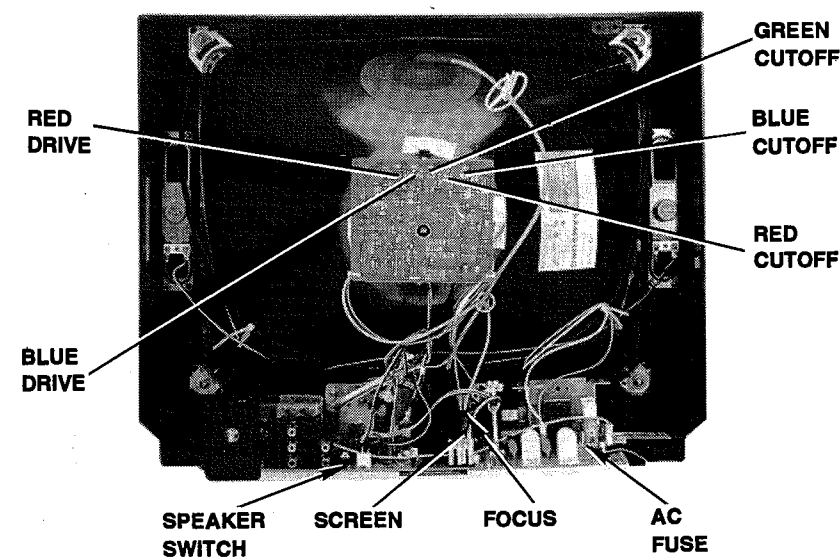


CABINET - REAR VIEW



TEST JIG HOOKUP

Function	Chek-A-Color Adapter No.	PC Board Plug No.	Pin	Color
CRT	B239	CN44	H1	Red
Yoke	D482		H2	Blue
Yoke Setting	YP2A		V1	Yellow
Comments	Focus Tap		V2	Black

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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2647 Waterfront Parkway East Drive, Suite 300  
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Printed in the United States of America 5 4 3 2 1



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3300

PHOTOFACT® Technical Service Data

SET 3300

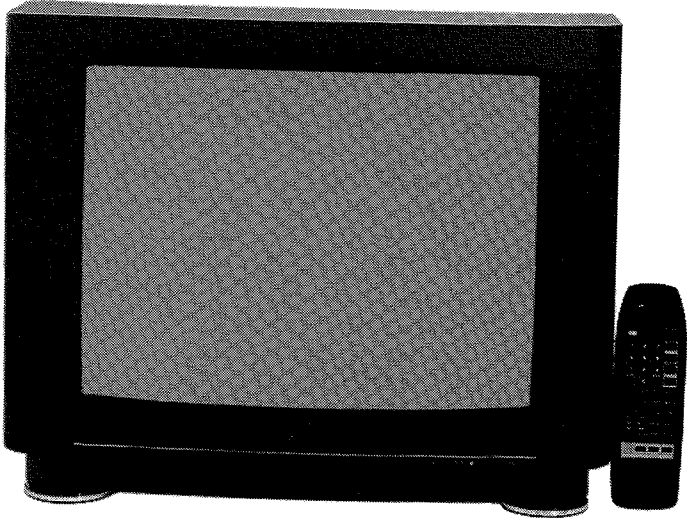
MODEL TXB2025/CX (CHASSIS K52MB)

SAMSUNG

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SAMSUNG  
Model TXB2025/CX (Chassis K52MB)



Complete coverage  
for servicing a television receiver...

- Schematics
- Parts list
- Component locations
- Troubleshooting guide



HOWARD W. SAMS & COMPANY

APRIL 1994 SET 3300

For Supplier Address,  
See PHOTOFACT Annual Index

3300

SAFETY PRECAUTIONS

SERVICE WARNING

Only qualified service technicians who are familiar with safety checks and guidelines should perform service work. For continued SAFETY:

- 1. Before replacing parts, disconnect power source to protect electrostatically sensitive parts.
- 2. Do not attempt to modify any circuit unless so recommended by the manufacturer.
- 3. 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.

- 1. To discharge static high voltage, connect a 10K ohms resistor in series with a test lead between the receiver and CRT anode lead.
- 2. DO NOT lift the CRT by the neck.
- 3. 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.

- 1. Keep an accurate high voltage meter available at all times. Check meter calibration periodically.
- 2. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly.
- 3. 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.
- 4. 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.
- 5. 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.

SAFETY CHECKS -- FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

- 1. Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable).
- 2. Use an ohmmeter to measure the resistance between the jumpered 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.

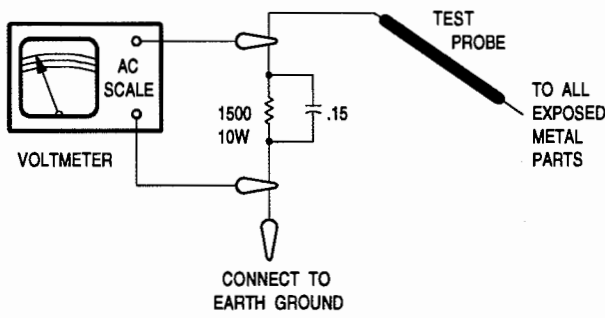
Hot Leakage Current Check

- 1. Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer.
- 2. 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.)
- 3. 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.
- 4. Voltage measurements should not exceed .75VAC, 500µA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected.
- 5. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer.

- 1. Check repaired area for poorly soldered or unsoldered connections, and check entire circuit board for solder splashes.
- 2. Check inner board wiring for pinched wires or wires contacting any high wattage resistors.
- 3. 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.

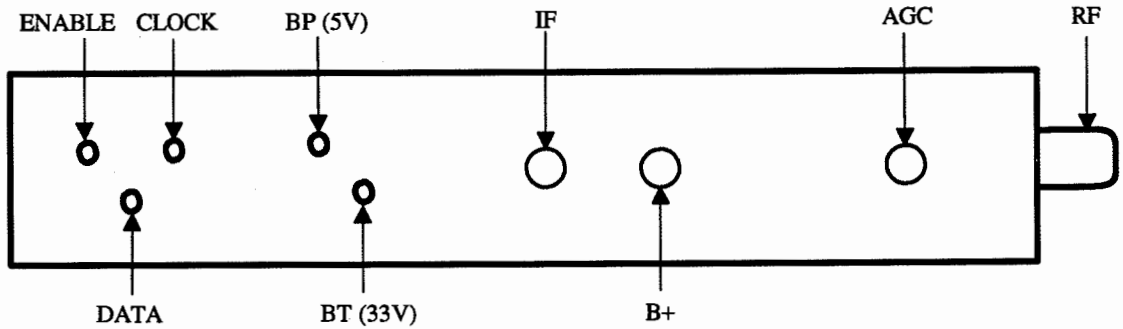


TUNER INFORMATION

TUNER VOLTAGE CHART							
Pin	VHF Low Band	VHF High Band	UHF Band	Pin	VHF Low Band	VHF High Band	UHF Band
ENABLE	0V	0V	0V	BT (33V)	33.0V	33.0V	33.0V
DATA	0V	0V	0V	IF	0V	0V	0V
CLOCK	0V	0V	0V	B+	11.3V	11.3V	11.3V
BP (5V)	4.9V	4.9V	4.9V	AGC	7.2V	7.6V	6.0V

NOTE: Voltages taken with signal.  
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 NOTES

- # For SAFETY use only equivalent replacement part, see parts list.
- ✕ Circuitry not used in some sets.
- Circuitry used in some versions.
- ⏏ Ground
- ⏏ Chassis ground
- ▽ Common tie point
- △ Taken from common tie point
- 11 Schematic Circuittrace
- 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 keyed rainbow generator. 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 no signal.  
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 1/2 W 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.

TROUBLESHOOTING

POWER SUPPLY

Check F801, if open, check D801 thru D804, C801 thru C806, and Q801. Apply 120VAC and check for 162V\* at the cathode of D804. If the voltage is incorrect or missing, check voltages and components associated with L801, L803, and L804. If the receiver does not turn on or off, check standby voltages at the emitter of Q903. Check for 130V at cathode of D810. If voltage is missing, check voltages, waveforms, and components associated with IC801, Q801, and T801. If voltage is present, refer to the "Horizontal" section of this Troubleshooting guide.

\* Taken from common tie point.

HORIZONTAL

Determine if the receiver is in shutdown. If the receiver is in shutdown, refer to "High Voltage Shutdown" section of this Troubleshooting guide. If the receiver is not in shutdown, press the power key. Check for a horizontal drive signal at pin 33 of IC101. If horizontal signal is missing, check the voltages, waveforms, and components associated with pins 28 thru 35 of IC101. Check for a horizontal output signal at the base of Q402. If horizontal signal is missing, check Q401 and T401. If horizontal signal is present, check Q402 and T444. The high voltage rectifier is part of T444 and if defective will effect the operation of the horizontal circuits. Width or foldover problems may be caused by C416 and C417.

HIGH VOLTAGE SHUTDOWN TEST

Apply power and turn the receiver on. Momentarily short test point pin F to test point pin S. The receiver should lose sound and raster. If receiver does not lose sound and raster, the shutdown circuit should be repaired. To restore operation, remove AC power for 30 seconds or more, then apply power and turn the receiver on.

HIGH VOLTAGE SHUTDOWN

NOTE: Care should be taken in defeating the high voltage shutdown circuit as this may cause excessive X-Ray radiation and damage to the CRT and T444. Monitor the high voltage and troubleshoot.

The high voltage is monitored by D405 rectifying the pulses from T444 and applying the rectified voltage to Q404. Should the high voltage increase, the voltage at the cathode of D405 also increases and triggers Q404. This causes the deflection portion of IC101 to shut down the horizontal drive signal at pin 33 of IC101, causing the receiver to lose audio and raster. To troubleshoot, remove D405 from circuit, use a variable power supply for AC voltage. Start at 70VAC and troubleshoot to locate the defect.

Voltages Taken in Shutdown

IC101		Q404	
Pin 30	6.0V	Emitter	.15V
Pin 33	0V	Base	2.8V
		Collector	3.4V

AUDIO

Select an active TV channel and check for a MTS waveform at pin 12 of IC600. If there is no signal, check the voltages and components associated with pin 56 of IC101. Select a station that is transmitting a stereo signal and check for audio waveforms at pins 10 and 11 of IC600. If there is no audio waveforms, check voltages, waveforms, and components associated with IC600. Check for audio waveforms at pins 3 and 10 of IC601. If waveforms are missing, check voltages, waveforms, and components associated with IC601. Check for audio waveforms at pins 7 and 12 of IC602. If waveforms are incorrect or missing, check voltages, waveforms, and components associated with IC602. Check the volume control voltage at pin 4 of IC901 for 0V in mute and 17.0V at maximum volume.

VIDEO

Inject a video signal at the base of Q203. If video is present on the CRT, refer to the "IF AGC" section of this Troubleshooting guide. Check for a video waveform at pin 14 of ICV01. If the waveform is missing, check voltages, waveforms, and components associated with ICV01 and Q203. Check for luminance signal at pin 41 of IC101. If there is no signal, check voltages, waveforms, and components associated with ICV01 and IC200. Check for a luminance signal at the emitter of Q500. If there is no signal, check voltages, waveforms, and components associated with Q500 and IC101. If the brightness is inadequate or cannot be controlled, check the voltages, waveforms, and components associated with pin 37 of IC101 and pin 7 of the CRT.

IF AGC

Inject a video IF signal at the base of Q100 and check for video on the CRT. If video is present, check the tuner and external components associated with the tuner. Check for a video waveform at the base of Q203. If video is present, refer to the "Video" section of this Troubleshooting guide. Apply AGC bias to pin 51 of IC101. If video appears on the CRT, check voltages, waveforms, and components associated with Q100 and Z100. If there is no video, check voltages, waveforms, and components associated with the tuner and IC901.

NOTE: A defective AGC circuit can cause an overloaded picture. See AGC voltage chart for AGC voltages with applied signal.

AGC Voltage Chart

IC101	
Pin 2	5.7V
Pin 51	4.9V

VERTICAL

Inject a vertical signal at pin 2 of IC301. If vertical deflection is present, check voltages, waveforms, and components associated with pin 31 of IC101. If there is still no vertical deflection, check the voltages, waveforms, and components associated with IC301 and the deflection yoke. Vertical linearity or foldover problems may be caused by sweep shaping and bias circuits. Check C356 and C357.

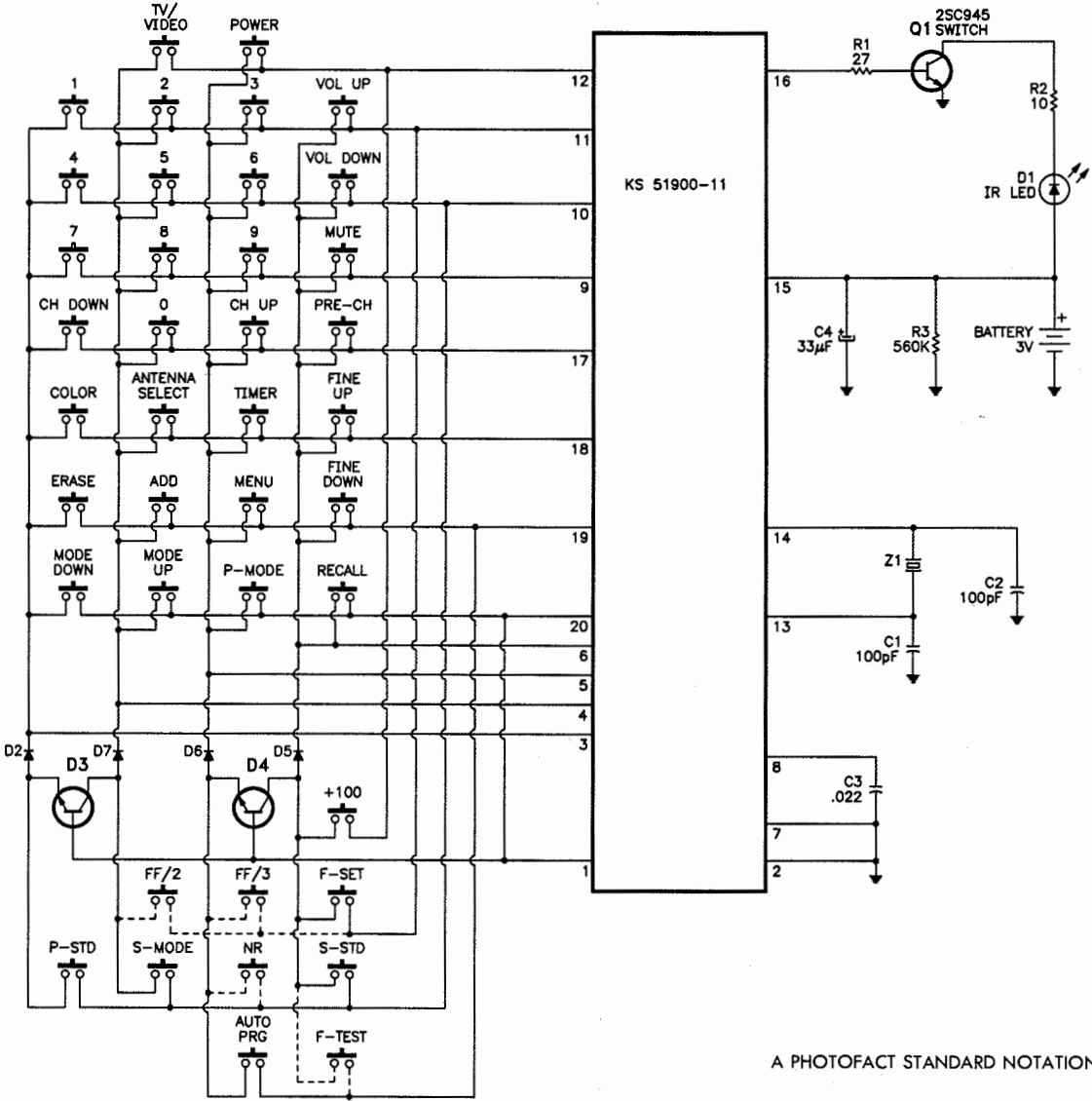
RASTER

Check the CRT and CRT voltages. If red is missing, check the voltages and components associated with pin 23 of IC101, Q702, and Q708. If green is missing, check the voltages and components associated with pin 25 of IC101, Q703, and Q709. If blue is missing, check the voltages and components associated with pin 24 of IC101, Q704, and Q710. If the raster has a keystone shape, check the deflection yoke. If the raster has height or width problems, refer to the "Vertical," "Horizontal," or "Power Supply" sections of this Troubleshooting guide.

CHROMA

Check for a chroma waveform at pin 43 of IC101. If the waveform is missing, check the voltages, waveforms, and components associated with IC200. Check for the proper waveforms at pins 23, 24, and 25 of IC101. If these waveforms are missing, check the voltages, waveforms, and components associated with pins 14 and 16 of IC101. Check the 3.58MHz oscillator at pins 13 and 15 of IC101. Check the voltages and components associated with pin 64 of IC901. If there is inadequate tint range, check the voltages, waveforms, and components associated with pin 63 of IC901. If the proper waveforms are present at pins 23, 24, and 25 of IC101, refer to the "Raster" section of this Troubleshooting guide.

REMOTE TRANSMITTER SCHEMATIC



A PHOTOFAC STANDARD NOTATION SCHEMATIC

## MISCELLANEOUS ADJUSTMENTS

### PRETUNING

Following procedures require an antenna connected and power applied to the receiver.

#### Auto Programming

Press the Auto Program key on remote transmitter.

#### Manual Programming

1. Select the channel to be added or deleted.
2. Press the Add or Erase key on remote transmitter.

NOTE: Ch Up or Ch Down will now select sequential channels for adding or erasing. Repeat for any other channels to be added or erased.

3. Press the Vol Down key or select a channel with the numbered keys to end manual programming.

#### Clock/Timer

1. Press the Menu key on remote transmitter.
2. Press number 1 key.
3. Press number keys to enter month 01-12 then press the Add key.
4. After month is set, enter date, day, hour, and minutes, pressing the Add key after each set of entries, and press number 1 key to toggle AM/PM. When the Add key is pressed to enter AM/PM selection, clock is set and the options menu will leave the screen.
5. Press the Menu key, then number 2 key.
6. Enter timer-on time, select AM or PM, and channel, pressing the Add key after each set of entries.
7. Press the Menu key, then number 3 key. Using same procedure as for setting timer-on time, set the timer-off time.
8. After the timer-on and timer-off settings are made, setting information is cleared from the screen, press the Timer key to show timer condition. Press the Timer key again to change the condition between on and off.

### B+ ADJUSTMENT

Connect a digital DC voltmeter across R845. Adjust VR801 for 125V  $\pm$  5V.

### FOCUS

Adjust focus control for well defined scan lines.

### HIGH VOLTAGE CHECK

B+ adjustment must be checked for correct reading. Tune in a picture, set brightness, contrast, and color to minimum. Connect a high voltage probe to CRT anode. High voltage must not exceed 27KV.

### HORIZONTAL PHASE

Turn receiver on and tune in an active station. Adjust VR402 for best horizontal centering.

### VERTICAL HEIGHT

Tune in a picture. Adjust VR301 for a slight overscan at the top and bottom of the screen.

### RF AGC

Turn receiver on and tune in an active station. Turn VR101 fully clockwise, then counterclockwise to a point where snow just disappears.

### SUB BRIGHTNESS

Tune in a black and white signal. Set contrast to maximum and brightness to midrange level. Connect voltmeter to test points X and Y. Adjust VR202 for 1.4V.

### WHITE BALANCE

Tune in an active station, allow a 10 to 30 minute warm up time. Set color, brightness, contrast, screen control, VR757, VR756, and VR758 controls to minimum. Set VR752 and VR753 controls to midrange. Set SW201 to service position. Advance the screen control until a faint line of one predominant color appears on the screen. Adjust the two remaining cutoff controls for a dim white line. Set SW201 to normal position. Adjust VR752 and VR753 for best black and white picture on screen.

### CONVERGENCE

Connect a color bar generator to the antenna input and tune in a dot pattern. Loosen the screw on retainer. Adjust the 4 pole magnets to converge the red and blue dots at the center of the screen. Adjust the 6 pole magnets to converge the red/blue dots over the green dots at the center of the screen.

NOTE: Rotate the two tabs of each set of magnets equally and opposite to converge vertically and rotate both tabs in the same direction to converge horizontally. The 4 and 6 pole magnets interact, repeat adjustment until center convergence is correct.

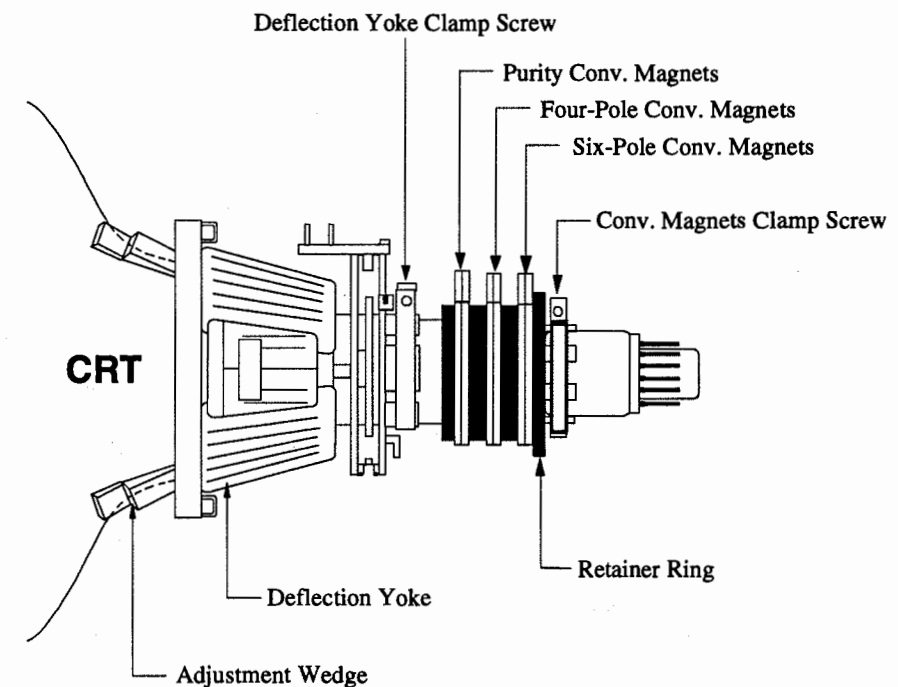
Tune in a crosshatch pattern. Remove the rubber wedges between deflection yoke and the CRT. Loosen the clamp screw. Tilt the deflection yoke up or down to converge the vertical lines at the top and bottom of the screen and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke to the right or left to

converge the horizontal line at the top and bottom of the screen and the vertical line at the right and left sides of the screen. Replace the rubber wedges. Tighten the clamp screw. Tighten the screw on retainer.

### PURITY

NOTE: Operate the set 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. Loosen the screw on retainer. Adjust purity tabs to center the vertical green band. Loosen the clamp screw. Slide the deflection yoke forward to produce a uniform green screen. Tighten the clamp screw. Tighten the screw on retainer.

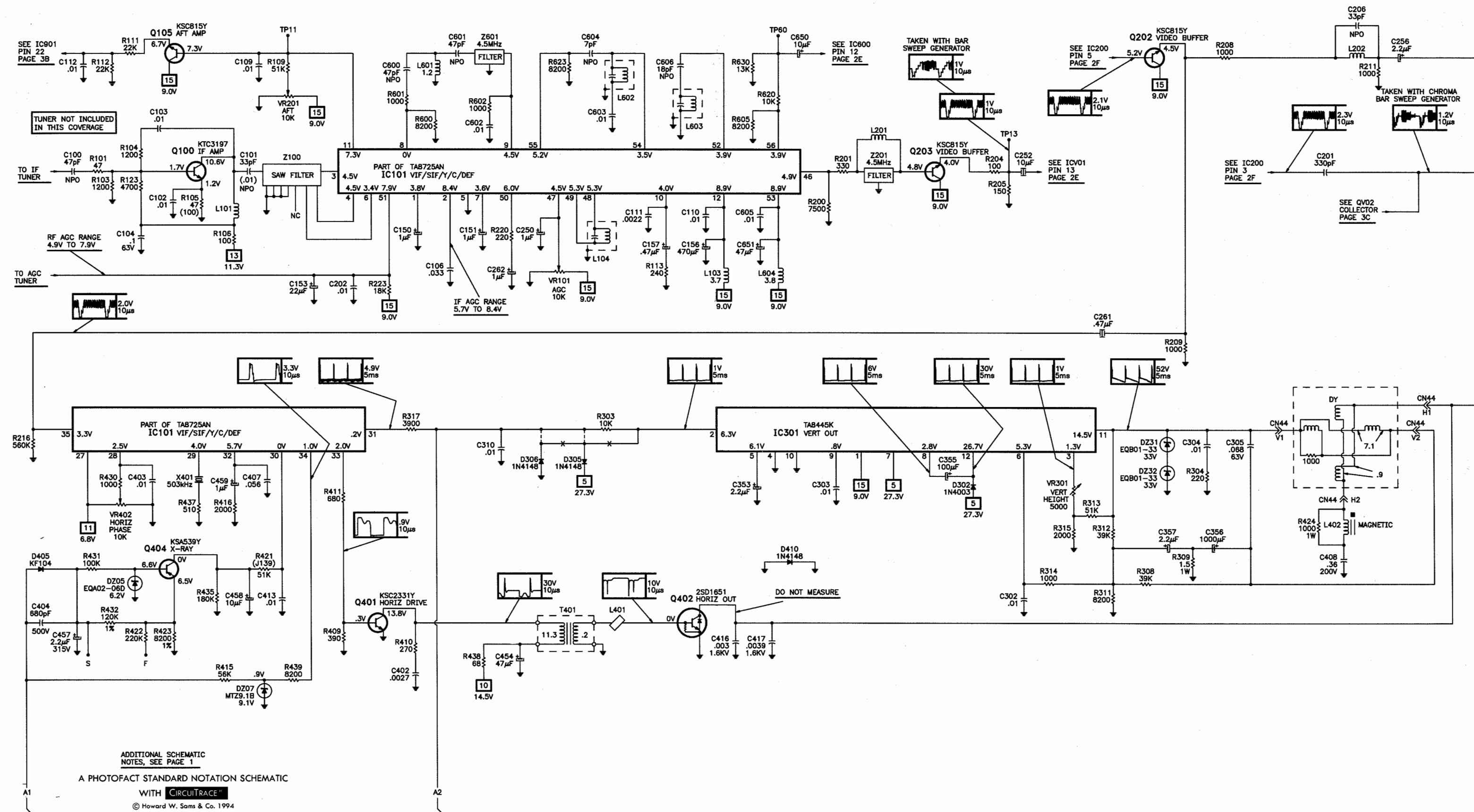
### CRT NECK ASSEMBLY



A

TELEVISION SCHEMATIC

B

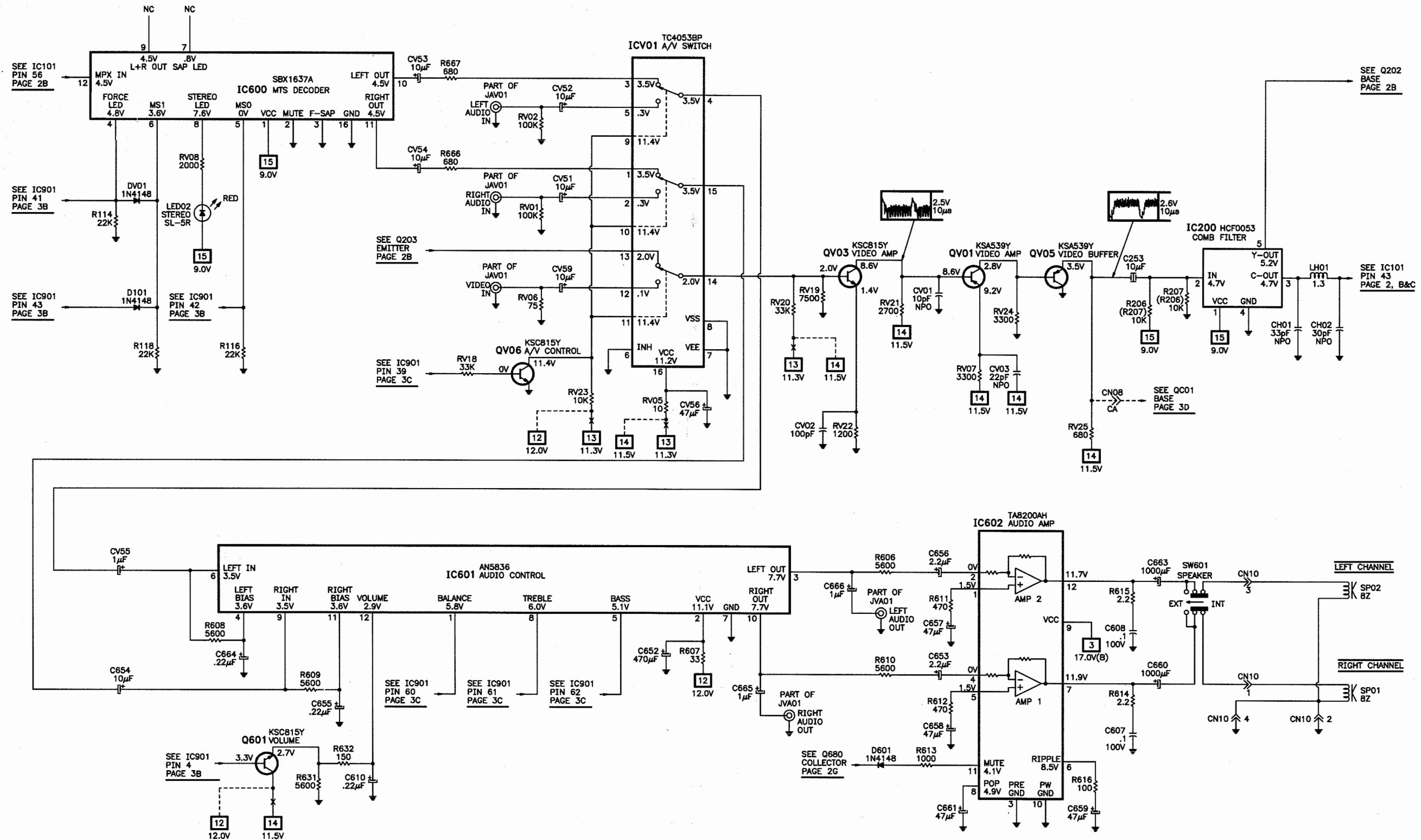




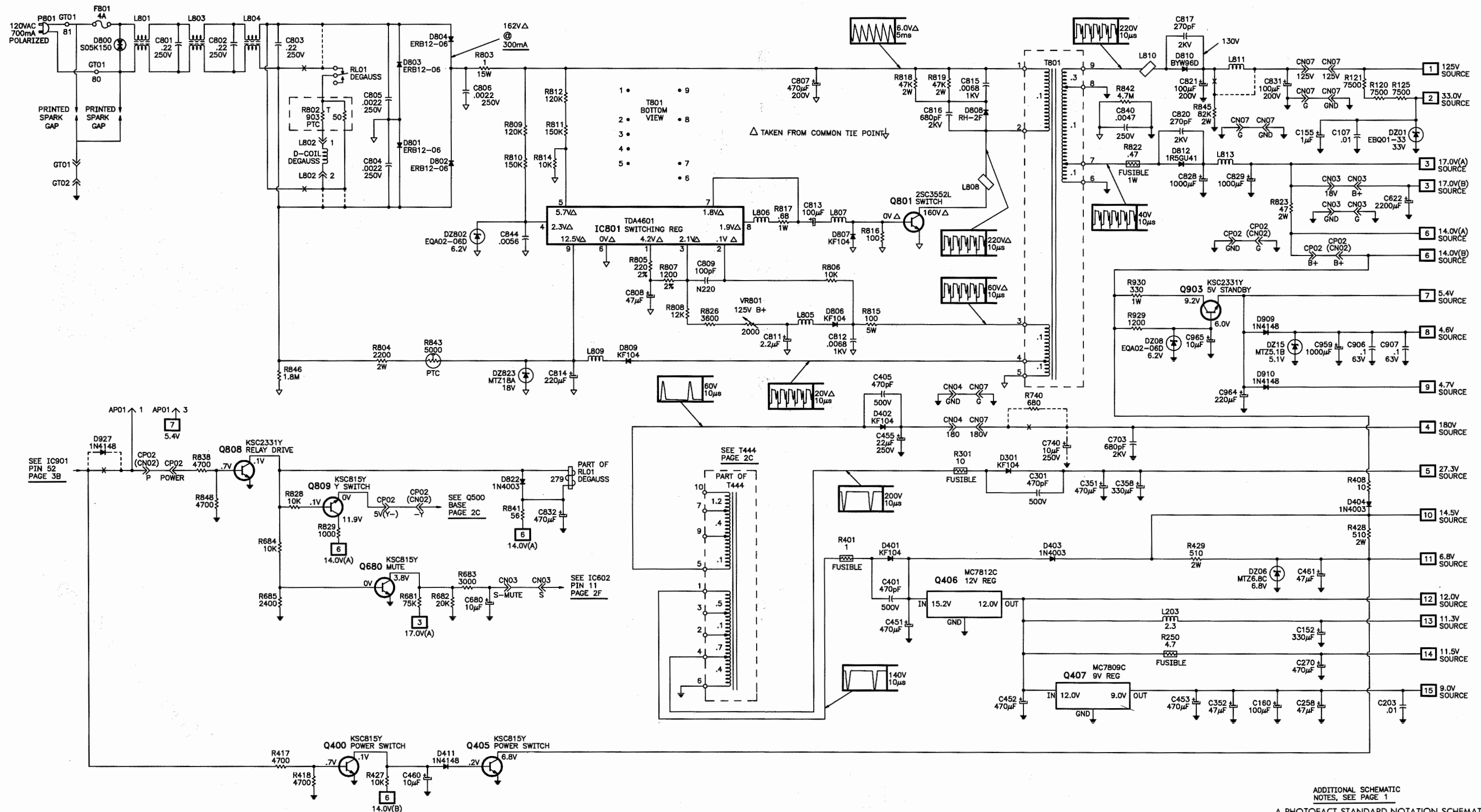
## D



# AUDIO/VIDEO SWITCHING & AUDIO OUTPUT SCHEMATIC



# POWER SUPPLY SCHEMATIC



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MODEL TXB2025/CX (CHASSIS K52MB)

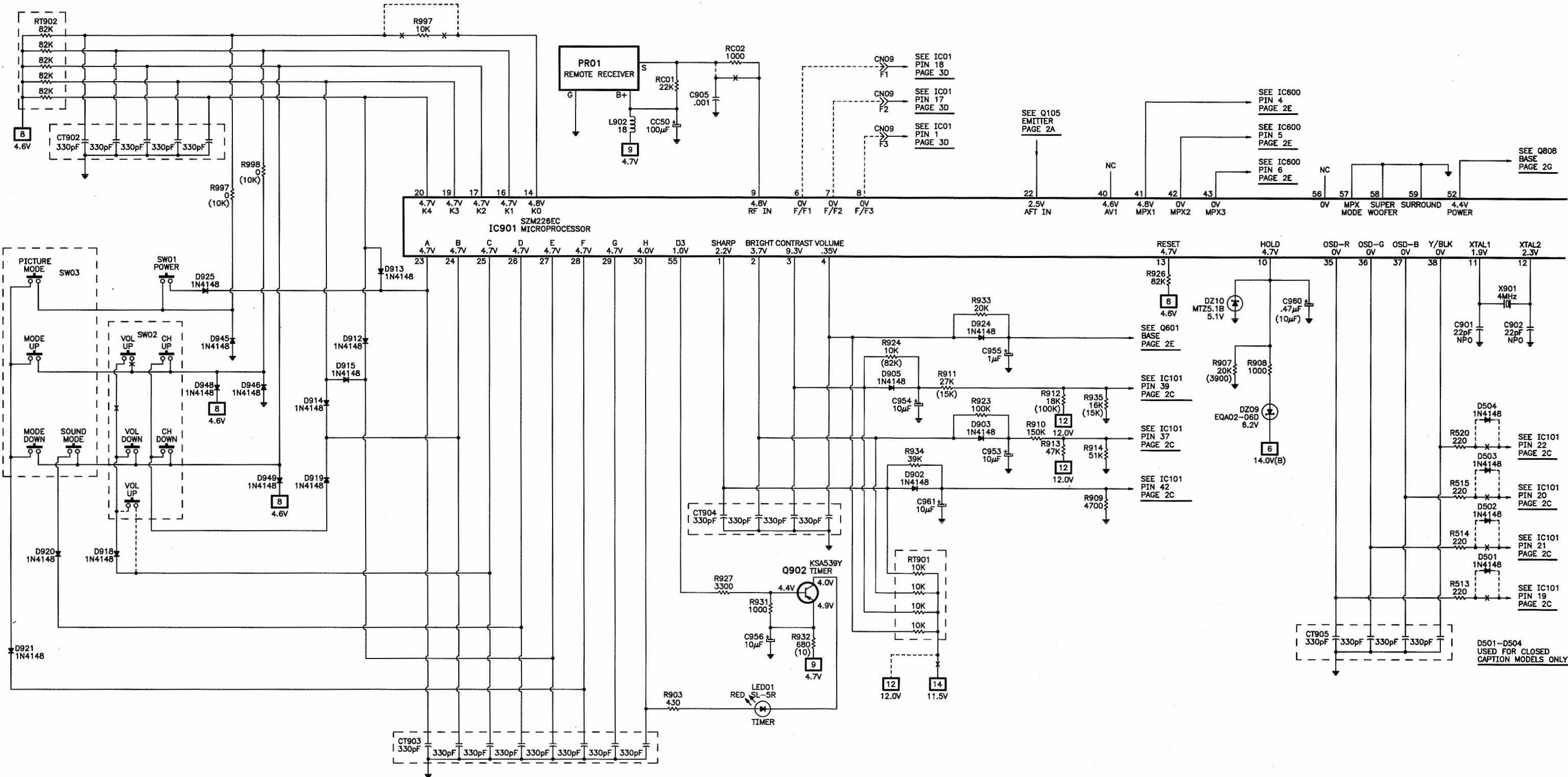
ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 1  
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
WITH CIRCUITTRACE™  
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A

B

SYSTEM CONTROL SCHEMATIC



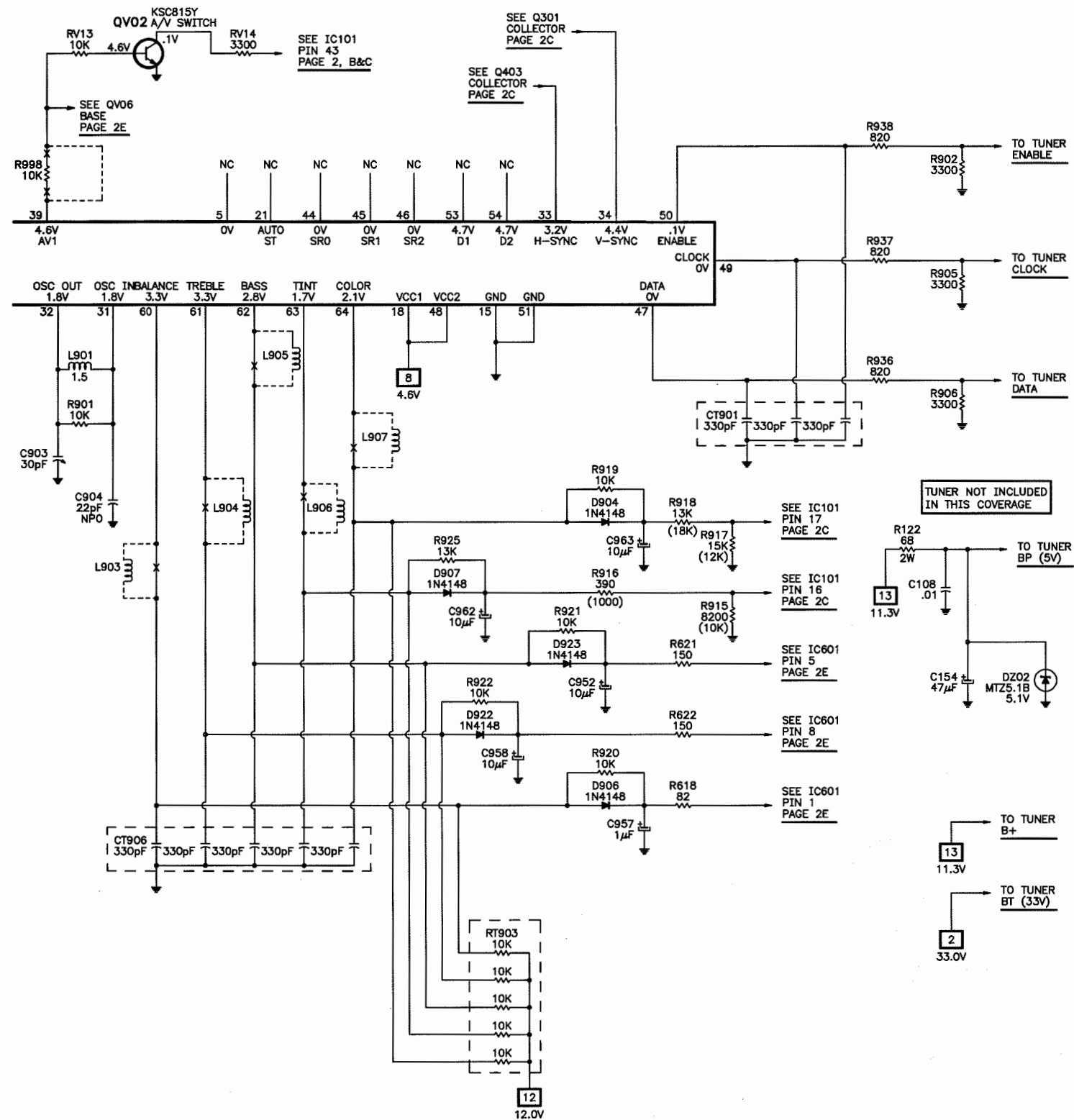
ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 1

A PHOTOFAC STANDARD NOTATION SCHEMATIC

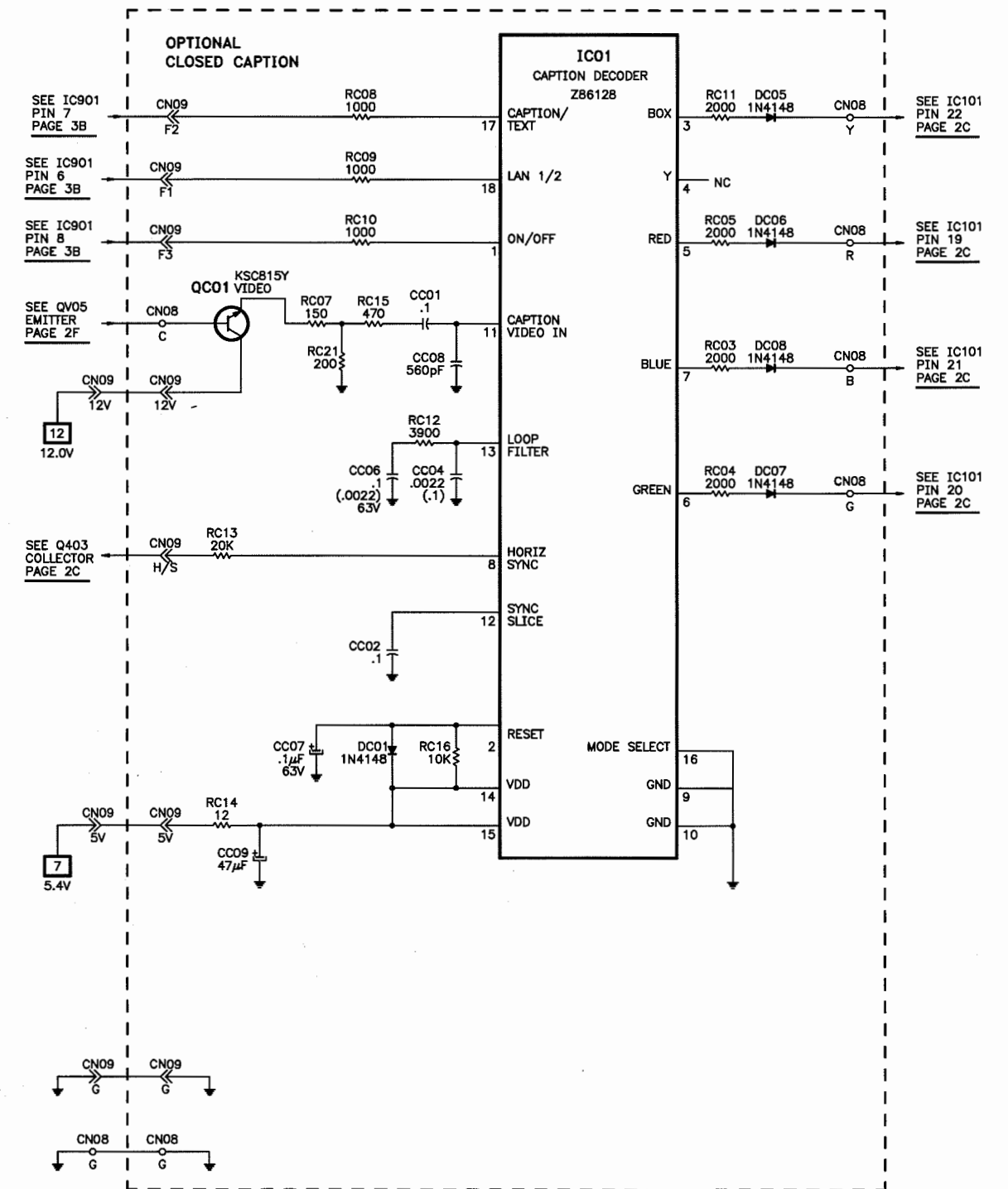
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**C**  
**SYSTEM CONTROL SCHEMATIC** continued



## D CLOSED CAPTION SCHEMATIC



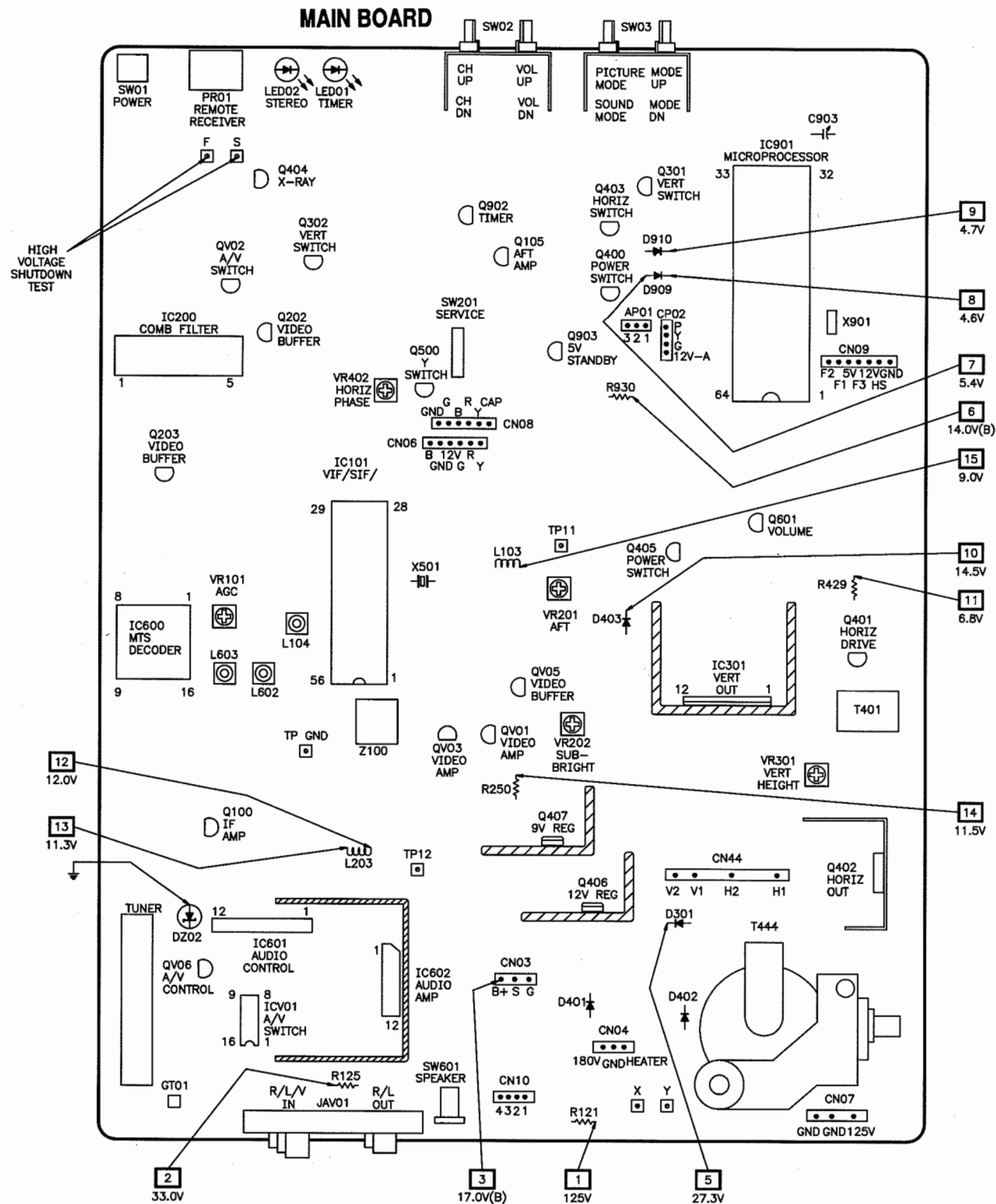
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NOTES, SEE PAGE 1

A PHOTOFAC STANDARD NOTATION SCHEMATIC

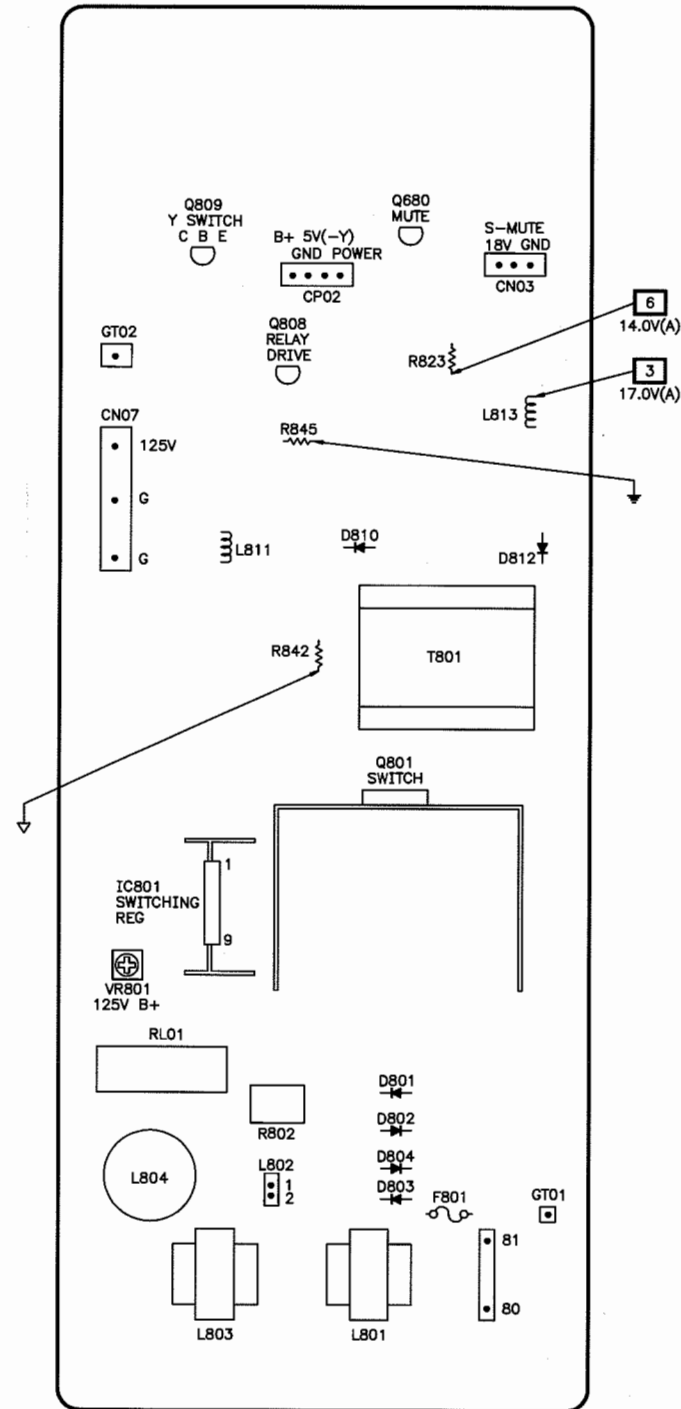
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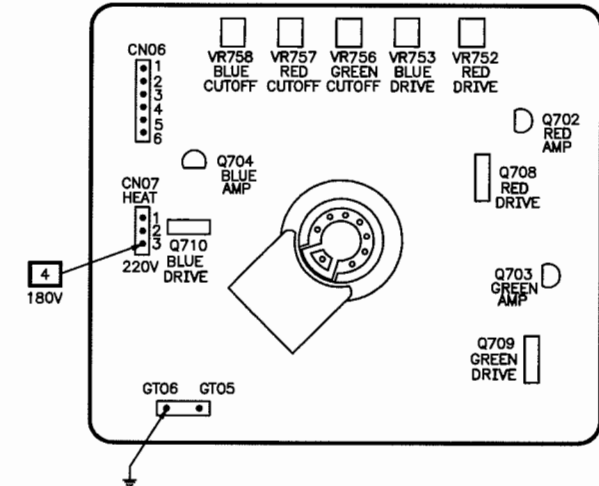
## PLACEMENT CHART



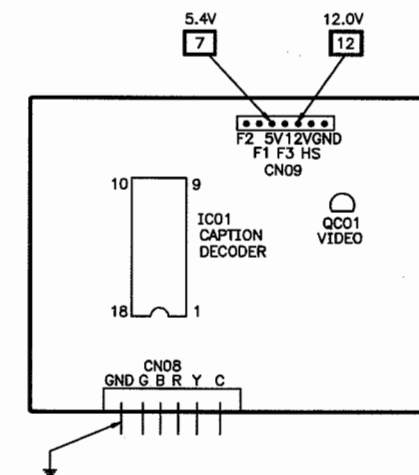
## POWER BOARD



## CRT BOARD

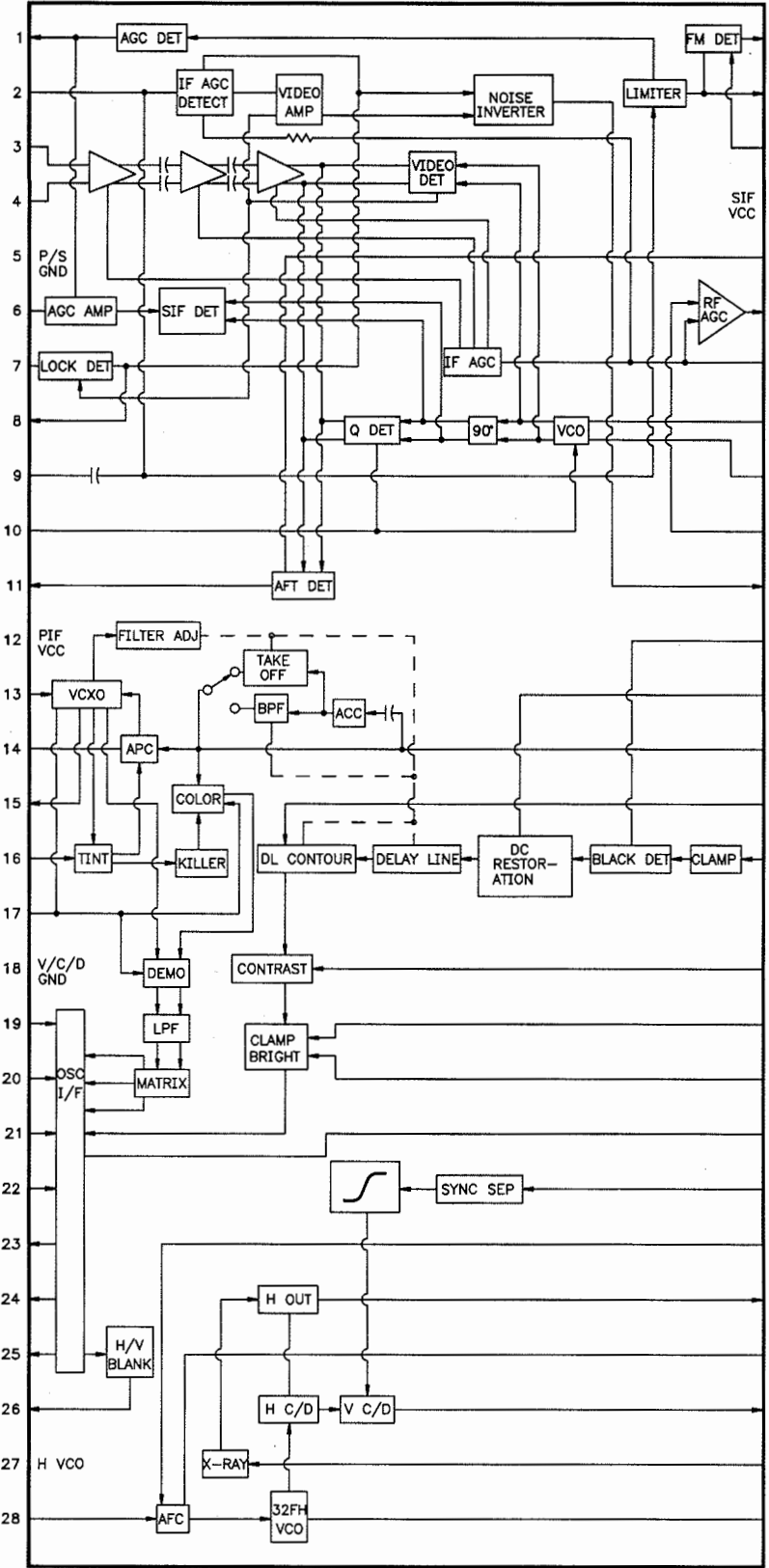


**CLOSED CAPTION BOARD**

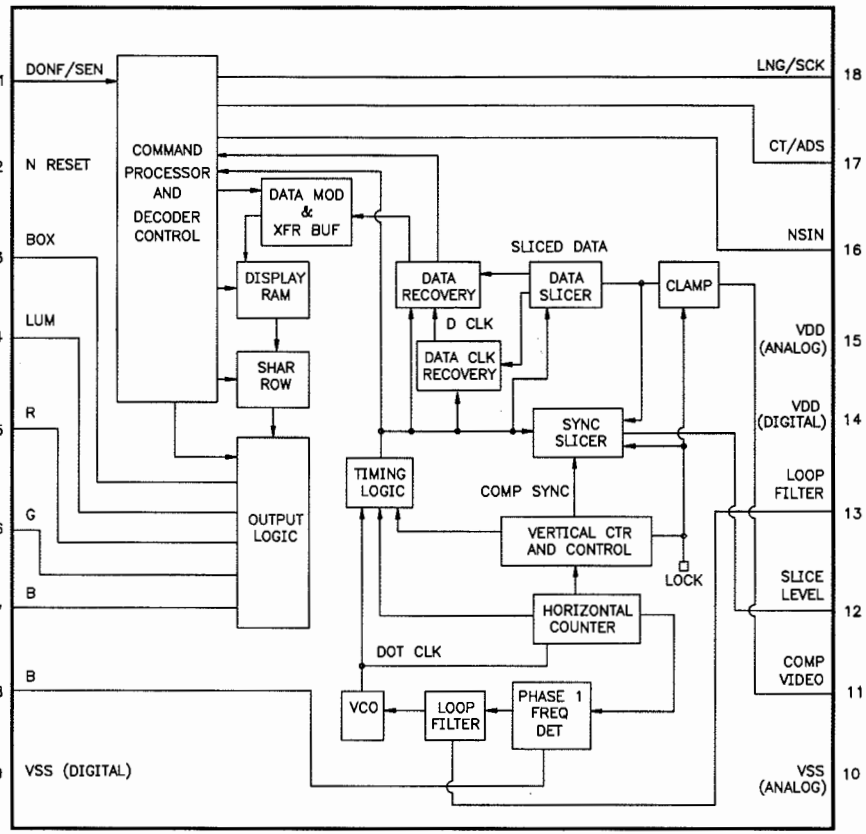


IC FUNCTIONS

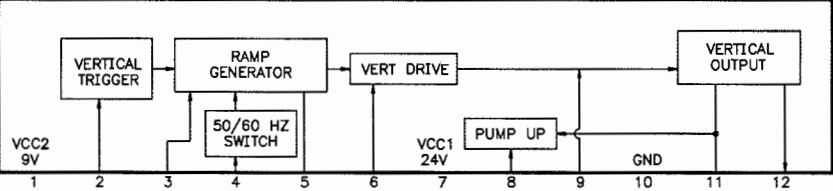
IC101  
TA8725AN



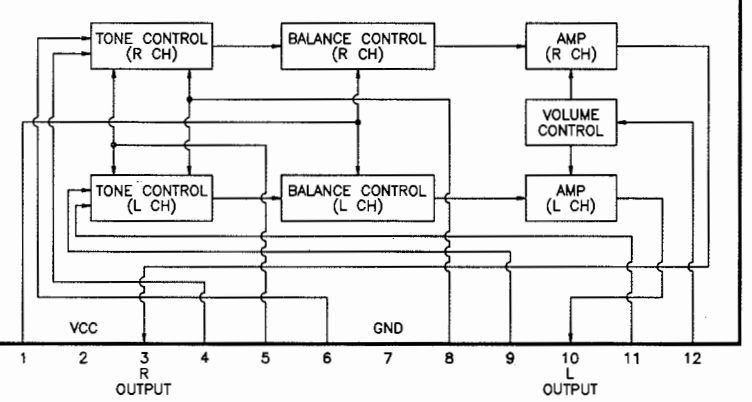
IC01  
Z8612812PSC



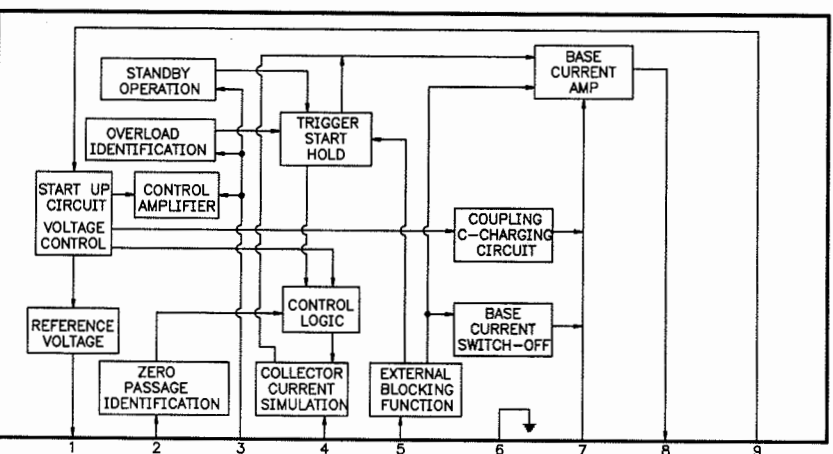
IC301  
TA8445K



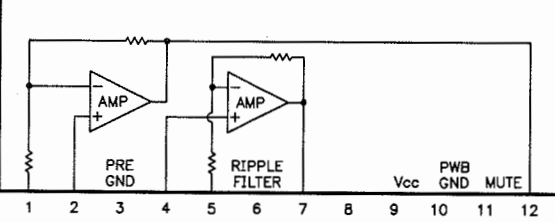
IC601  
AN5836



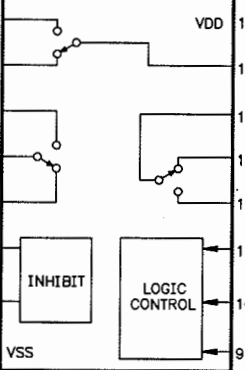
IC801  
TDA4601



IC602  
TA8200AH



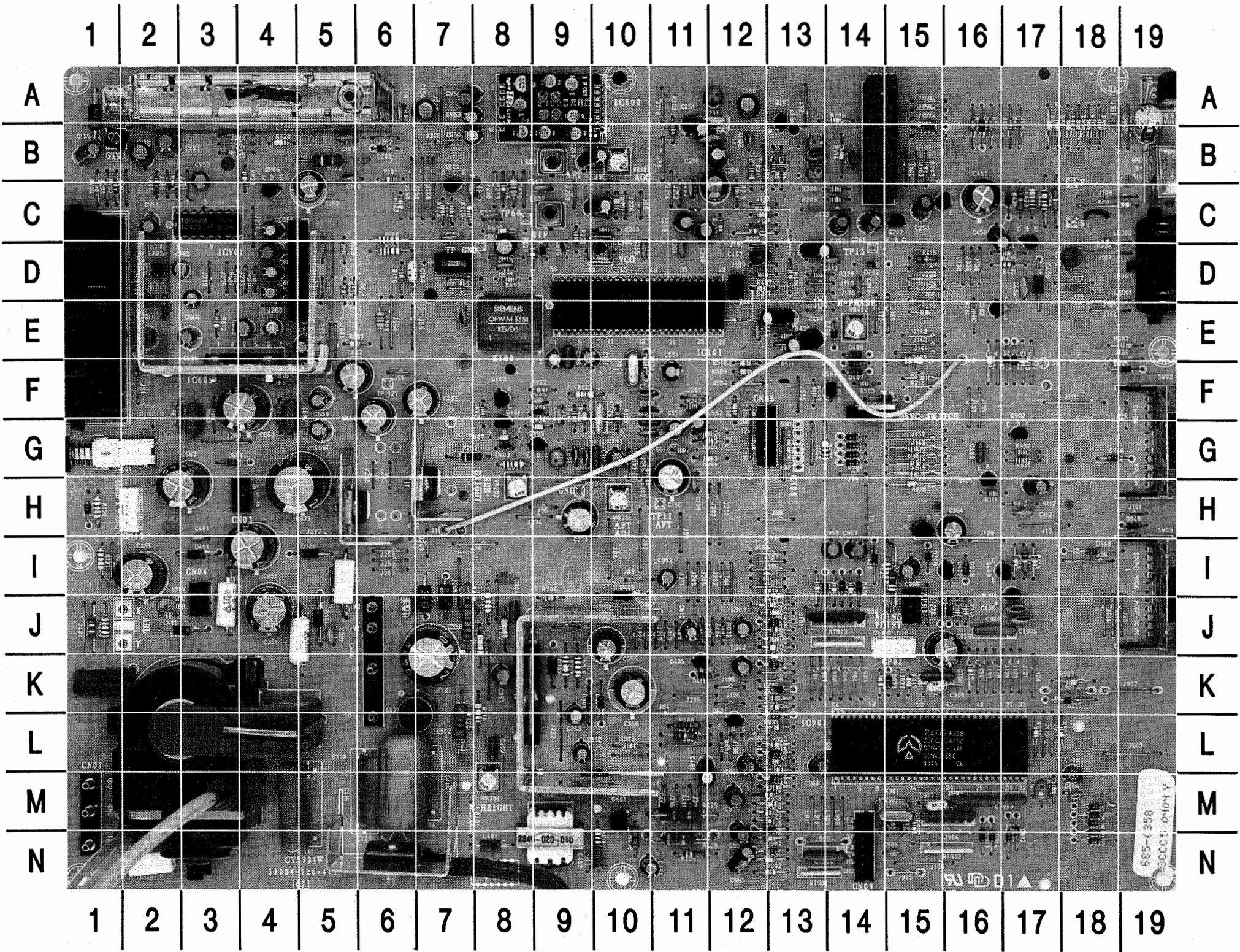
ICV01  
TC4053BP



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MAIN BOARD

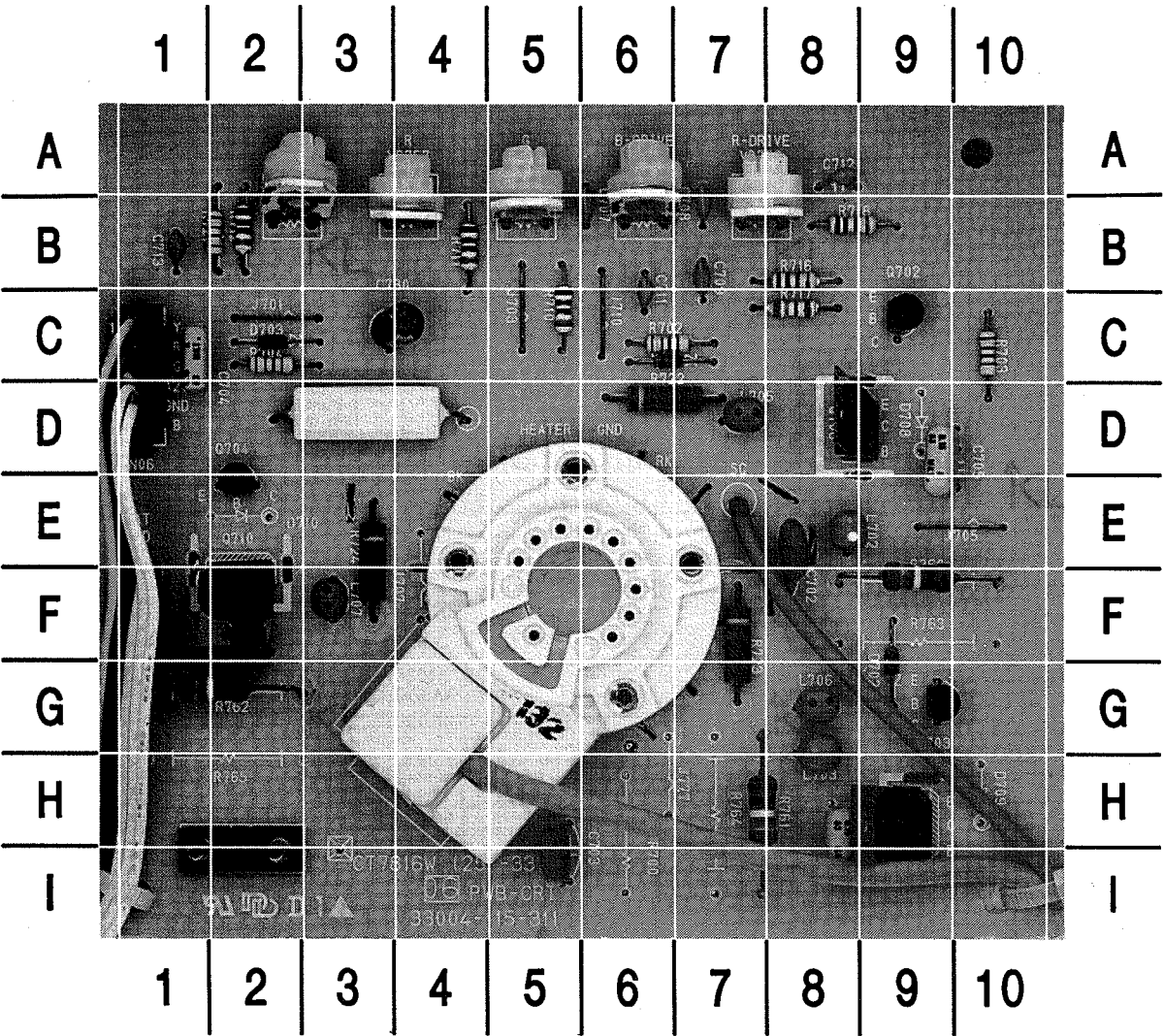




**MAIN BOARD, GRIDTRACE LOCATION GUIDE**

AP01	J-15	C403	E-12	C904	M-18	D402	J-2	H001	A-3	R109	F-10	R413	I-17	R621	D-5	RV08	D-18
C100	B-5	C404	D-17	C905	N-15	D403	J-10	IC101	E-9	R111	H-16	R414	I-17	R622	I-14	RV13	F-17
C101	E-7	C405	J-2	C906	K-15	D404	M-11	IC200	A-14	R112	H-17	R415	D-15	R623	D-8	RV14	B-14
C102	C-8	C406	J-17	C907	M-15	D405	D-17	IC301	L-9	R113	H-9	R416	D-13	R630	C-8	RV18	H-15
C103	C-7	C407	D-12	C908	J-17	D406	F-14	IC600	B-10	R114	B-17	R417	K-15	R631	L-12	RV19	B-3
C104	D-6	C408	M-6	C952	I-11	D407	F-14	IC601	E-5	R116	B-16	R418	K-14	R632	J-12	RV20	B-4
C106	F-9	C409	G-16	C953	N-12	D408	E-14	IC602	E-4	R118	B-16	R420	I-5	R666	D-6	RV21	F-8
C107	B-5	C413	D-14	C954	M-12	D410	H-1	IC901	L-14	R120	H-1	R421	D-17	R667	D-6	RV22	F-9
C108	A-6	C416	M-6	C955	L-12	D411	K-11	ICV01	C-3	R121	I-1	R422	C-17	R901	M-17	RV23	B-4
C109	H-11	C417	M-4	C956	H-17	D415	F-14	JAV01	C-1	R122	B-5	R423	C-17	R902	B-18	RV24	G-9
C110	G-11	C451	I-4	C957	I-14	D420	I-14	L101	D-7	R123	C-6	R424	L-7	R903	L-18	RV25	G-8
C111	G-10	C452	F-6	C958	I-14	D501	G-14	L103	H-10	R125	D-1	R425	F-15	R905	B-17	S	C-18
C112	H-17	C453	F-7	C959	J-16	D502	G-14	L104	D-10	R200	C-10	R426	G-14	R906	B-17	SW01	A-19
C150	F-9	C454	N-11	C960	L-13	D503	G-14	L201	A-12	R201	C-10	R427	L-11	R907	K-13	SW02	F-19
C151	F-9	C455	I-2	C961	N-12	D504	G-14	L202	B-13	R203	B-11	R428	N-11	R908	K-13	SW03	I-19
C152	C-5	C457	C-16	C962	K-12	D601	G-3	L203	E-6	R204	B-13	R429	M-11	R909	N-13	SW201	F-14
C153	B-2	C458	C-16	C963	J-12	D902	N-13	L401	N-8	R205	B-13	R430	E-13	R910	M-13	SW601	G-1
C154	A-7	C459	D-13	C964	H-16	D903	M-13	L402	K-6	R206	A-14	R431	C-17	R911	L-13	T401	N-9
C155	B-1	C460	M-12	C965	I-15	D904	J-1	L601	G-9	R207	B-15	R432	C-17	R912	L-13	T444	L-2
C156	G-11	C461	E-13	CC50	A-19	D905	M-13	L602	C-9	R208	C-14	R435	D-17	R913	M-13	TP11	H-11
C157	G-10	C500	F-10	CH01	B-14	D906	I-14	L603	B-9	R209	C-14	R437	D-12	R914	M-13	VR101	B-10
C160	A-12	C501	G-11	CH02	B-12	D907	K-13	L604	C-8	R210	N-13	R438	N-10	R915	J-13	VR201	H-10
C201	B-12	C502	F-10	CN03	H-4	D908	I-16	L901	M-17	R211	B-12	R439	C-12	R916	J-13	VR202	H-8
C202	C-8	C550	G-11	CN04	I-3	D909	J-15	L902	D-18	R213	E-15	R444	N-2	R917	J-13	VR301	M-8
C203	C-11	C551	F-11	CN06	F-13	D910	J-16	LED01	D-19	R214	E-16	R500	F-10	R918	J-13	VR402	E-14
C204	D-11	C552	G-11	CN07	M-1	D912	N-17	LED02	C-19	R215	C-12	R501	G-11	R919	J-13	X	J-2
C205	K-1	C600	G-9	CN08	G-13	D913	N-16	LH01	B-13	R216	C-12	R503	F-14	R920	I-14	X401	D-12
C206	B-13	C601	G-9	CN09	M-14	D914	N-16	PR01	B-19	R217	F-15	R504	G-12	R921	I-13	X501	F-10
C250	B-9	C602	F-9	CN10	H-2	D915	N-17	Q100	C-7	R219	J-1	R505	G-12	R922	I-14	X901	M-15
C251	B-11	C603	C-9	CN44	J-6	D918	M-18	Q105	H-16	R220	C-9	R506	G-12	R923	M-13	Y	J-2
C252	C-14	C604	D-9	CP02	J-15	D919	M-18	Q202	C-15	R222	C-12	R507	F-13	R924	F-13	Z100	E-8
C253	C-15	C605	D-8	CT901	K-15	D920	M-18	Q203	A-13	R223	C-8	R508	F-12	R925	K-13	Z201	A-12
C255	D-10	C606	D-9	CT902	M-16	D921	M-18	Q301	I-17	R224	J-1	R509	F-12	R926	L-17	Z601	F-10
C256	B-12	C607	F-4	CT903	M-16	D922	I-14	Q302	E-16	R242	F-11	R510	F-12	R927	K-18		
C257	E-13	C608	F-3	CT904	N-14	D923	I-14	Q400	I-16	R250	G-8	R511	E-13	R929	I-15		
C258	C-12	C610	J-11	CT905	J-17	D924	L-13	Q401	M-10	R301	J-5	R513	G-15	R930	I-15		
C259	C-11	C622	H-4	CT906	J-14	D925	N-18	Q402	N-6	R303	L-10	R514	G-15	R931	G-17		
C260	C-11	C650	B-7	CV01	F-9	D927	K-15	Q403	I-17	R304	J-9	R515	G-15	R932	G-17		
C261	C-14	C651	D-8	CV02	F-9	D945	F-19	Q404	C-17	R308	J-8	R520	G-15	R933	L-13		
C262	C-10	C652	F-5	CV03	G-8	D946	G-18	Q405	K-11	R309	J-7	R600	F-9	R934	N-13		
C270	H-9	C653	E-4	CV51	C-2	D948	I-18	Q406	H-6	R311	J-8	R601	F-9	R935	L-13		
C301	J-5	C654	D-4	CV52	D-2	D949	H-19	Q407	H-7	R312	J-8	R602	F-9	R936	B-18		
C302	L-8	C655	C-4	CV53	A-7	DV01	B-15	Q500	F-14	R313	K-9	R605	D-8	R937	B-18		
C303	K-8	C656	E-4	CV54	A-7	DZ01	A-1	Q601	L-12	R314	L-8	R606	D-4	R938	B-18		
C304	J-8	C657	E-5	CV55	D-4	DZ02	B-6	Q902	G-17	R315	K-9	R607	E-5	R997	M-15		
C305	J-6	C658	E-3	CV56	B-2	DZ05	C-17	Q903	H-15	R317	D-12	R608	D-5	R998	K-16		
C310	D-14	C659	F-5	CV59	B-3	DZ06	E-14	QV01	G-8	R318	J-16	R609	D-5	RC01	C-19		
C351	J-4	C660	F-4	D101	B-16	DZ07	D-14	QV02	C-16	R319	I-17	R610	D-3	RC02	E-19		
C352	L-9	C661	G-5	D201	I-5	DZ08	I-15	QV03	F-8	R320	D-13	R611	F-5	RT901	N-13		
C353	L-9	C663	H-2	D202	F-17	DZ09	K-13	QV05	G-9	R321	F-16	R612	E-3	RT902	N-15		
C355	J-10	C664	D-4	D204	F-17	DZ10	L-13	QV06	C-4	R401	J-3	R613	F-3	RT903	J-14		
C356	K-7	C665	D-3	D301	J-5	DZ15	K-18	R101	B-6	R408	L-11	R614	F-4	RV01	C-2		
C357	K-8	C666	D-3	D302	K-9	DZ31	J-7	R103	C-7	R409	N-11	R615	F-3	RV02	C-1		
C358	K-10	C901	M-15	D305	K-9	DZ32	J-7	R104	C-7	R410	N-10	R616	F-4	RV05	C-2		
C401	I-3	C902	M-15	D306	K-10	F	C-18	R105	C-7	R411	M-11	R618	I-13	RV06	C-1		
C402	N-10	C903	M-18	D401	I-3	GT01	B-1	R106	D-6	R412	J-16	R620	D-9	RV07	G-8		

CRT BOARD

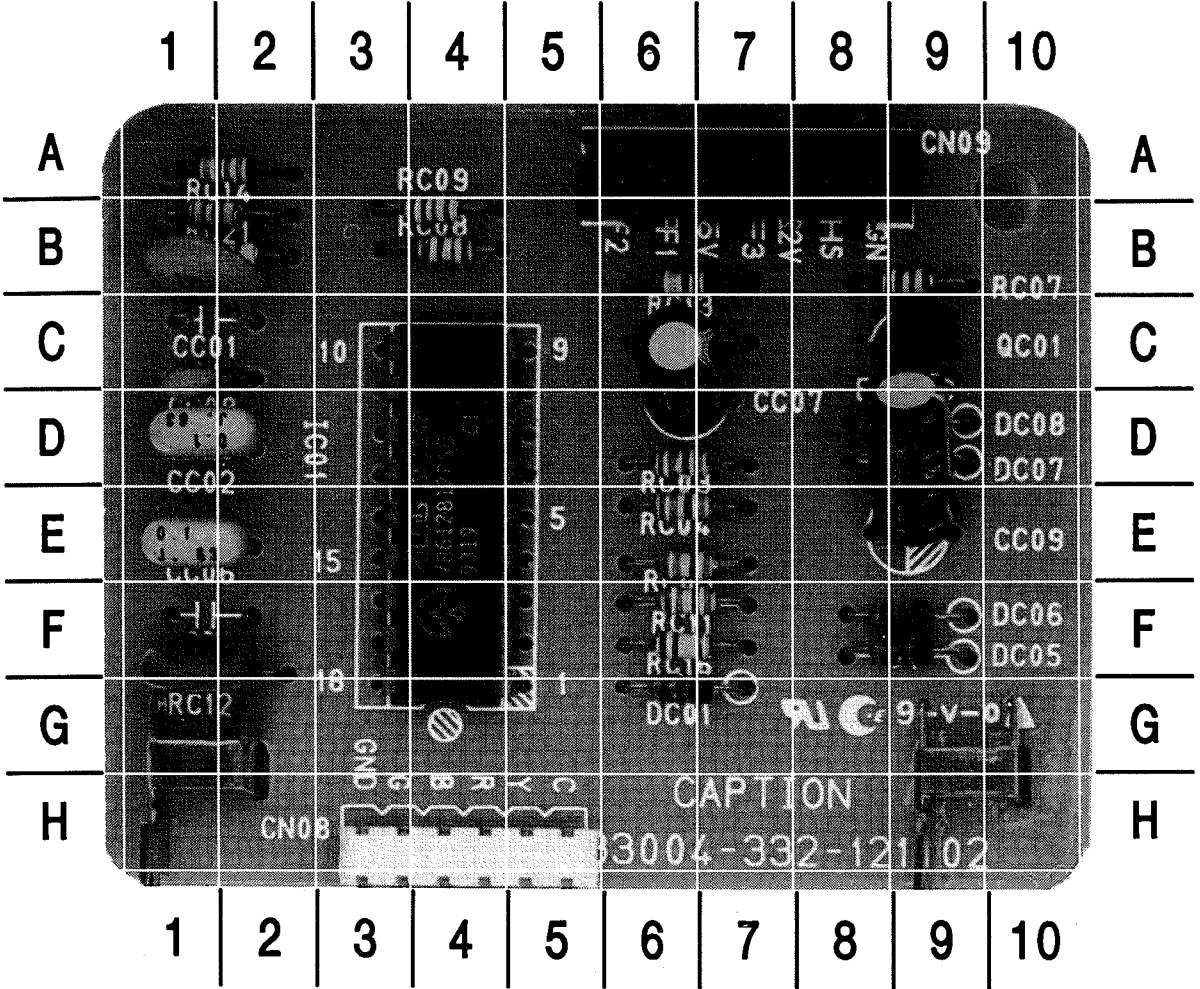


A HOWARD W. SAMS GRIDTRACE™ PHOTO

CRT BOARD, GRIDTRACE LOCATION GUIDE

C702	E-8	C773	H-8	L705	D-7	R704	C-2	R724	E-3
C703	I-5	CN06	C-1	L706	G-8	R710	C-5	R760	F-9
C704	C-1	CN07	F-1	L707	F-3	R711	B-4	R761	H-7
C705	D-9	D701	C-6	Q702	C-9	R712	B-2	R762	G-2
C707	B-6	D702	F-9	Q703	G-9	R716	B-8	VR752	A-7
C708	B-7	D703	C-2	Q704	D-2	R717	C-8	VR753	A-6
C709	B-7	GT05	I-2	Q708	D-8	R718	B-8	VR756	A-5
C711	C-6	GT06	I-1	Q709	H-9	R720	D-3	VR757	A-4
C712	A-8	L702	E-8	Q710	F-2	R721	B-2	VR758	A-2
C713	B-1	L703	H-8	R702	C-6	R722	D-6		
C730	C-4	L704	F-2	R703	C-10	R723	F-7		

CLOSED CAPTION BOARD

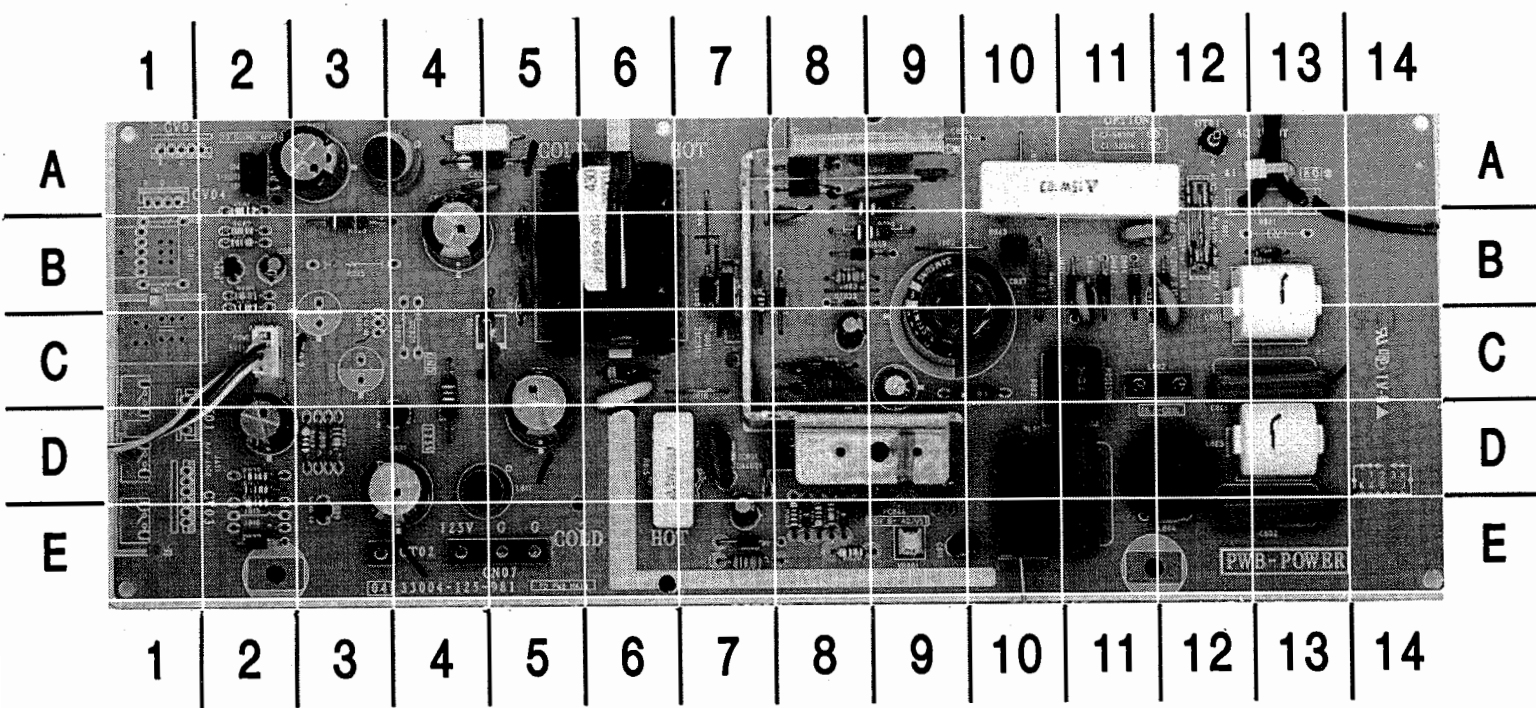


A HOWARD W. SAMS GRIDTRACE™ PHOTO

CLOSED CAPTION BOARD, GRIDTRACE LOCATION GUIDE

CC01	B-1	CC09	E-9	DC07	D-9	RC05	E-6	RC12	G-1
CC02	D-1	CN08	H-3	DC08	D-9	RC07	B-9	RC13	B-6
CC04	F-1	CN09	A-6	IC01	G-5	RC08	B-4	RC14	A-2
CC06	E-1	DC01	G-6	QC01	C-9	RC09	B-4	RC15	B-1
CC07	D-6	DC05	F-9	RC03	D-6	RC10	C-6	RC16	F-6
CC08	C-1	DC06	F-9	RC04	E-6	RC11	F-6	RC21	B-1

POWER BOARD



A HOWARD W. SAMS GRIDTRACE™ PHOTO

POWER BOARD, GRIDTRACE LOCATION GUIDE

C680	B-2	C829	A-3	DZ802	D-9	Q808	D-4	R816	B-7
C801	C-13	C831	D-4	DZ823	B-8	Q809	E-3	R817	C-8
C802	E-13	C832	D-2	F801	A-12	R681	A-2	R818	A-9
C803	D-11	C840	C-6	GT01	A-12	R682	B-2	R819	B-9
C804	B-11	C844	E-9	GT02	E-3	R683	B-2	R822	A-4
C805	B-12	CN03	A-2	IC801	D-8	R684	B-2	R823	B-3
C806	B-11	CN07	E-4	L801	B-13	R685	B-2	R826	E-8
C807	B-10	CP02	C-2	L802	C-11	R802	C-11	R828	D-3
C808	E-7	D800	B-13	L803	D-13	R803	A-11	R829	D-2
C809	D-8	D801	B-11	L804	D-12	R804	B-10	R838	E-2
C811	E-9	D802	B-11	L805	E-7	R805	E-8	R841	D-2
C812	D-7	D803	B-11	L806	D-8	R806	E-8	R842	C-6
C813	C-8	D804	B-12	L807	C-8	R807	E-8	R843	B-10
C814	C-9	D806	E-7	L808	B-9	R808	E-8	R845	C-4
C815	A-9	D807	B-8	L809	B-8	R809	D-9	R846	C-10
C816	B-8	D808	A-8	L810	B-5	R810	E-8	R848	D-3
C817	B-5	D809	B-8	L811	D-4	R811	D-9	RL01	D-10
C820	A-4	D810	C-5	L813	A-3	R812	D-9	T801	B-6
C821	C-5	D812	A-5	Q680	B-2	R814	D-9	VR801	E-9
C828	B-4	D822	E-2	Q801	B-7	R815	D-6		

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	PR57
Generators		Capacitance Analyzer	LC101, LC102
RGB	CM2000	CRT Analyzer	CR70
Multiburst Signal	VG91	AC Leakage Tester	PR57
Color Bar	VG91	Inductance Analyzer	LC101, LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	TV Stereo Power Monitor	SR68, PA81
Frequency Meter	SC3100	Field Strength Meter	SL750
Hi-Voltage Probe	HP200	Transistor Tester	TF46
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

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) | ▪ PTS Electronics Corporation (PTS)            |
| ▪ NTE Electronics, Inc. (NTE)                  | ▪ Sencore, Inc.                                |
| ▪ Philips ECG Company (ECG)                    | ▪ Thomson Consumer Electronics, Inc. (SK, TCE) |

SAMSUNG

MODEL TXB2025/CX (CHASSIS K52MB)

PARTS LIST

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
D101, 02	1N4148	32167-406-480	NTE519	ECG519	SK3100
D201	1N4003	32167-201-070	NTE116	ECG116	SK3113
D202	1N4148	32167-406-480	NTE519	ECG519	SK3100
D204	EQA02-06D	32167-408-080	NTE5013A	ECG5013A	SK6A2
D209 (1)	1N4003	32167-201-070	NTE116	ECG116	SK3113
D212 (1)	1N4148	32167-406-480	NTE519	ECG519	SK3100
D301	TVR10G	32167-201-170	NTE552	ECG552	SK9000
D302	1N4003	32167-201-070	NTE116	ECG116	SK3113
D305, 06	1N4148	32167-406-480	NTE519	ECG519	SK3100
D401	TVR10G	32167-201-170	NTE552	ECG552	SK9000
D402	KF104	32167-201-110	-	-	-
	TVR10G	32167-201-170	NTE552	ECG552	SK9000
D403, 04	1N4003	32167-201-070	NTE116	ECG116	SK3113
D405	KF104	32167-201-110	-	-	-
D406 Thru					
D408	1N4148	32167-406-480	NTE519	ECG519	SK3100
D410, 11	1N4148	32167-406-480	NTE519	ECG519	SK3100
D415, 20	1N4148	32167-406-480	NTE519	ECG519	SK3100
D501 Thru					
D504	1N4148	32167-406-480	NTE519	ECG519	SK3100
D601	1N4148	32167-406-480	NTE519	ECG519	SK3100
D701 Thru					
D703	1N4148	32167-406-480	NTE519	ECG519	SK3100
D800	S05K150	-	NTE1V150	ECG1V150	SKMV150H
	SI0V-S05K150	32189-106-120	NTE1V150	ECG1V150	SKMV150H
D801 Thru					
D804	ERB12-06	32167-208-580	NTE125	ECG125	SK3081
D806, 07	KF104	32167-201-110	-	-	-
	TVR06G	-	NTE116	ECG116	SK3313
D808	RH-2F	-	NTE558	ECG558	SK3998
	RH10FV1	32167-301-670	-	-	-
D809	KF104	32167-201-110	-	-	-
	TVR06G	-	NTE116	ECG116	SK3313
D810	BYW96D	32167-501-030	-	-	SK5040
	BYT77	32167-501-030	-	-	SK5040
	BY299	-	NTE506	ECG506	SK3925
D812	1R5GU41	32167-207-120	-	-	-
D822	1N4003	32167-201-070	NTE116	ECG116	SK3113
D902 Thru					
D910	1N4148	32167-406-480	NTE519	ECG519	SK3100
D912 Thru					
D915	1N4148	32167-406-480	NTE519	ECG519	SK3100
D918 Thru					
D925	1N4148	32167-406-480	NTE519	ECG519	SK3100
D926 (1)	1N4148	32167-406-480	NTE519	ECG519	SK3100
D927	1N4148	32167-406-480	NTE519	ECG519	SK3100
D945, 46	1N4148	32167-406-480	NTE519	ECG519	SK3100
D948, 49	1N4148	32167-406-480	NTE519	ECG519	SK3100
DC01	1N4148	32167-406-480	NTE519	ECG519	SK3100
DC05 Thru					
DC08	1N4148	32167-406-480	NTE519	ECG519	SK3100

(1) Used in some versions.

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
DV01	1N4148	32167-406-480	NTE519	ECG519	SK3100
DZ01	EQB01-33	32167-403-850	NTE147A	ECG147A	SK33V
DZ02	MTZ5.1B	32167-406-080	NTE5010A	ECG5010A	SK5A1
DZ05	EQA02-06D	32167-408-080	NTE5013A	ECG5013A	SK6A2
	MTZ6.2B	32167-408-080	NTE5013A	ECG5013A	SK6A2
DZ06	MTZ6.8C	32167-441-011	NTE5014A	ECG5014A	SK6A8
DZ07	MTZ9.1B	32167-406-130	NTE5018A	ECG5018A	SK9A1
DZ08	EQA02-06D	32167-408-080	NTE5013A	ECG5013A	SK6A2
	MTZ6.2B	32167-408-080	NTE5013A	ECG5013A	SK6A2
DZ09	EQA02-06D	32167-408-080	NTE5013A	ECG5013A	SK6A2
	MTZ6.2B	32167-408-080	NTE5013A	ECG5013A	SK6A2
DZ10	MTZ5.1B	32167-406-080	NTE5010A	ECG5010A	SK5A1
DZ15	MTZ5.1B	32167-406-080	NTE5010A	ECG5010A	SK5A1
DZ31, 32	EQB01-33	32167-403-850	NTE147A	ECG147A	SK33V
DZ802	EQA02-06D	32167-408-080	NTE5013A	ECG5013A	SK6A2
	MTZ6.2B	32167-408-080	NTE5013A	ECG5013A	SK6A2
DZ823	MTZ18A	32167-406-190	-	-	-
IC01	Z8612812PSC	32109-110-086	-	-	-
IC101	TA8725AN	32119-710-019	-	-	-
IC200	HCF0053	32199-500-000	-	-	-
IC301	TA8445K	32119-110-010	-	-	-
IC600	SBX1637A	32199-411-090	-	-	-
IC601	AN5836	32119-102-730	NTE1780	ECG1780	SK9731
IC602	TA8200AH	32119-201-190	NTE7068	ECG7068	-
IC801	TDA4601	32119-401-010	NTE7002	ECG7002	SK10471
IC901	SZM226EC	-	-	-	-
ICV01	TC4053BP	32119-201-310	NTE4053B	ECG4053B	SK4053B
LED01, 02	SL-5R	32309-110-230	-	-	-
	DL-ILR	32309-110-230	-	-	-
Q100	KTC3197-AT	32137-301-080	NTE107	ECG107	SK3293
	2SC388A	-	NTE107	ECG107	SK3293
Q105	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
Q202, 03	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
Q301, 02	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
Q400	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
Q401	KSC2331-Y	32137-301-560	NTE24	ECG24	SK3849
Q402	2SD1651YD	32159-210-003	NTE2331	ECG2331	SK9422
	2SD1555	-	NTE2331	ECG2331	SK9422
Q403	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
Q404	KSA539-Y	32137-401-530	NTE159	ECG159	SK3466
Q405	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
Q406	MC7812C	32117-901-110	NTE966	ECG966	SK3592
Q407	MC7809C	32117-401-120	-	-	-
Q500	KSA642-O	32137-103-430	NTE159	ECG159	SK3466
Q601, 80	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
Q702 Thru					
Q704	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
Q708 Thru					
Q710	2SC2068	-	NTE376	ECG376	SK3219
	KTC2068	32139-410-006	NTE376	ECG376	SK3219
Q801	2SC3552L	32149-301-010	NTE2348	ECG2348	-
Q808	KSC2331-Y	32137-301-560	NTE24	ECG24	SK3849
Q809	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854



PARTS LIST continued

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
Q902	KSA539-Y	32137-401-530	NTE159	ECG159	SK3466
Q903	KSC2331-Y	32137-301-560	NTE24	ECG24	SK3849
QC01	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
QV01	KSA539-Y	32137-401-530	NTE159	ECG159	SK3466
QV02, 03	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854
QV05	KSA539-Y	32137-401-530	NTE159	ECG159	SK3466
QV06	KSC815-Y	32137-301-720	NTE123AP	ECG123AP	SK3854

CABINET PARTS

Item	Mfr. Part No.
Cabinet Front	36001-690-010
Cabinet Rear	36001-691-010
Door	37642-140-331
Grille, Speaker	37713-232-310
Knob, Power	37623-160-030
Window, Left	37653-126-610
Window, Right	37653-126-520



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employees of Howard W. Sams  
& Company.

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M. Herkless, J. Kocha,  
J. Limp, F. Malek, B. Medaris,  
R. Raus, B. Skinner, J. Young*

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
R219	133K 1% 1/2W	31047-351-333	-
R250	4.7 5% 1/4W Fusible	31059-001-010	-
R301	10 5% 1/2W Fusible	31059-002-100	-
R401	1 5% 1/2W Fusible	31059-002-010	-
R420	3.3 5% 1/2W Fusible	31059-002-020	-
R423	8200 1% 1/4W	31049-307-080	-
R432	120K 1% 1/4W	31049-275-124	-
R444	.47 10% 1W Fusible	31059-428-047	-
R720	1.9 5% 2W Fusible	31059-004-019	-
R802	903/50 PTC Cold	32189-609-360	-
R803	1 5% 15W Wirewound	31039-887-109	-
R805	220 2% 1/4W	31049-276-221	QW122
R807	1200 2% 1/4W	31018-276-122	QW212
R815	100 5% 5W Wirewound	31039-567-101	5W110
R822	.47 10% 1W Fusible	31059-428-047	-
R843	5000 PTC Cold	32189-102-030	-
RT901	10K 5% X 4 Network	31062-205-103	-
RT902	82K 5% X 5 Network	31062-206-823	-
RT903	10K 5% X 4 Network	31062-206-103	-
VR101	10K AGC	31249-128-001	-
VR201	10K AFT	31249-128-001	-
VR202	50K Sub Brightness	31249-128-008	-
VR301	5000 Vertical Height	31249-128-005	-
VR402	10K Horizontal Phase	31249-128-001	-
VR752	200 Red Drive	31249-125-009	-
VR753	200 Blue Drive	31249-125-009	-
VR756	2200 Green Cutoff	-	-
	2000 Green Cutoff	31249-125-008	-
VR757	2200 Red Cutoff	-	-
	2000 Red Cutoff	31249-125-008	-
VR758	2200 Blue Cutoff	-	-
	2000 Blue Cutoff	31249-125-008	-
VR801	2000 125V B+	-	-
	2300 125V B+	31249-128-003	-

SAMSUNG

MODEL TXB2025/CX (CHASSIS K52MB)



PARTS LIST continued

CAPACITORS & ELECTROLYTICS		
Item No.	Rating	Mfr. Part No.
C100	47pF 5% 50V NPO	31407-105-260
C101	33pF 5% 50V NPO	31407-057-330
C206	33pF 5% 50V NPO	31407-057-330
C209	10µF 20% 50V NP	31607-974-003
C252, 53	10µF 16V NP	31607-803-120
C261	.47µF 50V NP	31607-402-530
C406	100pF 5% NPO	31407-105-660
C416	.003 5% 1.6KV	31509-391-010
C417	.0039 5% 1.6KV	31519-400-006
C500	39pF 5% 50V NPO	31407-057-390
C502	33pF 5% 50V NPO	31407-057-330
C600, 01	47pF 5% 50V NPO	31407-105-260
C604	7pF ±.25pF 50V NPO	31407-052-709
C606	18pF 5% 50V NPO	31407-057-180
C702	680pF 2KV	-
	.001 2KV	31418-780-103
C703	680pF 2KV	-
	10µF 250V	31609-403-490
C804 Thur		
C806	.0022 250V	31469-102-010
C809	100pF 5% 50V N220	31407-106-260
C812, 15	.0068 20% 1KV	31419-901-430
C816	680pF 10% 2KV	31417-901-410
C817, 20	270pF 10% 2KV	31417-901-180
C901, 02, 04	22pF 5% 50V NPO	31407-105-180
C908	68pF 5% 50V NPO	31407-105-300
CH01	33pF 5% 50V NPO	31407-057-330
CH2	30pF 5% 50V NPO	31407-105-270
CT901	330pF X 3 Network	31497-009-430
CT902	330pF X 5 Network	31497-009-440
CT903	330pF X 8 Network	31497-009-360
CT904, 05	330pF X 4 Network	31497-009-340
CT906	330pF X 5 Network	31497-009-440
CV01	10pF ±.25pF 50V NPO	31407-105-090
CV03	22pF 5% 50V NPO	31407-105-180

COILS & TRANSFORMERS		
Item No.	Function/Rating	Mfr. Part No.
D-Coil	Degaussing	32479-029-060
DY	Yoke 90° Horiz 2.3mH Vert 27.4mH	32439-310-028
L101	.8µH	-
	1.3µH	32429-014-020
L103	68µH	32427-805-850
L104	-	32707-200-009
L201	12µH	32427-805-450
L202	10µH	32427-803-130
L203	68µH	32427-805-850
L401	Ferrite Bead	34047-019-060
L402	195µ Horizontal Linearity	32449-712-010
L601	24µH	32427-816-010
L602	-	32727-601-012
L603	-	32707-200-008
L604	68µH	32427-805-850
L702	390µH	32427-904-720
L703, 04	330µH	32427-904-710
L705 Thru		
L707	75µH	32427-904-740
L801, 03	6mH Line Filter	32426-633-160
L804	500µH Line Filter	32429-633-100
L805	5.6µH	32427-805-885
L806, 07	1µH	32429-226-080
L808	Ferrite Bead	34047-019-060
L809	5.6µH	32427-805-885
L810	Ferrite Bead	34047-019-060
L811	24µH	32429-904-790
L813	250µH	32429-904-800
L901	47µH	32427-805-550
L902	6.1mH	32429-902-510
LH01	24µH	32427-816-010
T401	50mH Horizontal Drive	32849-020-010
T444 (1)	Horizontal Output	32859-200-050
T801	SMPS	32899-002-430

(1) Focus and screen controls are part of T444.

MISCELLANEOUS			
Item No.	Description	Mfr. Part No.	Notes
F801	Fuse	34709-087-170	4Amp, 125VAC
JAV01	Jack	-	Left Audio In, Right Audio In, Video In, Right Audio Out, Left Audio Out
P801	Line Cord	33053-815-411	AC, Polarized
PR01	Receiver	32199-411-050	Remote Control
RL01	Relay	34729-004-010	Degaussing
SP01, 02	Speaker	34209-200-006	8 Ohm, 8W
SW01	Switch	33606-101-012	Power
SW02	Switch	33598-001-006	Channel Up, Channel Down, Volume Up, Volume Down.
SW03	Switch	33598-001-006	Picture Mode, Mode Up, Mode Down, Sound Mode.
SW201	Switch	33549-007-010	Service
SW601	Switch	33526-201-001	Speaker Ext/Int
V999	CRT	32019-255-103	A51KRE83X / A54GGB98X
X401	Crystal	34539-300-005	503kHz
X501	Crystal	34537-001-002	3.58MHz
X901	Crystal	34537-001-003	4.0MHz
Z100	Filter	34529-700-023	SAW
Z201	Filter	34527-460-001	4.5MHz
Z601	Filter	34527-460-000	4.5MHz
	CRT Socket	33359-063-650	-
	PC Board (1)	33004-332-121	Closed Caption
	PC Board (1)	33004-115-311	CRT
	PC Board (1)	33004-126-471	Main
	PC Board (1)	33004-125-981	Power
	Terminal Board	33302-107- 610	Antenna
	Transmitter	3F14-00034-630	-
	Tuner (1)	34519-600-021	UHF/VHF

(1) Contact PTS Electronics Corporation for replacement; order by manufacturer's part number.