
VA*	Vertical Amplitude	0 - 63	27
HS*	Horizontal Shift	0 - 63	46
EWA*	East West Amplitude	0 - 63	52
EWP*	East West Pin	0 - 63	31
EWC*	East West Corner	0 - 63	32
EWT*	East West Tilt	0 - 63	31
PLA		0 - 10	6

* Will appear on the screen followed by “N” for NTSC system, or followed by “P” for PAL system.

RF AGC

Tune in a medium strength station. Select AGC. Decrease the on-set value to a point where snow appears. Then increase the on-set value to a point where snow disappears.

PIF VCO

Tune in a color bar pattern. Select VCO. Press the mute button to auto-tune.

White Balance

NOTE: Sub color and sub tint must be set before the white balance adjustment is performed.

Tune in a 10 bar staircase pattern. Select RG, BG, and GG. Set the on-set values to 32. Exit the Factory Service Mode and check the white balance at high and low brightness. If the white balance is not proper, select RG, BG, and GG. Adjust the on-set values for best white balance. Exit the Factory Service Mode and check the white balance at high and low brightness. Repeat as necessary.

Sub Brightness

Tune in a 10 bar staircase pattern. Select SBT. Adjust the on-set value so that the fifth bar from the right is brighter than the bars on the left.

S-Correction / Vertical Slope / Vertical Shift / Vertical Amplitude

Tune in a crosshatch pattern. Enter the Factory Service Mode and select VA. Adjust the on-set value for a slightly underscanned picture. Select VSL and adjust the on-set value for equal linearity at the top and bottom of the picture. Select SCO and adjust the on-set value for equal overall linearity. Select VS and adjust the on-set value to center the picture. Select VA and adjust the on-set value for a slightly overscanned picture.

MTS ADJUST MENU

Item	Function	Data Range	Factory Value
ATT	Attenuator	0 - 15	13
SPEC	Spectral	0 - 63	46
WB	WideBand	0 - 63	32
ST (1)	Alignment 1	On - Off	Off
SAP (1)	Alignment 2	On - Off	Off

(1) This adjustment can not be selected or adjusted.

After entering the MTS adjust menu, use the channel buttons to select the item and the volume buttons to adjust the on-set value of that item to the above value. Further adjustment not recommended.

PIP ADJUST MENU

Item	Function	Data Range	Factory Value
1	Contrast	0 - 15	12
2	Bright	0 - 15	0
3	Sharpness	0 - 15	8
4	Color	0 - 15	8
5	Tint	0 - 63	32

FACTORY RESET

This menu will reset the custom video menu to factory specifications. Use the volume buttons to reset.

SET OPTION BYTE

This menu is used to set the options whenever IC902 is replaced. Use the channel buttons to select a bit and the volume buttons to alter its data. The following is displayed on the CRT when in the set option byte menu. Set byte 0 to 8D and set byte 1 to 03.

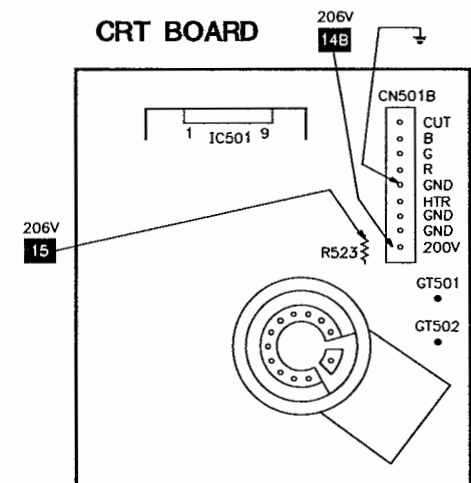
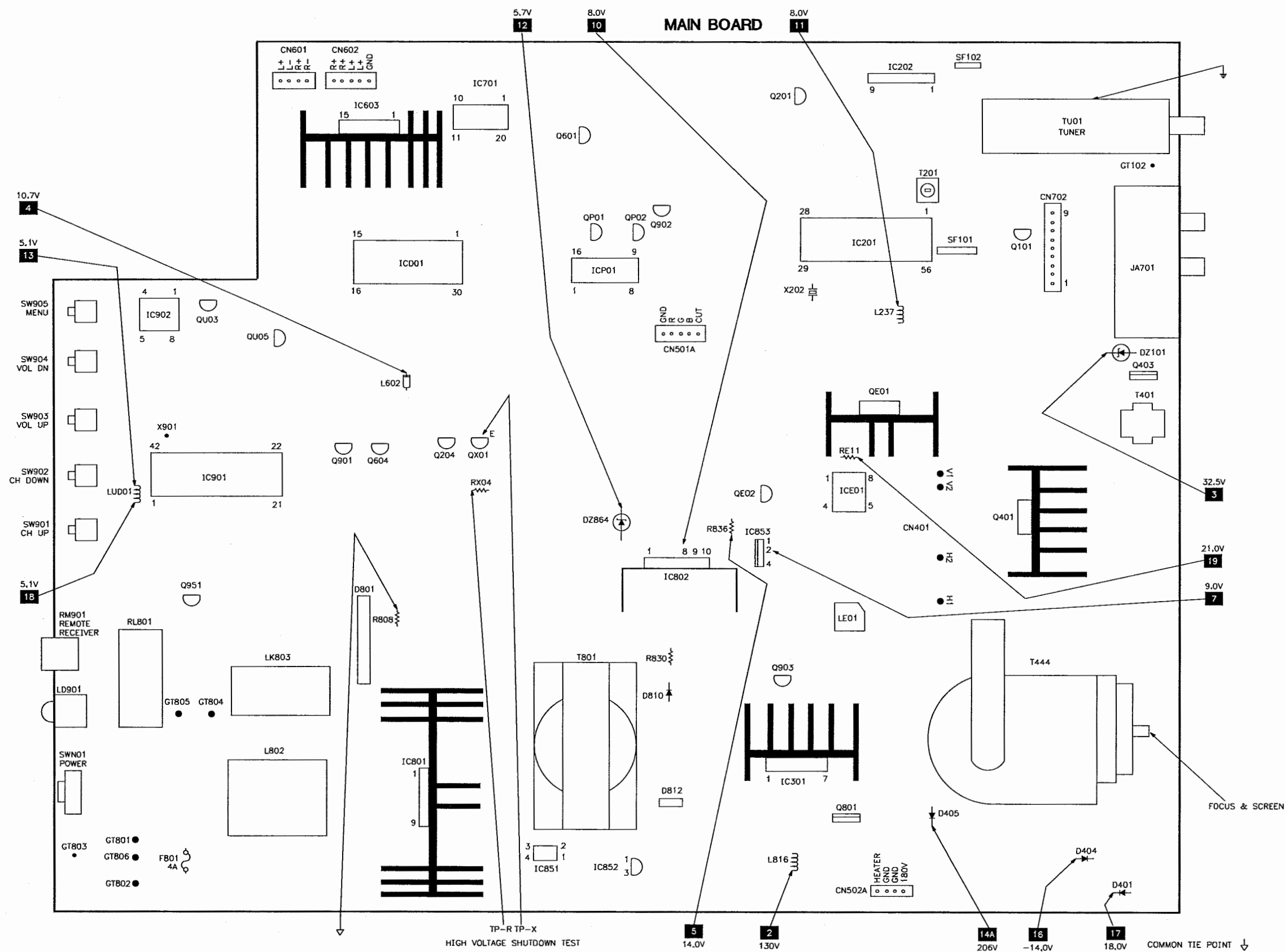
Byte 0 and 1 can be set up in hexadecimal to match the total binary values of the functions of this receiver.

Byte 0: 8D (Hex)
Byte 1: 03 (Hex)

OPTION BYTE CHART

Hex Value	Byte	Data	Options	Remark	
Byte 0 (Hex) first digit	1	D0	0: No MPX. 1: MPX available.	Option	
	0	D1	0: 4:3 CRT 1: 12.8:9 CRT (Q model)	Fix = 0	
	1	D2	0: No tone control. 1: Tone control available.	Fix = 1	
	D	1	D3	0: S-Video not available. 1: S-Video available.	Fix = 1
Byte 0 (Hex) second digit	0	D4	0: AIR/STD/HRC/IRC. 1: AIR/STD/HRC/AFN.	Fix = 0	
	1	D5	0: PIP not available. 1: PIP available.	Fix = 0	
	0	D6	0: Auto on not available. 1: Auto on available.	Fix = 0	
	A	1	D7	0: Auto Power off not available. 1: Auto Power off available.	Fix = 1
Byte 1 (Hex) first digit	1	D0	0: V-chip not available. 1: V-chip available.	Option	
	1	D1	0: ATS not available. 1: ATS available.	Option	
	0	D2	0: Audio mute available. 1: Audio mute not available.	Option	
	3	0	D3	0: Video mute available. 1: Video mute not available.	Option
Byte 1 (Hex) second digit	0	D4	00: English. 01: Spanish.	Fix = 0	
	0	D5	02: Portuguese. 11: Not used.	Fix = 0	
	0	D6	0: USA (NTSC) system. 1: PAL system.	Fix = 0	
	0	0	D7	No influence.	Fix = 0

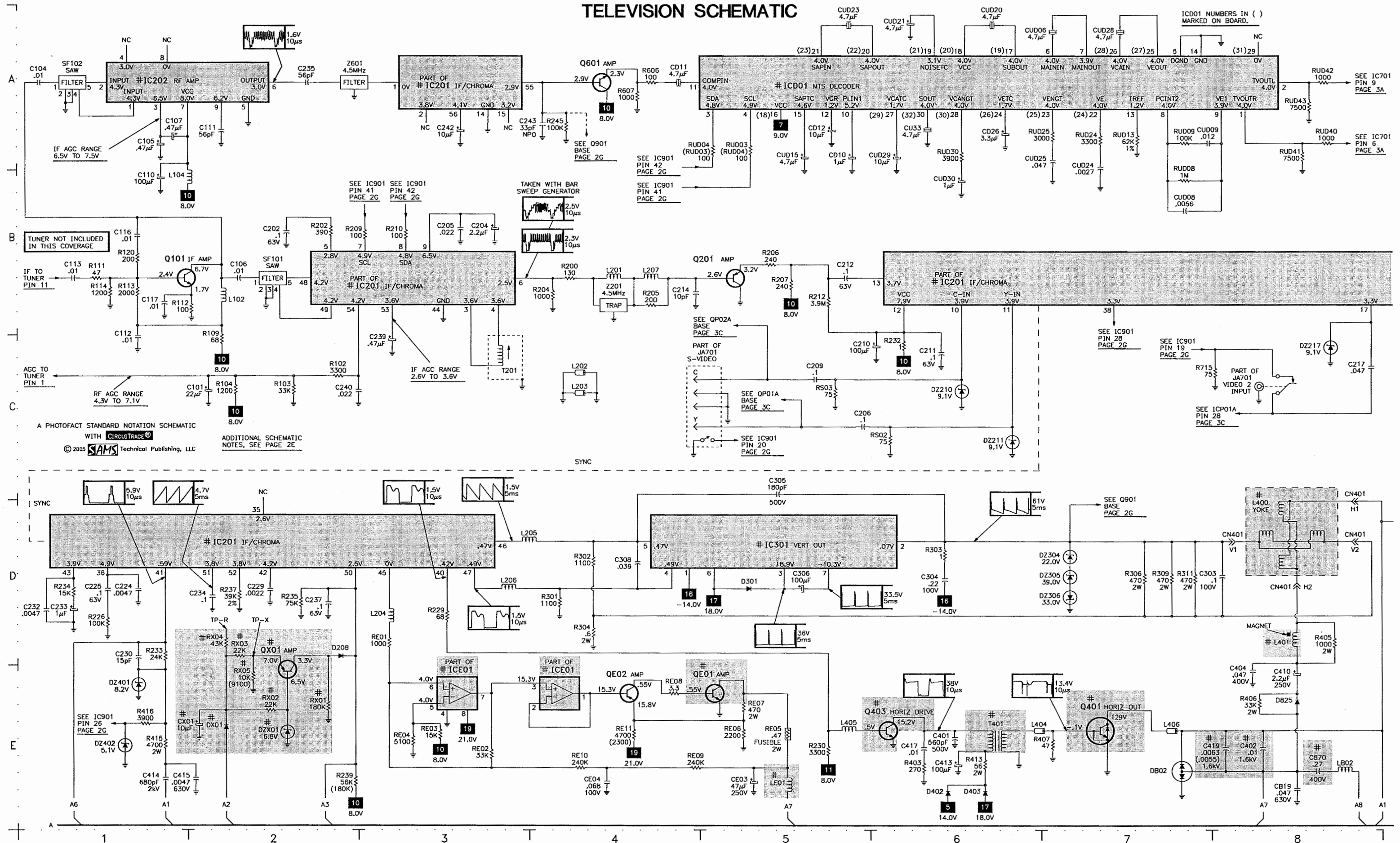
PLACEMENT CHART



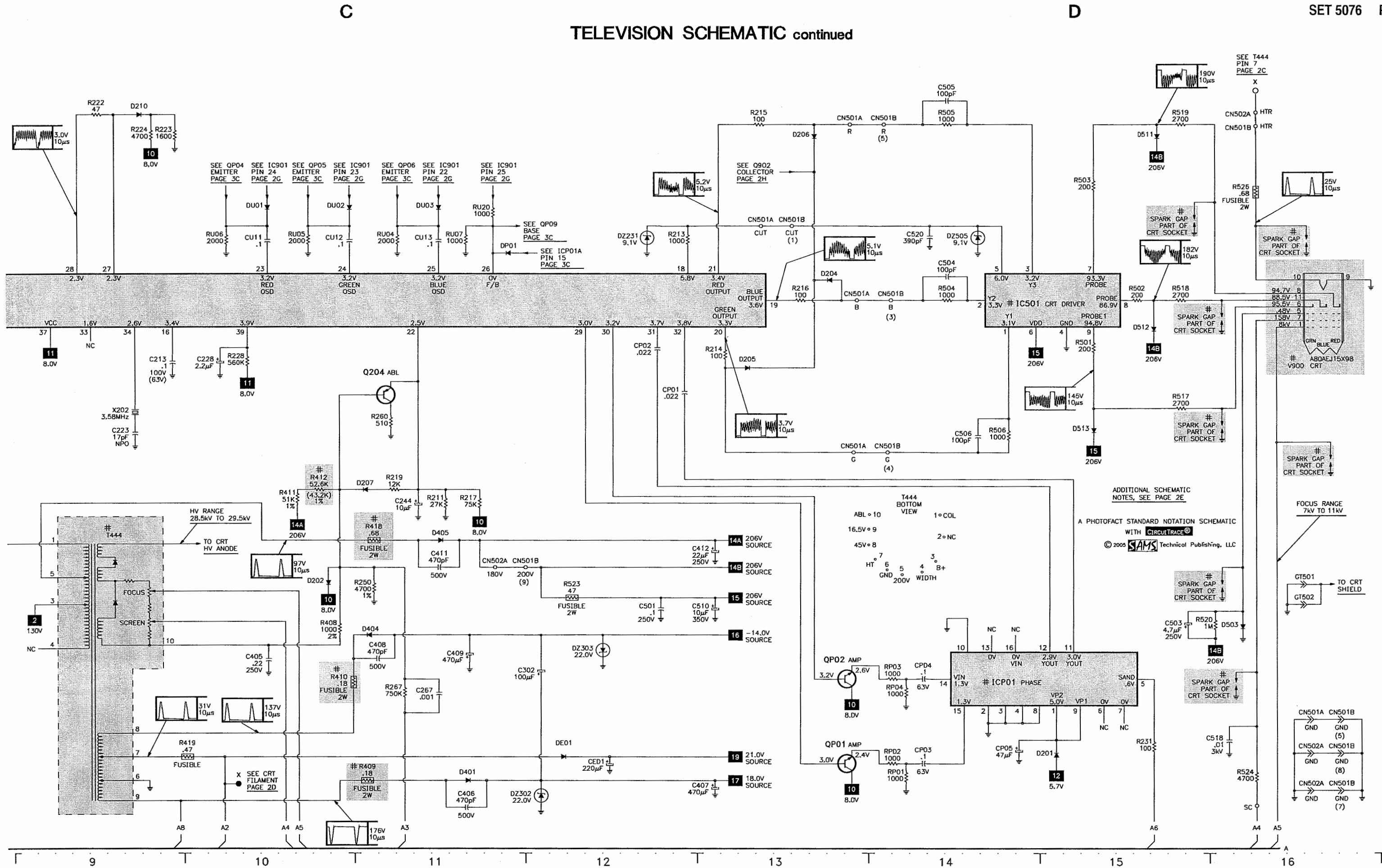
SAMSUNG

MODEL TXJ3278X/XAA (CHASSIS K51A)

TELEVISION SCHEMATIC



TELEVISION SCHEMATIC continued



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

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

- x— 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
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 1000 μ V 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.

T801
BOTTOM
VIEW

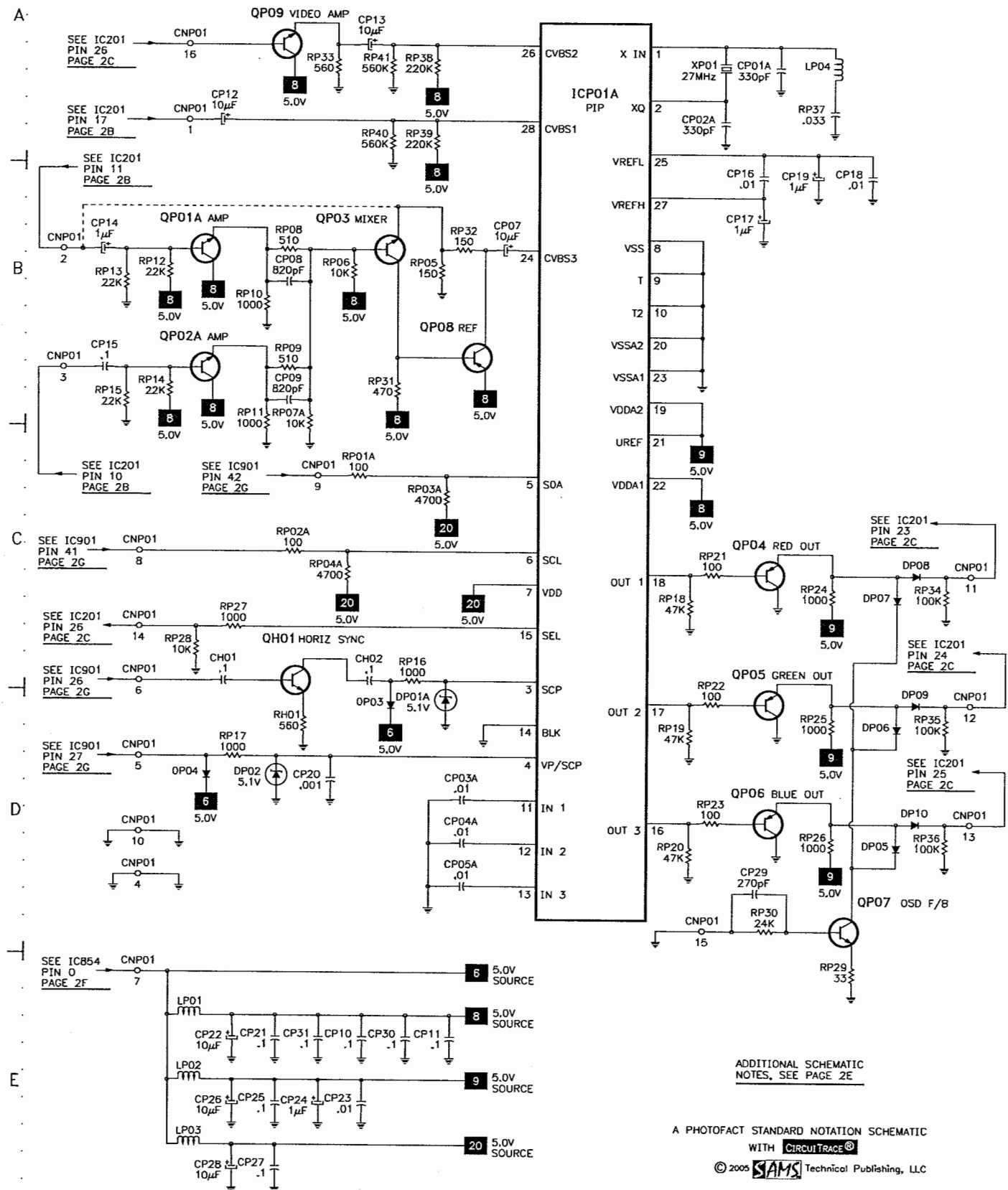
17°
16°
15°
14°

12°
11°
10°

H



C PIP SCHEMATIC



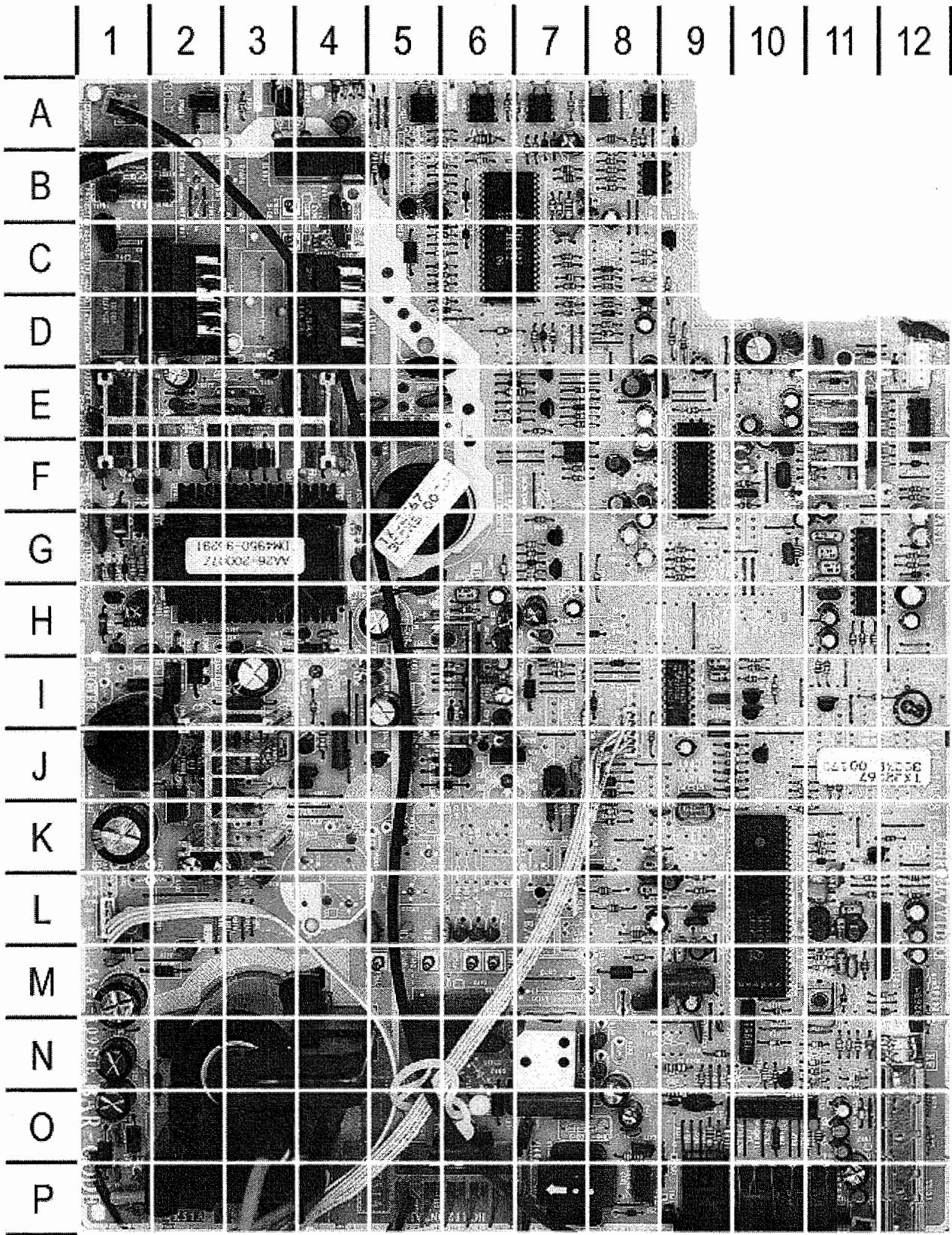
SCHEMATIC COMPONENT LOCATION GUIDE

C101	C2	C631	C37	CH02	D42	D809	B21	IC802	D23	QE01	E4	R410	D11	R912	E28	RP26	D43
C102	A32	C632	C35	CP01	C12	D812	A21	IC851	D19	QE02	E4	R411	C10	R914	A28	RP27	C41
C104	A1	C634	B24	CP01A	A43	D814	B18	IC852	D20	QH01	D41	R412	C10	R915	B28	RP28	C41
C105	A1	C650	A37	CP02	C12	D825	E8	IC853	C23	QP01	E13	R413	E6	R918	E28	RP29	E43
C106	B2	C651	C37	CP02A	A43	D903	D26	IC854	C23	QP01A	B41	R415	E1	R920	C26	RP30	D43
C107	A1	C701	D34	CP03	E14	D908	C22	IC901	A27	QP02	E13	R416	E1	R921	D26	RP31	B42
C108	B24	C702	B35	CP03A	D42	D910	C26	IC902	B30	QP02A	B41	R418	D11	R922	A29	RP32	B42
C110	B1	C703	C35	CP04	E14	D951	B17	ICD01	A5	QP03	B42	R419	E9	R923	A28	RP33	A42
C111	A2	C704	A35	CP04A	D42	D962	C23	ICE01	E3	QP04	C43	R501	C15	R924	A29	RP34	C44
C112	C1	C706	C33	CP05	E14	DB02	E7	ICE01	E4	QP05	D43	R502	B15	R925	A29	RP35	D44
C113	B1	C707	A34	CP05A	D42	DE01	E12	ICP01	E14	QP06	D43	R503	B15	R926	D26	RP36	D44
C116	B1	C708	C34	CP07	B42	DP01	B11	ICP01A	A43	QP07	D43	R504	B14	R927	C22	RP37	A43
C117	B1	C709	A33	CP08	B41	DP01A	D42	J258	D25	QP08	B42	R505	A14	R928	E29	RP38	A42
C202	B2	C712	D34	CP09	C41	DP02	D41	JA701	A34	QP09	A41	R506	C14	R930	C29	RP39	B42
C204	B3	C713	D34	CP10	E42	DP03	D42	JA701	A35	QU03	C29	R517	C15	R931	E27	RP40	B42
C205	B3	C714	D34	CP11	E42	DP04	D41	JA701	C33	QU05	C30	R518	B15	R932	E27	RP41	A42
C206	C5	C715	D34	CP12	A41	DP05	D44	JA701	C35	QX01	E2	R519	A15	R935	D27	RS02	C6
C209	C5	C716	E34	CP13	A42	DP06	D44	JA701	C5	R102	C2	R520	D16	R951	D28	RS03	C5
C210	C5	C717	E34	CP14	B41	DP07	C44	JA701	C8	R103	C2	R523	D12	R952	B26	RU01	B18
C211	C6	C801	A20	CP15	B41	DP08	C44	JE60	B40	R104	C2	R524	E16	R953	E29	RU03	C29
C212	B5	C802	B19	CP16	B43	DP09	D44	L102	B2	R107	A31	R526	B16	R956	B17	RU04	B11
C213	C9	C803	A20	CP17	B43	DP10	D44	L103	A32	R108	A31	R601	D30	R957	B17	RU05	B10
C214	B4	C804	C20	CP18	B44	DU01	B10	L104	B1	R109	C2	R602	D30	R958	B28	RU06	B10
C217	C8	C805	A21	CP19	B43	DU02	B10	L201	B4	R111	B1	R603	D30	R959	D28	RU07	B11
C223	C9	C806	A21	CP20	D42	DU03	B11	L202	C4	R112	B2	R606	A4	R961	C22	RU08	C29
C224	D1	C807	B21	CP21	E41	DX01	E2	L203	C4	R113	B1	R607	A4	R962	C23	RU09	C29
C225	D1	C808	C18	CP22	E41	DZ101	B24	L204	D3	R114	B1	R610	D37	R964	C25	RU10	C29
C226	D24	C809	D22	CP23	E42	DZ210	C6	L205	D3	R120	B1	R617	A36	R965	C26	RU12	C28
C227	D24	C810	E22	CP24	E42	DZ211	C6	L206	D3	R200	B4	R618	A36	R966	C26	RU13	C28
C228	C10	C811	D24	CP25	E41	DZ217	C8	L207	B4	R202	B2	R619	A35	R967	E27	RU14	C30
C229	D2	C812	D23	CP26	E41	DZ231	B12	L237	D23	R204	B4	R622	C36	RE01	D3	RU15	C30
C230	D1	C813	E24	CP27	E41	DZ250	D26	L400	D8	R205	B4	R623	C36	RE02	E3	RU16	C30
C232	D1	C814	D20	CP28	E41	DZ302	E12	L401	D8	R206	B5	R624	C35	RE03	E3	RU17	B28
C233	D1	C815	A24	CP29	D43	DZ303	D12	L404	E6	R207	B5	R707	C34	RE04	E3	RU18	C28
C234	D2	C816	B21	CP30	E42	DZ304	D7	L405	E5	R209	B3	R709	A34	RE05	E5	RU19	C28
C235	A2	C817	C17	CP31	E42	DZ305	D7	L406	E7	R210	B3	R713	D33	RE06	E5	RU20	B11
C237	D2	C820	B23	CU02	D26	DZ306	D7	L602	B24	R211	C11	R714	D33	RE07	E5	RUD03	A5
C239	C3	C821	C17	CU06	C29	DZ401	E1	L710	B35	R212	B5	R715	C7	RE08	E4	RUD04	A5
C240	C2	C822	C17	CU11	B10	DZ402	E1	L800	A19	R213	B12	R719	B34	RE09	E4	RUD08	B7
C242	A3	C823	C17	CU12	B10	DZ505	B14	L801	A21	R214	C13	R720	B34	RE10	E4	RUD09	A7
C243	A4	C824	D24	CU13	B11	DZ601	D30	L802	A18	R215	A13	R801	B22	RE11	E4	RUD13	A7
C244	C11	C825	C19	CU33	A6	DZ612	C38	L807	B20	R216	B13	R802	A20	RE60	B39	RUD24	A7
C250	D26	C827	D18	CUD06	A7	DZ613	C38	L808	B20	R217	C11	R803	B18	RE61	B39	RUD25	A7
C267	E11	C834	B24	CUD08	B7	DZ621	A38	L809	B20	R219	C11	R804	B18	RH01	D42	RUD30	B6
C302	D12	C855	B21	CUD09	A7	DZ622	A38	L810	B21	R222	A9	R805	C17	RL801	B18	RUD40	A8
C303	D7	C860	E23	CUD15	B5	DZ707	C34	L811	B21	R223	A9	R806	B23	RL801	B19	RUD41	B8
C304	D6	C861	C23	CUD18	C24	DZ708	B34	L812	A21	R224	A9	R807	B24	RM901	A25	RUD42	A8
C305	D5	C862	C22	CUD20	A6	DZ801	A17	L814	C21	R226	D1	R808	D20	RN01	B25	RUD43	A8
C306	D5	C870	E8	CUD21	A6	DZ802	B17	L815	C20	R228	C10	R810	A20	RP01	E14	RX01	E2
C308	D4	C873	C24	CUD23	A5	DZ803	D18	L816	A23	R229	D3	R811	C19	RP01A	C42	RX02	E2
C401	E6	C890	C20	CUD24	B7	DZ804	E23	L864	C21	R230	E5	R812	A22	RP02	E14	RX03	E2
C402	E8	C891	D20	CUD25	B7	DZ805	C19	L901	B31	R231	E15	R813	D20	RP03A	C41	RX04	D2
C404	E8	C901	A25	CUD28	A7	DZ806	C19	L902	E26	R232	C6	R814	D19	RP03	E14	RX05	E2
C405	D10	C902	A26	CUD29	B6	DZ807	E22	L903	D27	R233	D1	R815	D21	RP03A	C42	SF101	B2
C406	E11	C904	B26	CUD30	B6	DZ808	E23	LB02	E8	R234	D1	R819	C19	RP04	E14	SF102	A1
C407	E13	C905	B28	CX01	E2	DZ809	A22	LD901	E29	R235	D2	R820	C19	RP04A	C42	SP1	A40
C408	D11	C906	D26	D201	E15	DZ810	C20	LE01	E5	R237	D2	R822	E23	RP05	B42	SP2	C40
C409	D11	C907	D27	D202	D10	DZ811	D20	LK803	A18	R239	E2	R826	D20	RP06	B42	SW901	B25
C410	E8	C908	E27	D204	B13	DZ864	E24	LP01	E41	R245	A4	R827	D19	RP07	C25	SW902	B25
C411	D11	C909	E26	D205	C13	DZ901	B28	LP02	E41	R250	D11	R828	D20	RP07A	C42	SW903	B25
C412	D13	C910	D27	D206	A13	DZ902	B29	LP03	E41	R251	D26	R830	B21	RP08	B41	SW904	B26
C413	E6	C911	E27	D207	C11	DZ905	E27	LP04	A43	R252	D25	R831	B21	RP09	B41	SW905	B26
C414	E1	C912	D26	D208	E2	DZ906	B27	LUD01	E24	R253	D25	R832	C20	RP10	B41	SWN01	B25
C415	E2	C913	D29	D210	A9	DZ907	B27	NT801	A19	R260	C11	R833	D22	RP11	C41	T201	C3
C417	E6	C914	C28	D301	D5	DZ908	B30	P800	A17	R267	E11	R836	C23	RP12	B41	T401	E6
C419	E8	C920	C27	D401	E11	DZ910	A25	PUD01	A19	R301	D4	R861	D23	RP13	B41	T444	D9
C501	D12	CB01	A18	D402	E6	DZX01	E2	Q101	B1	R302	D4	R862	D24	RP14	B41	T801	A20
C503	D15	CB19	E8	D403	E6	F801	A17	Q201	B5	R303	D6	R901	A25	RP15	B41	V900	C16
C504	B14	CD10	B5	D404	D11	IC201	A3	Q204	C11	R304	D4	R902	A26	RP16	D42	X202	C9
C505	A14	CD11	A4	D405	D11	IC201	B3	Q401	E7	R306	D7	R903	A30	RP17	D41	X901	E27
C506	C14	CD12	A5	D503	D16	IC201	B6	Q403	E5	R309	D7	R904	A30	RP18	C43	XP01	A43
C510	D13	CD26	A6	D511	A15	IC201	D2	Q601	A4	R311	D7	R905	D29	RP19	D43	Z201	B4
C518	E16	CE01	E12	D512	B15	IC202	A1	Q604	D29	R403	E6	R906	B26	RP20	D43	Z601	A2
C520	B14	CE03	E5	D513	C15	IC301	D5	Q801	A22	R405	D8	R907	B26	RP21	C43		
C610	D37	CE04	E4	D601	D30	IC501	B14	Q901	D26	R406	E8	R908	B26	RP22	D43		
C627	A37	CE60	B39	D801	A19	IC603	B38	Q902	D29	R407	E7	R909	B25	RP23	D43		
C628	A35	CE61	B39	D804	C19	IC701	B35	Q903	B22	R408	D10	R910	C22	RP24	C43		
C629	D37	CH01	D41	D808	B21	IC801	B19	Q951	B17	R409	E11	R911	E27	RP25	D43		

SAMSUNG

MODEL TXJ3278XXAA (CHASSIS K51A)

MAIN BOARD



MAIN BOARD, GRIDTRACE LOCATION GUIDE

C101	P11	C708	O11	CU13	K11	DZ902	D6	Q903	J4	R603	E7	R959	B5
C102	P11	C709	H11	CU33	G8	DZ905	B7	Q951	B5	R606	I11	R961	I6
C104	M12	C712	G11	CUD06	G8	DZ906	B6	QE01	L7	R607	I11	R962	I6
C105	M12	C713	G11	CUD08	F10	DZ907	C6	QE02	K6	R610	D10	R964	O10
C106	N10	C714	G11	CUD09	F10	DZ908	A9	QP01	I10	R617	F11	R965	E6
C107	L12	C715	G11	CUD15	D9	DZ910	A5	QP02	I10	R618	F11	R966	C5
C108	O11	C716	H11	CUD18	E8	DZX01	G7	QU03	B9	R619	F12	RE01	L7
C110	L12	C717	G10	CUD20	E8	F801	B1	QU05	D8	R622	F11	RE02	L7
C111	L10	C801	F5	CUD21	D8	GT801	B2	QX01	G7	R623	E11	RE03	L8
C112	N11	C802	E5	CUD23	E8	GT802	B1	R102	N11	R624	F12	RE04	L7
C113	N11	C803	E5	CUD24	F8	GT803	A1	R103	O11	R707	G12	RE05	K5
C116	N11	C804	E3	CUD25	E9	GT804	C3	R104	N11	R709	G12	RE06	K7
C117	N10	C805	I2	CUD28	F8	GT805	B3	R107	O12	R713	G10	RE07	K5
C202	M11	C806	J1	CUD29	G8	GT806	B1	R108	O12	R714	G10	RE08	L7
C204	L11	C807	H4	CUD30	F8	IC201	L10	R109	N11	R715	O9	RE09	K6
C205	L11	C808	E2	CX01	H6	IC202	L12	R111	N11	R719	H11	RE10	K6
C210	L11	C809	H6	D201	I8	IC301	J2	R112	N10	R720	H11	RE11	K7
C211	L11	C810	H6	D202	J8	IC603	C11	R113	N11	R801	J2	RL801	B4
C212	L11	C811	H7	D204	J9	IC701	G11	R114	N11	R802	E4	RM901	A4
C213	K11	C812	I6	D205	J9	IC801	E2	R120	N11	R803	D3	RN01	A3
C214	K12	C813	I6	D206	J9	IC802	I6	R200	M11	R804	D3	RP01	H10
C217	N9	C814	H1	D207	I8	IC851	G1	R202	M11	R805	G1	RP02	I10
C223	K9	C815	K1	D208	H8	IC852	G1	R204	M11	R806	L3	RP03	I10
C224	K8	C816	I3	D210	J10	IC853	J6	R205	K12	R807	O8	RP04	I10
C225	K8	C817	H5	D301	J2	IC901	C6	R206	K11	R808	H1	RU01	D1
C226	L8	C820	H5	D401	O1	IC902	B8	R207	M12	R810	E4	RU03	B5
C227	L8	C821	G1	D402	I5	ICD01	F9	R209	K11	R811	F1	RU04	D8
C228	L9	C822	G4	D403	J5	ICE01	K6	R210	J11	R812	J2	RU05	F7
C229	L9	C823	F1	D404	O1	ICP01	I9	R211	I7	R813	G2	RU06	F7
C230	K8	C824	J7	D405	M2	J258	G8	R212	L11	R814	G1	RU07	J11
C232	L9	C825	F1	D601	E7	JA701	P10	R213	J9	R815	H1	RU08	C8
C233	M9	C827	F2	D801	E5	L102	N11	R214	J9	R819	E1	RU09	C8
C234	M9	C834	I5	D804	F2	L103	O11	R215	J9	R820	E1	RU10	C8
C235	M11	C855	I2	D812	I1	L104	L10	R216	J9	R822	H5	RU12	D8
C237	M9	C860	H6	D814	D3	L201	L11	R217	I7	R826	H1	RU13	C8
C239	M10	C861	J6	D825	N8	L202	M8	R219	I7	R827	G1	RU14	C8
C240	N9	C862	I6	D903	E7	L203	K8	R222	J10	R828	H1	RU15	C8
C242	M9	C870	M7	D908	I5	L204	L8	R223	J11	R830	I5	RU16	D8
C243	N9	C873	J7	D910	D6	L205	K8	R224	J10	R831	I5	RU17	D7
C244	H7	C890	H1	D951	B5	L206	J8	R226	K8	R832	E2	RU18	D7
C250	L1	C891	H1	D962	I6	L207	M12	R228	L9	R833	H6	RU19	C7
C302	K2	C901	A4	DB02	O6	L237	L8	R229	L9	R836	J6	RU20	C7
C303	L6	C902	B7	DB01	J5	L401	N7	R230	L8	R861	H7	RUD03	D9
C304	J2	C904	A8	DU01	C8	L405	L8	R231	J8	R862	H7	RUD04	D9
C305	K3	C905	B5	DU02	D8	L406	O6	R232	L11	R901	B6	RUD08	F10
C306	K2	C906	C7	DU03	D8	L602	F7	R233	K8	R902	B7	RUD09	F10
C308	J3	C907	C8	DX01	I7	L710	H11	R234	M9	R903	B8	RUD13	E10
C401	O8	C908	B7	DZ101	P8	L801	I1	R235	L8	R904	B8	RUD24	F8
C402	N6	C909	C7	DZ217	K11	L802	D2	R237	M9	R905	E7	RUD25	E9
C404	O7	C910	C7	DZ231	J8	L807	F3	R239	M9	R906	A8	RUD30	F8
C405	P1	C911	B7	DZ250	P8	L808	F3	R245	N10	R907	A7	RUD40	G9
C406	P1	C912	J4	DZ302	K2	L809	F3	R250	I8	R908	A6	RUD41	G9
C407	N1	C913	C6	DZ303	J2	L810	I3	R251	N1	R909	A6	RUD42	G9
C408	O1	C914	B6	DZ304	J2	L811	H4	R252	O9	R910	I4	RUD43	G9
C409	O1	C920	B7	DZ305	J3	L812	H2	R253	N9	R911	C5	RX01	G7
C410	O8	CB01	C1	DZ306	J3	L815	F2	R260	G7	R912	B6	RX02	G7
C411	M1	CB19	O7	DZ401	I5	L816	J1	R301	J2	R914	C6	RX03	G7
C412	M1	CD10	E10	DZ402	D6	L864	F7	R302	K3	R915	C6	RX04	G6
C413	O8	CD11	F10	DZ601	E6	L901	A8	R303	J2	R918	C6	RX05	G7
C414	L5	CD12	E10	DZ612	E11	L902	B7	R304	K3	R920	C7	SF101	N10
C415	J4	CD26	F8	DZ613	D12	L903	C5	R306	L6	R921	E7	SF102	M12
C417	O8	CE01	K5	DZ621	D11	LB02	L4	R309	L6	R922	B7	SW901	A5
C419	M6	CE03	K4	DZ622	F12	LD901	A3	R311	L6	R923	B7	SW902	A6
C610	D11	CE04	K6	DZ707	G12	LE01	L5	R403	O8	R924	B8	SW903	A7
C627	E10	CN401	N5	DZ708	G12	LK803	D4	R405	N8	R925	B8	SW904	A8
C628	G12	CN501A	I8	DZ801	C1	LUD01	A6	R406	N8	R926	D6	SW905	A8
C629	D10	CN502A	L1	DZ802	E1	NT801	E5	R407	P6	R927	I5	SWN01	A2
C631	E10	CN601	E12	DZ803	E2	PUD01	B4	R408	N2	R928	D6	T201	M11
C632	F12	CN602	E12	DZ804	H6	Q101	N10	R409	P1	R930	C8	T401	P7
C634	D10	CP01	I9	DZ805	F1	Q201	M11	R410	O1	R931	B7	T444	N3
C650	F11	CP02	I9	DZ806	E1	Q204	G7	R411	M1	R932	B7	T801	G3
C651	F11	CP03	H9	DZ807	I6	Q401	O6	R412	M1	R935	C7	TP-R	G6
C701	H12	CP04	I9	DZ808	H6	Q403	P8	R415	J5	R951	C6	TP-Y	G7
C702	H12	CP05	J9	DZ809	J2	Q601	I10	R416	D6	R952	A5	TU01	O12
C703	F11	CU02	C7	DZ810	E2	Q604	M2	R418	M2	R953	E6	X202	K9
C704	F12	CU06	D8	DZ811	G1	Q801	K2	R419	L1	R956	C5	X901	B9
C706	H11	CU11	K11	DZ864	H7	Q901	E7	R601	E7	R957	B5	Z201	K11
C707	O11	CU12	K11	DZ901	C6	Q902	J10	R602	E7	R958	B8	Z601	M11

PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.
D201	1N4148TAPG	0401-000005	NTE519
D202	1N4004	0402-000132	NTE116
D204 Thru			
D208	1N4148TAPG	0401-000005	NTE519
D210	1N4148TAPG	0401-000005	NTE519
D301	ERB43-04SV1	0402-001105	NTE519
D401	1R5GU41	0402-000493	NTE576
D402, 03	1N4004	0402-000132	NTE116
D404	RU20A	0402-000540	
D405	ERB43-04SV1	0402-001105	
D503	1N4004	0402-000132	NTE116
D511, 12, 13	ERB43-04SV1	0402-001105	
D601	1N4148TAPG	0401-000005	NTE519
# D801	RBV406LFB	0402-001082	
D803	1R5GU41	0402-000493	NTE576
D804	ERB43-04SV1	0402-001105	
D808	FML-G12S	0402-000233	NTE597
# D809	G22S200V	0402-000564	
D812	FMG-G26S	0402-000231	NTE598
D814	ERB12-06	0402-000213	NTE116
D825	1R5GU41	0402-000493	NTE576
D903, 08, 10	1N4148TAPG	0401-000005	NTE519
D951	1N4004	0402-000132	NTE116
D962	1N4148TAPG	0401-000005	NTE519
DB02	FMP-3FU	0402-001296	
DE01	ERB43-04SV1	0402-001105	
DU01, 02, 03	1N4148TAPG	0401-000005	NTE519
# DX01	ERB43-04SV1	0402-001105	
DZ101	TZP33A	0403-000700	
DZ210, 11	MTZ9.1B	0403-000563	NTE5018A
DZ217, 31	MTZ9.1B	0403-000563	NTE5018A
DZ250	MTZ3.0B	0403-000662	
DZ302, 03, 04	MTZ22A	0403-000660	
DZ305	MTZ39B	0403-000494	
DZ306	TZP33A	0403-000700	
DZ401	MTZ8.2B	0403-000300	
DZ402	MTZ5.1B	0403-000355	NTE5010T1
DZ505	MTZ9.1B	0403-000563	NTE5018A
DZ601	MTZ9.1B	0403-000563	NTE5018A
DZ612, 13	MTZ15C	0403-000656	
DZ621, 22	MTZ15C	0403-000656	
DZ707, 08	MTZ9.1B	0403-000563	NTE5018A
DZ803	MTZ8.2B	0403-000300	
DZ804, 05	MTZ5.6B	0403-000296	NTE5011A
DZ806	MTZ7.5B	0403-000562	NTE5015A
DZ807	MTZ6.2B	0403-000297	NTE5013A
DZ808	MTZ5.6B	0403-000296	NTE5011A
DZ809	MTZ15C	0403-000656	
DZ810	1N4148TAPG	0401-000005	NTE519
DZ811	MTZ6.2B	0403-000297	NTE5013A
DZ864	MTZ5.6B	0403-000296	NTE5011A
DZ901	MTZ5.1B	0403-000355	NTE5010T1
DZ902	MTZ7.5B	0403-000562	NTE5015A
DZ905 Thru			
DZ908	MTZ6.2B	0403-000297	NTE5013A
DZ910	MTZ6.2B	0403-000297	NTE5013A
# DZX01	MTZ6.8A	0403-000667	
# IC201	TDA8377A	1204-001170	
# IC202	LA7510	1204-000506	NTE7067
# IC301	LA7845	1204-000517	
# IC501	TDA6108JF	1201-001330	
# IC603		1201-001064	
# IC701	TDA7449	1204-001455	
# IC801	KA3S1265R	1203-001482	
# IC802	KA7630	1203-000644	
# IC851	TR130	0604-001038	
# IC852	KA431LZ	1203-001217	
# IC853	KA78R09	1203-001225	
# IC854	7805	1203-000274	NTE977
# IC901	Z9036512PSC	AA13-00017A	
# IC902	24C080	1103-001106	
# IC001	CXA2104S	1209-001116	
# ICE01	MC4558C	1201-000191	
# ICP01	TDA4665	1209-000214	
LD901	LED	AA96-30001B	Assembly
Q101	KTC3197	0501-000436	NTE107
Q201, 04	KSA539-Y	0501-000283	NTE159
# Q401	KSD5703	0502-001136	NTE2353
# Q403	KSC2073	0502-001007	NTE375
Q601, 04	KSC815-Y	0501-000389	NTE123AP
Q801	SFP9640	0505-001337	

Item No.	Type No.	Mfr. Part No.	NTE Part No.
Q902	KSC815-Y	0501-000389	
Q903	KSC2330-Y	0501-000366	
Q951	KSC2331-Y	0501-000369	
# QE01	KSD73	0502-000298	
QE02	KSA539	0501-000283	
QP01, 02	KSC815-Y	0501-000389	
QU03	KSR1010	0504-000123	
QU05	KSA539-Y	0501-000283	
# QX01	KSA539-Y	0501-000283	
PIP MODULE			
DP01A, 02	DTZ5.1A	-	
DP03 Thru			
DP10	RLS4148	-	
ICP01A	SDA9388X	-	
QH01	KSC1623-G	-	
QP01A, 02A	KSC1623-G	-	
QP03	KSC1623-G	-	
QP04, 05, 06	KSA1182	-	
QP07	KSC1623-G	-	
QP08	KSA1182	-	
QP09	KSC1623-G	-	
Item No.	Function/Rating	Mfr. Part No.	Notes
C223	17pF 5% 50V NPO	2201-000258	-
C243	33pF 5% 50V NPO	2201-000483	-
# C402	.01 5% 1.6kV	2306-000118	-
C414	680pF 10% 2kV	2201-000984	-
# C419	.0063 3% 1.6kV	2306-000327	-
	.0055 5% 1.6kV	2303-001015	-
C518	.01 +80% -20% 3kV	2201-002063	-
C628, 32	10µF 20% 50V NP	2401-000471	-
C802, 03	.0022 20% 250VAC	2201-000332	-
C805	560pF 10% 2kV	2201-000991	-
# C821	.0047 20% 400V	2201-002002	-
C822	.001 400VAC	2201-000963	-
# C823	.0047 20% 400V	2201-002002	-
# C870	.27 5% 400V	2306-000350	-
C908	47pF 5% 50V NPO	2201-000573	-
C909	10pF ±25pF 50V NPO	2201-000193	-
# CB01	.22 20% 250VAC	2306-000318	-
CD11	4.7µF 20% 50V NP	2401-001989	-
CU33	4.7µF 20% 50V NP	2401-001989	-
CUD06	4.7µF 20% 50V NP	2401-001989	-
CUD20, 23, 28	4.7µF 20% 50V NP	2401-001989	-
# CX01	10µF 20% 50V	2401-000480	-
# DZ801	Varistor	1405-001036	-
DZ802	Varistor	1405-001036	-
# F801	Fuse	3601-000144	-
JA701	Jack	3722-001261	-
JE60	Jack	3722-000143	-
L102	1µH	2701-000142	-
L103	56µH	2701-000207	-
L104	10µH	2701-000114	-
L201	15µH	2701-000127	-
L202, 03	Ferrite Bead	3301-000287	-
L204, 05, 06	10µH	2701-000114	-
L207	56µH	2701-000207	-
L237	10µH	2701-000114	-
# L400 (1)	Yoke	-	-
# L401	Horizontal Linearity	AA27-30003J	-
L404	Ferrite Bead	3301-000287	-
L405	1µH	2701-000142	-
L406	Filter	2901-000297	-
L602	Ferrite Bead	3301-000287	-
L710	10µH	2701-000114	-
L800 (2)	Degaussing	AA27-00018A	-
L800 (3)	Degaussing	AA27-20003P	-
L801	Ferrite Bead	3301-000287	-
L802	Line Filter	AA29-30002F	-
L807	Ferrite Bead	3301-000287	-
L808, 09	Ferrite Bead	3301-001223	-
L810	100µH	2701-001032	-
L811, 12, 14	Ferrite Bead	2901-000297	-
L815	Ferrite Bead	3301-000287	-
L816	100µH	2701-001032	-
L864	Ferrite Bead	3301-000287	-
L901, 02	10µH	2701-000114	-
L903	Ferrite Bead	3301-000287	-
LB01	Ferrite Bead	3301-000287	-

Item No.	Type No.	Mfr. Part No.	NTE Part No.
LB02 (2)	1mH	AA27-40003A	-
LB02 (3)	1.5mH	AA27-40001E	-
# LE01	1mH	AA27-40003L	-
# LK803	Line Filter	AA29-30002F	-
LUD01	1.5µH	2701-000106	-
NT801	4.7 Cold NTC	1404-001045	-
# P800	Line Cord	AA39-10007Y	AC, Polarized
# PUD01	7.9 Cold PTC	1404-000208	-
R237	39K 2% 1/8W	2004-001914	-
R250	4700 1% 1/2W	2004-001397	-
R408	1000 2% 1/2W	2004-001390	-
# R409, 10	.18 10% 2W Fusible	2008-001011	-
R411	51K 1% 1/2W	2004-002022	-
# R412	52.6K 1% 1/2W	2004-004092	-
	43.2K 1% 1/2W	2004-001897	-
# R418	.68 5% 2W Fusible	2008-000254	-
R419	.47 10% 1/2W Fusible	2008-000252	-
R523	47 5% 2W Fusible	2008-000299	-
R526	.68 5% 2W Fusible	2008-000254	-
R603	100K 1% 1/8W	2004-000195	-
R801	133K 1% 1/2W	2004-001891	-
# R805	4.7M 10% 1/2W	2002-001013	-
R808	127K 1% 1/2W	2004-001889	-
R828	2490 1% 1/2W	2004-001983	-
R830, 31	.1 10% 2W Fusible	2008-000284	-
R834	1.5 5% 2W Fusible	2008-001015	-
R836	1 5% 2W Fusible	2008-000266	-
R861, 62	10 5% 2W Fusible	2008-001033	-
R922, 23	10µH	2701-000114	-
R964	1000 2% 1/2W	2004-001390	-
RE05	.47 10% 2W Fusible	2008-001018	-
# RL801	Relay	3501-001040	Degaussing
RM901	Receiver	AA59-60001U	Remote
# RU01	1.8M 10% 1/2W	2002-001010	-
RUD13	62K 1% 1/8W	2004-001165	-
# RX01	180K 5% 1/8W	2001-000396	-
# RX02, 03	22K 5% 1/8W	2001-000522	-
# RX04	43K 5% 1/8W	2001-000766	-
# RX05	10K 5% 1/8W	2001-000290	-
	9100 5% 1/8W	2001-001015	-
SF101	Filter	2904-000287	SAW
SF102	Filter	2904-000289	SAW
SP1, 2	Speaker	3001-001115	8 Ohms, 15W
SW901	Switch	3404-000244	Channel Up
SW902	Switch	3404-000244	Channel Down
SW903	Switch	3404-000244	Volume Up
SW904	Switch	3404-000244	Volume Down
SW905	Switch	3404-000244	Menu
SWN01	Switch	3404-001004	Power
T201	IF	AA26-10005E	-
# T401	Horizontal Drive	AA26-50001R	-
# T444 (4)	Horizontal Output	AA26-30005Q	-
# T801	Switching	AA26-20008W	-
# TU01	Tuner	AA40-10006U	TECC1070PG31A(S)
# V900 (2)	CRT	AA03-10031H	A80AEJ15X98
# V900 (3)	CRT	AA03-10035D	A90AEJ15X02
X202	Crystal	2801-003298	3.58MHz
X901	Crystal	2801-003224	32.768kHz
Z201	Trap	2903-001022	4.5MHz
Z601	Filter	2903-000135	4.5MHz
	Fuse Holder	3602-000114	For F801 (2 Used)
	PC Board	AA92-90017B	A/V
	PC Board (2)	AA92-30017B1	CRT
	PC Board (3)	AA94-500118N	CRT
	PC Board (2)	AA94-01220D	Main
	PC Board (3)	AA94-01220E	Main
#	Socket	3704-001105	CRT
	Transmitter	AA59-10112B	Remote
PIP MODULE			
LP01, 02, 03	10µH	-	-
LP04	5.6µH	-	-
XP01	Crystal	-	27MHz
	Module	AA95-00443A	PIP

For SAFETY use only equivalent replacement part.
(1) Bonded part of CRT.
(2) Used in model TXJ3278X/XAA.
(3) Used in model TXJ3678X/XAA.
(4) Screen and focus controls are part of T444.