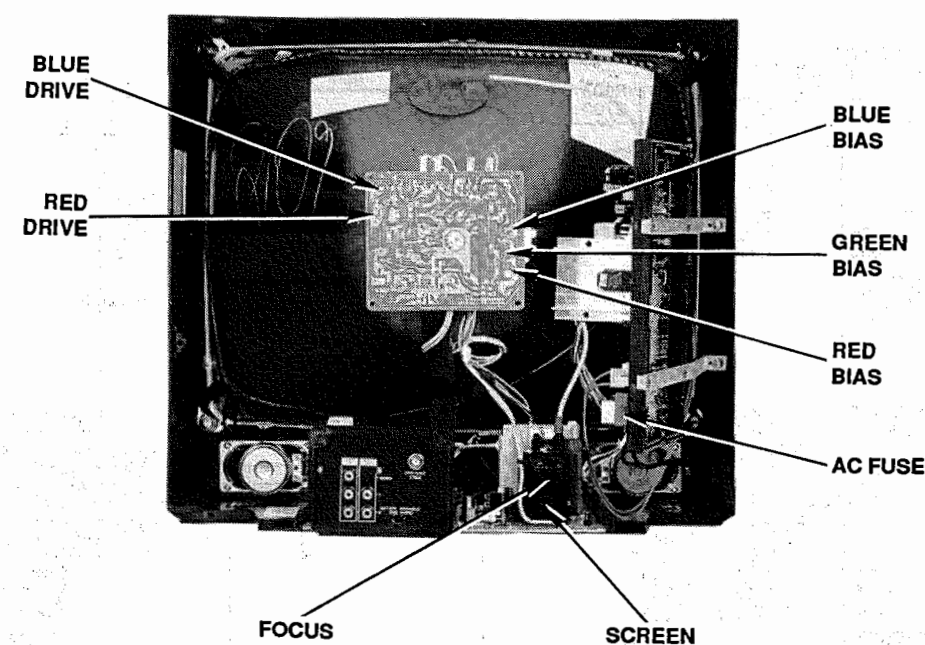


CABINET - REAR VIEW



TEST JIG HOOKUP

Function	Chek-A-Color Adapter No.	PC Board Plug No.	Pin	Color
CRT	B239	P401	1	Red
Yoke	D482		2	Blue
Yoke Setting	YP3		3	Yellow
Comments	-		4	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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PHOTOFACT® Technical Service Data

SET 3102

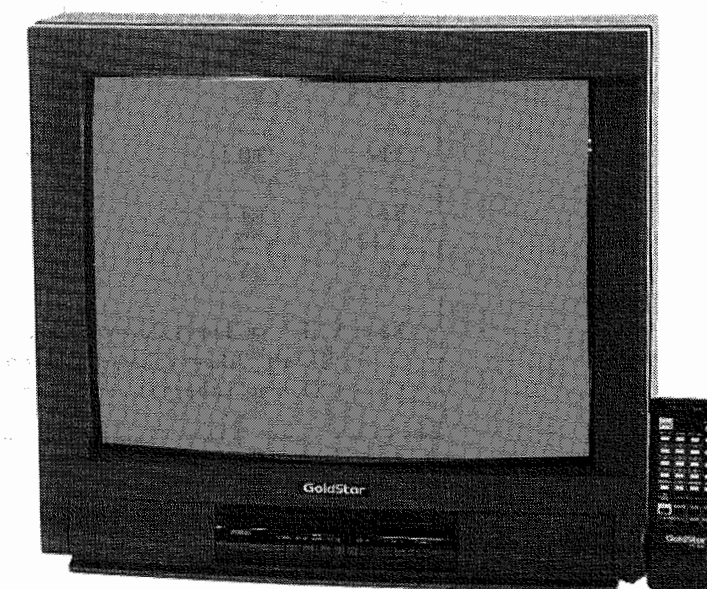
INDEX

Convergence Adjustments	1
GridTrace Location Guide	
CRT Board	5
Main Board	4
Power Supply Board	3
Miscellaneous Adjustments	1
Parts List	
TV	5, 6
Photos	
Cabinet-Rear View	1
CRT Board	5
CRT Neck Assembly	1
Main Board	4
Power Supply Board	3
Placement Chart	3
Quick-Checks Troubleshooting	
CRT Board	5
Main Board	4
Power Supply Board	3
Safety Precautions	1
Schematics	
CRT Board	2
Power Supply	2
Selector/MPU	3
Stereo/SAP Decoder/ Audio Control/Output	3
TV	2
Schematic Notes	1
Stereo/SAP Adjustments	1
Test Equipment	1
Test Jig Hookup	1
Troubleshooting	1
Tuner Information	2

MODELS CMT-2108A, CMT-2109A (CHASSIS NC-OCA)

GOLDSTAR

GOLDSTAR
Models CMT-2108A, CMT-2109A (Chassis NC-OCA)



CMT-2109A

Complete coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts lists
- Troubleshooting guide



HOWARD W. SAMS & COMPANY

JANUARY 1993 SET 3102

For Supplier Address,
See PHOTOFACT Annual Index

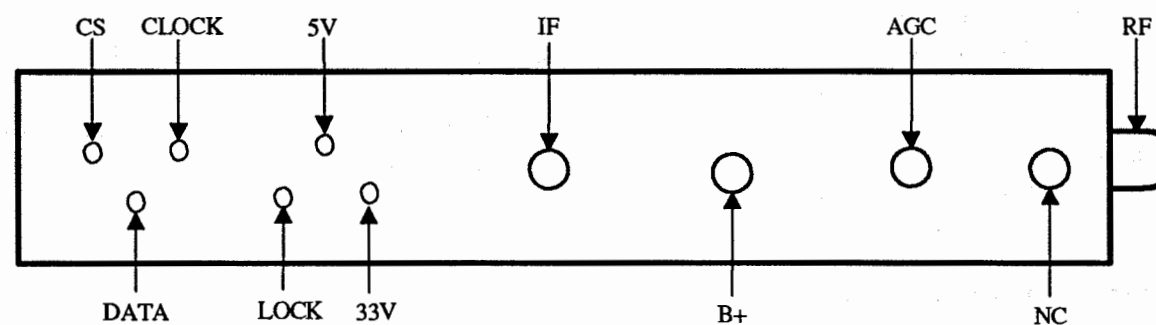
TUNER INFORMATION

TUNER VOLTAGE CHART

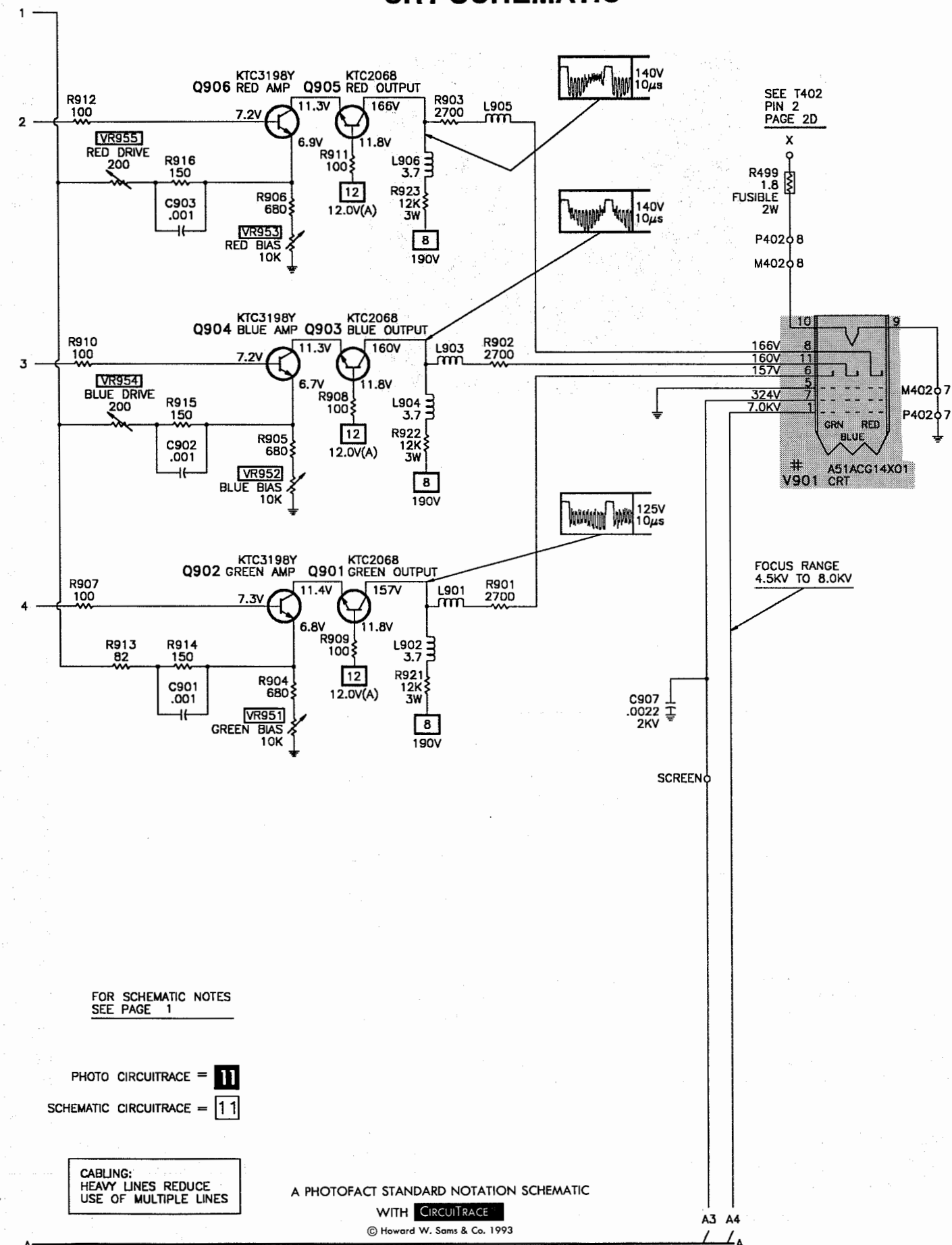
	VHF Low Band	VHF High Band	UHF Band
CS	0V	0V	0V
DATA	0V	0V	0V
CLOCK	0V	0V	0V
LOCK	0V	0V	0V
5V	4.5V	4.5V	4.5V
33V	33.0V	33.0V	33.0V
IF	0V	0V	0V
B+	11.7V	11.7V	11.7V
AGC	6.9V	6.9V	6.9V
NC	1.1V	4.2V	6.7V

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



CRT SCHEMATIC



GOLDSTAR

MODELS CMT-2108A, CMT-2109A (CHASSIS NC-0CA)

GOLDSTAR
MODELS CMT-2108A, CMT-2109A (CHASSIS NC-OCA)

NOTE; The following procedures require power applied and an antenna connected.

1. Press the Set-up key on remote transmitter.
2. Press the Set-up key to step through menu, select "Channel Program".
3. Press the Vol + key on remote transmitter.
4. Press the Set-up key to select "Auto Program" from the menu.
5. Press Vol + key to start programming.

1. Press numbers keys to select a channel to add or delete.
2. Press the Set-up key on remote transmitter.
3. Press the Set-up key to step through menu, select "Channel Program".
4. Press the Vol + key on remote transmitter to select "Add" or "Erase".
5. Press the Recall key to end, or repeat from step 1.

1. Press the Set-up key on remote transmitter.
2. Press the Set-up key to step through menu, select "Set Time".
3. Press the Vol + key on remote transmitter.
4. Press the Set-up key to select "Clock" from the menu.
5. Press the Vol + key to begin setting cycle. Alternately, Hours and Minutes will flash to indicate which can be changed.
6. Use the Vol + key to advance, Vol - key to decrement. Setting cycle will end when no change is made for about 12 seconds.

Connect a digital voltmeter to "CHECK B+", low side to ground. Adjust B+ bias control (VR801) for 119.0 VDC.

Turn receiver on and tune in an active station. Turn AGC control (VR151) fully clockwise, then counterclockwise to a point where snow just disappears.

Tune in a color bar pattern. Connect oscilloscope to IC201 pin 48. Adjust comb filter control (VR251) for minimum chroma component in waveform. Adjust comb phase coil (L204) for minimum chroma component in waveform.

Tune in a picture. Adjust horizontal centering control (VR451) for best centering. Adjust vertical size control (VR351) for a slight overscan.

Set brightness, picture-contrast, and color to minimum. Set the sub-brightness control (VR253) to a point where all highlights are just extinguished. Check for blooming at high brightness.

This set employs a magnetic tape beam bender, and a bonded deflection yoke. Yoke position is not adjustable. Use a degaussing coil to demagnetize the CRT and mounting brackets. Operate the receiver for 15 minutes. Set picture and color to minimum, brightness for a visible raster. Adjust red (VR953) and blue (VR952) Bias controls for a green screen. Rotate and spread purity magnet tabs for best uniform green screen.

Tune in an active station, allow a 10 to 30 minute warm up time. Set color, brightness, contrast, the screen control, and bias controls (VR951, VR952, VR953) to minimum. Set the blue and red drive controls (VR954, VR955) to midrange. Set service switch (SW201) to Service position. Advance the screen control until a faint line of one predominant color appears on the screen. Adjust two remaining bias controls for a dim white line. Set the service switch (SW201) to Normal position. Adjust the two drive controls for best black and white picture on screen.

Operate the receiver for 15 minutes. Connect a color bar generator to the antenna terminals and tune in a dot pattern. Adjust the 4-pole magnet tabs to converge the red and blue dots at the center of the screen. Adjust the 6-pole magnet tabs 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. Four-pole and six-pole magnets interact; repeat adjustment until no further convergence improvement is noted.

Note: All adjustments were made using an MTS TV-Stereo generator. Connect generator to antenna terminals. Set generator to PILOT, 1KHz audio frequency, and L+R modulating signal, unless otherwise indicated. Use the following control settings, for all adjustments, unless otherwise indicated. Use audio RESET.

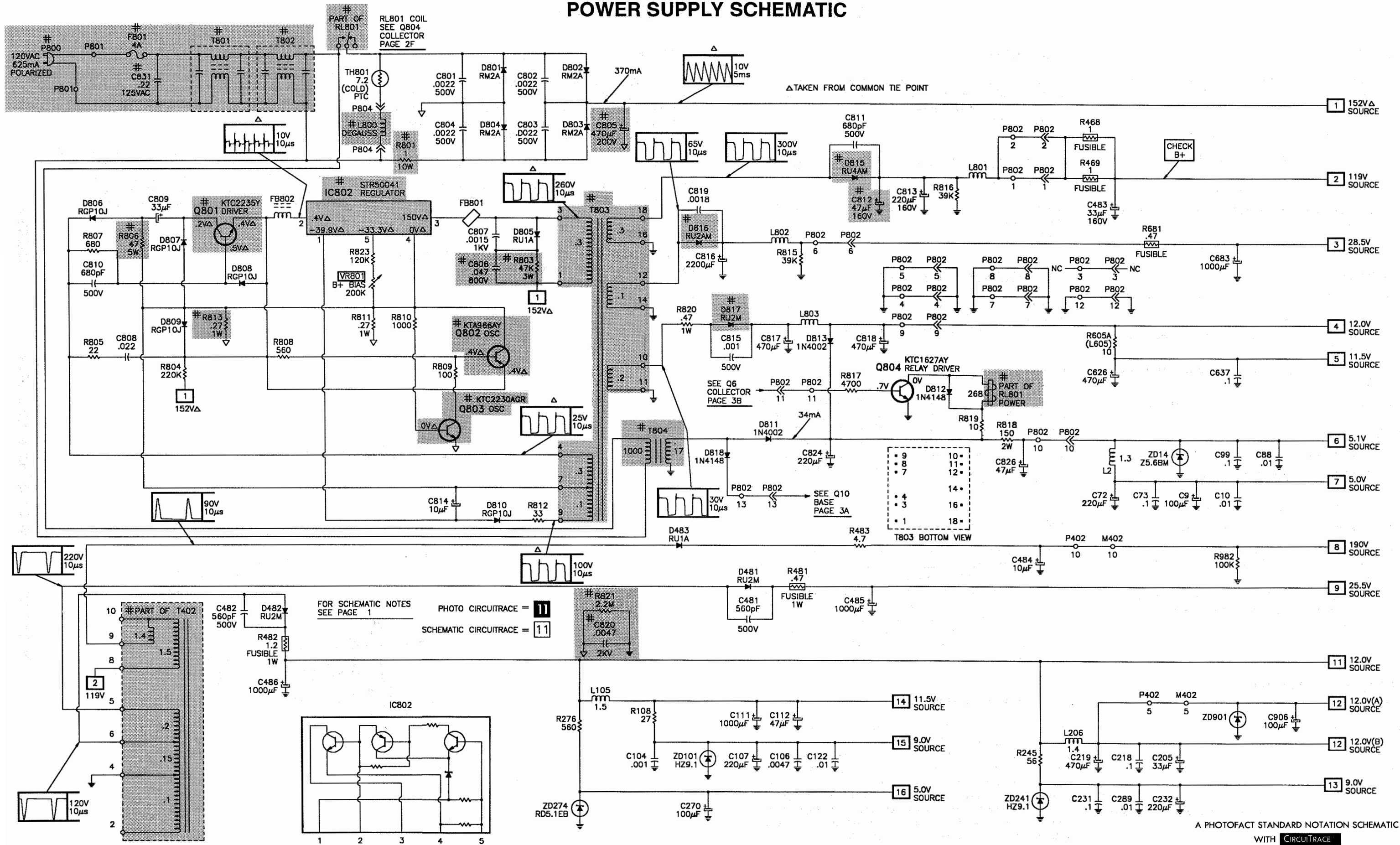
Connect oscilloscope to stereo decoder IC (IC601) pin 39, low side to ground. Adjust MPX input control (VR651) for 800mV p-p.

Set the generator for SAP, 1KHz audio frequency, and L-R modulating signal. Connect an oscilloscope to stereo decoder IC (IC601) pin 21, low side to ground. Adjust SAP/DBX Filter control (VR654) for minimum.

A schematic diagram of a magnetic tape head assembly. On the left, a Cathode Ray Tube (CRT) is shown with a deflection yoke attached to its neck. The deflection yoke is connected to deflection yoke connectors, which are in turn connected to the head assembly. The head assembly consists of a magnetic tape head, followed by a series of magnets: a magnetic tape head, a purity magnet, four-pole conversion magnets, and six-pole conversion magnets. The diagram is labeled with the following components:

- CRT
- DEFLECTION YOKE
- DEFLECTION YOKE CONNECTORS
- MAGNETIC TAPE
- PURITY MAGNETS
- FOUR-POLE CONV. MAGNETS
- SIX-POLE CONV. MAGNETS

POWER SUPPLY SCHEMATIC



A PHOTOFACT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

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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 chassis, use an isolation transformer between the line cord and power receptacle.

SERVICING HIGH VOLTAGE AND PICTURE TUBE

Use EXTREME CAUTION when servicing the High Voltage circuits.

- 1. To discharge static High Voltage, connect a 10 kilohm resistor in series with a test lead between chassis and picture tube anode lead.
- 2. DO NOT lift picture tube by the neck.
- 3. ALWAYS wear shatterproof goggles when handling picture tube 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 picture tube 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 chassis, check 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 set with excessive High Voltage, avoid close contact with picture tube. DO NOT operate set longer than necessary. To locate the cause of excessive High Voltage, use a variable AC transformer to regulate voltage.
- 5. In present chassis, 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 Sets with Isolated Ground

- 1. Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch ON.
- 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 200 kilohms and 5 megohms. Parts without a return path must register infinity.

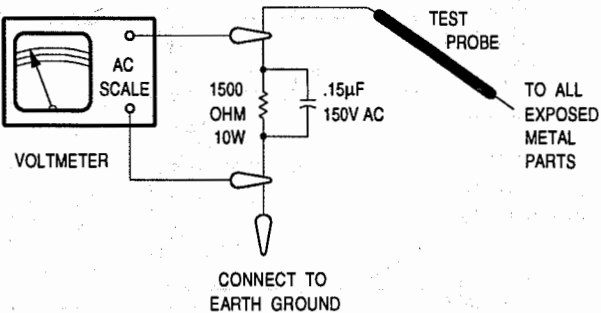
Hot Leakage Current Check

- 1. Plug the AC cord directly into AC outlet. DO NOT use an isolation transformer.
- 2. Use a 1500-ohm, 10-watt resistor in parallel with a .15-microfarad 150 Volts AC capacitor to connect between any exposed metal parts on the set and a good earth ground. (See figure below.)
- 3. Use an AC voltmeter with at least 1000 ohms-per-volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point.
- 4. Voltage readings should not exceed .75 volts RMS (5 milliamps AC). Any value exceeding this limit constitutes a potential shock hazard and must be corrected.
- 5. If 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 set to customer.

- 1. Check repaired area for poorly soldered or de-soldered 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.



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	SC3080	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	SC3080	TV Stereo Power Monitor	SR68, PA81
Frequency Meter	SC3080	Field Strength Meter	SL750
Hi-Voltage Probe	HP200	Transistor Tester	TF46
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

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

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.

Item numbers in rectangle appear in adjustment instructions.

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,

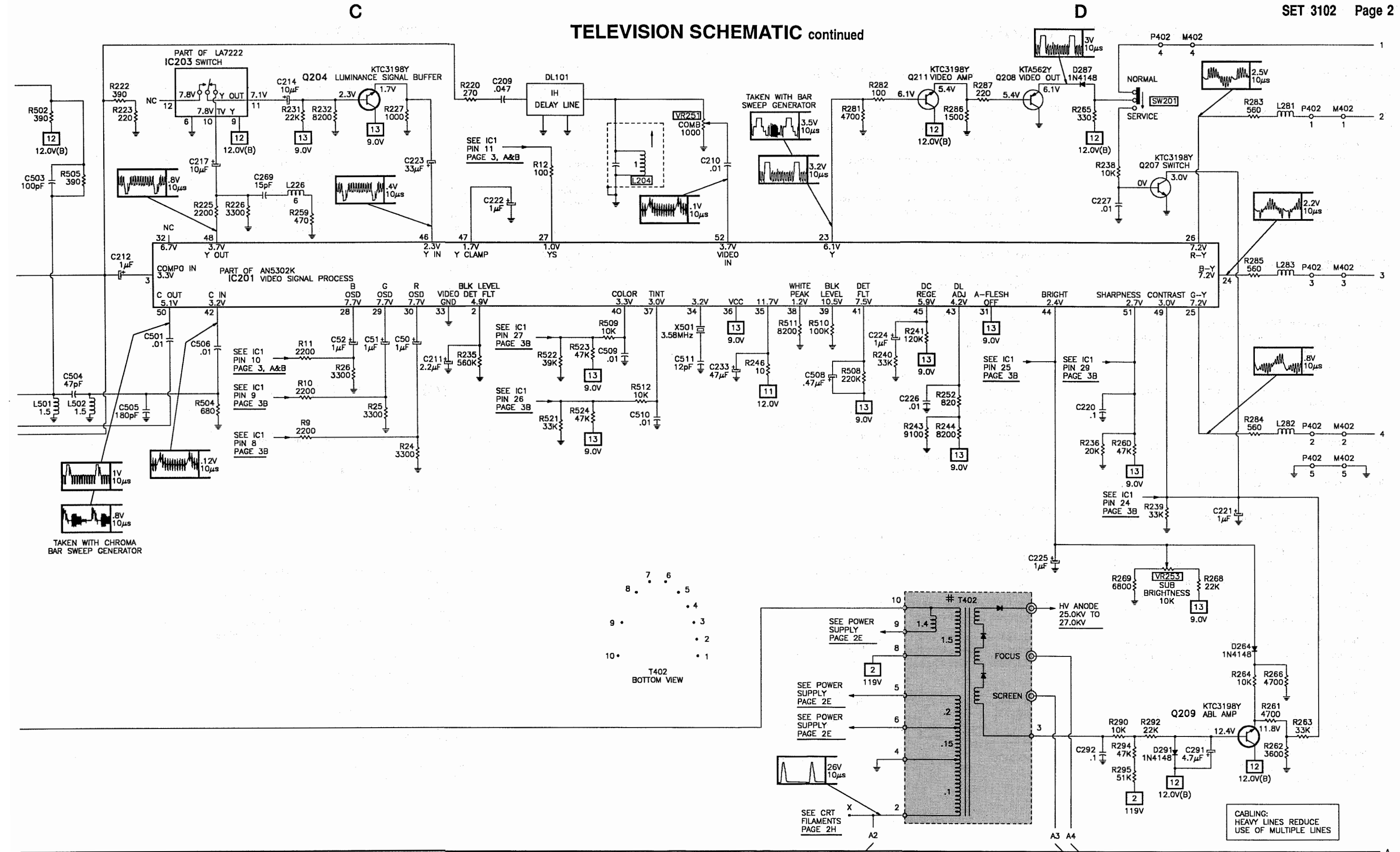
20% or greater unless noted.

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.

TELEVISION SCHEMATIC continued

TROUBLESHOOTING

POWER SUPPLY

Check the AC Fuse (F801). If the fuse is open:
 Check the rectifier diodes (D801 thru D804), and the capacitors C801 thru C805 and C831.

Apply 120VAC and check for 152V* at the junction of D802 and D803.
 If the voltage is incorrect or missing check voltages and components associated with line filters (T801, T802), and standby power transformer (T804).

 *With respect to Common Tie Point.

If the set does not turn on or off
 Check voltage sources 6 (5.1V), and 7 (5.0V) switch transistor (Q6), relay driver transistor (Q804), power relay (RL801), and pins 13, 36, 44, and 50 of micro processor unit IC (IC1).

Check voltage sources 2 through 5.
 If all are missing check voltages, waveforms, and components associated with switched mode power supply regulator IC (IC802), and switched mode transformer (T803).

 If any are incorrect or missing check components and voltages associated with that source.

Check Voltage Sources 9 through 16
 If all are missing refer to the "Horizontal" section of this troubleshooting guide.

 If some are incorrect or missing check voltages, waveforms, and components associated with Horizontal Output transformer (T402), and components in that source line.

HORIZONTAL

Determine if the set is in High Voltage Hold-Down state.
 If the set is in Hold-Down, refer to "High Voltage Hold-Down" section of this Troubleshooting guide.

 If the set is not in Hold-Down, depress power button.

Check for a horizontal drive signal at pin 21 of IC201.
 If horizontal signal is not present, check the voltages, waveforms, and components associated with pins 4, 10 thru 15, and 17 thru 22 of IC201.

Check for a horizontal output signal at the base of transistor Q403.
 If horizontal signal is not present, check transistor Q402 and transformer T401.

Also check transistor Q403, and transformer T402.
The high voltage rectifier is part of transformer T402 and if defective will effect the operation of the horizontal circuits.

HIGH VOLTAGE HOLD-DOWN

The high voltage is monitored by diode D491 rectifying pulses from the horizontal output transformer (T402) and applying the rectified

voltage to a comparitor circuit inside the video signal processor IC (IC201). Should the high voltage increase, the voltage at the cathode of D491 also increases and triggers the comparitor circuit. This causes the deflection portion of IC201 to shut down the horizontal drive signal at pin 21, causing horizontal driver and horizontal output transistors (Q402, Q403) to shut Off.

To troubleshoot:
 Remove diode D491 from circuit, use a variable power supply for AC voltage. Start at 70VAC and troubleshoot to locate the defect. Care should be taken in defeating the high voltage hold-down circuit as this may cause excessive X-Ray radiation and damage to the CRT and transformer T402. Monitor the high voltage and troubleshoot.

Voltages Taken in Hold-Down	
IC201	
Pin 12	7.0V
Pin 14	11.0V

HOLD-DOWN TEST

Apply power, and turn set on. Momentarily connect a 7.0VDC source to pin 12 of IC201 thru an isolation diode. Set should lose raster while the voltage at pin 12 is 7.0V. If set does not lose raster the hold-down circuit should be repaired.

AUDIO

Select an active TV channel and check for an audio waveform at pin 21 of IC101.
 If there is no audio check the voltages and components associated with IC101.

Select a station that is transmitting a stereo signal and check for audio waveforms at pins 17 and 18 of IC601.
 If there is no audio check voltages, waveforms, and components associated with IC601.

Select a station that is transmitting an SAP signal and check for audio waveforms at pins 17 and 18 of IC601.
 If waveforms are missing check voltages and components associated with IC601.

Select either stereo or SAP signal and check for audio waveforms at pins 9 and 13 on IC602.
 If waveforms are missing check voltages, waveforms, and components associated with IC602.

Check for audio waveforms at pins 7 and 12 of IC603.
 If waveforms are incorrect or missing check voltages, waveforms and components associated with IC603.

Check the mute control at pin 37 of IC1, for 0V in mute and 4.6V when unmuted.
 If this voltage is incorrect check voltages, waveforms and components associated with Q8 and Q603 thru Q606.

The volume is digitally controlled in the tone control IC (IC602).
 Check for 5V pulses at pins 11 and 12 of IC602, and pins 33 and 34 of IC1 when a volume control button is pressed.

VIDEO

Inject a video signal at the base of Q201.
 If video is present on the CRT, Refer to the "IF-AGC" section of this Troubleshooting guide.

 If there is no video on the CRT, check for a video waveform at pin 6 of IC202.
 If waveform is missing, check voltages, waveforms, and components associated with pins 1 thru 8 of IC202 and transistor Q201.

Check for luminance signal at pin 23 of IC201.
 If there is no signal check voltages, waveforms, and components associated with pins 3, 46, 48, and 52 of IC201.

Check for a luminance signal at the emitter of Q208.
 If there is no signal, check voltages, waveforms, and components associated with Q208, and Q211.

If the brightness is inadequate or cannot be controlled.
 Check the voltages, waveforms, and components associated with pins 2, 31, 33, 36, 38, 39, 41, 43, 44, 45, and 49 of IC201, pins 24, 25, and 29 of IC1, and pin 7 of the CRT.

IF-AGC

Inject a video IF signal at the base of Q101 and check for video on the CRT.
 If video is present, check the tuner and external components associated with the tuner.

Inject a video signal at the base of Q201.
 If video is missing from the CRT, refer to the "Video" section of this Troubleshooting guide.

Inject a video IF signal at pin 10 of IC101.
 If video appears on the CRT, check voltages, waveforms, and components associated with transistor Q101, and filter Z101.

 If there is no video, apply AGC bias to pin 5 of IC101.
 If video appears on the CRT, check voltages, waveforms, and components associated with tuner, IC1, and pins 1 thru 5, 8, and 10 thru 14 of IC101.

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 4	3.0V	
Pin 5	3.1V	
Pin 11	8.2V	

VERTICAL

Inject a vertical signal at pin 6 of IC301.
 If vertical deflection is now present, check voltages, waveforms, and components associated with pins 1, 5 thru 11, and 16 of IC201.

 If there is still no vertical deflection, check the voltages, waveforms, and components associated with IC301 and DY300.

NOTE: Vertical linearity or foldover problems may be caused by sweep shaping and bias circuits. Check Electrolytics C309, C311, and associated components for defects.

SYNC

Check for vertical sync pulses at pin 4 and horizontal sync pulses at pin 5 of IC201.
 If sync is not present, refer to the "Video" section of this troubleshooting guide.

Check for the proper horizontal waveform at pin 21 of IC201 and the proper vertical waveform at pin 6 of IC201.
 If waveforms are missing or incorrect, check voltages, waveforms, and components associated with pins 4 thru 11, 13, 16, 17, and 19 of IC201, and pins 2, 3, and 12 of IC1.

RASTER

Check the CRT and CRT voltages.
If there is no red.
 Check voltages and components associated with pin 24 of IC201, Q905, and Q906.

If there is no green.
 Check voltage, waveforms, and components associated with pin 25 of IC201, Q901, and Q902.

If there is no blue.
 Check voltages, waveforms, and components associated with pin 26 of IC201, Q903, and Q904.

If the raster has height or width problems:
 Refer to the "Vertical" and "Horizontal" sections of this Troubleshooting guide

CHROMA

Check for a chroma waveform at pin 42 of IC201.
 If waveform is missing, check voltages and components associated with pins 7 and 8 of IC203, Q501, Q7, pins 3 and 5 of IC202, and pins 3, 42, 50, and 52 of IC201.

 If waveform is present, check voltages and components associated with the 3.58MHz oscillator at pin 34 and pin 31 of IC201.

Check the color control at pin 40 of IC201, and pin 27 of IC1.

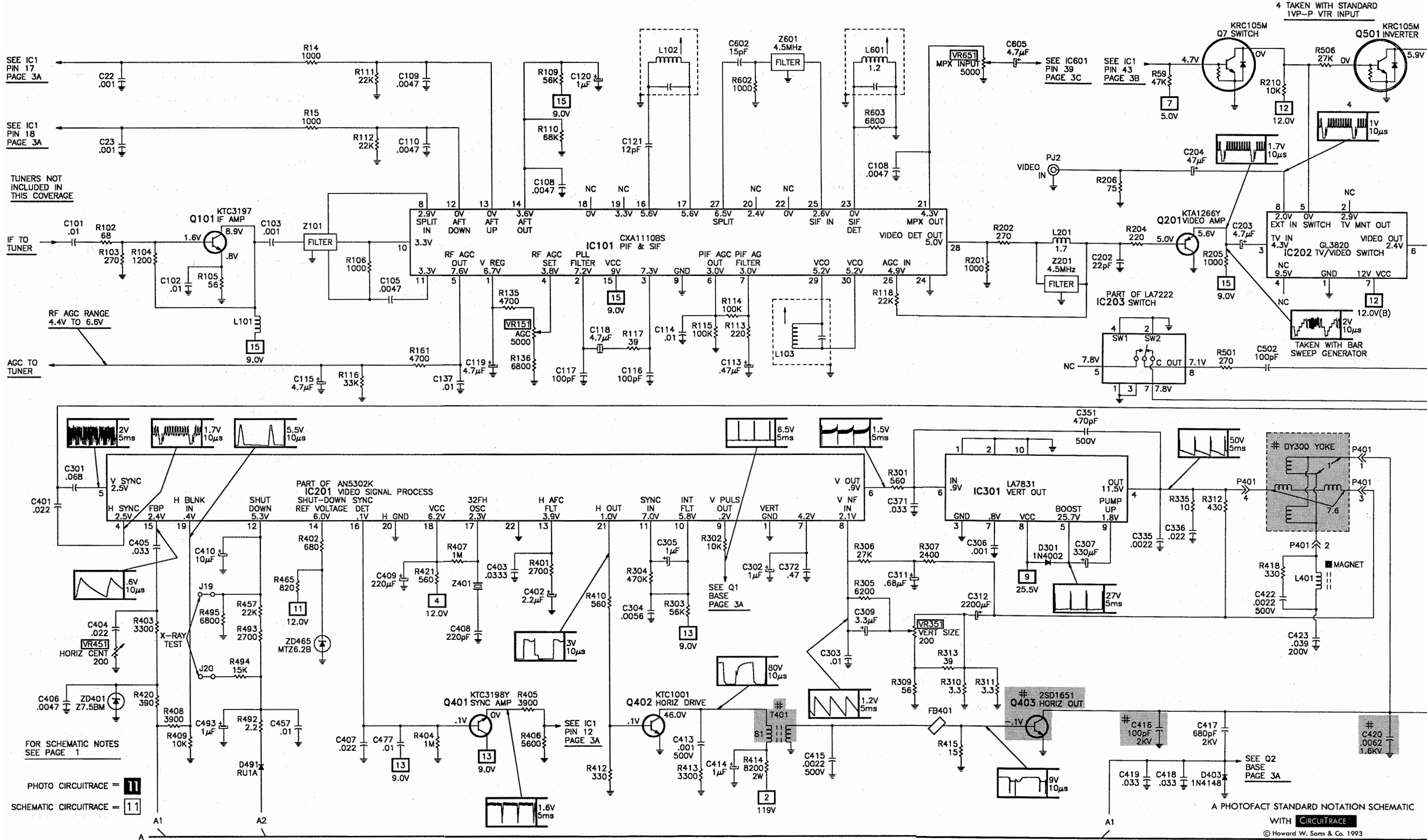
 If there is inadequate tint range, check voltages and components associated with tint control at pin 37 of IC201, and pin 26 of IC1.

If the proper chroma waveforms are present at pins 24, 25, and 26 of IC201, refer to the "Raster" section of this Troubleshooting guide.

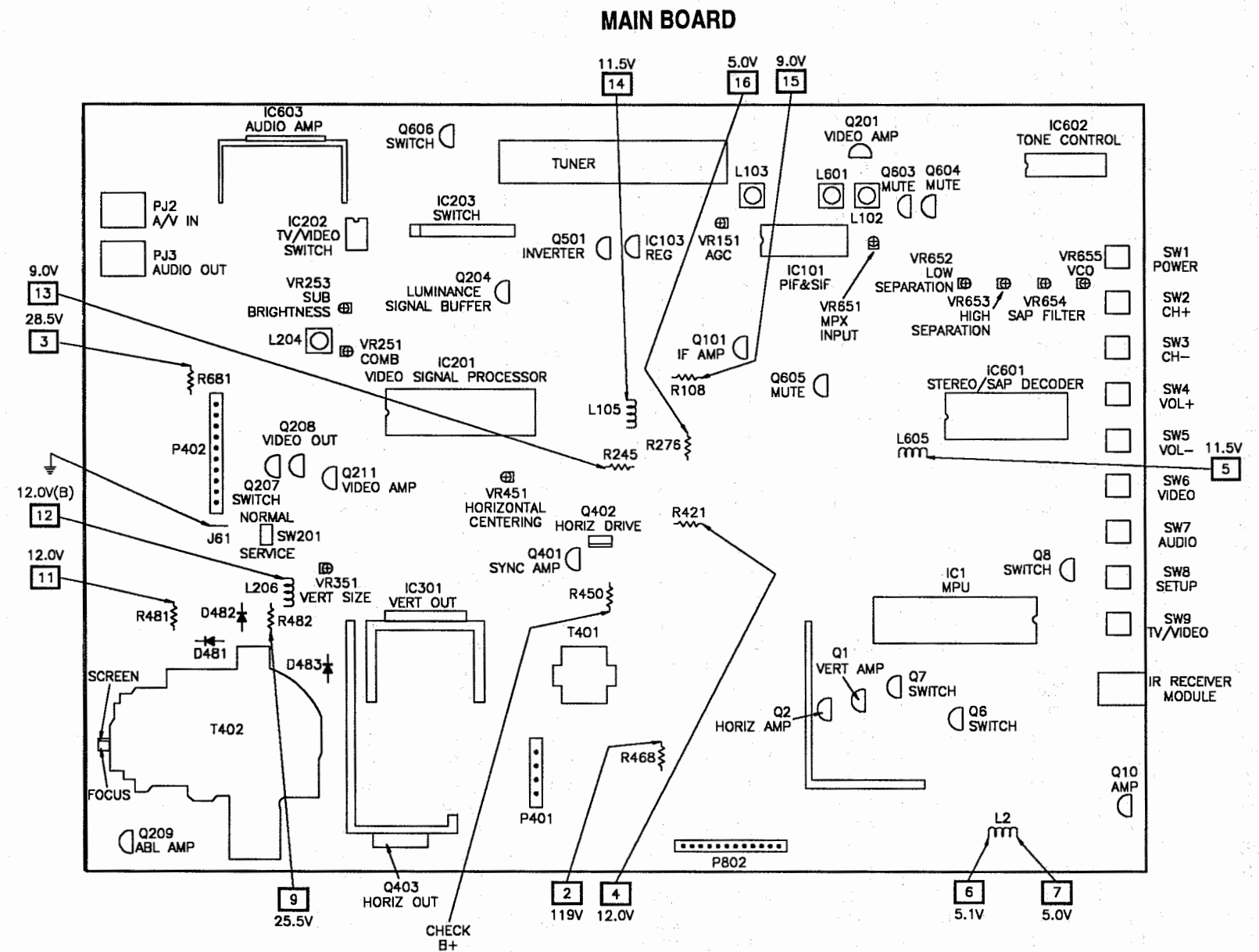
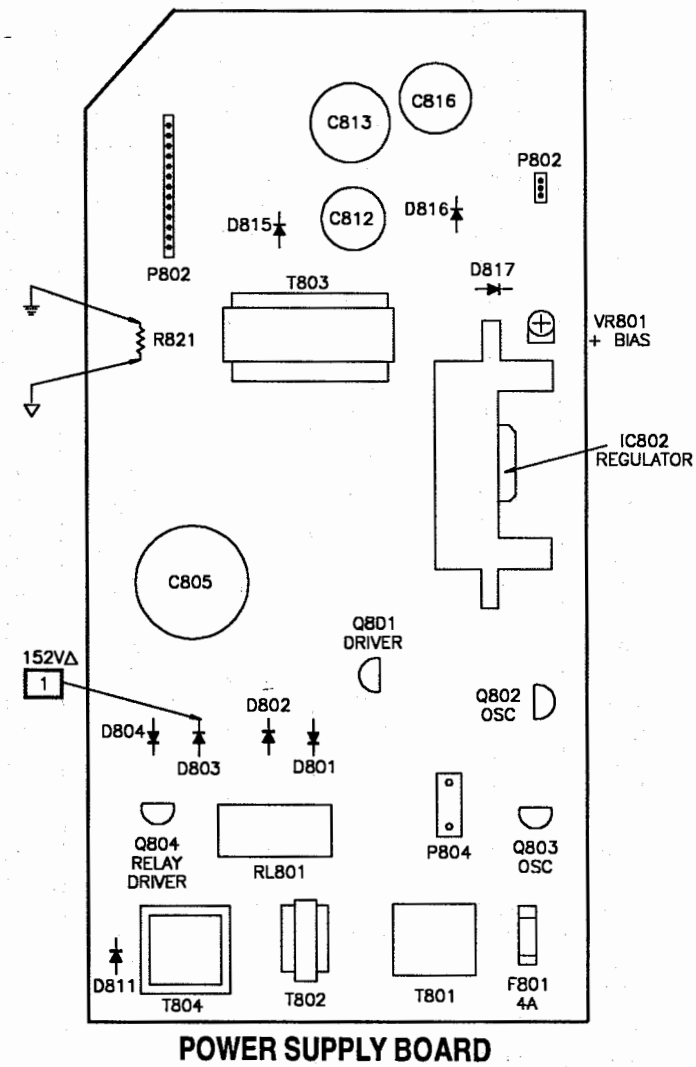
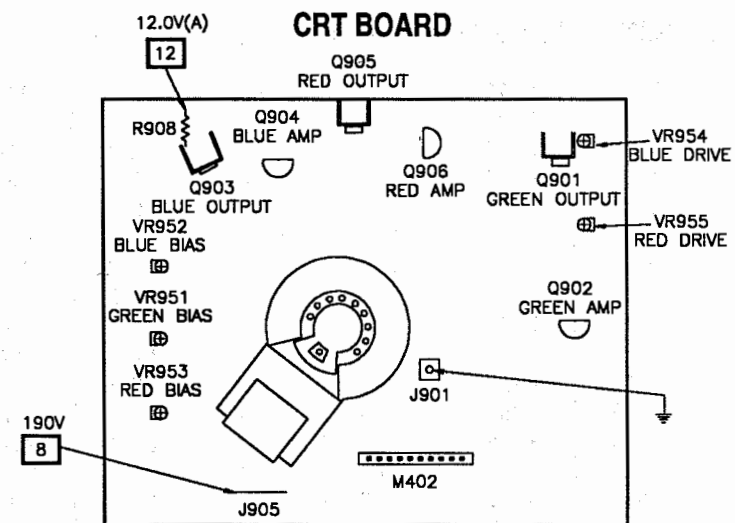
A

TELEVISION SCHEMATIC

B



PLACEMENT CHART



△ TAKEN FROM COMMON TIE POINT

MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

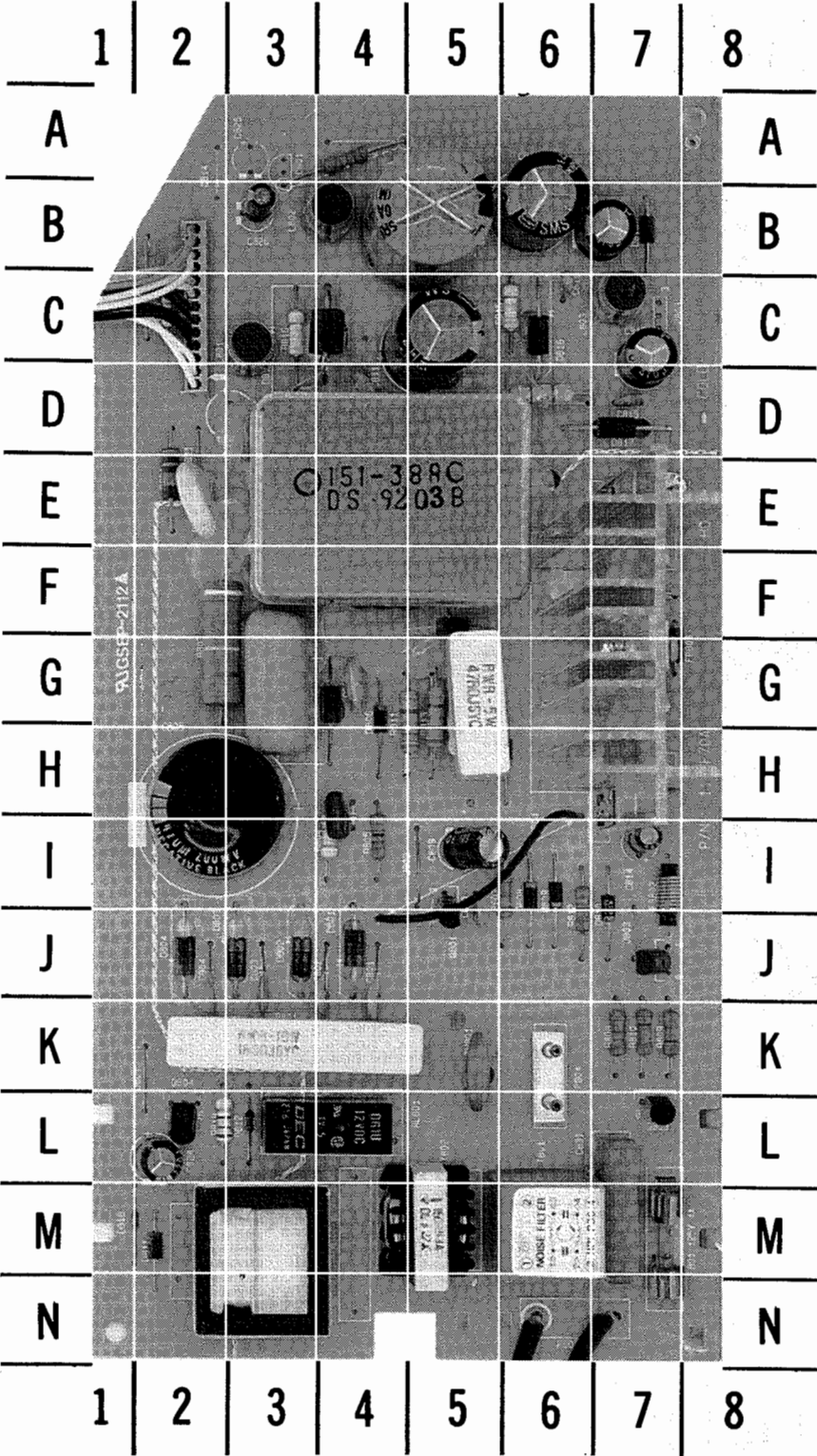
C1	L-19	C119	D-13	C403	G-8	C619	G-16	IC201	G-7
C2	I-18	C120	E-15	C404	H-9	C620	D-18	IC202	C-6
C3	I-17	C121	C-15	C405	H-8	C621	D-18	IC203	C-8
C5	I-17	C122	B-15	C406	I-9	C625	B-16	IC301	J-8
C6	I-17	C123	C-11	C407	I-8	C626	D-17	IC601	G-17
C7	I-17	C124	E-12	C408	G-9	C628	B-18	IC602	B-18
C8	I-17	C125	E-12	C409	H-9	C630	B-19	IC603	A-6
C9	H-17	C137	D-14	C410	H-8	C631	B-19	L1	K-19
C10	I-17	C202	B-14	C413	I-10	C632	B-19	L2	N-17
C11	I-16	C203	B-8	C414	J-11	C633	B-17	L101	E-13
C12	I-15	C204	D-6	C415	M-6	C634	B-17	L102	C-15
C13	I-15	C205	C-7	C416	M-9	C635	C-19	L103	C-13
C14	I-15	C209	E-5	C417	L-7	C636	C-19	L105	F-11
C15	I-15	C210	F-7	C418	L-7	C637	C-18	L201	B-14
C16	I-14	C211	G-6	C419	L-9	C638	C-17	L204	E-6
C17	I-14	C212	G-7	C420	M-7	C640	C-18	L206	I-5
C18	I-14	C214	D-9	C422	L-11	C650	B-5	L226	E-8
C19	K-15	C217	D-8	C423	L-12	C671	B-7	L281	F-5
C20	M-17	C218	C-8	C457	H-3	C672	B-7	L282	F-5
C21	M-18	C219	H-5	C477	I-10	C673	A-6	L283	G-5
C22	H-16	C220	H-12	C481	J-4	C674	B-7	L401	M-11
C23	H-16	C221	E-5	C482	I-5	C675	B-7	L501	C-9
C25	L-18	C222	E-7	C483	M-12	C676	B-6	L502	D-9
C27	L-19	C223	E-8	C484	H-4	C677	C-6	L601	C-15
C28	H-18	C224	E-7	C485	I-3	C678	D-3	P401	M-10
C29	M-18	C225	D-7	C486	J-6	C679	B-5	P402	F-4
C30	M-19	C226	E-10	C493	H-3	C680	C-3	P601	E-3
C31	M-19	C227	G-4	C501	E-7	C681	C-5	P802	N-11
C32	N-19	C231	G-10	C502	C-9	C682	F-15	Q1	K-15
C35	L-18	C232	H-11	C503	C-10	C683	C-5	Q2	L-14
C50	G-12	C233	F-10	C504	C-10	D3	N-18	Q6	L-17
C51	I-13	C269	E-8	C505	D-10	D4	L-18	Q7	K-15
C52	G-13	C270	G-13	C506	E-10	D5	L-18	Q8	I-19
C56	H-17	C271	G-15	C508	E-8	D6	L-19	Q10	M-19
C72	L-17	C272	G-14	C509	E-10	D7	L-19	Q101	E-13
C73	N-18	C274	G-13	C510	E-10	D11	K-17	Q201	B-15
C88	N-16	C289	E-9	C511	F-9	D264	E-5	Q204	D-9
C98	I-17	C291	N-2	C512	G-14	D271	H-15	Q207	G-5
C99	N-16	C292	N-3	C513	G-14	D272	H-15	Q208	G-5
C101	C-12	C301	G-7	C602	C-14	D273	H-14	Q209	N-2
C102	E-13	C302	H-7	C603	F-17	D287	G-5	Q211	G-6
C103	E-14	C303	I-6	C604	E-17	D291	N-3	Q401	I-10
C104	E-14	C304	H-7	C605	D-16	D301	J-8	Q402	I-11
C106	D-15	C305	G-8	C606	F-17	D403	L-7	Q403	N-7
C107	D-16	C306	I-7	C607	E-17	D481	J-3	Q501	D-10
C108	D-15	C307	K-8	C608	F-17	D482	I-4	Q603	C-16
C109	D-15	C309	H-6	C609	G-16	D483	K-6	Q604	C-16
C110	D-15	C311	G-6	C610	E-18	D491	J-3	Q605	F-14
C111	C-12	C312	L-9	C611	F-18	D501	H-14	Q606	B-8
C112	C-11	C335	J-10	C612	F-18	D602	F-14	R2	J-18
C113	D-13	C336	J-9	C613	E-18	D603	G-15	R3	I-18
C114	D-14	C351	I-8	C614	F-19	D999	B-6	R4	I-18
C115	C-11	C371	H-7	C615	E-16	DL1	F-6	R6	H-18
C116	D-13	C372	H-6	C616	F-16	IC1	J-18	R8	H-17
C117	D-13	C401	G-6	C617	E-18	IC101	D-13	R9	J-15
C118	D-13	C402	I-8	C618	G-19	IC103	D-11	R10	J-15

MAIN BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE continued

R11	J-15	R99	M-18*	R272	H-15	R494	H-3	R684	G-15
R12	J-15	R102	C-12	R273	D-10	R495	H-7	R691	D-2
R13	H-15	R103	E-12	R274	I-14	R499	I-2	R692	D-2
R14	H-16	R104	E-13	R275	I-14	R501	D-9	R696	F-14
R15	H-16	R105	E-13	R276	G-12	R502	C-9	R820	N-17
R16	H-16	R106	D-14	R277	I-13	R504	D-10	SW1	D-18
R17	I-16	R108	F-12	R278	H-14	R505	C-10	SW2	E-19
R18	H-15	R109	E-15	R281	F-7	R506	C-10	SW3	E-19
R19	I-16	R110	D-15	R282	G-6	R508	E-8	SW4	F-19
R20	H-15	R111	F-16	R283	F-5	R509	E-10	SW5	G-19
R21	I-16	R112	F-16	R284	F-5	R510	E-8	SW6	H-19
R22	H-15	R113	D-13	R285	G-5	R511	E-9	SW7	I-19
R23	I-15	R114	D-13	R286	G-6	R512	E-10	SW8	I-19
R24	I-14	R115	D-14	R287	G-6	R521	E-11	SW9	J-19
R25	I-14	R116	C-11	R290	N-3	R522	E-11	SW201	H-5
R26	I-14	R117	D-13	R292	N-4	R523	E-10	SW601	E-2
R29	M-17	R118	B-14	R294	N-5	R524	E-10	T401	K-11
R30	N-19	R119	F-12	R295	N-4	R525	G-14	T402	L-4
R31	M-17	R135	D-13	R301	H-7	R526	G-14	VR151	C-13
R32	N-19	R136	C-13	R302	H-7	R527	H-14	VR251	E-6
R33	N-17	R201	B-13	R303	H-7	R528	H-14	VR253	E-6
R34	H-17	R202	B-13	R304	H-7	R529	I-14	VR351	I-6
R35	H-18	R204	B-15	R305	H-6	R530	I-14	VR451	H-9
R36	H-18	R205	B-15	R306	H-6	R602	C-14	VR651	D-16
R37	H-17	R206	F-3	R307	I-7	R603	C-14	VR652	D-17
R38	H-17	R210	C-7	R309	I-5	R605	F-17	VR653	D-17
R39	H-18	R220	F-6	R311	J-8	R605A	G-16	VR654	D-18
R40	H-18	R222	C-8	R312	L-11	R606	E-17	VR655	D-18
R41	H-19	R223	C-8	R313	I-6	R607	D-17	X501	E-9
R42	H-19	R225	E-7	R335	J-9	R608	E-18	Z1	K-18
R43	H-18	R226	D-8	R401	H-8	R609	E-18	Z101	E-14
R45	K-17	R227	D-8	R402	G-8	R610	G-16	Z201	B-14
R46	K-16	R231	D-9	R403	I-9	R611	H-17	Z401	G-9
R47	M-19	R232	D-9	R404	I-8	R612	H-19	Z601	C-14
R48	M-19	R235	F-7	R405	H-10	R613	G-19	ZD14	N-16
R49	M-18	R236	H-12	R406	H-12	R615	F-19	ZD61	L-16
R50	M-18	R238	G-4	R407	H-8	R616	E-19	ZD62	L-16
R52	L-19	R239	E-5	R408	H-10	R617	E-19	ZD101	F-15
R53	L-19	R240	E-7	R409	H-10	R618	E-19	ZD102	F-12
R54	L-18	R241	E-7	R410	H-11	R630	B-3	ZD241	G-11
R55	H-17	R243	D-10	R412	I-10	R631	C-3	ZD274	G-13
R56	K-18	R244	E-10	R413	J-11	R632	C-16	ZD401	I-9
R57	M-19	R245	G-11	R414	K-11	R635	C-3	ZD465	H-8
R58	K-18	R246	F-10	R415	N-6	R636	B-3	ZD601	G-16
R59	K-16	R252	E-10	R418	L-11	R637	C-16		
R65	I-12	R259	E-8	R420	I-9	R671	B-6		
R66	H-17	R260	H-10	R421	H-12	R672	B-17		
R67	I-12	R261	E-4	R450	J-11	R673	B-7		
R68	K-15	R262	E-4	R457	H-3	R674	B-17		
R70	K-15	R263	E-4	R465	I-8	R675	B-7		
R71	L-14	R264	E-5	R468	K-12	R676	B-7		
R81	N-18	R265	H-4	R469	K-12	R677	H-16		
R82	N-18	R266	E-5	R482	I-5	R678	B-5		
R83	N-18	R268	E-7	R483	I-4	R679	F-14		
R84	N-19	R269	E-6	R492	I-3	R681	F-4		
R90	H-18	R271	D-10	R493	H-3	R682	B-4		

* Located on
bottom of board.

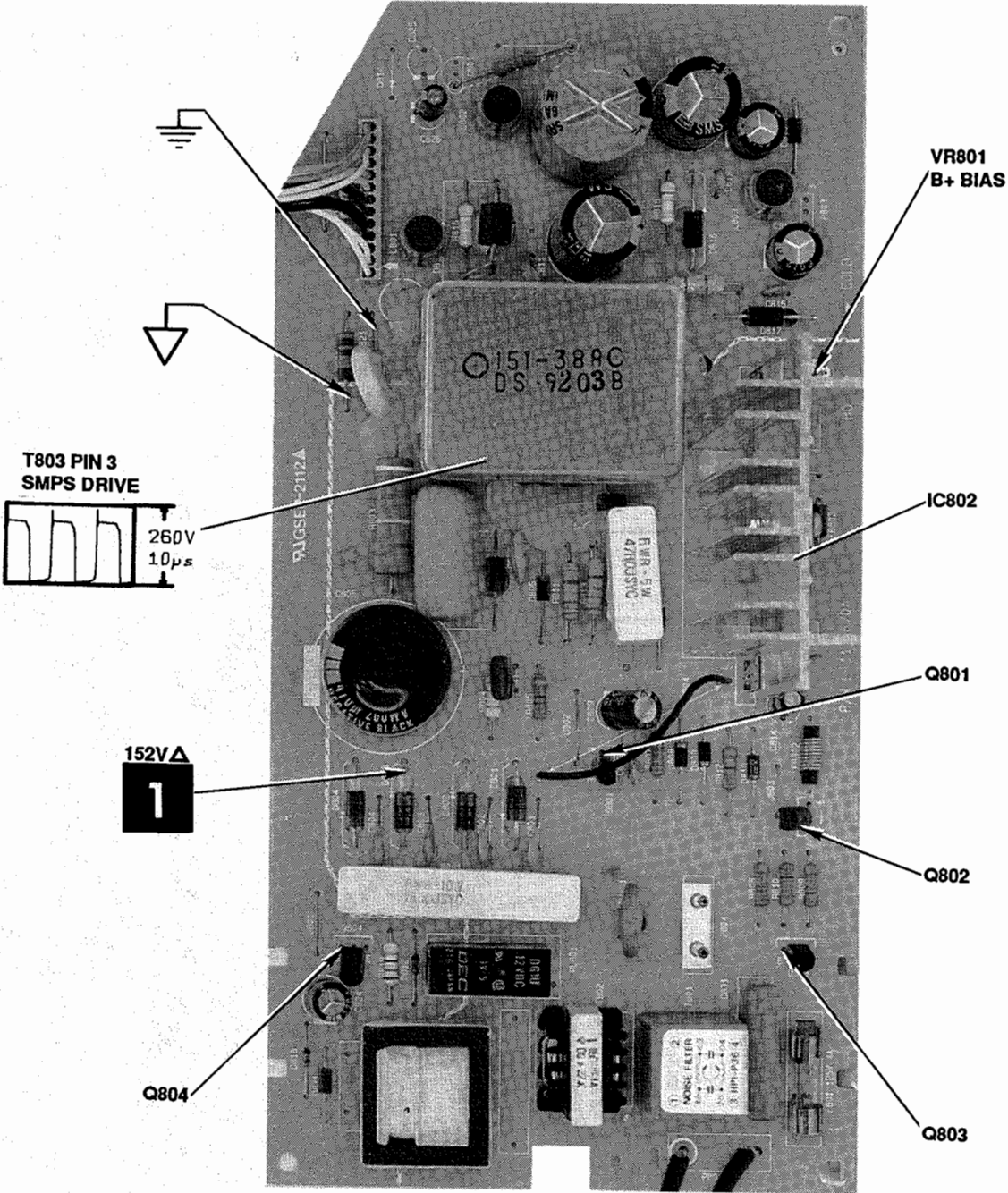
POWER SUPPLY BOARD



A HOWARD W. SAMS GRIDTRACE™ PHOTO

POWER BOARD - TOP VIEW,
GRIDTRACE LOCATION GUIDE

C801	J-4	FB801	F-5
C802	J-4	FB802	I-7
C803	J-3	IC802	G-7
C804	J-2	L801	C-3
C805	H-2	L802	B-4
C806	G-3	L803	C-7
C807	G-4	P801	N-6
C808	H-4	P802	D-2
C809	I-5	P804	K-6
C810	I-5	Q801	I-5
C811	D-4	Q802	J-7
C812	C-5	Q803	L-7
C813	B-5	Q804	L-2
C814	I-7	R801	K-3
C815	D-7	R803	G-2
C816	B-6	R804	I-4
C817	C-7	R805	I-4
C818	B-7	R806	G-5
C819	C-6	R807	I-6
C820	E-2	R808	K-7
C824	L-2	R809	K-7
C826	B-3	R810	K-7
C831	M-7	R811	G-4
D801	J-4	R812	I-6
D802	J-3	R813	G-5
D803	J-3	R815	C-6
D804	J-2	R816	C-3
D805	G-4	R817	C-2
D806	G-4	R818	A-4
D807	H-6	R819	L-2
D808	I-6	R820	D-6
D809	I-6	R821	E-2
D810	I-7	R823	F-7
D811	M-2	RL801	L-4
D812	L-3	T801	M-6
D813	B-7	T802	M-5
D815	C-4	T803	E-4
D816	C-6	T804	M-3
D817	D-7	TH801	K-5
D818	M-2	VR801	E-7
F801	M-7		



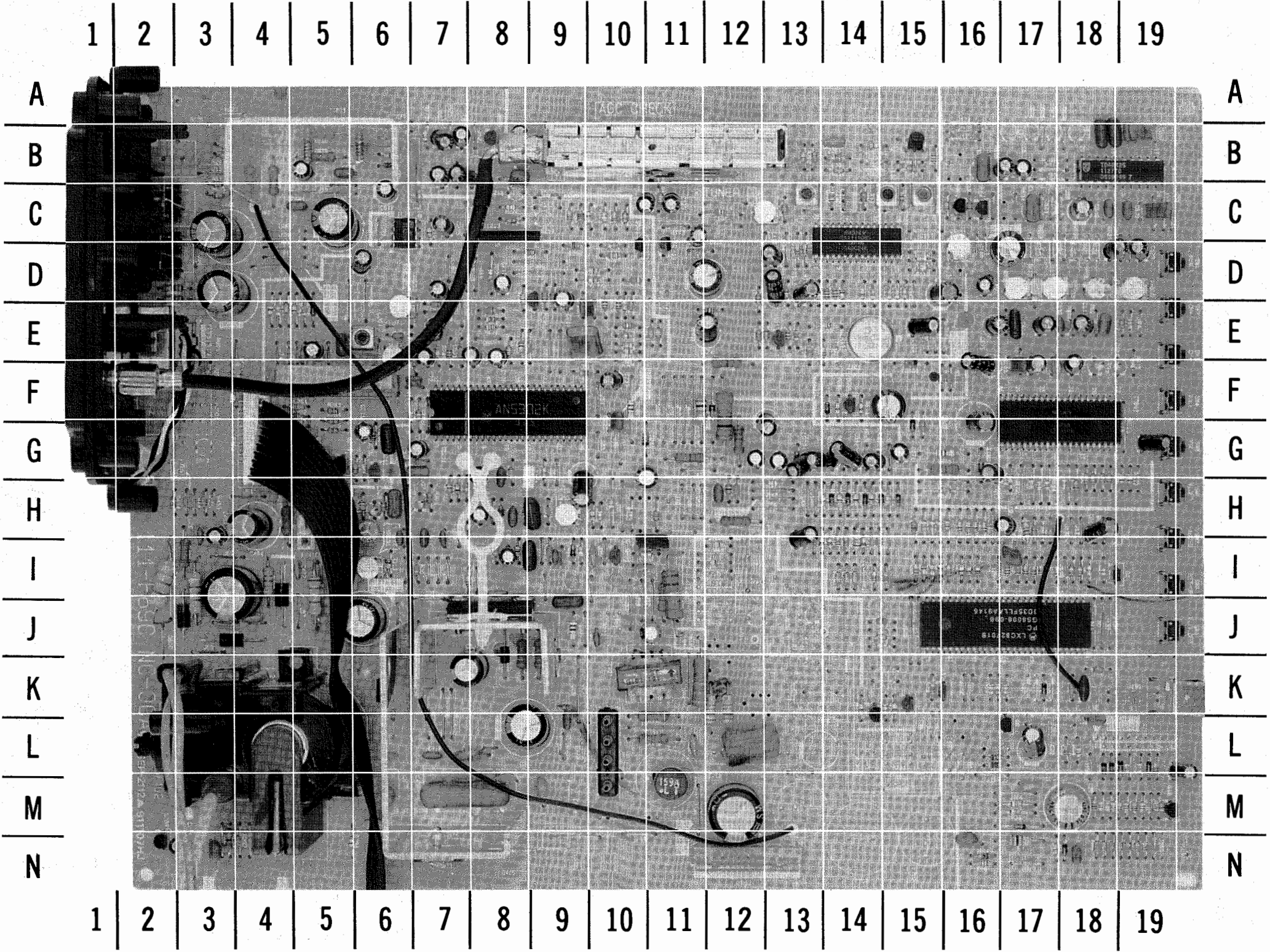
NOTE: ARROWS ON IC'S INDICATE PIN 1 UNLESS NOTED
NOTE: ARROWS ON TRANSISTORS INDICATE BASE UNLESS NOTED
Δ MEASURED FROM COMMON TIE POINT.
▽ COMMON TIE POINT.

A HOWARD W. SAMS QUICK-CHECKS™ PHOTO

GOLDSTAR

MODELS CMT-2108A, CMT-2109A (CHASSIS NC-OCA)

MAIN BOARD



A HOWARD W. SAMS GRIDTRACE™ PHOTO

SELECTOR/MPU SCHEMATIC

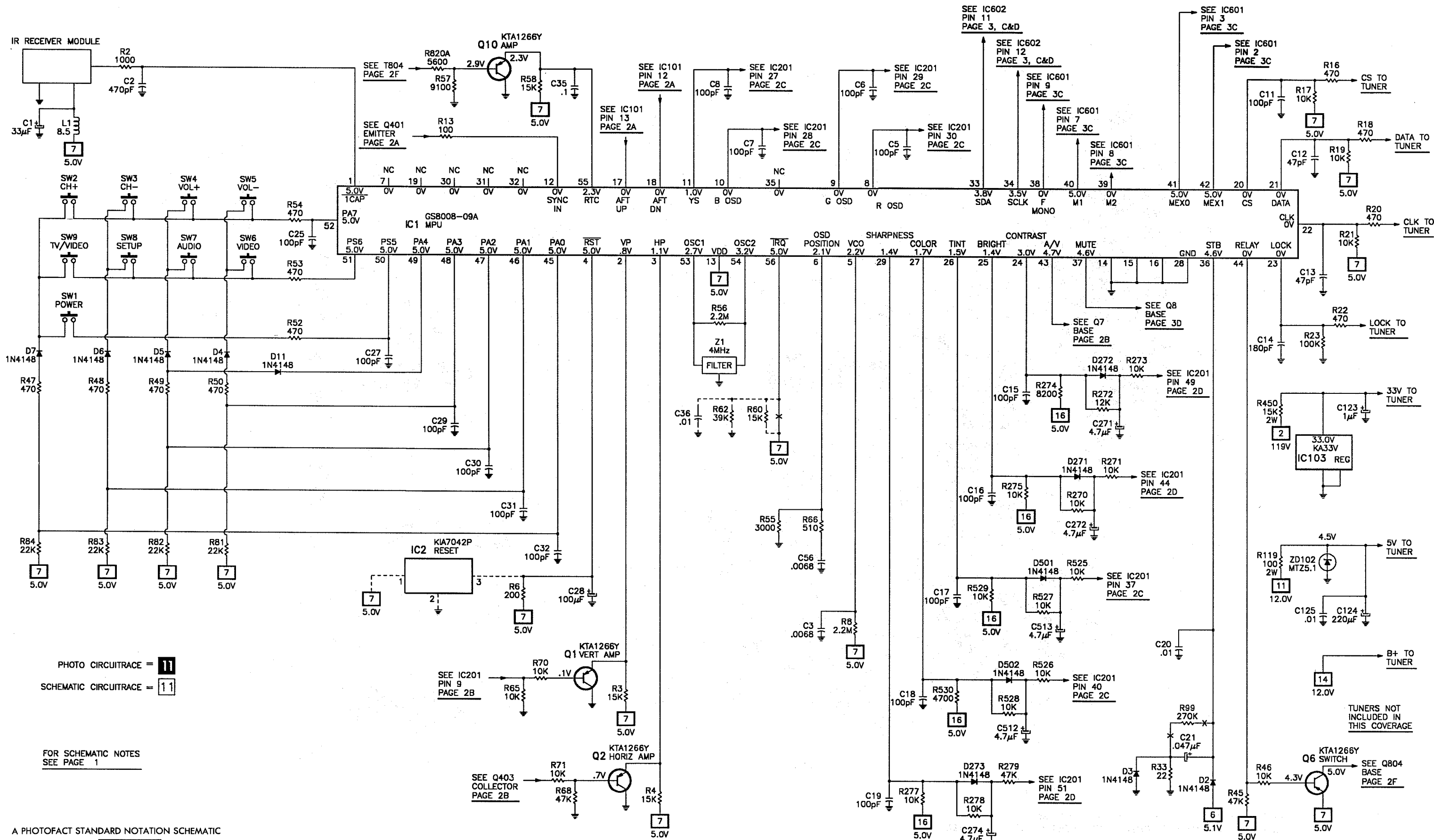
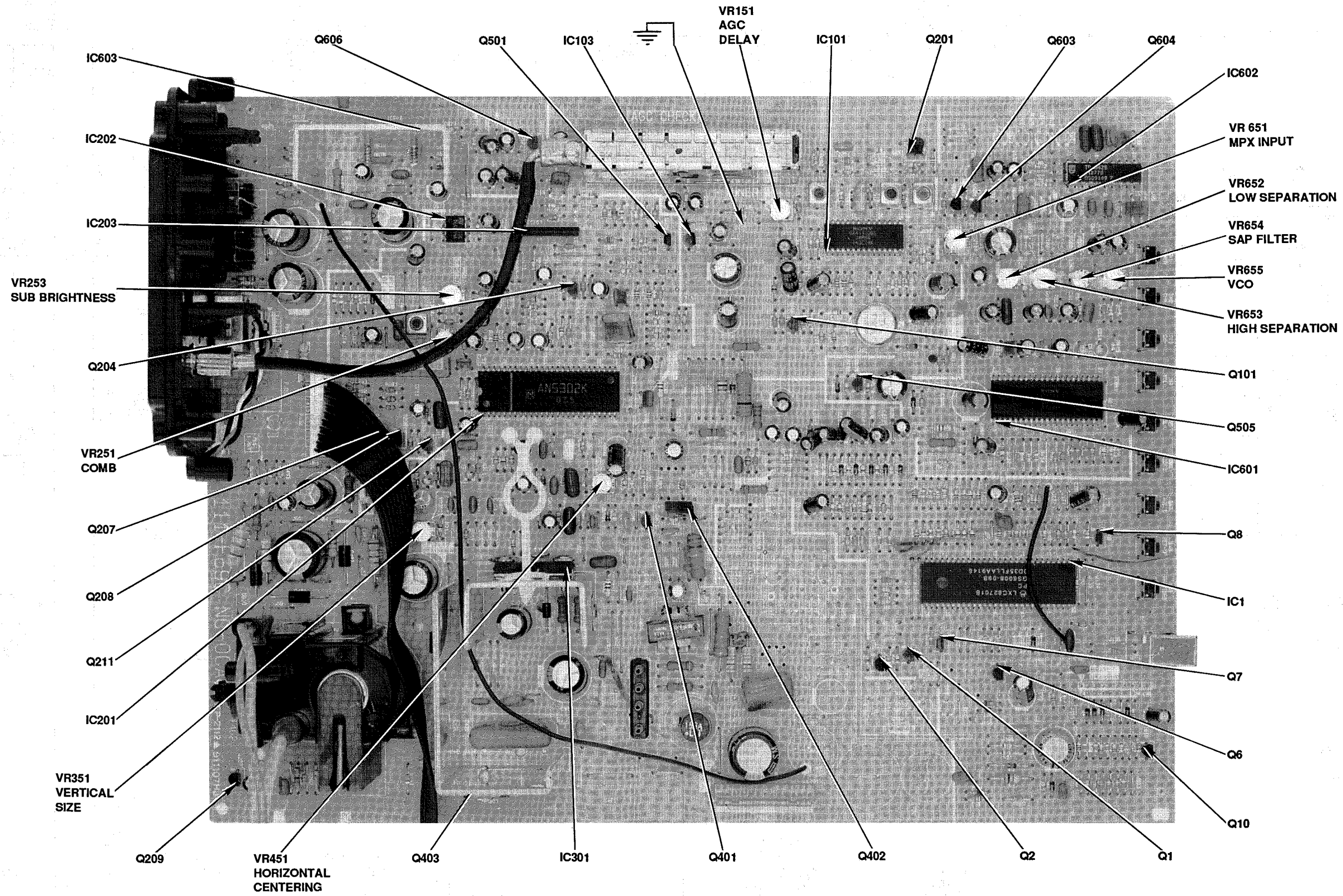


PHOTO CIRCUITRACE = 11
SCHEMATIC CIRCUITRACE = 11

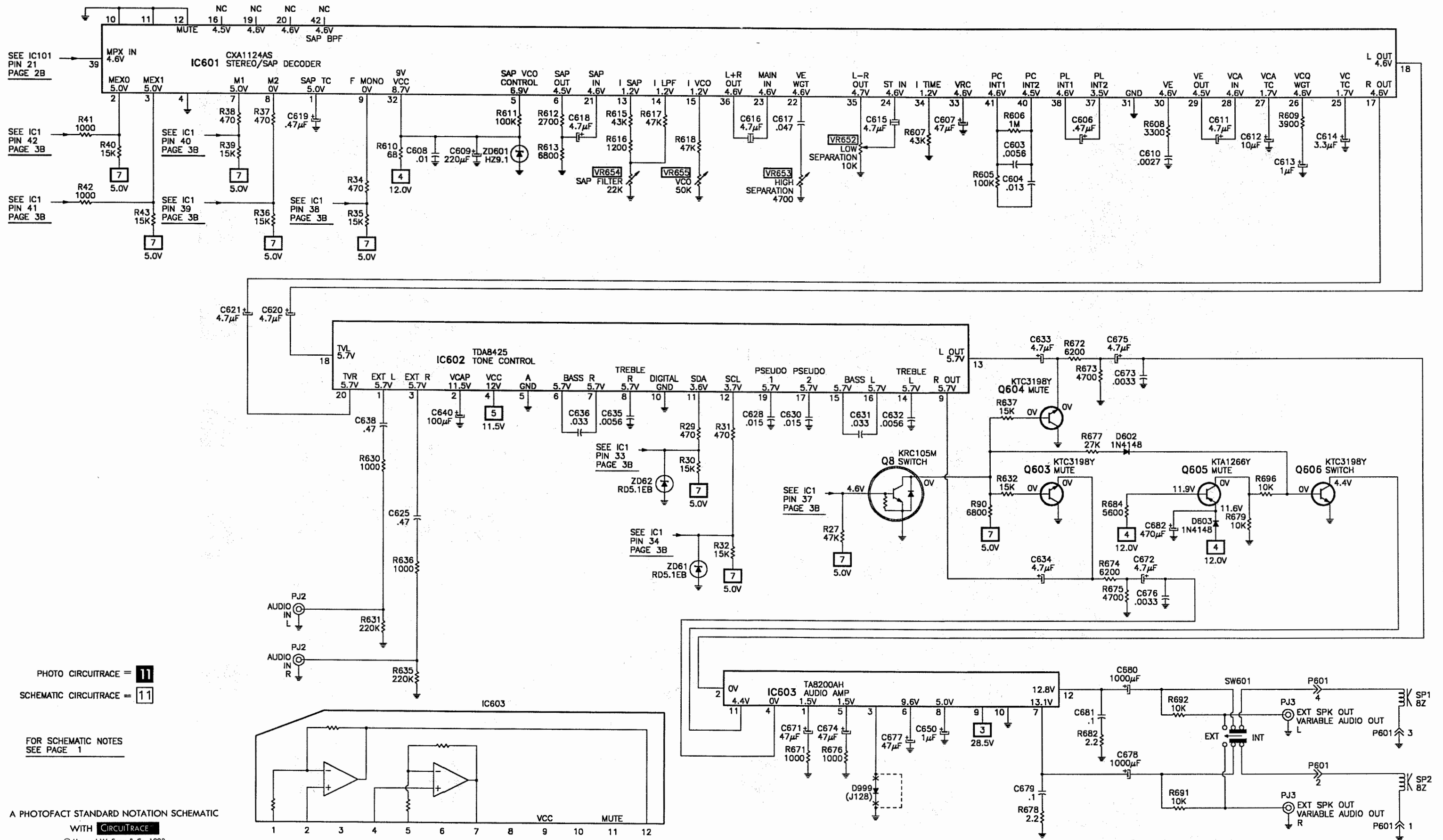
FOR SCHEMATIC NOTES
SEE PAGE 1

MAIN BOARD

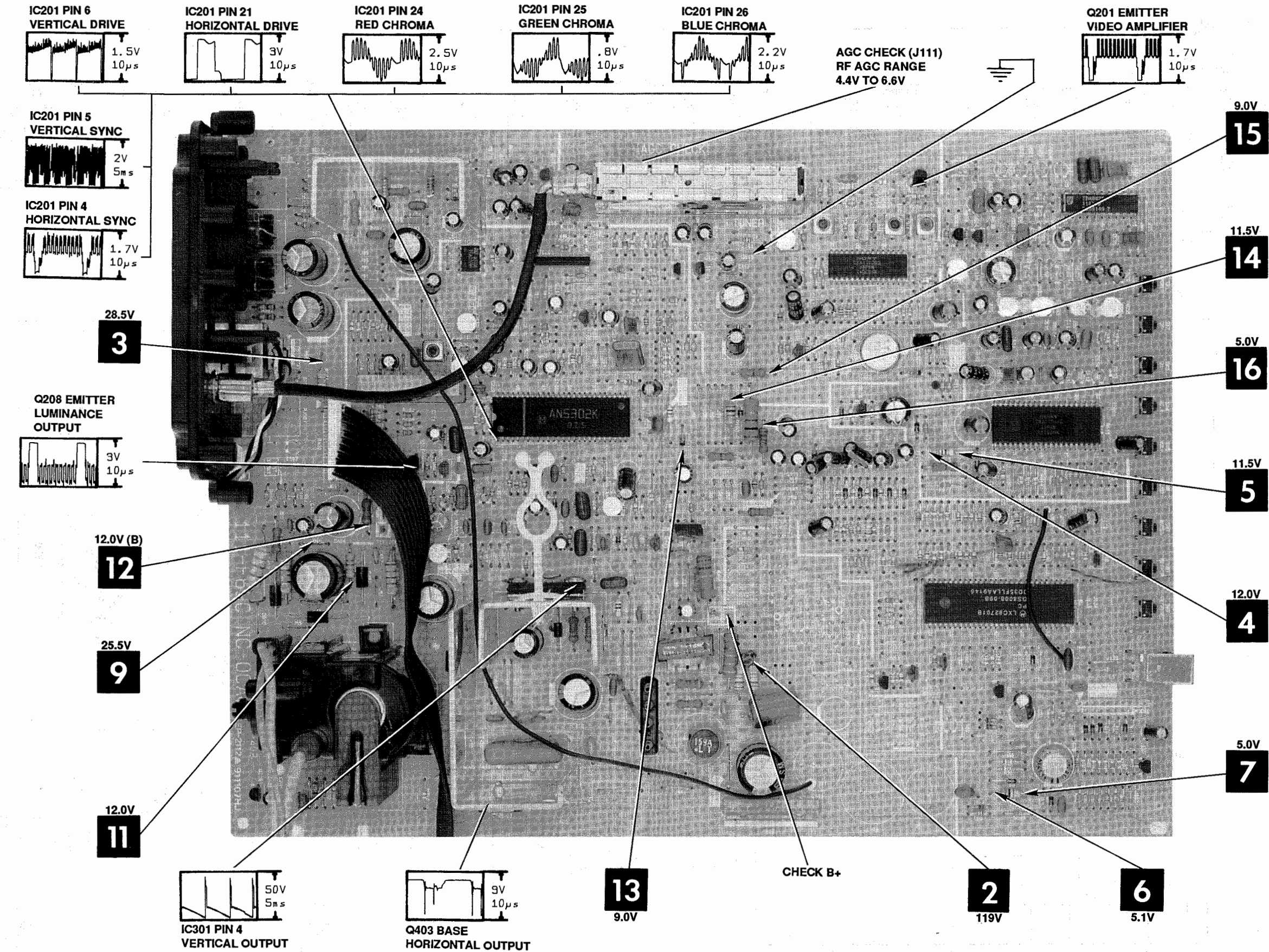


NOTE: ARROWS ON IC'S INDICATE PIN 1 UNLESS NOTED
NOTE: ARROWS ON TRANSISTORS INDICATE BASE UNLESS NOTED

STEREO/SAP DECODER/AUDIO CONTROL/OUTPUT SCHEMATIC



MAIN BOARD



PARTS LIST

SEMICONDUCTORS

(Select replacement for best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
D2 - D7	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D11	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D264	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D271 - D273	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D287	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D291	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D301	1N4002	0DD400209AA	NTE116	ECG116	SK3311
D403	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D481, 82	RU1A	-	NTE552	ECG552	SK9000
	RU-2M(V)	0DD200009AF	NTE552	ECG552	SK9000
D483	RU1A	-	NTE552	ECG552	SK9000
	RU-1A	0DD100009AE	NTE552	ECG552	SK9000
D491	RU1A	-	NTE552	ECG552	SK9000
	RU-1A	0DD100009AE	NTE552	ECG552	SK9000
D501, 02	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D602, 03	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D801, 02	RM2A	-	NTE580	ECG580	SK5012
	RM-2AV	0DD200009AE	NTE580	ECG580	SK5012
# D803	RM2A	-	NTE580	ECG580	SK5012
	RM-2AV	0DD200009AE	NTE580	ECG580	SK5012
D804	RM2A	-	NTE580	ECG580	SK5012
	RM-2AV	0DD200009AE	NTE580	ECG580	SK5012
D805	RU1A	-	NTE552	ECG552	SK9000
	RU-1A	0DD100009AE	NTE552	ECG552	SK9000
D806 - D810	RGP10J	-	NTE552	ECG552	SK9000
	R10J	0DD100009BA	NTE552	ECG552	SK9000
D811	1N4002	0DD400209AA	NTE116	ECG116	SK3311
D812	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D813	1N4002	0DD400209AA	NTE116	ECG116	SK3311
D815	RU4AM	0DD400000AG	NTE580	ECG580	SK5036
D816, 17	RU2M	-	NTE552	ECG552	SK9000
	RU-2M(V)	0DD200009AF	NTE552	ECG552	SK9000
D818	1N4148	-	NTE519	ECG519	SK3100
	DS4148	0DD414809ED	NTE177	ECG177	SK9091
D999 (J128)(1)	DS4148	0DD414809ED	NTE177	ECG177	SK9091
IC1	GS8008-09B	-	-	-	-
	GS8008-09	0IMO800809A	-	-	-
	GS8008-09A	-	-	-	-
IC2 (1)	KIA7042P	-	-	-	-

For SAFETY use only equivalent replacement part.
(1) Used in some versions.

SEMICONDUCTORS continued

(Select replacement for best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
IC101	CXA1110BS	0ISO111000CA	-	-	-
IC103	KA33V	0ISS330000A	NTE615P	ECG615A	SK9976
IC201	AN5302K	-	-	-	-
	AN5302	0IMA530200A	-	-	-
IC202	TEA2014A	-	-	-	-
	GL3820	0IGS382000A	-	-	-
IC203	LA7222	0ISA722200A	-	-	-
IC301	LA7831	0ISA783100A	NTE1797	ECG1797	SK9753
IC601	CXA1124AS	0ISO112400A	-	-	-
IC602	TDA8425	0IPH842500A	-	-	-
IC603	TA8200AH	0ITO820000A	-	-	-
# IC802	STR50041	0ISK500410A	NTE1894	ECG1894	-
Q1, 2	KTA1266Y	-	NTE290A	ECG290A	SK3114A
	KTA1266-TP-Y	0TR126609AA	NTE290A	ECG290A	SK3114A
	KTA1015	-	NTE290A	ECG290A	SK9132
Q6	KTA1266Y	-	NTE290A	ECG290A	SK3114A
	KTA1266-TP-Y	0TR126609AA	NTE290A	ECG290A	SK3114A
	KTA1015	-	NTE290A	ECG290A	SK9132
Q7, 8	KRC105M	0TR105009AB	-	-	-
	KRC1205	-	-	-	-
Q10	KTA1266Y	-	NTE290A	ECG290A	SK3114A
	KTA1266-TP-Y	0TR126609AA	NTE290A	ECG290A	SK3114A
	KTA1015	-	NTE290A	ECG290A	SK9132
Q101	KTC3197	0TR319709AB	NTE107	ECG107	SK3293
	KTC3197TP	-	NTE107	ECG107	SK3293
	KTC388A	-	NTE85	ECG85	SK3132
Q201	KTA1266Y	-	NTE290A	ECG290A	SK3114A
	KTA1266-TP-Y	0TR126609AA	NTE290A	ECG290A	SK3114A
	KTA1015	-	NTE290A	ECG290A	SK9132
Q204, 07	KTC3198Y	-	NTE85	ECG85	SK9229
	KTC3198-TP-Y	0TR319809AA	NTE85	ECG85	SK9229
	KTC1815	-	NTE85	ECG85	SK3124A
Q208	KTA562Y	-	NTE290A	ECG290A	SK3114A
	KTA562TM	-	NTE290A	ECG290A	SK3114A
	KTA1270-TP-Y	0TR127009AA	NTE290A	ECG290A	SK3114A
Q209, 11	KTC3198Y	-	NTE85	ECG85	SK9229
	KTC3198-TP-Y	0TR319809AA	NTE85	ECG85	SK9229
	KTC1815	-	NTE85	ECG85	SK3124A
Q401	KTC3198Y	-	NTE85	ECG85	SK9229
	KTC3198-TP-Y	0TR319809AA	NTE85	ECG85	SK9229
	KTC1815	-	NTE85	ECG85	SK3124A
# Q402	KTC1001	0TR100100AA	-	-	-
# Q403	2SD1651	0TR165100AA	NTE2331	ECG2331	SK9422
Q501	KRC105M	0TR105009AB	-	-	-
	KRC1205	-	-	-	-
Q603, 04	KTC3198Y	-	NTE85	ECG85	SK9229
	KTC3198-TP-Y	0TR319809AA	NTE85	ECG85	SK9229
	KTC1815	-	NTE85	ECG85	SK3124A

For SAFETY use only equivalent replacement part.

GOLDSTAR

MODELS CMT-2108A, CMT-2109A (CHASSIS NC-0CA)

PARTS LIST continued

CONTROLS

(All wattages 1/2 watt or less, unless otherwise listed.)

Item No.	Function	Resistance	Mfr. Part No.
VR151	AGC	5000	180-454G
VR251	Comb	1000	180-454D
VR253	Sub Brightness	10K	180-454H
VR351	Vertical Size	200	180-454A
VR451	Horizontal Centering	200	180-454A
VR651	MPX Input	5000	180-454G
VR652	Low Separation	10K	180-454H
VR653	High Separation	4700	-
		5000	180-454G
VR654	SAP Filter	22K	180-449J
VR655	VCO	50K	180-454K
VR801	B+ Bias	200K	180-449M
VR951	Green Bias	10K	180-454H
VR952	Blue Bias	10K	180-454H
VR953	Red Bias	10K	180-454H
VR954	Blue Drive	200	180-454A
VR955	Red Drive	200	180-454A

For SAFETY use only equivalent replacement part.

CABINET PARTS

MODEL CMT-2108A

Item	Mfr. Part No.
Cabinet Assembly	300-936B
Cabinet Rear	303-E42B
Control Button	441-198A
Control Door	315-471B

MODEL CMT-2109A

Item	Mfr. Part No.
Cabinet Assembly	300-937B
Cabinet Rear	303-E42B
Control Button	441-199A
Window	316-281A

COILS (RF-IF)

Item No.	Rating	Mfr. Part No.
FB802	1.04μH	150-287A
L1	100μH	0LA1000K119
L2	100μH	0LA1000K139
L101	.82μH	0LA0820K119
L102	AFT	150-327K
L103	VCO	150-678F
L105	100μH	0LA1000K139
L201	15μH	0LA0152K119
L204	-	150-327X
L206	100μH	0LA1000K139
L226	68μH	0LA0682K119
L281	2.2μH	0LA0221K119
L282	2.2μH	0LA0221K119
L283	2.2μH	0LA0221K119
L401	Horizontal Linearity	150-159A
L501	10μH	0LA0102K119
L502	10μH	0LA0102K119
L601	SIF Detector	150-678B
L801	-	150-235A
L802	-	150-235A
L803	-	150-235A
L901	27μH	0LA0272K139
L902	270μH	0LA2700K139
L903	27μH	0LA0272K139
L904	270μH	0LA2700K139
L905	27μH	0LA0272K139
L906	270μH	0LA2700K139

For SAFETY use only equivalent replacement part.

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
DL01	Delay line	175-005B	
# F801	Fuse	131-033X	4Amp, 125VAC
FB801	Ferrite Bead	125-022H	
FB803	Ferrite Bead	125-022D	
# L800	Degaussing Coil	150-135N	
# P800	Line Cord Assembly	174-188A	Polarized (174-060)
PJ1	Jack Assembly	380-353D (1)	Audio/video In
PJ2	Jack Assembly	380-353E	Video In, Left Audio In, Right Audio In.
PJ3	Jack Assembly	380-350A	Left Variable Audio Out, Right Variable Audio Out.
# RL801	Relay	141-018A	Power
SW1	Switch	140-248A	Power
SW2	Switch	140-248A	Channel Up
SW3	Switch	140-248A	Channel Down
SW4	Switch	140-248A	Volume Up
SW5	Switch	140-248A	Volume Down
SW6	Switch	140-248A	Video
SW7	Switch	140-248A	Audio
SW8	Switch	140-248A	Setup
SW9	Switch	140-248A	TV/Video
SW201	Switch	140-111C	Service/Normal
SW601	Switch	140-112A	Speaker, INT/EXT
# V901	CRT	A51ACG14X01	Includes Deflection Yoke
X501	OSC	156-001C	3.58MHz
Z1	Filter	166-009A	4.0MHz
Z101	Filter	166-236A	SAW
Z201	Filter	166-031K	4.5MHz
Z401	Filter	166-015P	
Z601	Filter	166-003D	4.5MHz
	Adapter	450-003A	Antenna, 300-75 Ohm
	Antenna	132-204E	Rod
	Printed Circuit Board	401-674L (2)	Audio/Video
	Printed Circuit Board	110-R15B (2)	CRT
	Printed Circuit Board	110-R19B (2)	Main
	Printed Circuit Board	110-R17B (2)	Power
	Receiver/Preamp	106-038B	Remote Control
	Socket	381-094B	CRT
	Transmitter	105-192M (2)	Remote Control
	Tuner	113-202B (2)	UHF/VHF

For SAFETY use only equivalent replacement part.

(1) Used in some versions

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

RESISTORS

Item No.	Rating	Mfr. Part No.	NTE Part No.
R468	1 5% 1/2W Fusible	180-149N	-
R469	1 5% 1/2W Fusible	180-149N	-
R481	.47 5% 1W Fusible	0RF0470J665	-
R482	1.2 5% 1W Fusible	0RF0121J665	F1W1D2
R499	1.8 5% 2W Fusible	0RF0181K666	F2W1D8
R681	.47 5% 1/2W Fusible	180-149M	-
# R801	1 5% 10W Wirewound	180-344H	10W1D0
# R803	47K 5% 3W Metal Film Oxide	0RS4702L667	3W347
# R806	47 5% 5W Wirewound	180-142D	5W047
# R813	.27 5% 1W Metal Film	0RN0270J665	1WD27
# R821	2.2M 20% 1/2W Carbon	-	HW522
	2.2M 10% 1/2W Carbon	180-783E	HW522
R921	12K 5% 3W Metal Film Oxide	0RS1202L667	3W312
R922	12K 5% 3W Metal Film Oxide	0RS1202L667	3W312
R923	12K 5% 3W Metal Film Oxide	0RS1202L667	3W312
TH801	7.2 PTC Cold	163-007A	-

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function	Mfr. Part No.
# DY300	Yoke 90° Horiz 2.4mH Vert 22mH	(1)
# T401	Horizontal Drive	151-101B
# T402	Horizontal Output	154-207C
# T801	Line Filter	150-713A
# T802	Line Filter	150-814A
# T803	Switch Mode	151-388C
# T804	Stand-by	151-401

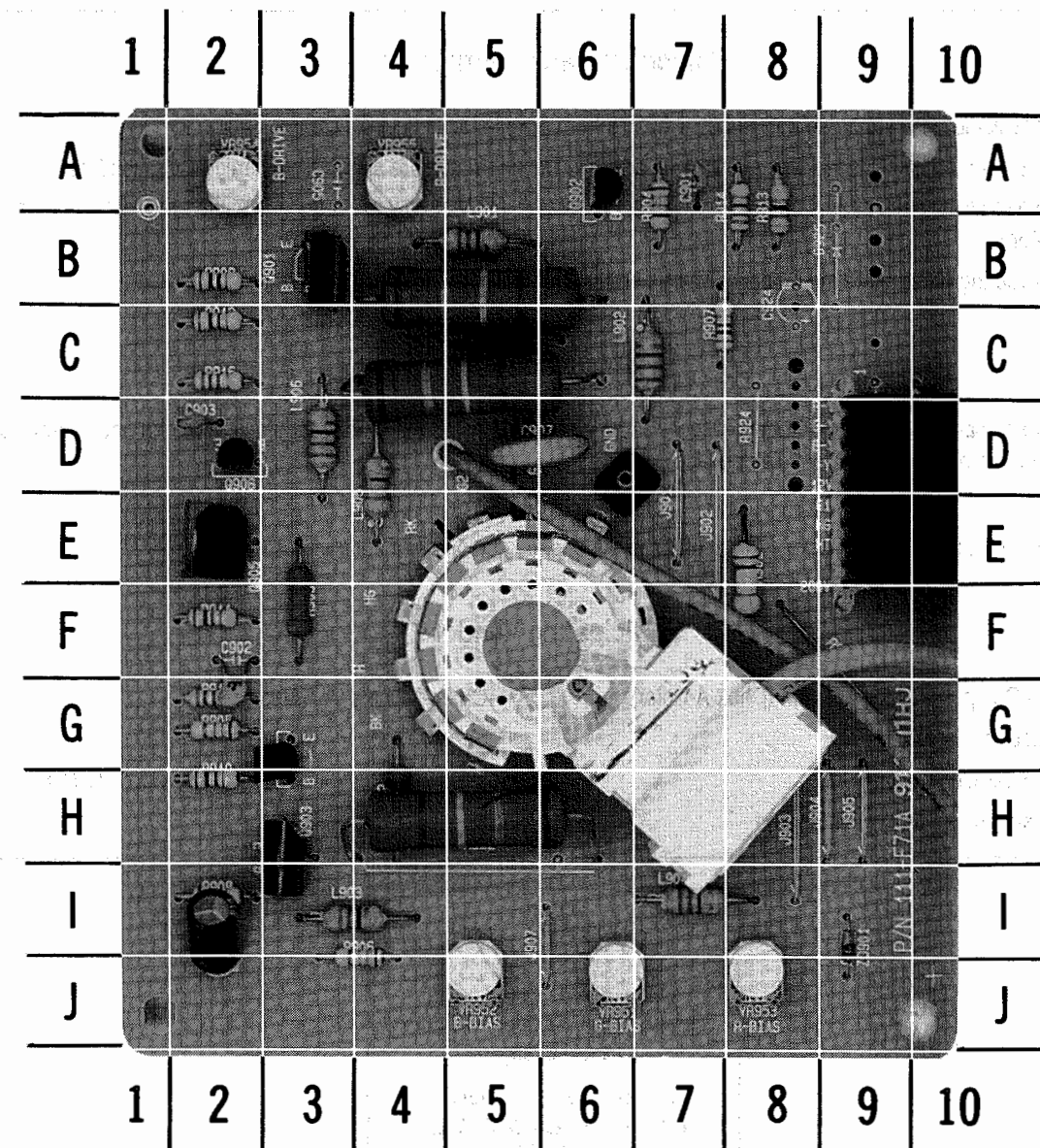
(1) Permanently bonded to A51ACG14X01

For SAFETY use only equivalent replacement part.

SPEAKERS

Item No.	Description	Mfr. Part No.	Quam Part No.
SP1, SP2	2" X 3 1/2" 8 Ohm	120-180D	-

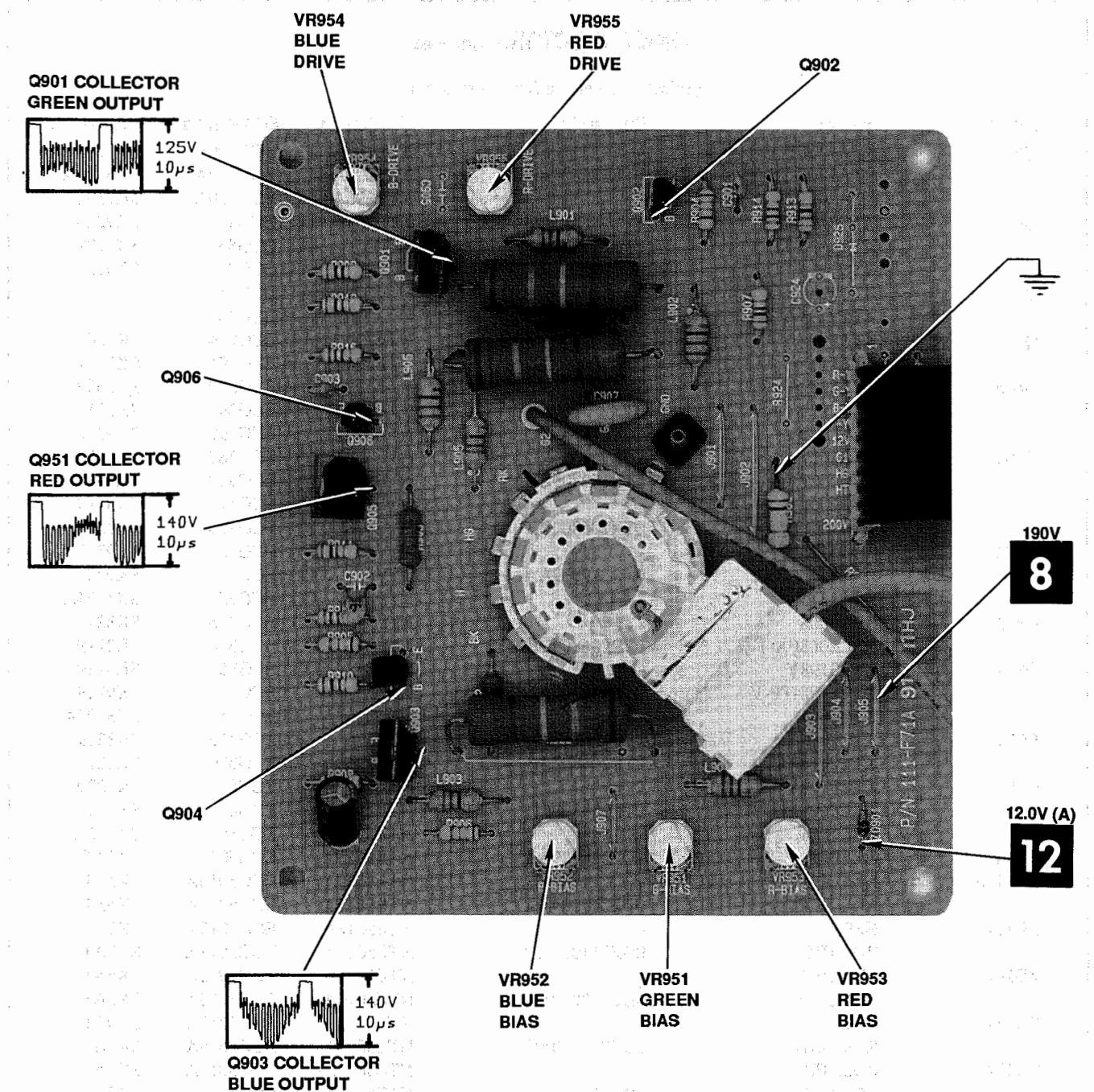
CRT BOARD



A HOWARD W. SAMS GRIDTRACE™ PHOTO

CRT BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C901	A-7	L904	I-7	Q906	D-2	R909	B-2	R922	H-5
C902	F-2	L905	D-4	R901	C-5	R910	H-2	R923	C-5
C903	D-2	L906	D-3	R902	H-4	R911	F-2	R982	E-8
C906	I-2	M402	D-9	R903	F-3	R912	C-2	VR951	J-6
C907	D-5	Q901	B-3	R904	A-7	R913	A-8	VR952	J-5
GND	D-6	Q902	A-9	R905	G-2	R914	A-8	VR953	J-8
L901	B-5	Q903	H-3	R906	I-4	R915	G-2	VR954	A-2
L902	C-7	Q904	G-3	R907	C-7	R916	C-2	VR955	A-4
L903	I-3	Q905	E-2	R908	I-2	R921	B-5	ZD901	I-9



NOTE: ARROWS ON TRANSISTORS INDICATE BASE UNLESS NOTED.

A HOWARD W. SAMS QUICK-CHECKS™ PHOTO

PARTS LIST continued

SEMICONDUCTORS continued

(Select replacement for best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
Q605	KTA1266Y	-	NTE290A	ECG290A	SK3114A
	KTA1266-TP-Y	0TR126609AA	NTE290A	ECG290A	SK3114A
	KTA1015	-	NTE290A	ECG290A	SK9132
Q606	KTC3198Y	-	NTE85	ECG85	SK9229
	KTC3198-TP-Y	0TR319809AA	NTE85	ECG85	SK9229
	KTC1815	-	NTE85	ECG85	SK3124A
# Q801	KTC2235Y	-	-	ECG31	-
	KTC2235-Y	0TR223500AA	-	ECG382	-
# Q802	KTA966AY	-	NTE294	ECG294	SK3841
	KTA966-Y	0TR966000AA	NTE294	ECG294	SK3841
# Q803	KTC2230AGR	-	NTE399	ECG399	SK9352
	KTC2230-GR	0TR223009AB	NTE399	ECG399	SK9352
	KTC2230TP	-	NTE399	ECG399	SK9352
Q804	KTC1627AY	-	NTE382	ECG382	SK9137
	KTC1627A-Y(TA)	0TR162709AB	NTE382	ECG382	SK9137
Q901	KTC2068	-	NTE376	ECG376	SK3219
	KTC2068FA-1	0TR206800BB	NTE376	ECG376	SK3219
Q902	KTC3198Y	-	NTE85	ECG85	SK9229
	KTC3198-TP-Y	0TR319809AA	NTE85	ECG85	SK9229
	KTC1815	-	NTE85	ECG85	SK3124A
Q903	KTC2068	-	NTE376	ECG376	SK3219
	KTC2068FA-1	0TR206800BB	NTE376	ECG376	SK3219
Q904	KTC3198Y	-	NTE85	ECG85	SK9229
	KTC3198-TP-Y	0TR319809AA	NTE85	ECG85	SK9229
	KTC1815	-	NTE85	ECG85	SK3124A
Q905	KTC2068	-	NTE376	ECG376	SK3219
	KTC2068FA-1	0TR206800BB	NTE376	ECG376	SK3219
Q906	KTC3198Y	-	NTE85	ECG85	SK9229
	KTC3198-TP-Y	0TR319809AA	NTE85	ECG85	SK9229
	KTC1815	-	NTE85	ECG85	SK3124A
ZD14	Z5.6BM	0DZ560009AA	NTE5011A	ECG5011A	SK5A6
ZD61, 62	RD5.1EB	-	NTE5010A	ECG5010A	SK5A1
	RD5.1E-B2	0DZ512000AA	NTE5010A	ECG5010A	SK5A1
ZD101	HZ9.1	-	NTE5018A	ECG5018A	SK9A1
	RD9.1EB1	0DZ911000AC	NTE5018A	ECG5018A	SK9A1
ZD102	RD5.1EV	-	NTE5010A	ECG5010A	SK5A1
	RD5.1E-B2	0DZ512000AA	NTE5010A	ECG5010A	SK5A1
ZD241	HZ9.1	-	NTE5018A	ECG5018A	SK9A1
	RD9.1EB1	0DZ911000AC	NTE5018A	ECG5018A	SK9A1
ZD274	RD5.1EB	-	NTE5010A	ECG5010A	SK5A1
	RD5.1E-B2	0DZ512000AA	NTE5010A	ECG5010A	SK5A1
ZD401	Z7.5BIS	-	NTE5015A	ECG5015A	SK7A5
	Z7.5BM	0DZ750009AA	NTE5015A	ECG5015A	SK7A5
ZD465	Z6.2B	-	NTE137A	ECG137A	SK6V2
	MTZ6.2B	0DZ620009AA	NTE5013A	ECG5013A	SK6A2
ZD601	HZ9.1	-	NTE5018A	ECG5018A	SK9A1
	RD9.1EB1	0DZ911000AC	NTE5018A	ECG5018A	SK9A1
ZD901	-	-	-	-	-

For SAFETY use only equivalent replacement part.

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

- Custom Components Corporation (Chek-A-Color)
- NTE Electronics, Inc. (NTE)
- Philips ECG Company (ECG)
- PTS Electronics Corporation (PTS)
- Quam-Nichols Co. (Quam)
- Sencore, Inc.
- Thomson Consumer Electronics, Inc. (SK, TCE)



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employees of Howard W. Sams
& Company.

J. Barker, B. Buchanan,
T. Clensy, D. Cobb, R. Raus
S. Scott, K. Smith, D. Stitt,
D. Urlick

ELECTROLYTIC CAPACITORS

Item No.	Rating	Mfr. Part No.
C302	1 25V 10% Tantalum	181-0321
C309	3.3 16V 10%Tantalum	181-032Y
C612	10 16V Tantalum	181-445A
C614	3.3 16V 10%Tantalum	181-032Y
C615	4.7 16V NP	181-064N
C616	4.7 16V NP	181-064N
# C805	470 200V	181-075E
# C812	47 160V	181-102C

For SAFETY use only equivalent replacement part.

CAPACITORS

Item No.	Rating	Mfr. Part No.
# C416	100 2KV 10%	0CK10102510
C417	680 2KV 10%	181-087D
# C420	.0062 1.6KV	181-452C
# C806	.047 800V 5%	181-143D
C807	.0015 1KV 10%	0CK15201510
# C820	.0047 2KV	181-410A
# C831	.22 125VAC	181-354K
C907	.0022 2KV 10%	0CK22202510

For SAFETY use only equivalent replacement part.