

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.

TEST JIG HOOKUP				
Function	Chek-A-Color Adapter No.	PC Board Plug No.	Pin	Color
CRT	B239	P401	7	Red
Yoke	D4160		8	Blue
Yoke Setting	YP1A		9	Yellow
Comments	Focus Tap		10	Green

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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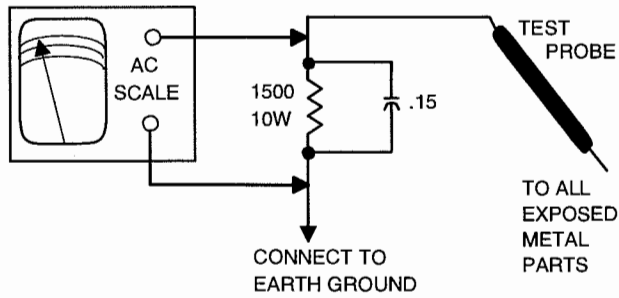
SAFETY CHECKS -- FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 1M ohms and 5.2M ohms. Parts without a return path must measure infinity.

Hot Leakage Current Check

Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer. Use a 1500 ohms, 10W resistor in parallel with a .15µF capacitor to connect between any exposed metal parts on the receiver and a good earth ground. (See figure below.) Use an AC voltmeter with at least 5000 ohms per volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point. Voltage measurements should not exceed .75VAC, 500µA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.



HIGH VOLTAGE SHUTDOWN TEST	
Apply 120VAC and turn receiver on. Set all digital customer controls for normal operation. Momentarily short test point X to test point R. Receiver should lose raster and sound. If the receiver does not lose raster and sound, the shutdown circuit should be repaired. To resume normal operation, remove AC power and wait 30 seconds. After restoring AC power, the receiver should power up automatically.	



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PHOTOFACT® Technical Service Data

SET 4018

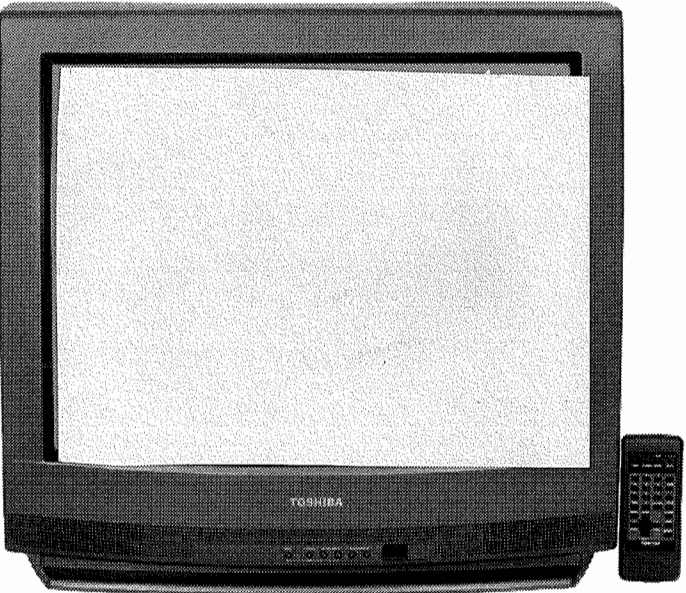
MODEL CF27G30 (CHASSIS TAC9726)

TOSHIBA

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TOSHIBA
Model CF27G30 (Chassis TAC9726)



Complete coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list
- Troubleshooting guide

Coverage includes these additional models and chassis:

MODELS	CHASSIS
CF27F30	TAC9620
CL29F30	TAC9620
CL29G30	TAC9620



HOWARD W. SAMS & COMPANY

AUGUST 1998 SET 4018

For Supplier Address,
See PHOTOFACT Annual Index

TROUBLESHOOTING

POWER SUPPLY

Check F801, F860, F470, and F889. If F801 is open, check D801 thru D804, D899, C801, C868, C811, C812, C815, G814, G816, and T862. If F860 is open, check Q801. If F470 is open, check Q402, Q404, and T461. If F889 is open, check Q501 and Q610. Apply 120VAC and check for 5.0V at pin 5 of Q840. If 5.0V is missing, check Q840, D840, T840, and C840. If 5.0V is present, press the power button, and check for 163V* at the cathode of D803. If 163V* is missing, check D801 thru D804, SR81, and T801. If 163V* is present, check for 115V at F470. If 115V is missing, check D883, D884, T862, Q801, Q862, and Q883. If 115V is present, refer to the "Horizontal" section of this Troubleshooting guide.

* Taken from common tie point.

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, T461, and associated components. Monitor the high voltage and troubleshoot.

The high voltage from T461 is monitored and rectified by D471. Should the high voltage increase, the rectified voltage at the base of Q471 will also increase and trigger Q471 and Q472 into conduction, shutting down the set. To troubleshoot, attach a jumper from the emitter of Q472 to ground. If the set fails to return to normal operation, check the horizontal and power circuits. If the set returns to normal operation, check for 22.0V at the cathode of D471. If 22.0V is present, check the high voltage shutdown circuit. If 22.0V is missing, check the horizontal and power circuits.

HORIZONTAL

To determine if receiver is in shutdown, refer to "High Voltage Shutdown" section of this Troubleshooting guide. If receiver is not in shutdown, inject a horizontal signal at base of Q404. If horizontal deflection is now present, check Q402, T401, and pins 30 thru 34 of Q501. If there is no horizontal sweep, check Q404, D406, D302, D408, Q421, Q101, and T461. The high voltage rectifier is part of T461 and if defective will affect the performance of horizontal circuits. If the horizontal oscillator is off frequency, check pin 34 of Q501. Horizontal linearity or foldover problems may be caused by C440, C444, C442, and L441 being defective.

VERTICAL

Inject a vertical signal at pin 4 of Q301. If vertical deflection is now present, check pins 22 thru 25 of Q501. If vertical sweep is still missing, check Q301. Vertical linearity or foldover problems may be caused by vertical feedback and bias circuits, check C301, C305, C315, C306, and C308 for defects.

AUDIO

Check for audio waveforms at pins 25 and 26 of QG01. If the waveforms are missing, check pin 10 of H001, QG01, and QG05. If waveforms are present at pins 25 and 26 of QG01, check Q610, Q611, and Q613.

VIDEO/CHROMA

Inject a video signal at pin 37 of Q501 and check for video on the CRT. If video is present, check H001. If video is missing on the CRT, check for proper waveforms at pins 19, 20, and 21 of Q501. If these waveforms are missing, check Q501. Check the 3.58MHz oscillator at pin 12 of Q501. If the proper waveforms are present at pins 19, 20, and 21 of Q501, refer to "Raster" section of this Troubleshooting guide.

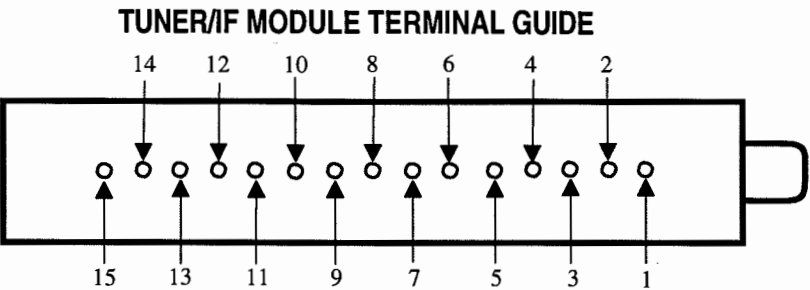
RASTER

Check the CRT and CRT voltages. If red is missing, check pin 19 of Q501, Q904, and Q901. If green is missing, check pin 20 of Q501, Q905, and Q902. If blue is missing, check pin 21 of Q501, Q906, and Q903. For dark picture check Q971, and pin 38 of Q501. If raster has a keystone shape, check deflection yoke. If raster has height or width problems, refer to the "Vertical", "Horizontal", or "Power Supply" sections of this Troubleshooting guide.

TUNER/IF MODULE INFORMATION

TUNER/IF MODULE VOLTAGE CHART			
Pin	VHF Low Band	VHF High Band	UHF Band
1 (NC)	0V	0V	0V
2 (+32V)	33.0V	33.0V	33.0V
3 (SCL)	4.7V	4.7V	4.7V
4 (SDA)	4.6V	4.6V	4.6V
5 (NC)	0V	0V	0V
6 (ADS)	4.6V	4.6V	4.6V
7 (+5V)	5.0V	5.0V	5.0V
8 (AGC)	4.5V	4.6V	3.9V
9 (9V)	9.2V	9.2V	9.2V
10 (A OUT)	2.7V	2.7V	2.5V
11 (GND)	0V	0V	0V
12 (AFT)	2.1V	2.1V	2.2V
13 (NC)	0V	0V	0V
14 (GND)	0V	0V	0V
15 (V OUT)	4.6V	4.6V	4.6V

NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14.



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.

TEST EQUIPMENT

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

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

MISCELLANEOUS ADJUSTMENTS

HIGH VOLTAGE CHECK

Tune in a picture. Set brightness, contrast, and color to minimum. Connect a high voltage probe to the CRT anode. High voltage should read 26kV to 28kV.

PURITY/CONVERGENCE

CRT and yoke are bonded. Adjustment is not recommended.

ENTERING THE SERVICE AND DESIGN MODES

To enter the service mode, press the mute button on the remote. Press the mute button again and keep pressing while simultaneously pressing the menu button on the receiver. The letter S will appear on the screen indicating that the receiver is in the service mode.

When in the service mode, press the menu button on the receiver to display the adjustment menu. To select the item to be adjusted, press the channel up or down button. To adjust the reference value, press the volume up or down button. To exit from the service mode, press the power button to turn off the receiver.

TEST PATTERN SELECTION

Enter the service mode. Press the TV/video button on the remote to display the built-in test patterns in the following order:

Normal picture, red raster, green raster, blue raster, black screen, white screen, black screen with white window, black crossbar, white crossbar, black crosshatch, white crosshatch, black crossdot, white crossdot, and back to normal picture.

NOTE: If a video cable is connected to the video input jack, the built-in test patterns will not be displayed on the screen.

SELF DIAGNOSTIC FUNCTION

Enter the service mode. Press the 9 button on the remote to check for proper execution of IC interfacing. The following is an explanation of what is displayed on screen:

Display	Explanation
[SELF CHECK] No. 23905569 POWER : 000	Self diagnostic function. Part number of QA01 Operation number of protecting circuit. "000" display is normal
BUS LINE : OK	BUS line check. "OK" is normal. "NG" indicates a short to ground of the SCL or SDA signal or a short between SCL and SDA.
BUS CONT : OK	Bus line acknowledge check. "OK" is normal. A location number is NG.
BLOCK : UV V1	Green display is normal. Cyan display is no check. Red display is NG.

INITIALIZATION OF QA02

NOTE: QA02 must be initialized after replacement. Do not initialize unless QA02 is replaced.

Enter the service mode. Press the recall button on the remote and keep pressing while simultaneously pressing the channel up button on the receiver. The initialization of QA02 is complete. Program channels into memory.

SUB COLOR (COLC) & SUB TINT (TNTC)

Tune in a color bar pattern. Press the reset button on the remote. Connect an oscilloscope to the red cathode. Enter the service mode. Select item COLC, adjust reference value to obtain 150Vp-p. Tune in an active channel. Select item TNTC, adjust reference value for proper flesh tones.

SUB BRIGHTNESS (BRTC)

Tune in a picture. Set contrast to minimum. Enter the service mode. Select item HIT and reduce the vertical size. Select item BRTC, adjust reference value until vertical retrace line at bottom of screen just disappears. Perform Height (HIT) adjustment. Adjust contrast for normal picture.

WIDTH (WID)

Enter the service mode. Press the TV/video button on remote until a crosshatch pattern is displayed. Select item WID, adjust reference value for slight underscan. Advance the reference value by 7 steps. Check for proper horizontal position of the picture.

E-W PARABOLA (DPC)

Enter the service mode. Press the TV/video button on remote until a crosshatch pattern is displayed. Select item DPC, adjust reference value for straight vertical lines on both sides of the pattern.

HORIZONTAL POSITION (HPOS) & VERTICAL POSITION (VPOS)

Enter the service mode. Press the TV/video button on remote until a crossbar pattern is displayed. Select item HPOS or VPOS, adjust reference value for the horizontal and vertical position alternately until the pattern is centered on the screen. Check the position of the picture with off-air signal.

HEIGHT (HIT)

Enter the service mode. Press the TV/video button on remote until a crosshatch pattern is displayed. Select item HIT, adjust reference value for slight underscan. Advance the data value by 9 steps. Check for proper vertical position of the picture.

WHITE BALANCE (RCUT, GCUT, BCUT, GDRV, BDRV)

Turn receiver on. Allow a 10 to 30 minute warm up time. Adjust contrast to center position, brightness to maximum. Enter the service mode. Press the TV/video button on remote until the white screen pattern is displayed. Select items RCUT, GCUT, and BCUT, set the reference value for each at 40H. Select items GDRV and BDRV, set the reference value for each at 80H. Press the TV/video button on the receiver to obtain a single horizontal line. Advance the screen control until a faint line of one dominant color appears on the screen. Adjust the other two cutoffs to obtain a dim white line. Press the TV/video button on the receiver, to go to a normal picture. Select items GDRV and BDRV, adjust reference value of each for the best black and white picture on screen.

STEREO ADJUSTMENTS

Attenuator (ATT)

Select pilot, 1kHz audio frequency, and L+R modulating signal. Connect an oscilloscope to pin 40 of QG01. Select item ATT, adjust reference value for 1.55Vp-p.

Stereo VCO (STVC)

Short across resistor RG44, connect a frequency counter to pin 40 of QG01. Select item STVC. Adjust reference value to obtain a reading of 15.73kHz. Remove the short.

SAP VCO (SAVC)

Short across resistor RG44, connect 1M resistor between pin 12 of QG01 and ground. Connect a frequency counter to pin 40 of QG01. Select item SAVC. Adjust reference value to obtain a reading of 78.67kHz. Remove the short and the resistor.

Stereo Filter (STRF)

Remove the solder link at SL02 (located beside RG43). Inject a signal of 15.734kHz, 1Vp-p to the junction of RG43 and RG44. Connect an oscilloscope to pin 40 of QG01. Select item STRF. Adjust reference value to obtain minimum AC noise. Resolder SL02.

Stereo Separation (WBAN) & Spectral (SPEC)

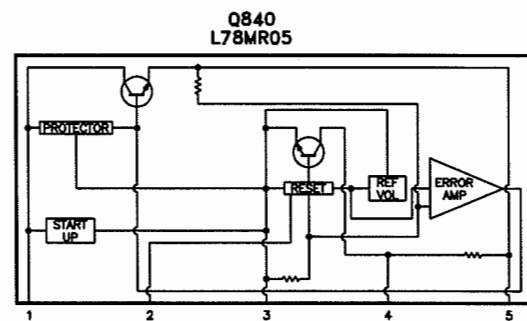
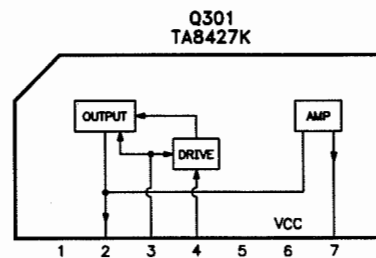
Select stereo mode on receiver. Select pilot, 300Hz audio frequency, and right modulating signal. Connect an oscilloscope to pin 41 of QG01. Select item WBAN, adjust reference value for minimum amplitude of waveform on the scope. Change audio frequency to 8kHz. Select item SPEC, adjust reference value for minimum amplitude of waveform. Repeat until no further adjustment results in an amplitude decrease of waveforms.

SERVICE MODE ADJUSTMENT CHART

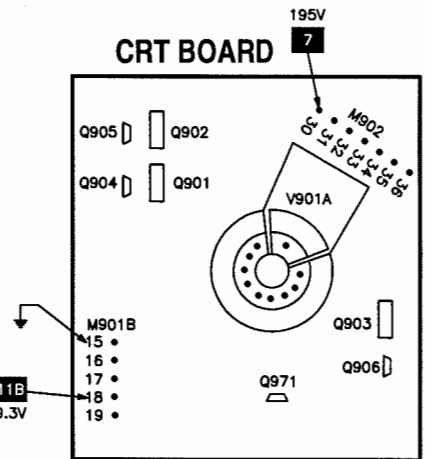
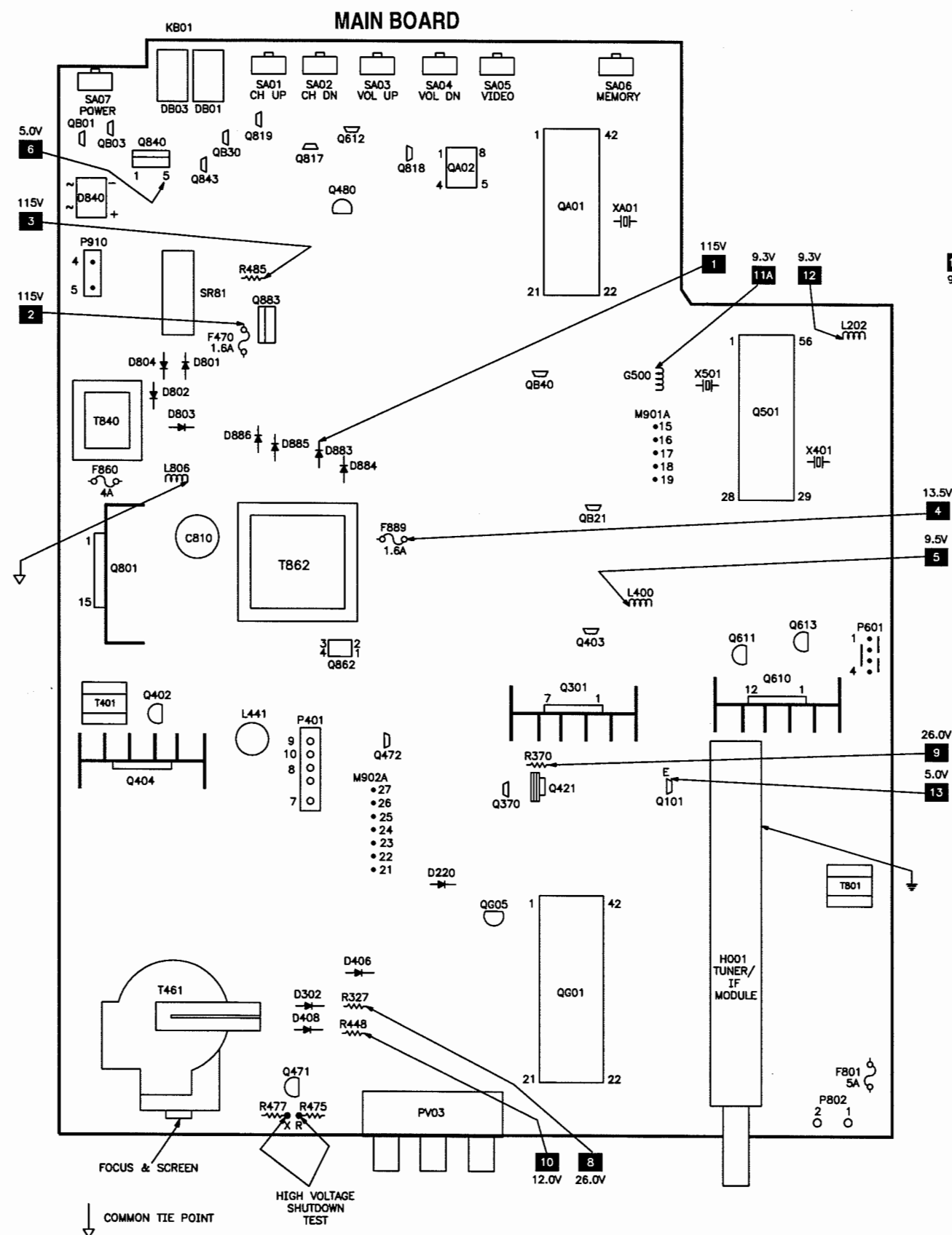
Item	Adjustment Name	Reference Value	On Set Value
RCUT (1)	Red Cutoff	40H	5CH
GCUT (1)	Green Cutoff	40H	42H
BCUT (1)	Blue Cutoff	40H	42H
GDRV (1)	Green Drive	80H	7CH
BDRV (1)	Blue Drive	80H	73H
CNTX	Sub Contrast	58H	41H
BRTC (1)	Sub Brightness	40H	3EH
COLC (1)	Sub Color	2CH	32H
TNTC (1)	Sub Tint	42H	3BH
ATT (1)	Attenuator	08H	15H
STVC (1)	Stereo VCO	1CH	16H
STRF (1)	Stereo Filter	16H	20H
WBAN (1)	Stereo Separation	22H	1AH
SPEC (1)	Spectral	30H	11H
SAVC (1)	SAP VCO	88H	1BH
AUD	Audio	00H	00H
HPOS (1)	Horizontal Position	16H	19H
VPOS (1)	Vertical Position	02H	03H
HIT (1)	Height	20H	26H
LIN	Vertical Linearity	13H	07H
VSC	V-S Correction	00H	0AH
VPS	Vertical Shift	1BH	0DH
VCP	Vertical Compensation	03H	04H
WID (1)	Width	16H	24H
DPC (1)	E-W Parabola	31H	13H
CNR	E-W Corner	00H	06H
TRAP	Trapezium	0FH	10H
HCP	Horizontal Compensation	00H	03H
VFC	V-F Correction	0FH	0FH
PCOL	PIP Color	BFH	20H
PHUE	PIP Tint	06H	40H

(1) May need adjustment when replacing QA02 or Q501.

IC FUNCTIONS



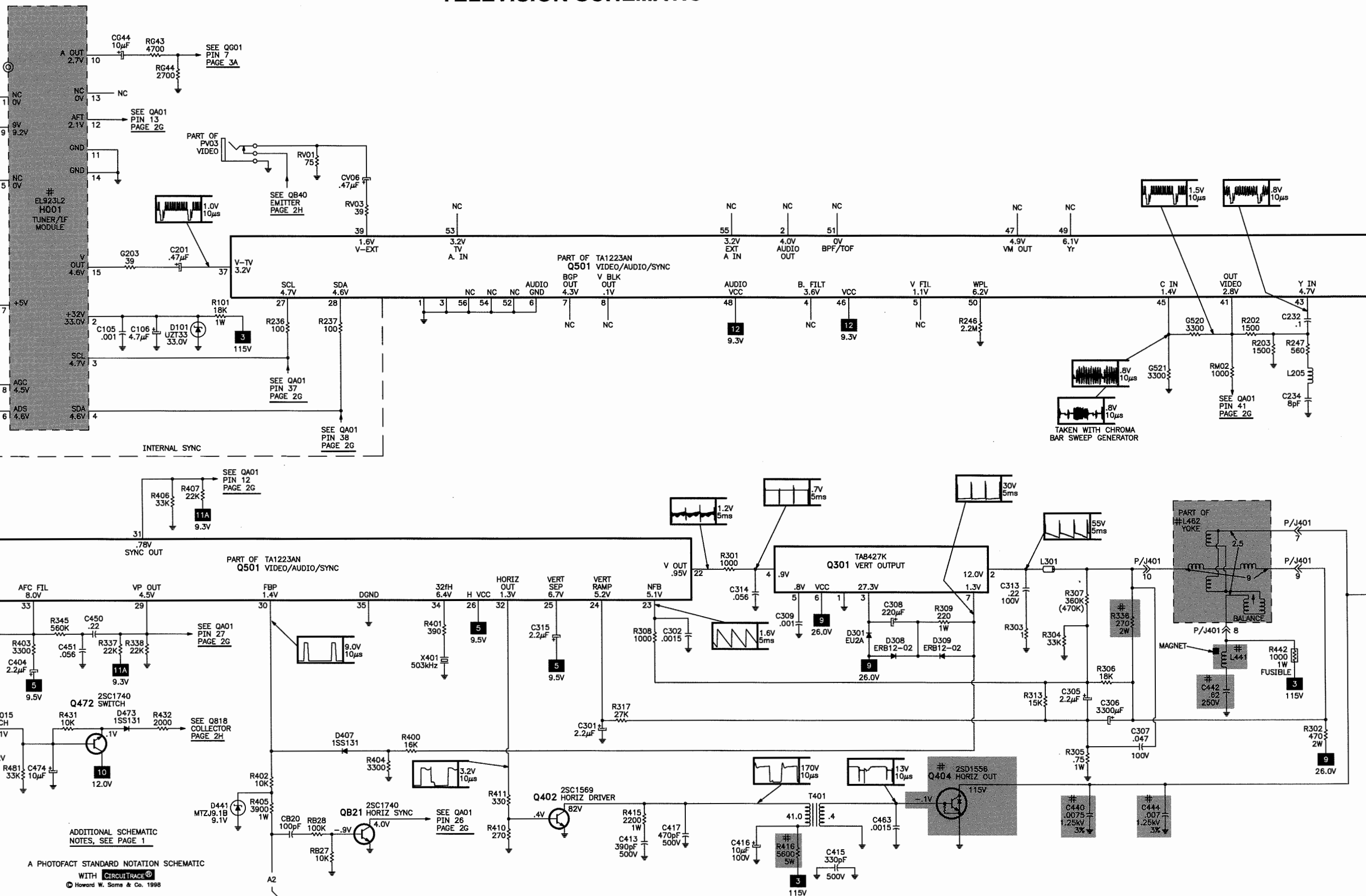
PLACEMENT CHART



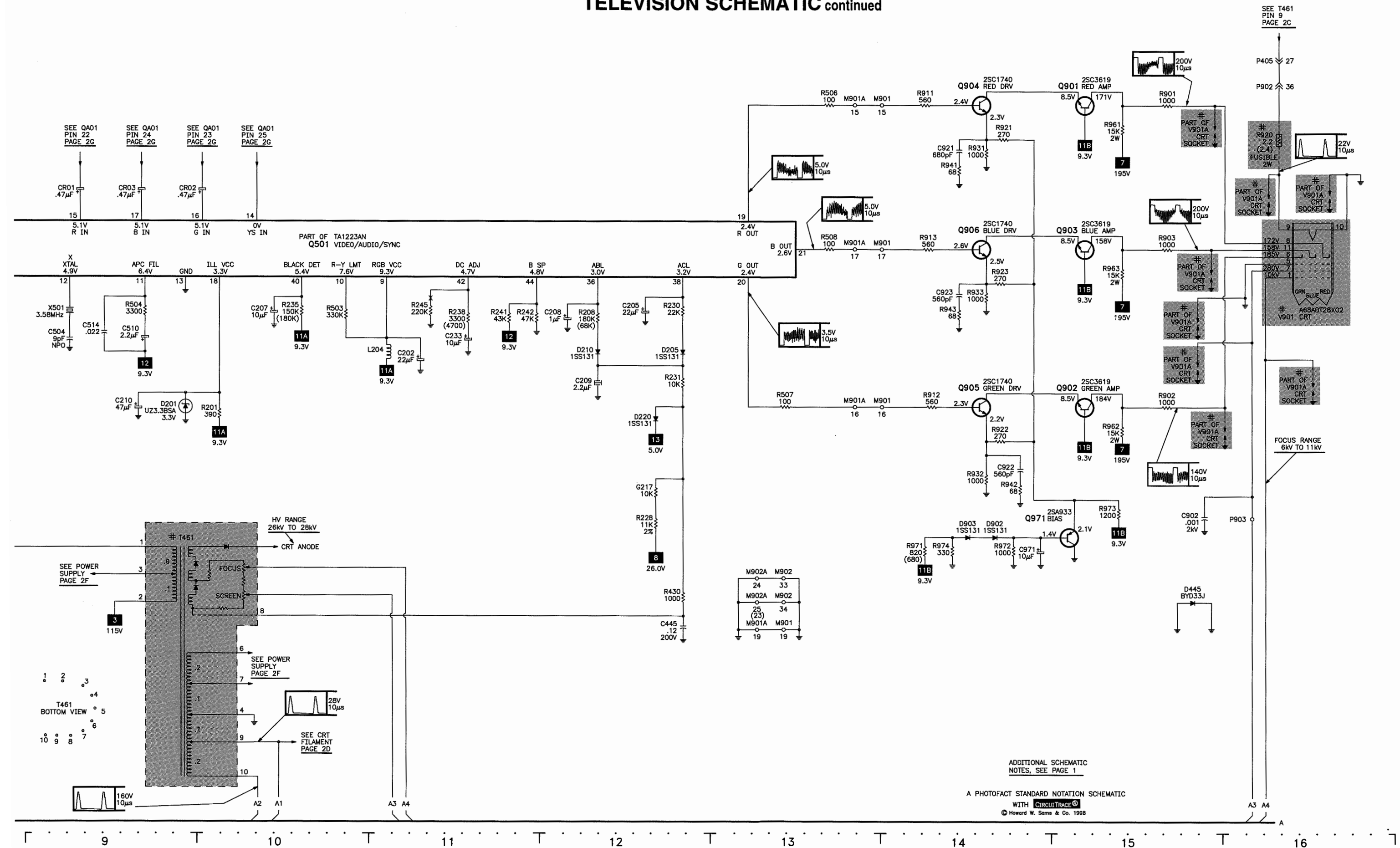
TOSHIBA

MODEL CF27G30 (CHASSIS TAC9726)

TUNER/IF MODULE NOT
INCLUDED IN THIS COVERAGE



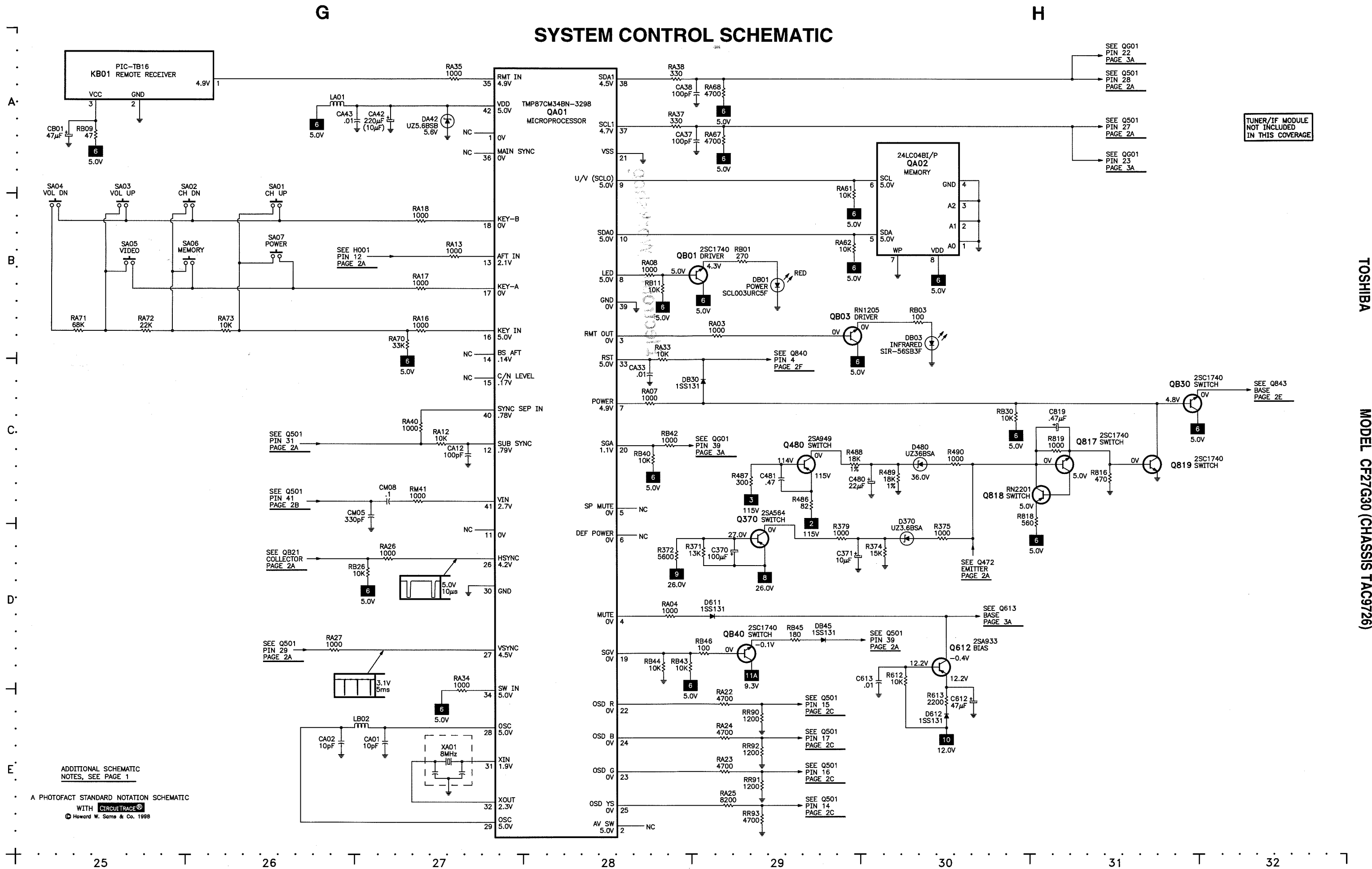
FACT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITRACE[®]**
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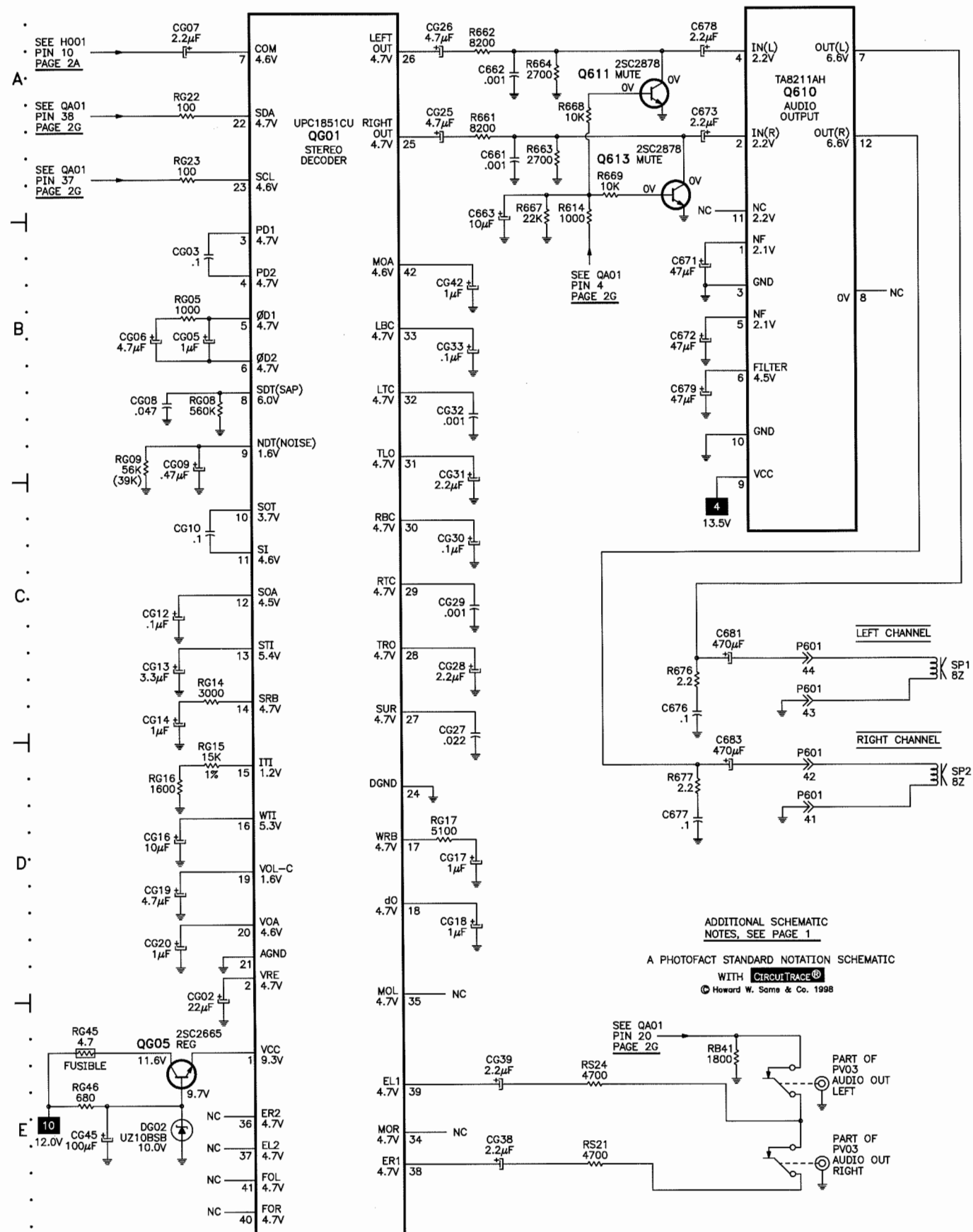
SYSTEM CONTROL SCHEMATIC



TOSHIBA

MODEL CF27G30 (CHASSIS TAC9726)

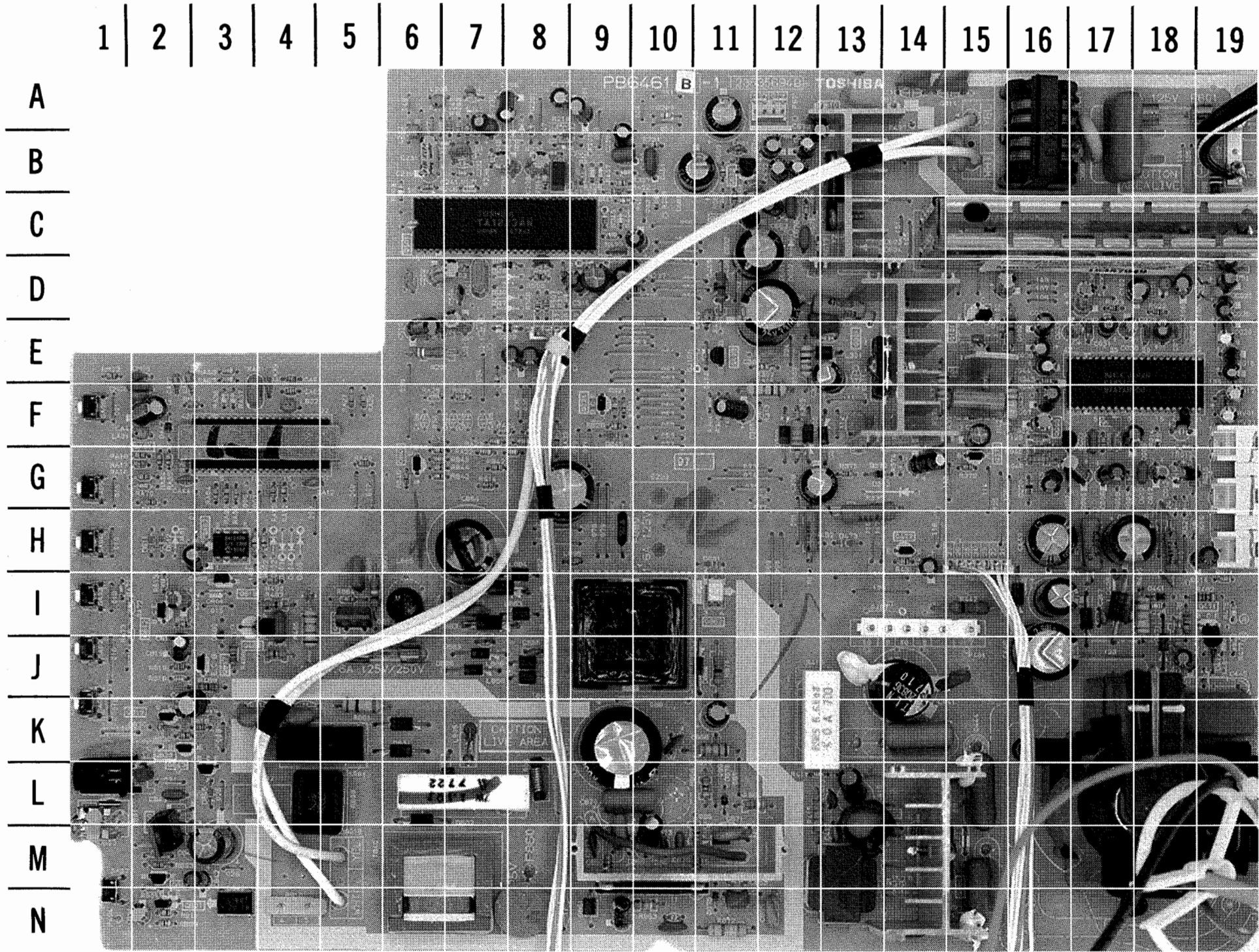
A AUDIO SCHEMATIC



SCHEMATIC COMPONENT LOCATION GUIDE

C102	A-1	C842	C-24	CV06	B-3	L885	B-23	R308	D-5	R871	A-22	RG15	D-33
C105	B-2	C843	D-22	D101	B-2	L886	B-23	R309	D-6	R872	B-20	RG16	D-33
C106	B-2	C860	A-20	D102	E-23	L888	C-23	R313	D-7	R883	B-19	RG17	D-34
C113	E-24	C862	C-21	D201	C-9	L901	A-18	R317	E-4	R884	C-20	RG22	A-33
C201	B-2	C863	B-21	D205	C-12	LA01	A-26	R327	D-23	R891	C-20	RG23	A-33
C202	C-11	C865	A-20	D210	C-12	LB02	E-26	R336	D-7	R898	A-17	RG43	A-2
C205	B-12	C866	C-20	D220	C-12	P801	A-17	R337	D-2	R901	A-15	RG44	A-2
C207	B-10	C867	B-20	D301	D-6	PV03	B-3	R338	D-2	R902	C-15	RG45	E-33
C208	C-12	C868	A-21	D302	D-22	PV03	E-35	R345	D-2	R903	B-15	RG46	E-33
C209	C-12	C869	B-21	D308	D-6	PV03	E-35	R370	D-23	R911	A-14	RM02	C-8
C210	C-9	C870	B-22	D309	D-6	Q101	E-23	R371	D-29	R912	C-14	RM41	C-27
C230	E-24	C871	B-22	D370	D-30	Q301	D-6	R372	D-28	R913	B-14	RR90	E-29
C232	B-8	C872	B-21	D406	D-22	Q370	D-29	R374	D-30	R920	A-16	RR91	E-29
C233	C-11	C873	B-20	D407	E-3	Q402	E-4	R375	D-30	R921	B-14	RR92	E-29
C234	C-8	C874	B-22	D408	D-22	Q403	C-24	R379	D-29	R922	C-14	RR93	E-29
C301	E-4	C876	A-21	D409	C-24	Q404	E-6	R400	E-3	R923	B-14	RS21	E-35
C302	D-5	C884	A-24	D421	E-23	Q421	E-23	R401	D-4	R931	B-14	RS24	E-35
C305	D-7	C885	B-23	D441	E-3	Q471	E-1	R402	E-3	R932	C-14	RV01	B-3
C306	E-7	C886	C-23	D445	D-15	Q472	E-2	R403	D-1	R933	B-14	RV03	B-3
C307	E-7	C889	B-24	D471	E-1	Q480	C-29	R404	E-3	R941	B-14	SA01	B-26
C308	D-6	C891	C-20	D472	E-1	Q501	B-10	R405	E-3	R942	C-14	SA02	B-25
C309	D-5	C893	A-23	D473	E-2	Q501	B-4	R406	C-2	R943	B-14	SA03	B-25
C310	D-24	C894	B-23	D480	C-30	Q501	D-1	R407	C-2	R961	A-15	SA04	B-25
C313	D-7	C898	C-23	D611	D-29	Q610	A-35	R408	C-23	R962	C-15	SA05	B-25
C314	D-5	C902	D-15	D612	E-30	Q611	A-35	R410	E-4	R963	B-15	SA06	B-25
C315	D-4	C921	B-14	D801	A-19	Q612	D-30	R411	E-4	R971	D-14	SA07	B-26
C317	D-22	C922	C-14	D802	A-19	Q613	B-35	R415	E-5	R972	D-14	SP1	C-36
C320	D-24	C923	B-14	D803	A-19	Q801	B-21	R416	E-5	R973	D-15	SP2	D-36
C370	D-29	C971	D-14	D804	A-19	Q817	C-31	R418	C-23	R974	D-14	SR81	A-18
C371	D-29	C972	E-24	D840	C-19	Q818	C-31	R421	E-22	RA03	B-29	SR81	B-17
CA03	D-1	CA01	E-27	D845	B-17	Q819	C-31	R422	E-22	RA04	D-28	T401	E-5
CA04	D-1	CA02	E-26	D862	A-21	Q840	C-22	R430	D-12	RA07	C-28	T461	D-10
CA13	E-5	CA12	C-27	D864	A-22	Q843	B-17	R431	E-2	RA08	B-28	T461	D-21
CA15	E-6	CA33	C-28	D866	C-21	Q862	B-20	R432	E-2	RA12	C-27	T801	A-18
CA16	E-5	CA37	A-28	D875	B-21	Q883	C-20	R442	D-8	RA13	B-27	T840	C-18
CA17	E-5	CA38	A-28	D876	A-21	Q901	A-15	R448	D-22	RA16	B-27	T862	A-22
CA21	E-24	CA42	A-27	D881	B-19	Q902	C-15	R472	E-1	RA17	B-27	V901	B-16
CA30	C-24	CA43	A-26	D883	A-23	Q903	B-15	R475	E-1	RA18	B-27	X	D-1
CA31	C-24	CA44	C-23	D884	B-23	Q904	A-14	R476	E-1	RA22	E-29	X401	D-4
CA40	E-7	CA68	C-24	D885	B-23	Q905	C-14	R477	D-1	RA23	E-29	X501	B-9
CA42	D-8	CA69	C-23	D886	C-23	Q906	B-14	R478	E-1	RA24	E-29	XA01	E-27
CA44	E-7	CB01	A-25	D899	A-17	Q971	D-15	R481	E-1	RA25	E-29		
CA45	D-12	CB20	E-3	D902	D-14	QA01	A-28	R482	E-1	RA26	D-27		
CA46	D-22	CG02	E-33	D903	D-14	QA02	B-30	R485	B-24	RA27	D-26		
CA48	B-24	CG03	B-33	DA42	A-27	QB01	B-28	R486	C-29	RA33	C-28		
CA49	D-24	CG05	B-33	DB01	B-29	QB03	B-29	R487	C-29	RA34	E-27		
CA50	D-2	CG06	B-33	DB03	B-30	QB21	E-3	R488	C-29	RA35	A-27		
CA51	D-2	CG07	A-33	DB30	C-29	QB30	C-31	R489	C-30	RA37	A-28		
CA63	E-6	CG08	B-33	DB45	D-29	QB40	D-29	R490	C-30	RA38	A-28		
CA71	E-1	CG09	C-33	DG02	E-33	QG01	A-34	R503	B-10	RA40	C-27		
CA74	E-2	CG10	C-33	F470	B-23	QG05	E-33	R504	B-9	RA61	B-29		
CA80	C-30	CG12	C-33	F801	A-17	R	D-1	R506	A-13	RA62	B-29		
CA81	C-29	CG13	C-33	F860	A-20	R101	B-2	R507	C-13	RA67	A-29		
CS04	C-9	CG14	C-33	F889	B-23	R102	E-23	R508	B-13	RA68	A-29		
CS10	C-9	CG16	D-33	G203	B-2	R103	E-23	R612	D-30	RA70	B-27		
CS14	C-9	CG17	D-34	G217	D-12	R201	C-10	R613	E-30	RA71	B-25		
CG12	E-30	CG18	D-34	G500	E-23	R202	C-8	R614	B-35	RA72	B-25		
CG13	D-30	CG19	D-33	G520	C-8	R203	C-8	R661	A-34	RA73	B-26		
CG61	A-34	CG20	D-33	G521	C-7	R208	C-12	R662	A-34	RB01	B-29		
CG62	A-34	CG25	A-34	G813	B-18	R228	D-12	R663	A-34	RB03	B-30		
CG63	B-34	CG26	A-34	G814	A-18	R230	B-12	R664	A-34	RB09	A-25		
CG71	B-35	CG27	D-34	G816	A-19	R231	C-12	R667	B-34	RB11	B-28		
CG72	B-35	CG28	C-34	G861	A-20	R235	B-10	R668	A-35	RB26	D-27		
CG73	A-35	CG29	C-34	G882	C-19	R236	B-3	R669	B-35	RB27	E-3		
CG76	C-35	CG30	C-34	H001	B-2	R237	B-3	R676	C-35	RB28	E-3		
CG77	D-35	CG31	C-34	KB01	A-25	R238	C-11	R677	D-35	RB30	C-30		
CG78	A-35	CG32	B-34	L101	A-1	R241	C-11	R808	A-18	RB40	C-28		
CG79	B-35	CG33	B-34	L202	E-23	R242	C-11	R810	A-19	RB41	E-35		
CG81	C-35	CG38	E-34	L204	C-11	R245	B-11	R816	C-31	RB42	C-28		
CG82	B-24	CG39	E-34	L205	C-8	R246	B-6	R818	D-30	RB43	D-28		
CG83	D-35	CG42	B-34	L301	D-7	R247	C-8	R819	C-31	RB44	D-28		
CR01	A-17	CG44	A-2	L400	C-23	R301	D-5	R861	A-20	RB45	D-29		
CR10	B-20	CG45	E-33	L441	D-8	R302	E-8	R862	A-21	RB46	D-28		
CR11	B-18	CM05	C-27	L462	D-8	R303	D-7	R863	B-20	RF IN	A-1		
CR12	A-18	CM08	C-27	L805	A-20	R304	D-7	R864	B-20	RG05	B-33		
CR15	A-19	CR01	B-9	L806	A-19	R305	E-7	R866	B-19	RG08	B-33		
CR19	C-31	CR02	B-10	L883	A-23	R306	D-7	R867	C-20	RG09	C-33		
CR40	C-22	CR03	B-9	L884	B-23	R307	D-7	R870	B-19	RG14	C-33		

MAIN BOARD



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MAIN BOARD, GRIDTRACE LOCATION GUIDE

C102	D-18	C842	M-2	D220	G-16	PV03	G-19	R403	C-9	RA25	F-6
C105	D-19	C843	L-2	D301	F-13	Q101	D-15	R404	C-9	RA26	F-5
C106	D-18	C860	N-8	D302	I-17	Q301	E-14	R405	I-18	RA27	F-5
C113	D-15	C862	M-9	D308	F-12	Q370	G-15	R406	B-9	RA33	F-8
C201	A-9	C863	N-11	D309	F-12	Q402	L-13	R407	B-9	RA34	G-2
C202	D-7	C865	N-12	D370	G-13	Q403	E-11	R408	D-11	RA35	G-2
C205	B-7	C866	N-9	D406	I-15	Q404	M-15	R410	L-13	RA37	F-3
C207	A-8	C867	N-10	D407	B-9	Q421	E-15	R411	L-12	RA38	F-3
C208	B-8	C868	K-11	D408	I-17	Q471	I-19	R415	L-12	RA40	G-5
C209	B-9	C869	M-10	D409	D-11	Q472	H-14	R416	K-13	RA61	H-3
C210	D-7	C870	L-9	D421	F-16	Q480	I-4	R418	D-11	RA62	H-4
C230	B-6	C871	M-11	D441	I-18	Q501	C-6	R421	F-16	RA67	E-3
C232	B-7	C872	M-9	D471	J-18	Q610	B-13	R422	F-15	RA68	E-3
C233	A-7	C873	M-10	D472	J-19	Q611	C-11	R430	K-19	RA70	G-2
C234	A-7	C874	K-10	D473	H-13	Q612	I-2	R431	H-14	RA71	I-1
C301	D-9	C876	M-10	D480	I-3	Q613	B-11	R432	H-12	RA72	I-1
C302	D-8	C884	H-7	D611	H-2	Q801	M-9	R442	I-15	RA73	J-1
C305	F-11	C885	J-8	D612	H-2	Q817	J-3	R448	H-18	RB01	N-2
C306	D-12	C886	J-7	D801	K-6	Q818	I-3	R472	J-18	RB03	M-2
C307	E-12	C889	G-8	D802	L-6	Q819	K-2	R475	I-19	RB09	N-2
C308	G-13	C891	I-5	D803	L-7	Q840	M-2	R476	J-19	RB11	N-2
C309	F-14	C893	I-7	D804	K-7	Q843	L-3	R477	J-19	RB26	E-7
C310	H-17	C894	I-7	D840	N-3	Q862	I-11	R478	I-18	RB27	F-9
C313	E-13	C898	H-9	D845	L-3	Q883	I-5	R481	J-19	RB28	F-9
C314	F-13	CA01	E-4	D862	M-11	QA01	G-3	R482	I-19	RB30	K-2
C315	D-9	CA02	F-4	D864	J-11	QA02	H-3	R485	I-4	RB40	G-6
C317	I-17	CA12	G-4	D875	N-11	QB01	N-2	R486	J-4	RB41	I-19
C320	E-13	CA33	F-4	D876	L-11	QB03	M-2	R487	I-4	RB42	G-7
C370	F-15	CA37	E-2	D881	H-11	QB21	F-9	R488	J-3	RB43	G-6
C371	G-14	CA38	E-2	D883	I-7	QB30	K-2	R489	J-3	RB44	G-6
C403	B-9	CA42	F-2	D884	I-7	QB40	G-6	R490	I-4	RB45	G-6
C404	C-10	CA43	F-2	D885	J-7	QG01	F-17	R503	D-7	RB46	G-6
C413	L-13	CA44	G-2	D886	J-7	QG05	F-16	R504	E-6	RG05	F-17
C415	M-13	CA68	H-3	D899	B-17	R	I-19	R506	D-8	RG08	G-17
C416	L-13	CA69	H-3	DA42	F-2	R101	H-12	R507	D-8	RG09	G-17
C417	M-13	CB01	N-2	DB01	L-1	R102	E-16	R508	D-8	RG14	F-18
C421	E-15	CB20	I-17	DB03	L-1	R103	E-15	R612	I-2	RG15	G-18
C430	C-9	CG02	F-16	DB30	K-2	R201	E-6	R613	I-2	RG16	H-19
C431	D-9	CG03	F-17	DB45	F-9	R202	A-6	R614	G-7	RG17	F-18
C440	N-15	CG05	G-17	DG02	G-16	R203	A-7	R661	B-13	RG22	D-18
C442	K-14	CG06	G-17	F470	J-6	R208	B-8	R662	B-12	RG23	D-17
C444	L-15	CG07	F-16	F801	A-18	R228	I-18	R663	B-11	RG43	E-15
C445	K-19	CG08	F-17	F860	N-8	R230	B-8	R664	C-11	RG44	F-16
C446	I-16	CG09	F-18	F889	H-9	R231	B-10	R667	C-11	RG45	G-16
C448	J-16	CG10	G-18	G203	A-10	R235	A-8	R668	C-11	RG46	G-16
C449	H-16	CG12	G-18	G217	J-19	R236	D-9	R669	B-11	RM02	E-1
C450	B-9	CG13	G-18	G500	E-8	R237	D-9	R676	C-12	RM41	F-2
C451	B-10	CG14	H-19	G520	B-7	R238	B-7	R677	C-12	RR90	G-8
C463	N-15	CG16	F-18	G521	B-7	R241	B-7	R808	L-4	RR91	F-8
C471	J-18	CG17	F-19	G813	B-15	R242	A-7	R810	L-7	RR92	F-8
C474	H-14	CG18	F-19	G814	A-15	R245	A-7	R816	J-2	RR93	F-7
C480	K-2	CG19	E-19	G816	K-4	R246	B-6	R818	K-3	RS21	G-18
C481	I-4	CG20	E-19	G861	N-9	R247	A-7	R819	J-2	RS24	G-18
C504	D-7	CG25	D-19	G882	I-6	R301	F-9	R861	K-5	RV01	F-19
C510	E-6	CG26	D-19	H001	C-17	R302	D-13	R862	M-11	RV03	B-6
C514	D-6	CG27	E-18	KB01	L-1	R303	E-12	R863	N-10	SA01	K-1
C612	I-2	CG28	E-18	L101	D-18	R304	F-11	R864	L-12	SA02	J-1
C613	J-2	CG29	E-18	L202	A-6	R305	F-12	R866	L-11	SA03	I-1
C661	B-11	CG30	E-17	L204	D-6	R306	F-11	R867	M-10	SA04	H-1
C662	B-12	CG31	E-17	L205	A-6	R307	E-12	R870	K-11	SA05	G-1
C663	C-12	CG32	E-17	L301	E-13	R308	D-8	R871	J-11	SA06	F-1
C671	B-12	CG33	E-17	L400	D-11	R309	F-12	R872	N-11	SA07	N-1
C672	B-12	CG38	E-16	L441	J-14	R313	F-12	R883	I-5	SR81	K-4
C673	A-13	CG39	E-16	L805	K-7	R317	D-8	R884	I-5	T401	M-13
C676	C-12	CG42	D-17	L806	L-8	R327	H-17	R891	I-5	T461	L-18
C677	C-12	CG44	E-16	L883	J-8	R336	H-13	R898	B-19	T840	M-6
C678	B-12	CG45	G-16	L884	J-8	R337	B-9	RA03	G-2	T862	I-9
C679	B-10	CM05	E-2	L885	I-6	R338	C-10	RA04	G-3	X	J-19
C681	B-11	CM08	F-2	L886	I-8	R345	C-9	RA07	G-3	X401	B-8
C682	C-12	CR01	E-8	L888	H-8	R370	F-14	RA08	G-3	X501	D-7
C683	A-11	CR02	E-8	LA01	F-2	R371	F-15	RA12	G-4	XA01	F-3
C801	B-17	CR03	E-8	LB02	F-4	R372	E-15	RA13	G-4		
C810	K-9	CV06	A-8	M901A	E-8	R374	G-14	RA16	G-2		
C811	B-14	D101	C-18	M902A	H-15	R375	G-13	RA17	G-2		
C812	A-14	D102	E-16	P401	I-13	R379	G-15	RA18	G-2		
C815	K-3	D201	D-8	P601	A-12	R400	C-9	RA22	G-7		
C819	J-2	D205	B-8	P802	B-19	R401	B-8	RA23	F-7		
C840	M-3	D210	A-9	P910	N-4	R402	B-9	RA24	F-7		

TOSHIBA

MODEL CF27G30 (CHASSIS TAC9726)

PARTS LIST

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)
- NTE Electronics, Inc. (NTE)
- Philips ECG Company (ECG)
- Sencore, Inc.
- Terrell & Nobis (TNI Electronics)
- Thomson Consumer Electronics, Inc. (SK, TCE)

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	UZZT33	23316694	-	-	-
D102	MTZJ5.6C	23316673	-	-	-
D201	UZZ3.3BSA	23316292	-	-	-
D205, 10, 20	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
D301	EU2A	23118094	NTE552	ECG552	SK9000
D302	S5295G	A7978850	NTE552	ECG552	SK9000
D308, 09	ERB12-02	23118822	NTE552	ECG552	SK9000
D370	UZZ3.6BSA	23316308	-	-	-
D406	S5295G	A7978850	NTE552	ECG552	SK9000
D407 (1)	-	23118859	NTE177	ECG177	SK9091
D407	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
D408	3JH41	A7580658	-	-	-
D409, 21	UZZ10BSB	23316327	-	-	-
D441	MTZJ9.1B	23316687	-	-	-
D445	BYD33J	23118479	NTE580	ECG580	SK5036
D471	TVR-1B	A7568460	NTE552	ECG552	SK9000
# D472	RD6.2E	23115774	NTE5013A	ECG5013A	SK6A2
D473 (1)	-	23118859	NTE177	ECG177	SK9091
D473	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
D480	UZZ36BSA	23316370	-	-	-
D611 (1)	-	23118859	NTE177	ECG177	SK9091
D611	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
D612 (1)	-	23118859	NTE177	ECG177	SK9091
D612	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
D801, 02, 03, 04	IS1887AFA-1	A7568754	NTE116	ECG116	SK3312
D840	S1WBA20	23316962	-	-	-
D845 (1)	-	23118859	NTE177	ECG177	SK9091
D845	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
D862, 64	EU2A	23118094	NTE552	ECG552	SK9000
D875	UZZ20BSB	23316348	-	-	-
	RD20ESA	-	-	-	-
D876	UZZ27BSC	23316360	-	-	-
	MTZJ27C	-	-	-	-
D881 (1)	-	23118859	NTE177	ECG177	SK9091
D881	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
D883, 84	RG2	23115530	NTE580	ECG580	SK5036
D885, 86	EU2A	23118094	NTE552	ECG552	SK9000
# D899	ENC271D-14A	24000268	-	-	-
	TNR15G271K	-	-	-	-
D902 (1)	-	23118859	NTE177	ECG177	SK9091
D902	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
D903 (1)	-	23118859	NTE177	ECG177	SK9091
D903	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
DA42	UZZ5.6BSB	23316309	NTE5011A	ECG5011A	SK5A6
DB01	SCL003URC5F	23358501	-	-	-
DB03	SIR-56SB3F	23358522	-	-	-
DB30, 45 (1)	-	23118859	NTE177	ECG177	SK9091
DB30, 45	ISS131	23115537	NTE519	ECG519	SK3100
	ISS120-7	-	-	-	-
DG02	UZZ10BSB	23316327	-	-	-

For SAFETY use only equivalent replacement part.
(1) Used in models CF27G30 and CL29G30.

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.
# G882	MTZJ2.7B	23316653	-	-	-
Q101	2SC1740S-Q	23114528	NTE85	ECG85	SK3122
	2SC1685-Q	-	NTE85	ECG85	SK9229
Q301	TA8427K	B0378560	-	-	-
Q370	2SA933S-Q	23114530	NTE290A	ECG290A	SK9132
	2SA564AQ	-	NTE290A	ECG290A	SK3932
Q402	2SC1569FA-5	A678971D	NTE376	ECG376	SK3219
Q403	2SC4721P	23314444	-	-	-
# Q404	2SD1556(E)	A6871313	NTE2302	ECG2302	SK9422
Q421	2SC3852	23314141	NTE56	ECG56	SK9364
	2SD1405BL	-	-	-	-
	2SD1944H	-	-	-	-
Q471	2SA1015-O	A6534036	NTE290A	ECG290A	SK9132
Q472	2SC1740S-Q	23114528	NTE85	ECG85	SK3122
Q480	2SA949-Y(C)	A6532853	NTE383	ECG383	SK9138
Q501	TA1223AN	B0385424	-	-	-
Q610	TA8211AH	B0376856	-	-	-
Q611	2SC2878-A(TE)	A6342206	-	-	-
	2SC2878A	-	NTE85	ECG85	SK9465
Q612	2SA933S-Q	23114530	NTE290A	ECG290A	SK9132
	2SA564A-Q	-	NTE290A	ECG290A	SK3932
Q613	2SC2878-A(TE)	A6342206	-	-	-
	2SC2878A	-	NTE85	ECG85	SK9465
# Q801	STR-Z2751L	23904891	-	-	-
	STR-Z2751	-	-	-	-
Q817	2SC1740S-Q	23114528	NTE85	ECG85	SK3122
Q818	RN2201	A6012010	-	-	-
Q819	2SC1740S-Q	23114528	NTE85	ECG85	SK3122
Q840	L78MR05	23318299	-	-	-
Q843	RN1205	A6002050	-	-	-
Q862	TLP621(GRL)	A8643135	NTE3098	ECG3098	SK10178
Q883	S1854FA-4	A6907777	-	-	-
Q901, 02, 03	2SC3619	A6363200	NTE157	ECG2501	SK3747
Q904, 05, 06	2SC1740S-Q	23114528	NTE85	ECG85	SK3122
Q971	2SA933S-Q	23114530	NTE290A	ECG290A	SK9132
	2SA933Y	-	-	-	-
	2SA1015Y	-	NTE290A	ECG290A	SK9132
QA01	TMP87CM34BN-3298	23905569	-	-	-
QA02	24LC04BI/P	23904941	-	-	-
QB01	2SC1740S-Q	23114528	NTE85	ECG85	SK3122
QB03	RN1205	A6002050	-	-	-
QB21, 30, 40	2SC1740S-Q	23114528	NTE85	ECG85	SK3122
QG01	UPC1851CU	23905591	-	-	-
QG05	2SC2665Y-(C)	A6333346	-	-	-

For SAFETY use only equivalent replacement part.

PARTS LIST continued

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
R228	11K 2% 1/6W	24367113	-
# R327	5.6 5% 2W	24339569	2W5D6
# R336	270 5% 2W	24383271	2W127
# R416	5600 5% 5W Wirewound	24510562	5W256
R418	12 5% 1/2W Fusible	24531120	-
R442	1000 5% 1W Fusible	24532102	F1W210
# R475	390 5% 1/6W	24366391	-
# R478	13K 1% 1/4W	24327133	-
R482	4700 1% 1/4W	24327472	-
R488, 89	18K 1% 1/4W	24327183	-
R808	7/131 Cold PTC 20% 140V	24000869	-
R810	1.1 5% 7W Wirewound	24568119	-
R867	47K 2% 1/6W	24367473	-
# R920	2.2 5% 2W Fusible	24000961	F2W2D2
	2.4 5% 2W Fusible	24000880	F2W2D4
RG15	15K 1% 1/4W	24327153	-
RG45	4.7 5% 1/4W Fusible	24545479	-

For SAFETY use only equivalent replacement part.

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
C209	2.2µF 20% 50V NP	24085944
# C440	.0075 3% 1.25kV	24082549
# C442	.62 5% 250V	24082701
# C444	.007 3% 1.25kV	24082544
C504	9pF ±0.25pF NPO	24353090
C801	.47 20% 125VAC	24082001
# C811	.0047 20% 400VAC	24092270
# C812, 15	.0022 20% 400VAC	24094820
C862	820pF 2% 50V	24082858
C865	.001 10% 2kV	24092345
C871	.001 10% 2kV	24092345
C893, 94	270pF 10% 2kV	24092338
C902	.001 10% 2kV	24211102
# G813	.0047 20% 400VAC	24094820
# G814, 16	.0022 20% 400VAC	24094820

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
G500	-	23238714
G861	Ferrite Bead	23103880
L101	22µH	23289220
L202	-	23289109
L204	-	23289100
L205	-	23289181
L301	Ferrite Bead	23103880
L400	-	23289100
# L441	Horizontal Linearity	23233045
# L462 (2)	Yoke Horiz .96mH Vert 18.5mH	-
L805	-	23248150
L806	-	23221747
L883, 84	Ferrite Bead	23103880
L885	-	23248073
L886, 88	Ferrite Bead	23103880
# L901	Degaussing	23200789
LA01	-	23289100
LB02	-	23289560
T401	Horizontal Drive	23224336
# T461 (1)	Horizontal Output	23236467
# T801	Line Filter	23211671
# T840	Power	23213513
# T862	Converter	23217304

For SAFETY use only equivalent replacement part.

(1) Focus and screen controls are part of T461.
(2) Bonded part of CRT.

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
# F470	Fuse	23144805	1.6Amp, 250V, Fast Acting
# F801	Fuse	23144888	5Amp, 125V, Slow Blow
# F860	Fuse	23144511	4Amp, 125V
F889	Fuse	23144776	1.6Amp, 125V
# H001 (1)	Module	23321226	Tuner/IF (EL932L2)
KB01	Receiver	23905177	Remote (PIC-TB16)
# P801	Line Cord	23176006	AC, Polarized
SA01	Switch	23145227	Channel Up
SA02	Switch	23145227	Channel Down
SA03	Switch	23145227	Volume Up
SA04	Switch	23145227	Volume Down
SA05	Switch	23145227	Video
SA06	Switch	23145227	Memory
SA07	Switch	23145227	Power
SP1, 2	Speaker	23351088	2 1/4" X 5", 8 Ohms, 5W
# SR81 (2)	Relay	23146564	Power
# SR81	Relay	23146916	Power
# V901	CRT	23312662	A68ADT28X02
# V901A	Socket	23902068	CRT
X401	Resonator	23153721	503kHz
X501	Crystal	23153961	3.58MHz
XA01	Resonator	23153325	8MHz
	Adapter	23142003	Antenna 75 To 300 Ohms
	Fuse Holder	23165433	-
	PC Board	-	CRT (PB6461B1)
	PC Board (2)	-	CRT (PB6461A-2)
	PC Board	-	Main (PB6461B2)
	PC Board (2)	-	Main (PB6461A-1)
	Transmitter	23306172	Remote (CT-9855)

For SAFETY use only equivalent replacement part.

(1) Contact TNI Electronics for replacement; order by part number on tuner.
(2) Used in models CF27G30 and CL29G30.

CABINET PARTS

Item	Mfr. Part No.
Button Control	23443954
Button Power	23443954
Cabinet Front	23410574
Cabinet Rear	23426428



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*J. Barker, N. Beck, B. Buchanan,
T. Clensy, G. Farrell, B. Fink,
M. Herkless, J. Kocha, F. Malek,
B. Medaris, R. Raus, B. Skinner*