

SET 2497 FOLDER 1

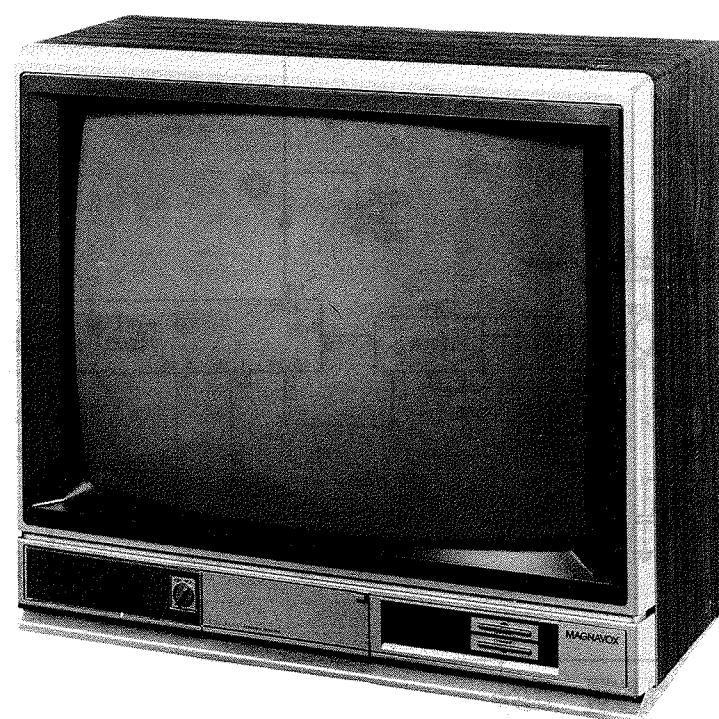
SAMS

PHOTOFACT®

For Supplier Address See PHOTOFACT Index

MAGNAVOX
CHASSIS 19C701 THRU 19C711

MODELS	CHASSIS
CG4146WA01, A02	19C701
CG4151	19C702
CF4149WC01, C02	19C703
CG4147WA01, A02	19C704
RF4246WC01, C02	19C705
	19C706
	19C707
	19C708
RG4250WA01	19C709
	19C710
	19C711



Model CG4146WA01

SAFETY PRECAUTIONS

See page 4

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The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co. as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co. by the manufacturers of the particular type of replacement part listed.

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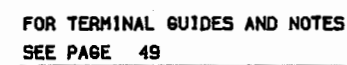
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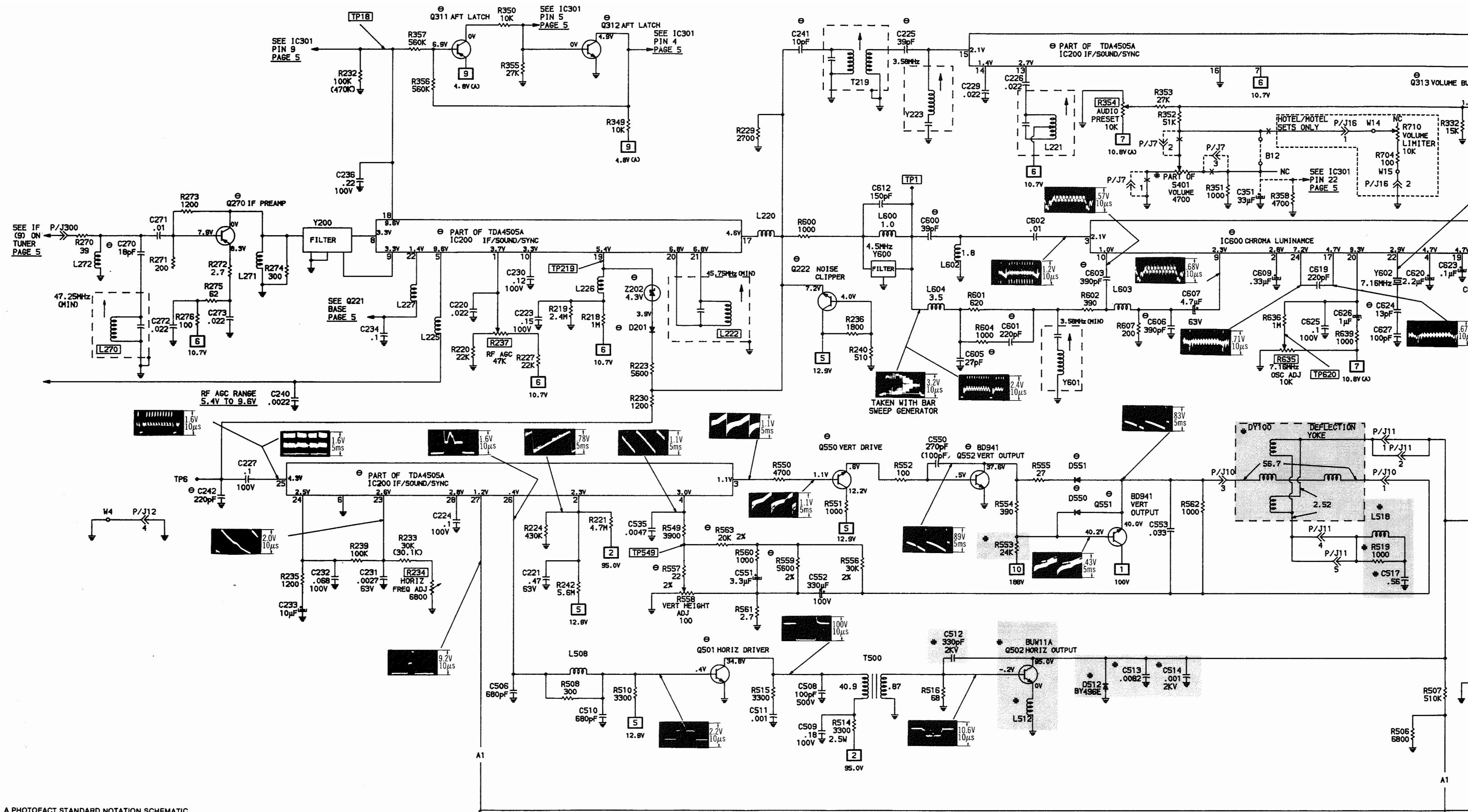
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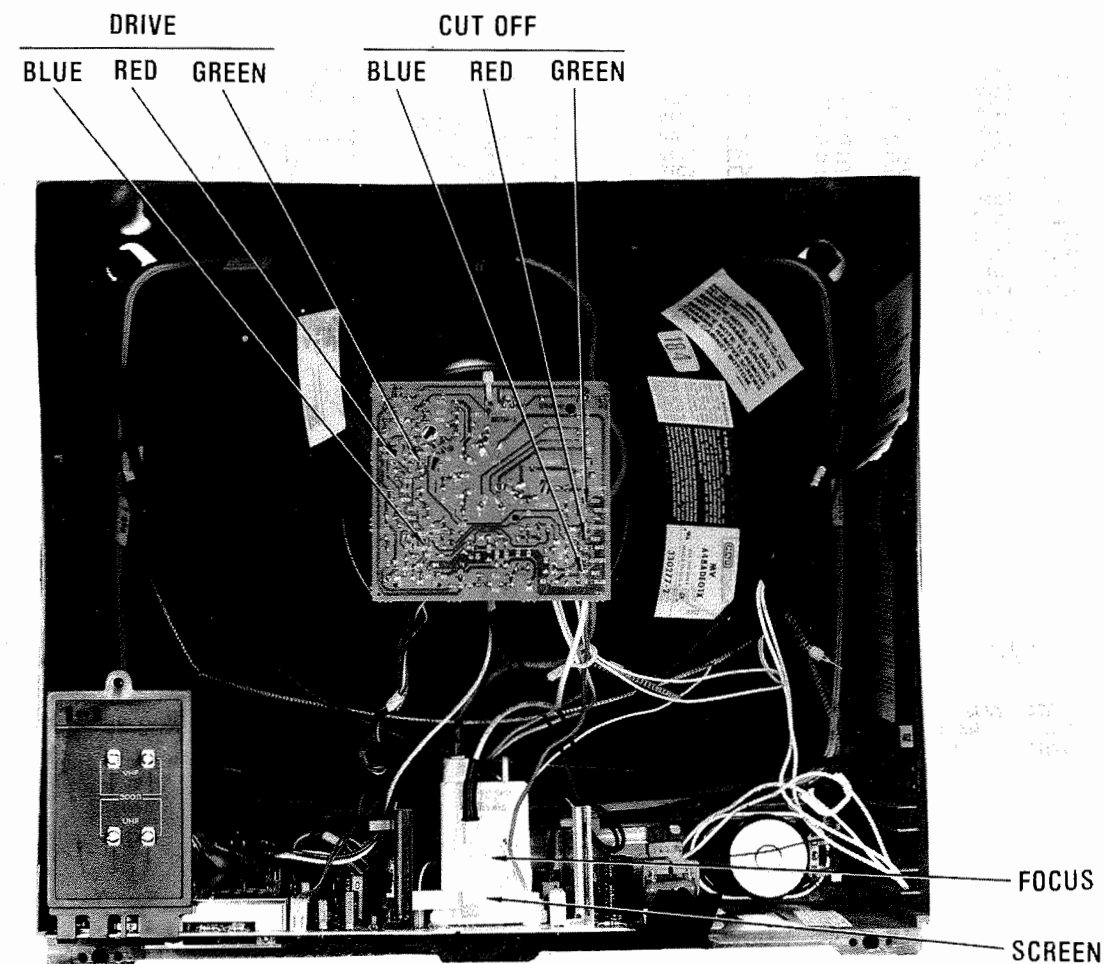


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A PHOTOFAC STANDARD NOTATION SCHEMATIC
WITH CIRCUITRACE

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CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove five screws holding cabinet back and remove back. Disconnect speaker connectors. Disconnect HV anode, CRT socket, deflection yoke connectors, degaussing coil connectors and ground leads. Remove two screws holding main board assembly to cabinet bottom and slide assembly out of cabinet. Channel read-out is accessible for servicing.

CRT REMOVAL

Follow "Chassis Removal" procedure and lay set facedown on a soft protective surface. Loosen and remove CRT neck assemblies. Remove four screws holding CRT to cabinet front and lift CRT out of cabinet. Do not lift CRT by the neck.

SERVICING IN THE FIELD

CRT IMPLOSION PROTECTION AND CLEANING

Implosion protection is an integral part of the picture tube, cleaning accomplished without CRT removal.

FUSE DEVICES

A 4-amp fuse is used for AC line protection. (See photo, Cabinet - Rear View.)

CHANNEL TUNING

Channel Up and Down buttons are provided for channel scanning.

HORIZONTAL OSCILLATOR

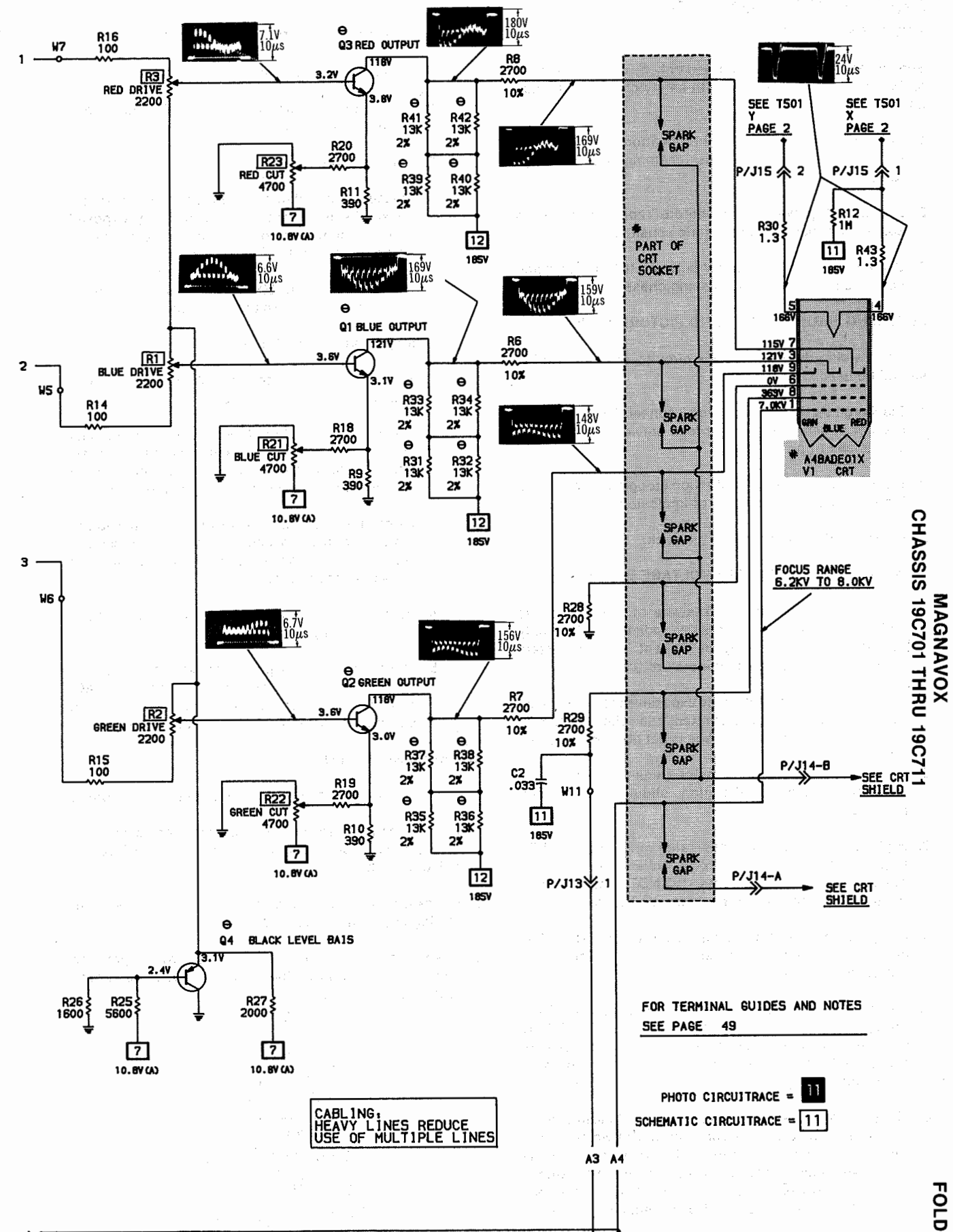
Adjustment of the horizontal hold is accomplished by the proper setting of the Horizontal Frequency Control.

FOCUS

The focus may be varied by a focus control. (See photo, Cabinet - Rear View.)

AGC

The AGC may be varied by AGC Delay.



SAFETY PRECAUTIONS

SERVICE WARNING

Service work should be performed only by qualified service technicians who are familiar with safety checks and guide lines.

1. For continued safety, no modification of any circuit should be attempted unless recommended by manufacturer.
2. Disconnect power source before replacing parts as some parts may be electrostatic sensitive.
3. Use an isolation transformer between the line cord and power receptacle, when servicing chassis.

SERVICING HIGH VOLTAGE AND PICTURE TUBE

When servicing the High Voltage circuits, extreme caution should be used.

1. Discharge static High Voltage by connecting a 10 kohms resistor in series with a test lead between chassis and anode lead of picture tube.
2. Wear shatter-proof eye protection (goggles) when handling the picture tube in case of implosion.
3. DO NOT lift picture tube by the neck.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Service personnel should be aware of the procedures and instructions covering x-ray radiation. The only potential source of x-ray in present day solid state receivers and monitors is the picture tube.

1. It is only when High Voltage is excessive that x-ray radiation is capable of being emitted from shell of picture tube. Be sure the High Voltage is set at specified level.
2. An accurate High Voltage meter should be available at all times. Meter calibration should be checked periodically.
3. High Voltage should be kept at rated value - NO HIGHER. Higher voltages may cause x-ray radiation or failure of other associated components. DO NOT depend on protection circuit to keep voltages at rated value.
4. Every time a chassis is serviced, High Voltage should be checked at various brightness levels to be sure it is regulating properly.
5. While troubleshooting a set with excessive High Voltage, avoid being close to picture tube. DO NOT operate longer than it is necessary to locate the cause of excessive High Voltage. Use a variable AC transformer to regulate voltage.
6. Many components, electrical and mechanical, in present chassis have safety related characteristics which are not evident with visual inspection. When these components are known, they are identified with a # on the schematic and in the parts list. When replacing these components, for SAFETY, use only an equivalent replacement part.

SAFETY CHECKS-FIRE AND SHOCK HAZARD

Cold Leakage Checks (Sets with isolated ground.)

1. Unplug the AC cord and connect a jumper across the two prongs on the plug.
2. Turn on power switch.
3. Measure the resistance, with an Ohm meter, between the jumpered AC plug and any exposed metal cabinet parts on the set such as: antenna screw heads, control shafts, handle brackets. Exposed metal parts that have a return path should measure between 200 kohms and 5 megohm. Parts without a return path must measure infinity.

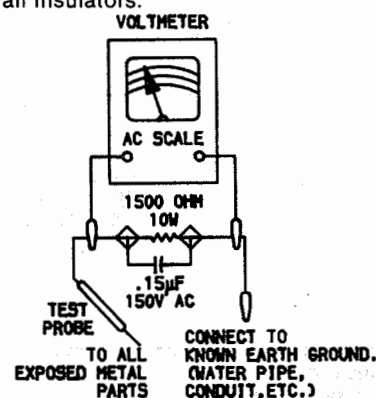
Leakage Current Hot Check

1. Plug the AC cord directly into AC outlet, DO NOT use an isolation transformer.
2. Connect a 1500 Ohm 10 watt resistor, in parallel with a .15 μ F 150V AC capacitor, between any exposed metal parts on the set and a good earth ground such as a water pipe. (See Figure below.)
3. Using an AC volt meter, with 1000 Ohms per volt or more sensitivity, measure the voltage across the resistor. Check each exposed part and measure voltage at each point.
4. Reverse the AC plug and repeat voltage measurement at each point.
5. The voltage at any point should not exceed .75 volts RMS. This corresponds to .5 milliamps AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected.

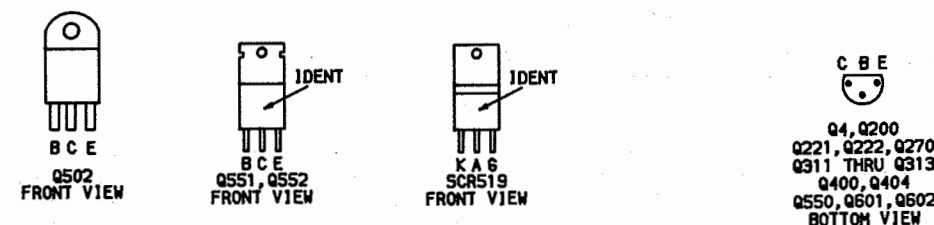
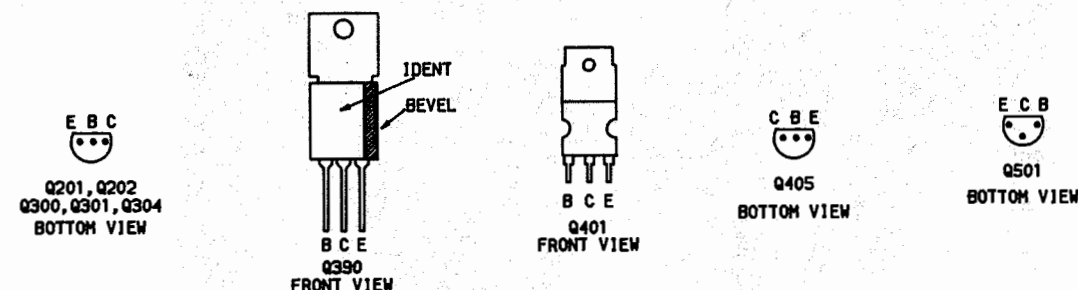
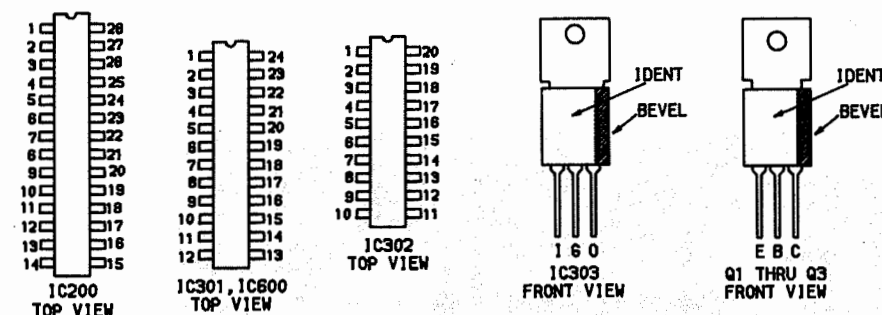
GENERAL GUIDE LINES

A final SAFETY check before returning the set to customer.

1. Check area repaired for poorly soldered or de-soldered connections. Check entire circuit board surface for solder splashes.
2. Check interboard 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.



TERMINAL GUIDES



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

--- Circuitry not used in some versions

--- Circuitry used in some versions

o See parts list

* Nominal value

⊥ Ground

⊥ Chassis

▽ Common tie point

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

Waveforms: triggered scope, keyed rainbow generator.

Item numbers in rectangles appear in the alignment/adjustment instructions.

Supply voltages maintained as shown at input.

Voltages measured with digital meter, no signal.

Controls adjusted for normal operation.

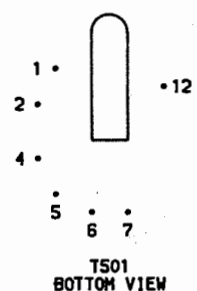
Terminal identification may not be found on unit.

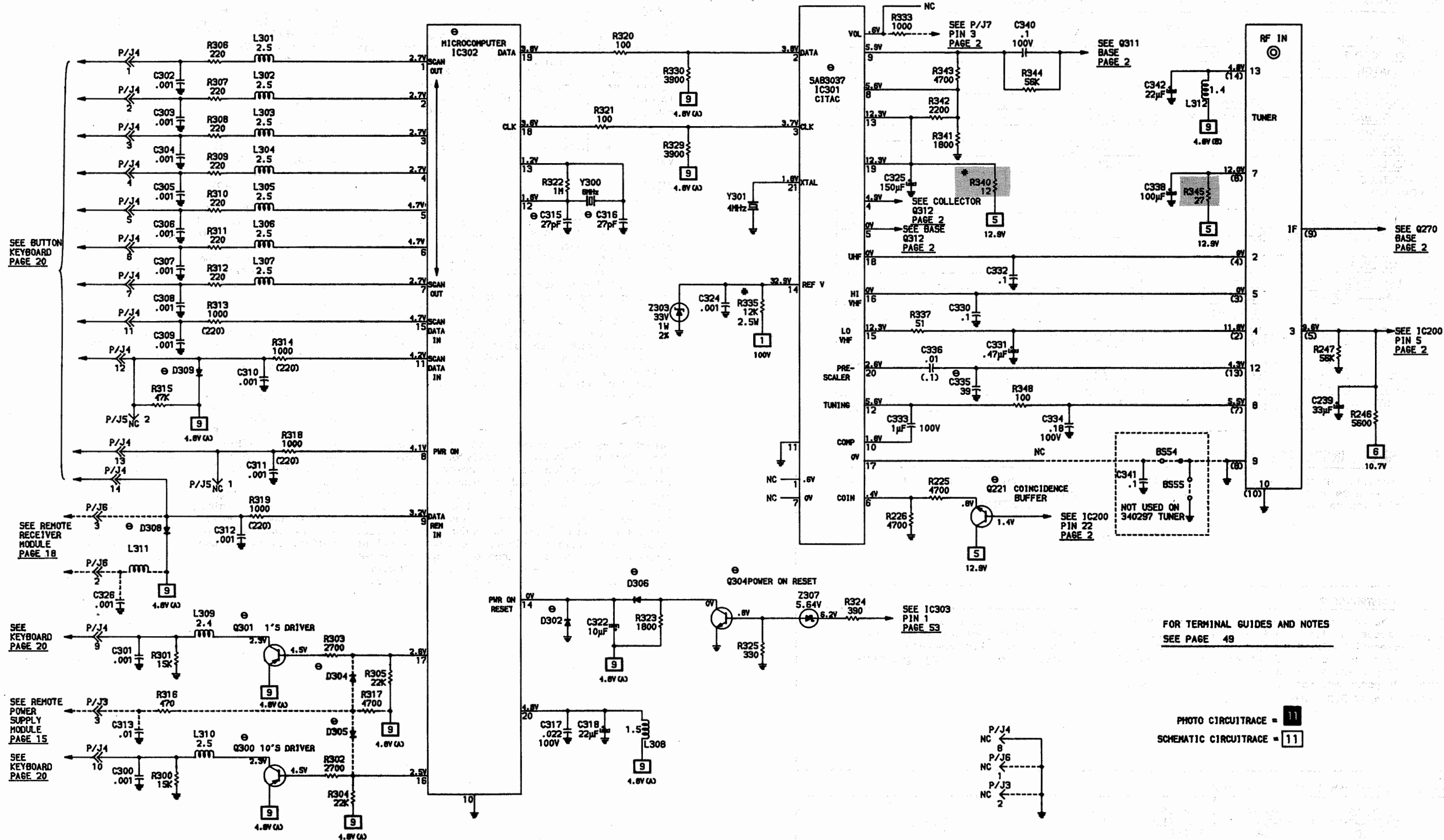
Capacitors are 50 volts or less, 5% unless noted.

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

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

Value in () used in some versions.





FOR TERMINAL GUIDES AND NOTES
SEE PAGE 49

PHOTO CIRCUITRACE = 11
SCHEMATIC CIRCUITRACE = 11

TEST EQUIPMENT

Test Equipment listed by Manufacturer illustrates typical or equivalent equipment used by SAMS' Engineers to obtain measurements and is compatible with most types used by field service technicians.

Equipment	B & K Precision Equipment No.	Sencore Equipment No.	Notes
OSCILLOSCOPE	1560, 1564, 1541	SC61	
GENERATORS			
RGB	1249,1260		
MULTIBURST SIGNAL	1251,1260	VA62	
COLOR BAR	1211A,1249,1251,1260	VA62,CG25	
ANALOG VOM	277,111,116		
DIGITAL VOM	2830,2806	DVM37,DVM56,SC61	
FREQUENCY METER	1803,1805	FC71,SC61	
HI-VOLTAGE PROBE	HV-44	HP200	
VOM/DMM	PR-28(HV)		
Accessory probes			
ISOLATION TRANSFORMER	TR110,1604,1653,1655	PR57	
CAPACITANCE ANALYZER	820,810,830	LC53,LC75,LC76,LC77	
CRT ANALYZER	467,470	CR70	
TEMPERATURE PROBE	TP-28,TP-30		
AC LEAKAGE TESTER	1655	PR57	
LOGIC PROBE	DP51,DP21		
LOGIC PULSER	DP101,DP31		
INDUCTANCE ANALYZER	875	LC53,LC75,LC76,LC77	
FLYBACK YOKE TESTER	875	LC53,VA62	
TV STEREO GENERATOR	2009	ST65,ST66	
FIELD STRENGTH METER		FS73,FS74	

TV ALIGNMENT INSTRUCTIONS

Use an isolation transformer and observe power supply polarity. Maintain line voltage at 120V AC. Allow a 20-minute warm-up period for receiver and test equipment.
Suggested Alignment Tools: GC ELECTRONICS

PRELIMINARY INSTRUCTIONS

Set the channel selector to the highest unused channel. Set scope sweep to external. Connect scope vertical input to scope vertical input on sweep/marker generator. Connect scope external horizontal input to scope horizontal input on sweep/marker generator. Ground test equipment to TV chassis unless specified otherwise. Use only enough generator output to provide a usable indication.
Note: Response may vary slightly from that shown.
Connect a 4.4V D.C. Bias to TP219.

VIDEO IF ALIGNMENT (SWEEP MARKER GENERATOR)

DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
TP1	To IF Input.	44MHz (10MHz Sweep)	45.75MHz 41.25MHz	Adjust L270 to place 45.75MHz marker as high as possible without changing waveform. See Figure 1.

TROUBLESHOOTING (Continued)

AUDIO

Inject an audio signal at pin 12 of IF/Sound/Sync IC (IC200) and check for audio at the speaker. If there is no audio at the speaker, check the voltages, waveforms and components associated with pin 12 and Audio Transistors (Q200, Q201 and Q202). If audio is present at the speaker with an audio signal injected at pin 12 of IC200, check the voltages, waveforms and components associated with pins 11, 13, 14 and 15 of IC200. Check the voltage at pin 11 of IC200, it should measure .97V at MINIMUM volume and 2.4V at Maximum volume.

VIDEO

Inject a video signal at TP1 and check for video on the CRT. If video is present, troubleshoot the "IF/AGC" section. If there is no video on the CRT, check for a video waveform at pins 13, 14 and 15 of Chroma/Luminance IC (IC600). If there is no video at pins 13, 14 and 15 of IC600, check the voltages, waveforms and components associated with pins 1, 7 and 9 thru 15 of IC600. If video is present at pins 13, 14 and 15 of IC600, check the voltages, waveforms and components associated with the CRT and Output Transistors (Q1, Q2 and Q3). If the brightness is inadequate or can't be controlled, check the voltages and components associated with pins 7 and 12 of IC600 and pin 8 of the CRT.

VERTICAL

Inject a vertical drive signal at the base of the Vertical Drive Transistor Q550. If vertical deflection is now present, check the voltages, waveforms and components associated with pins 2, 3 and 4 of IF/Sound/Sync IC (IC200). If there is no vertical sweep, check the voltages, waveforms and components, associated with Transistor Q550 and Vertical Output Transistors (Q501, Q552). Vertical linearity or foldover problems may be caused by the vertical feedback and bias circuits. Check Electrolytics C551 and C552 for defects.

SYNC

Check for video waveform at TP6. If the video waveform is missing, check the components associated with TP6. If a video waveform is present at TP6 and there is no vertical or horizontal sync, Capacitor C227 or IC200 may be defective.

RASTER

Check the CRT and CRT voltages. If there is no red, check the voltages and components associated with pin 15 of Chroma/Luminance IC (IC600) and Red Output Transistor (Q3). If there is no green, check the voltages and components associated with pin 14 of IC600 and Green Output Transistor (Q2). If there is no blue, check the voltages and components associated with pin 13 of IC600 and Blue Output Transistor (Q1). If the raster has a keystone shape, check the Deflection Yoke (DY100). If the raster has height or width problems, refer to the "Vertical", "Horizontal" and "Power Supply" sections of this Troubleshooting guide.

CHROMA

Check for a chroma waveform at pin 3 of Chroma/Luminance IC (IC600). If the waveform is missing, check the components associated with pin 3. If the chroma waveform is present at pin 3, check for the proper chroma waveforms at pins 13, 14 and 15 of IC600. If these waveforms are missing, check the voltages, waveforms and components associated with pins 1 thru 6, 8 and 16 thru 24 of IC600. Check the 7.16MHz oscillator at pins 20 and 22 of IC600. Check the voltage and components associated with Color Control and pin 6 of IC600. If there is inadequate Tint Range, check the voltages and components associated with the Tint Control and 21 of IC600. If the proper chroma waveforms are present at pins 13, 14 and 15 of IC600, refer to the "Raster" section of this Troubleshooting guide.

CHASSIS 19C701 THRU 19C711

MAGNAVOX

FOLDER 1

TEST JIG HOOKUP

FUNCTION	Chek-A-Color ADAPTER NO.	RCA / TeleMatic ADAPTER NO.	ZENITH ADAPTER NO.
CRT YOKE YOKE SETTING	YP1, B208, V508/V509 100mH Toward Chassis Focus Tap	10J756 10J729 Horiz 1.2 Vert 34 FVS/3950 Focus Voltage Supply	Horiz 1.2 Vert 34 Focus Tap

TROUBLESHOOTING

POWER SUPPLY

Check the AC Fuse (F400). If open, check the Bridge Rectifier Diodes (D400 thru D403), Capacitors C400, C402 thru C405, Thermistor R400, Switch Mode Regulator Transistor (Q401) and the Horizontal Output Transistor (Q502). If F400 is good, apply 120V AC turn set On and check for 166V at TP20. If this voltage is missing, check the Line Filter (L400), Power Switch (S401) and Resistor R401. If 166V is present at TP20, check for 100V at TP4. If this voltage is missing, check the voltages, waveforms and components associated with Transistor Q502, Differential Amp (Q405), Control Amp (Q404) Duty Cycle Transistor (Q400), Switched Mode Transformer (T402) and Horizontal Output Transformer (T501). If the voltage at TP4 is 100V, refer to the "Horizontal" section of this Troubleshooting guide.

HORIZONTAL

Determine if the TV is in shutdown, refer to the "High Voltage Shutdown" section of this Troubleshooting guide. If the TV is not in shutdown, inject a horizontal signal at the base of Horizontal Output Transistor (Q502). If horizontal deflection is now present, check the voltages, waveforms and components associated with the Horizontal Driver Transistor (Q501) and pins 7, 23, 24, 26 and 28 of IF/Sound/Sync IC (IC200). If there is no horizontal sweep, check the voltages, waveforms and components associated with Transistor Q502 and the Horizontal Output Transformer (T501). Check Diodes D518, D523 and associated components for defects. The High Voltage Rectifier is part of Transformer T501 and if defective will affect the performance of the horizontal circuits. If the horizontal oscillator is off frequency, check the voltage, waveforms and components associated with pins 23, 24 and 28 of IC200. Horizontal linearity or width problems may be caused by Capacitors C512, C513, C514 and C517 being defective.

HIGH VOLTAGE SHUTDOWN

The High Voltage is monitored by Diode D523, rectifying pulses from the Horizontal Output Transformer (T501) and applying the voltage to the cathode of Zener Diode Z521. Should the

high voltage increase the rectified voltage at the cathode of Z521 will also increase and trigger Zener Diodes Z520 and Z521 into conduction. This triggers Overvoltage Shutdown SCR (SCR519) which shuts down the set. To troubleshoot disconnect D523 from the circuit and check the voltage at TP4. If the voltage is more than 103V, troubleshoot the power supply. If the voltage at TP4 is less than 100V, check the components associated with the collector circuit of the Horizontal Output Transistor (Q502) and SCR519. Return Diode D523 to the circuit.
NOTE: Care should be taken in defeating the High Voltage Shutdown circuit as this may cause excessive X-radiation and damage to the CRT, Transformer T501 and associated components. Monitor the High Voltage and troubleshoot.

Voltages Taken In Shutdown

	SCR519	TP4	TP17
K	0V	6.1V	1.89V
G	.74V		
A	.83V		

IF/AGC

Inject a video IF signal at the IF Input and check for video on the CRT. If video is present, check the tuner, tuner control and tuner AFT circuit. If there is no video on the CRT, check for a video waveform at TP1. If video is present, refer to the "Video" section of this Troubleshooting guide. If there is no video at TP1, apply AGC bias to pin 19 of IF/Sound/Sync IC (IC200). If video is present at TP1, check the voltages and components associated with the AGC circuit at pins 1, 5 and 19 of IC200. If there is no video at TP1, check the voltages, waveforms and components associated with pins 7 thru 10, 17, 18 and 22 of IC200 and IF Preamp Transistor (Q270). A defective AGC circuit can cause an overloaded picture, excessive snow or loss of audio and video. See the AGC Voltage Chart for voltages that change with signal.

IC200	
Pin 1	3.9V
Pin 5	5.2V
Pin 19	4.5V

TV ALIGNMENT INSTRUCTIONS (Continued)

VIDEO IF ALIGNMENT (BAR SWEEP GENERATOR)

BAR SWEEP GENERATOR	SCOPE INPUT	REMARKS
To Antenna Terminals	TP1	Perform Video IF Adjustments per SWEEP/MARKER GENERATOR instructions above. See Figure 3.

SOUND IF ALIGNMENT

Tune in a station and adjust L221 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce the signal while aligning for undistorted output by adjusting L219.

AUTOMATIC FINE TUNING ALIGNMENT

Connect as explained in preliminary instructions unless specified otherwise.

DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
TP218	To IF Input	44MHz	45.75MHz	Adjust L222 to place marker as shown. See Figure 2.

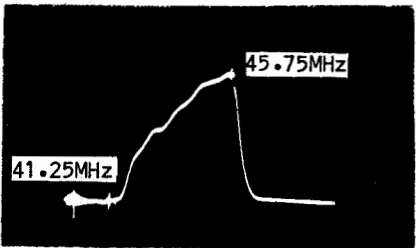


Figure 1

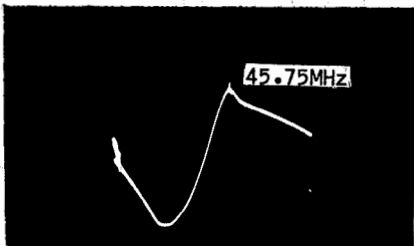


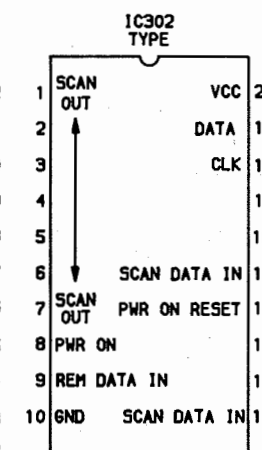
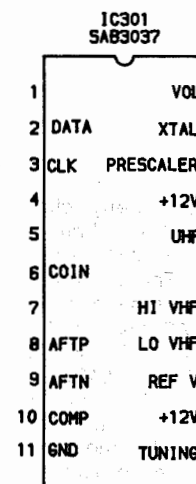
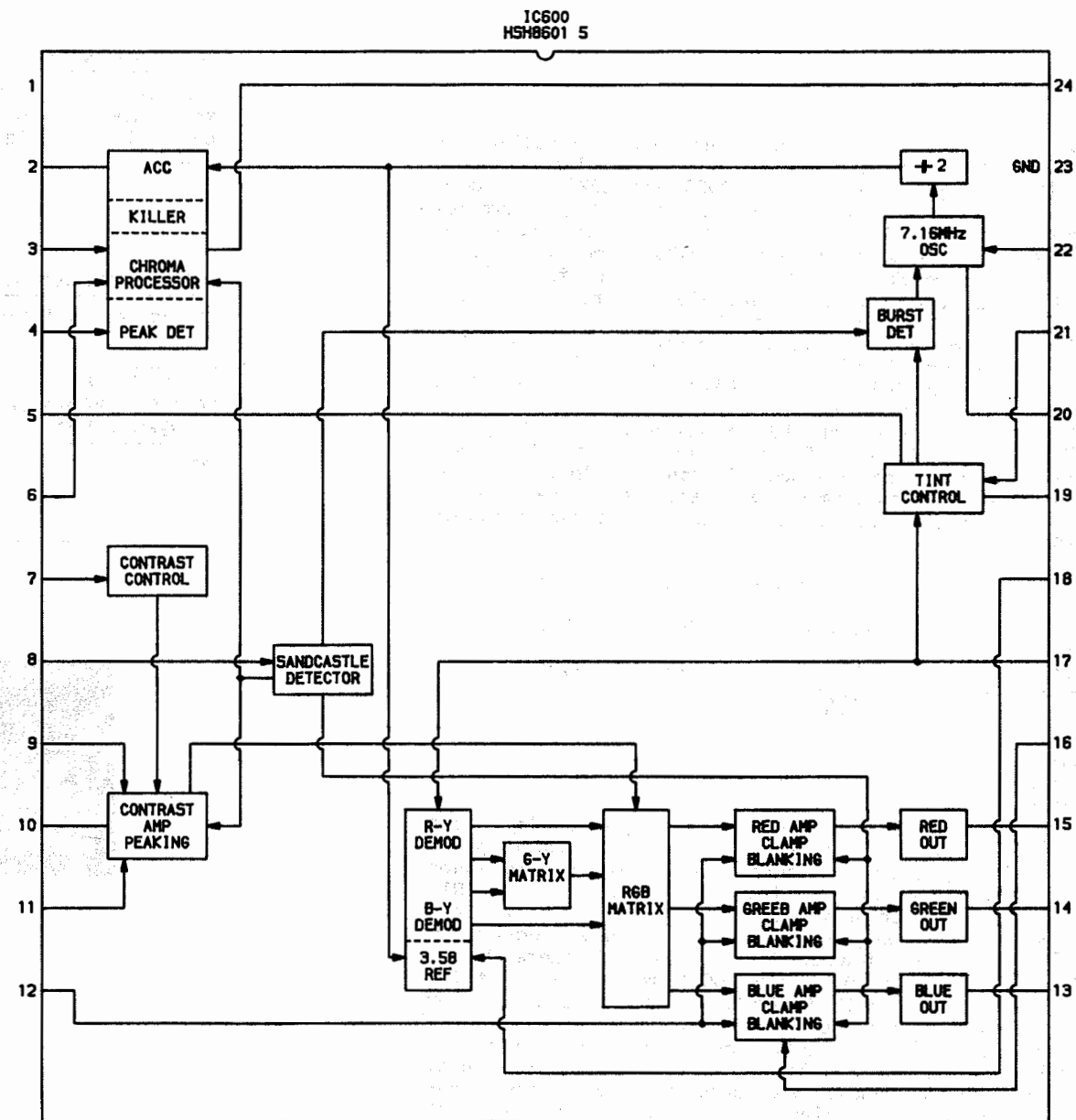
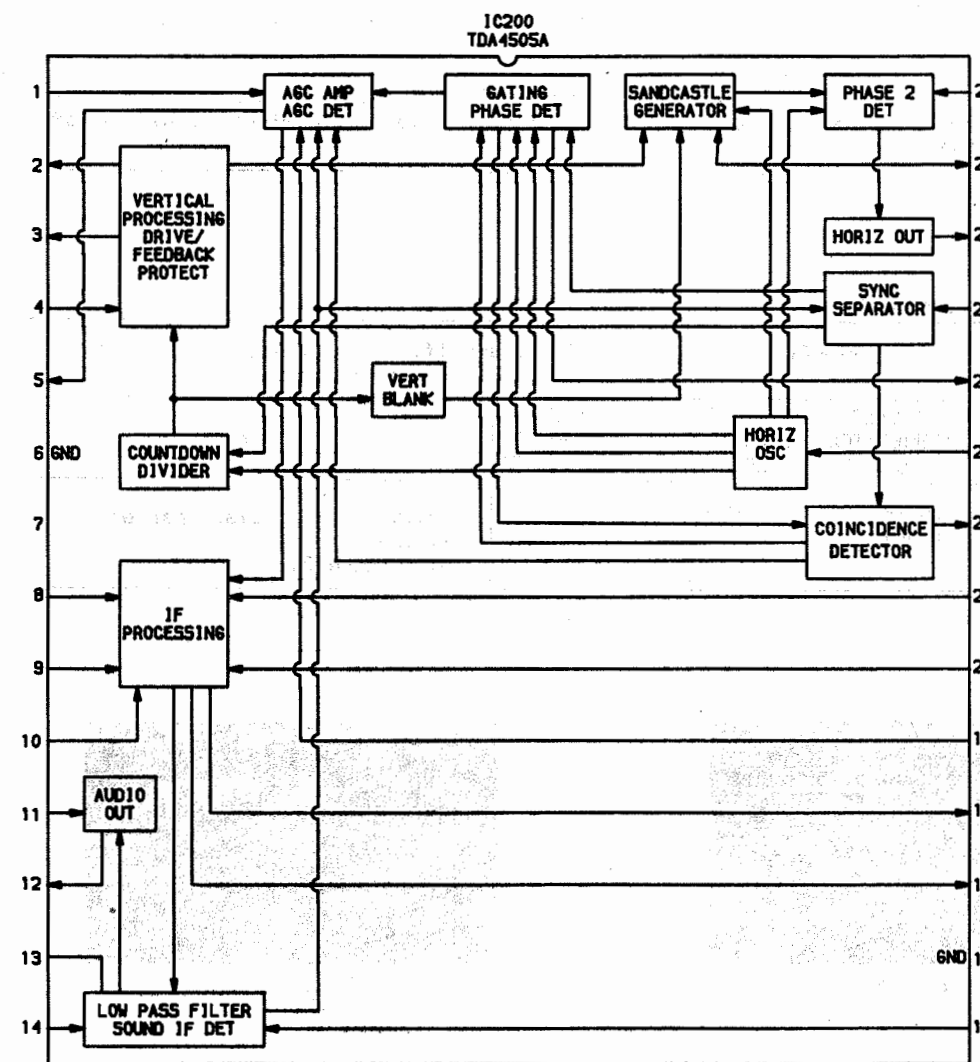
Figure 2



Figure 3

MAGNAVOX
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FOLDER 1



MAGNAVOX
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FOLDER 1

TROUBLESHOOTING AID

Note: Waveforms taken with triggered scope, Keyed-Rainbow generator. Schematic voltages measured with digital meter, no signal. Controls adjusted for normal operation.

PICTURE or SOUND

NO PIC, NO SOUND, NO RASTER: Check AC power supply and sources generated from Horizontal Output Transformer (T501). Refer to "Troubleshooting" Power Supply and Horizontal circuits.

NO PIC, NO SOUND, HAS RASTER: Check IF-AGC and source voltages from Horizontal Output Transformer (T501). Refer to "Troubleshooting" IF-AGC and Horizontal circuits.

NO PIC, HAS SOUND, NO RASTER: Check Horizontal Output Transformer (T501) sources and Video circuit. Refer to "Troubleshooting" Horizontal and Video circuits.

NO PIC, HAS SOUND, HAS RASTER: Refer to "Troubleshooting" Video circuit.

HAS PIC, NO SOUND: Refer to "Troubleshooting" Audio circuit.

OVERLOADED PICTURE: Refer to "Troubleshooting" IF-AGC circuit.

LOW OR EXCESSIVE BRIGHTNESS: Check Video and Luminance circuits. Refer to "Troubleshooting" Video circuit.

SWEEP

NO RASTER, HAS SOUND: Check HV rectifier, Part of Horizontal Output Transformer (T501). Refer to "Troubleshooting" Horizontal circuit.

NO RASTER, NO SOUND: Refer to "Troubleshooting" Horizontal circuit.

NO VERT DEFLECTION: Refer to "Troubleshooting" Vertical circuit.

POOR VERT LIN OR FOLDOVER: Refer to "Troubleshooting" Vertical circuit.

POOR HORIZ LIN OR FOLDOVER: Refer to "Troubleshooting" Horizontal circuit.

NARROW PICTURE: Refer to "Troubleshooting" Horizontal circuit.

VERT OFF FREQUENCY: Refer to "Troubleshooting" Vertical circuit.

HORIZ OFF FREQUENCY: Refer to "Troubleshooting" Horizontal circuit.

SYNC

NO VERT/HORIZ SYNC: Refer to "Troubleshooting" Sync circuit.

RASTER

YELLOW (NO BLUE): Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

CYAN (NO RED): Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

MAGENTA (NO GREEN): Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

COLOR (B/W operating normally)

NO COLOR: Refer to "Troubleshooting" Chroma circuit.

WEAK COLOR: Refer to "Troubleshooting" Chroma circuit.

NO COLOR SYNC: Refer to "Troubleshooting" Chroma circuit.

NO GREEN: Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

NO BLUE: Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

NO RED: Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

INCORRECT HUE (TINT): Refer to "Troubleshooting" Chroma circuit.

MISCELLANEOUS ADJUSTMENTS

AGC ADJUSTMENT

Tune in a local channel. Turn AGC Control (R237) clockwise until snow appears. Adjust RF AGC Control (R237) until snow just disappears.

HORIZONTAL HOLD ADJUSTMENT

Tune in a color bar pattern. Short TP6 to ground. Adjust Horizontal Frequency Control (R234) until bars stop or slowly drift across the screen.

AUDIO PRESET ADJUSTMENT

Tune in a local station. Set Customer Volume Control to MINIMUM. Adjust Volume Preset Control (R354) until sound can just start to be heard.

100V ADJUSTMENT

Turn On TV with no signal applied. Connect digital meter to TP4. Adjust VR433 for 100VDC ± 1 VDC.

COLOR OSCILLATOR ADJUSTMENT

Tune in a local channel, connect a digital meter to TP620. Adjust Oscillator Adjust Control (R635) for 4.0V ± 1 VDC. Loosely couple antenna and check and Adjust (R635) if necessary to insure color lock.

WHITE BALANCE

Tune in a local channel, set Brightness Picture and Color Controls to fully counterclockwise set Sharpness and Tint to center position, set Screen Control to fully clockwise. Adjust Blue (R21), Green (R22) and Red (R23) cut-off controls to Maximum (fully clockwise). Set Blue (R1), Green (R2) and Red (R3) drives to MINIMUM (fully counterclockwise). Measure collectors of outputs and

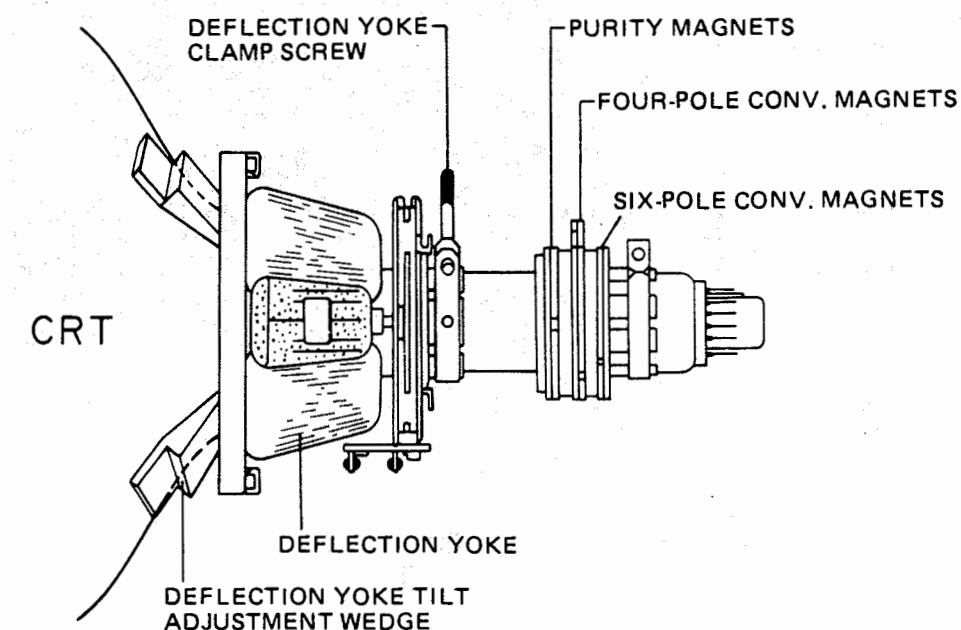
adjust cut-off controls until all collectors are equal with the lowest voltage of any of the collectors. Connect a jumper from (TP549) to ground. Adjust screen until one line becomes visible. Adjust other two controls to produce a white line. Disconnect the jumper. Set brightness to midrange and picture to Maximum. Adjust Drive Controls for picture highlights.

COLOR PURITY ADJUSTMENTS

Allow a 15 minute warm up and degauss the picture tube if necessary. Disconnect IF Plug J1. Set Picture Control to Maximum and Brightness to midrange. Remove the rubber wedges and slide the yoke forward against the bell of the picture tube. Place the purity tabs together and at the 12 O'clock position the 4-pole magnets at the 2 O'clock position and the 6-pole magnets at the 10 O'clock position. Adjust the Green (R22) and Blue (R21) Cut-Off Controls fully counterclockwise and the Red (R23) Cut-Off Control fully clockwise. Spread and rotate the purity tabs to center the red band on the screen. Slide the Deflection Yoke (DY100) back to produce a uniform red raster. Tighten the yoke clamp. Reconnect IF cable at J7.

CONVERGENCE ADJUSTMENTS

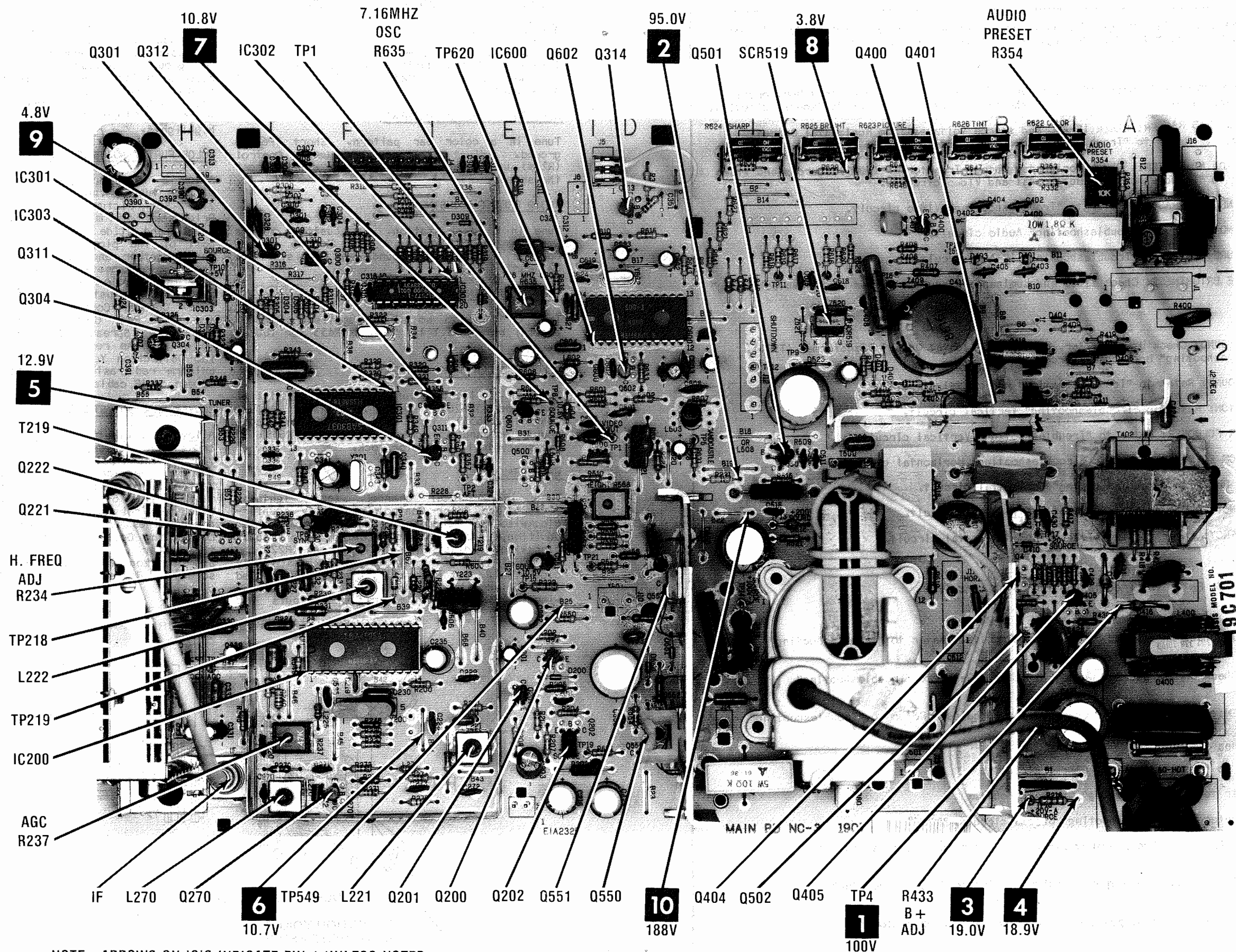
Allow a 15 minute warm up time and tune in a crosshatch pattern. Spread and rotate the tabs of the 4-pole magnets to converge the red and blue vertical and horizontal lines at the center of the screen. Spread and rotate the tabs of the 6-pole magnets to converge red/blue vertical and horizontal lines with the green lines at the center of the screen. Loosen the Deflection Yoke (DY100) and remove the rubber wedges. Tilt the yoke vertically and horizontally to converge the edges of the screen. Replace wedges and tighten yoke clamp.



CRT NECK ASSEMBLY

CHASSIS 19C701 THRU 19C711 MAGNAVOX

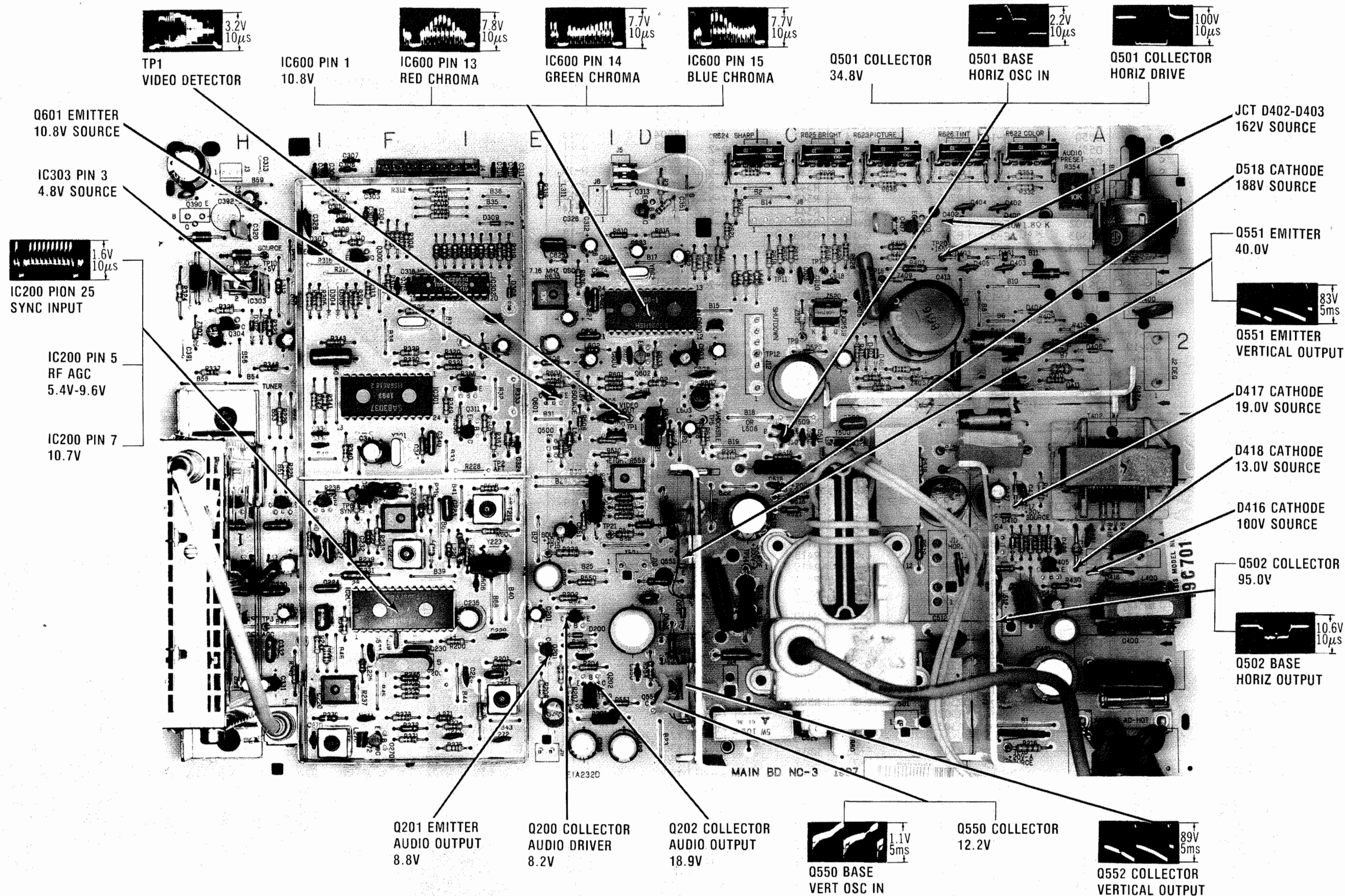
FOLDER 1



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

A Howard W. Sams CIRCUITRACE Photo

MAIN BOARD



MAGNAVOX
CHASSIS 19C701 THRU 19C711

FOLDER 1

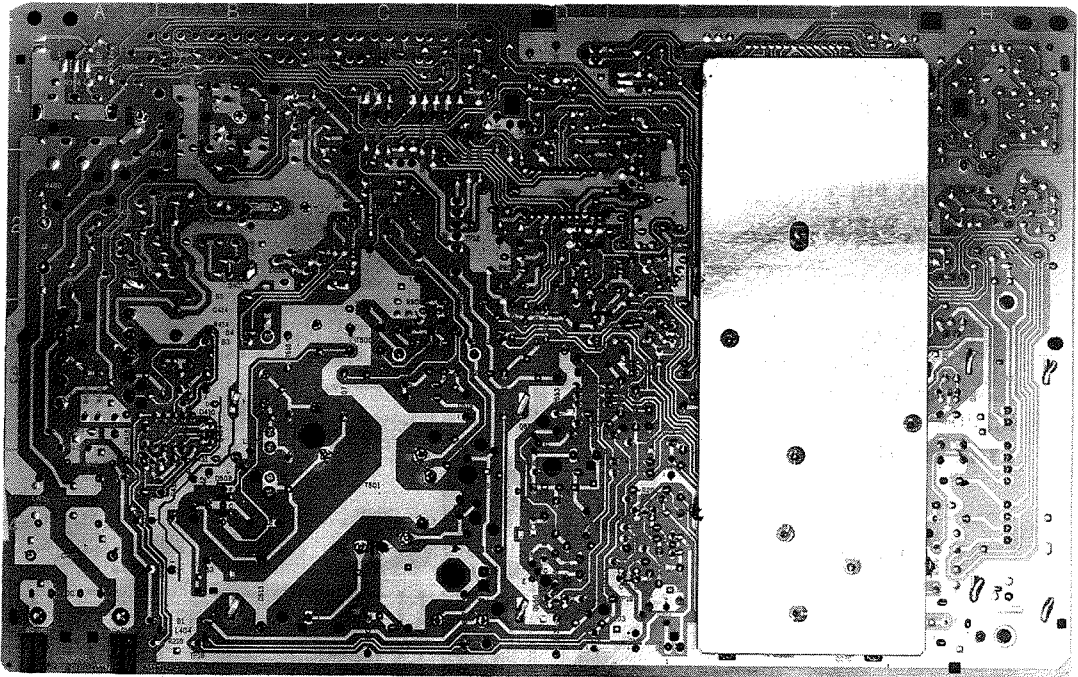
MAIN BOARD

A Howard W. Sams QUICK-CHECKS™ Photo

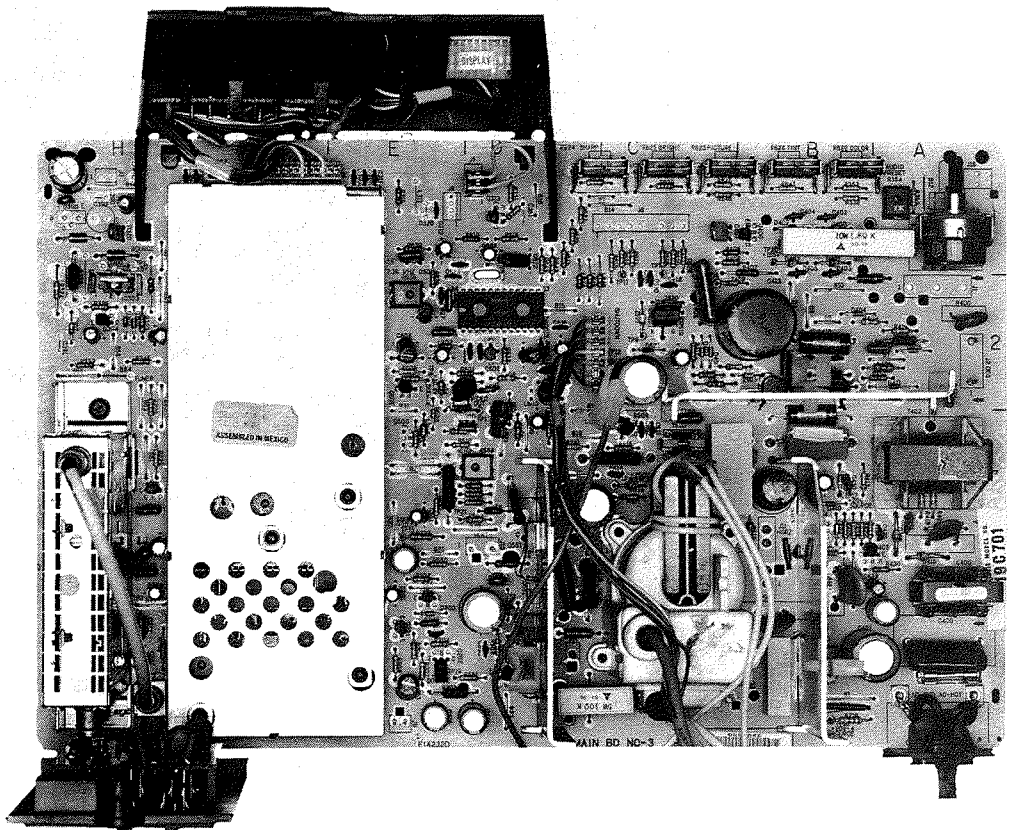
MAIN BOARD

MAIN BOARD-GridTrace LOCATION GUIDE

C200	O-9	C412	G-23	D407	G-20	Q304	F-2	R321	G-9	R557	K-12
C201	N-11	C413	F-21	D408	G-20	Q311	I-9	R322	E-8	R558	J-13
C202	O-12	C414	H-23	D410	K-23	Q312	G-9	R323	F-4	R559	K-13
C203	P-11	C416	F-23	D411	H-25	Q313	C-14	R324	E-1	R560	K-13
C216	Q-12	C420	L-27	D416	M-26	Q400	C-21	R325	E-2	R561	K-13
C219	N-7	C421	O-25	D417	J-24	Q401	G-23	R329	G-7	R562	M-14
C220	P-5	C425	N-26	D418	L-25	Q404	L-23	R330	G-7	R563	L-13
C221	N-5	C424	H-27	D512	M-23	Q405	L-25	R331	B-14	R600	K-9
C222	M-11	C426	L-25	D518	K-18	Q501	I-18	R332	B-24	R601	G-13
C223	K-8	C427	J-23	D523	G-18	Q502	M-23	R335	K-12	R602	G-14
C224	M-5	C428	N-25	D550	N-14	Q550	P-14	R337	G-2	R604	H-13
C225	L-8	C429	Q-13	D551	N-15	Q551	E-15	R338	D-2	R605	G-11
C226	O-9	C430	J-24	D600	K-15	Q552	P-15	R340	I-6	R606	G-11
C227	L-5	C431	L-26	D602	H-12	Q601	H-11	R341	H-5	R607	H-15
C229	N-10	C506	M-9	I400	P-27	Q602	G-14	R342	H-5	R608	G-11
C230	O-7	C508	I-18	IC200	N-7	R200	N-8	R343	F-5	R610	C-13
C231	M-6	C509	I-19	IC301	H-7	R201	O-2	R344	I-8	R615	C-14
C232	L-6	C510	I-17	IC302	E-8	R202	M-12	R345	O-4	R616	D-19
C233	J-6	C511	I-18	IC303	E-3	R203	Q-12	R348	G-4	R617	D-18
C234	K-4	C512	Q-22	IC600	E-14	R204	O-12	R349	H-8	R618	D-17
C235	N-9	C513	P-22	IF	Q-4	R205	O-12	R350	I-9	R619	D-17
C236	J-7	C514	N-24	J2	G-28	R206	O-11	R351	C-14	R620	D-19
C239	N-4	C515	G-18	J9	Q-11	R207	P-12	R352	B-26	R621	C-16
C240	O-5	C516	N-17	J10	L-13	R208	P-11	R353	B-24	R622	A-24
C241	K-9	C517	J-21	J11	M-12	R216	Q-24	R354	B-25	R623	A-20
C242	L-5	C518	J-17	J12	H-17	R218	J-9	R355	G-9	R624	A-17
C270	Q-5	C519	K-17	J13	Q-21	R219	K-8	R356	H-9	R625	A-19
C271	Q-6	C525	G-19	J14	P-16	R220	P-7	R357	I-10	R626	A-22
C272	Q-10	C535	O-6	L200	L-8	R221	I-16	R400	F-28	R627	C-16
C273	Q-8	C550	O-13	L221	P-10	R222	L-12	R401	C-24	R628	D-19
C300	C-5	C551	K-11	L222	L-7	R223	L-9	R402	F-26	R629	B-19
C301	C-6	C552	N-13	L226	O-6	R224	I-14	R403	H-20	R630	B-17
C302	C-6	C553	M-14	L226	K-8	R225	J-4	R404	G-20	R631	I-15
C303	B-6	C600	F-13	L227	L-6	R226	H-4	R405	G-20	R633	G-14
C304	C-6	C601	H-13	L270	Q-5	R227	P-7	R406	D-21	R634	H-14
C305	B-5	C602	G-13	L271	Q-8	R229	L-9	R407	D-21	R635	E-11
C306	B-5	C603	G-13	L272	L-6	R230	K-6	R408	D-21	R636	E-12
C307	A-6	C604	G-15	L301	D-10	R232	J-7	R409	F-25	R637	Q-16
C308	B-6	C605	J-12	L302	D-9	R233	L-6	R410	G-25	R638	O-16
C309	B-10	C606	H-13	L303	D-9	R234	K-7	R411	G-19	R639	D-11
C310	B-10	C607	G-15	L304	D-9	R235	L-6	R412	E-25	R641	D-16
C311	B-10	C608	G-15	L305	D-9	R236	J-5	R414	I-23	R642	D-15
C312	C-12	C609	G-12	L306	D-8	R237	P-5	R415	L-24	R643	D-15
C315	E-7	C610	E-18	L307	D-8	R239	L-6	R417	J-25	R645	B-20
C316	E-7	C612	H-13	L308	G-9	R240	L-5	R418	K-26	R646	B-20
C317	F-10	C615	E-18	L309	C-5	R242	K-12	R419	F-26	R647	B-22
C318	F-10	C616	F-16	L310	D-6	R246	O-7	R421	L-25	S401	C-27
C319	B-3	C617	G-6	L312	E-4	R247	N-5	R422	L-24	SCR519	F-19
C320	C-3	C618	E-19	L400	L-27	R270	Q-5	R426	K-26	T219	K-9
C321	B-1	C619	D-13	L401	G-25	R271	Q-7	R430	M-25	T402	J-27
C322	F-4	C620	F-12	L403	L-27	R272	Q-7	R431	M-23	T500	I-19
C324	I-10	C621	E-12	L404	Q-24	R273	Q-7	R432	M-24	T501	M-19
C325	I-6	C622	D-15	L406	G-22	R274	Q-8	R433	O-24	TP1	H-13
C327	A-1	C623	D-13	L410	H-24	R275	Q-8	R434	L-24	TP4	M-26
C328	C-5	C624	D-12	L412	G-23	R276	P-9	R506	I-13	TP218	K-8
C330	M-4	C625	D-11	L508	I-12	R300	B-5	R507	J-20	TP219	L-8
C331	P-3	C626	D-12	L512	M-22	R301	B-5	R508	I-11	TP549	M-12
C332	O-3	C627	E-12	L516	M-16	R302	E-6	R510	I-13	TP620	E-12
C333	G-5	C628	I-15	L518	K-22	R303	E-5	R514	J-17	Y200	O-7
C334	M-3	C629	Q-18	L600	H-13	R304	E-6	R515	I-17	Y223	L-10
C335	I-5	D200	N-12	L602	G-12	R305	E-5	R516	J-21	Y300	F-7
C336	I-5	D201	L-9	L603	H-15	R306	D-7	R517	Q-17	Y301	I-7
C338	L-4	D300	D-3	L604	H-12	R307	D-7	R518	M-16	Y600	I-13
C340	I-8	D301	C-2	L644	E-16	R308	D-7	R519	L-21	Y601	H-14
C342	F-2	D302	F-3	L645	E-16	R309	C-8	R520	E-19	Y602	D-13
C400	P-27	D306	F-3	L646	E-17	R310	C-8	R521	K-18	Z202	L-8
C402	C-23	D308	E-10	Q200	N-12	R311	B-8	R549	N-5	Z303	I-10
C403	D-23	D309	C-10	Q201	P-12	R312	B-8	R550	M-12	Z307	F-2
C404	C-22	D400	C-24	Q202	O-11	R313	E-6	R551	P-13	Z405	G-21
C405	D-22	D401	D-24	Q221	K-4	R314	E-7	R552	O-14	Z409	E-21
C406	G-25	D402	C-22	Q222	K-5	R315	B-11	R553	K-14	Z422	L-24
C407	C-20	D403	D-22	Q270	Q-6	R318	D-10	R554	O-14	Z520	E-19
C408	E-20	D404	F-24	Q300	D-6	R319	D-10	R555	O-14	Z521	F-18
C410	G-24	D406	G-26	Q301	D-5	R320	G-9	R556	K-14		



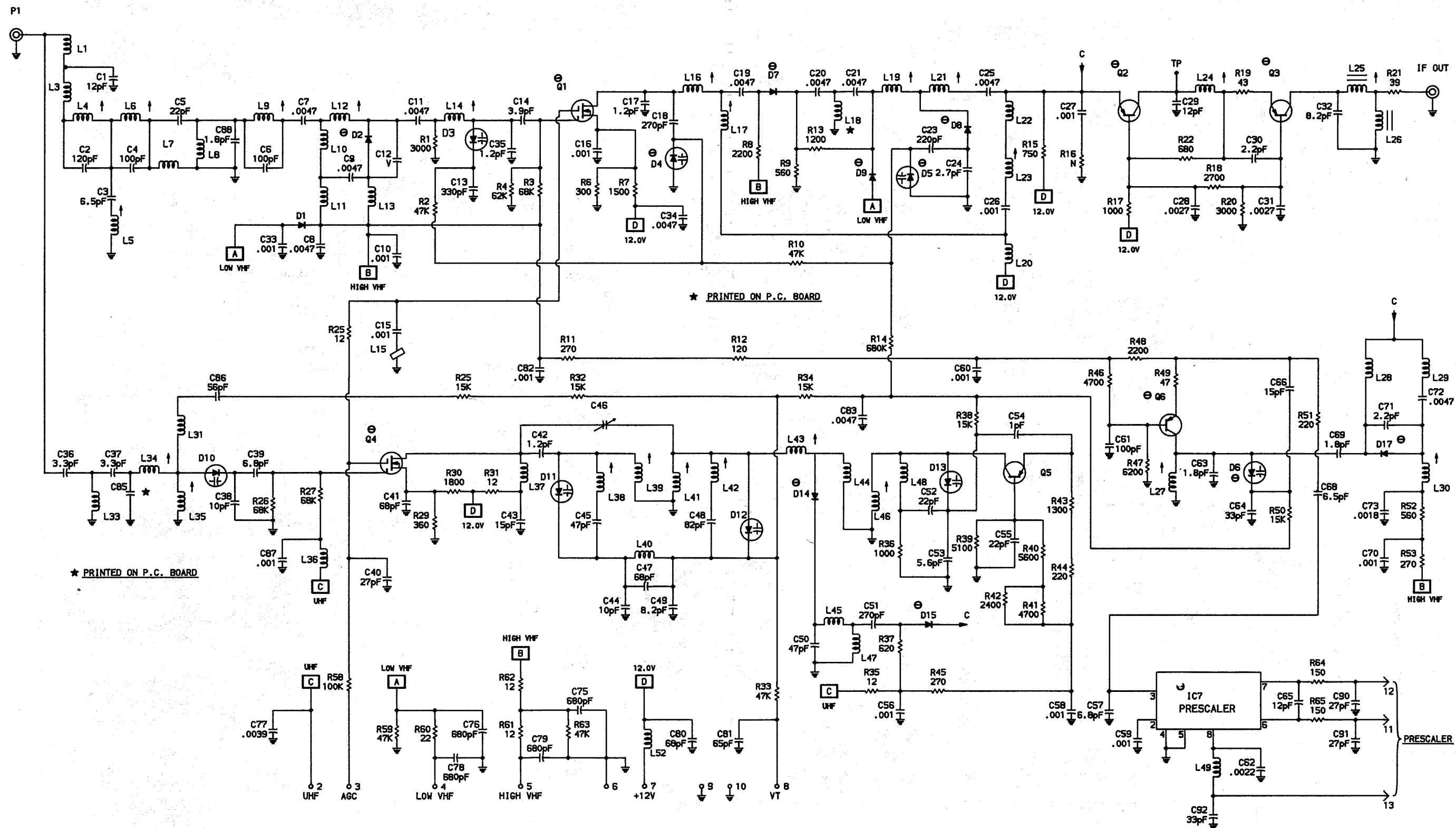
MAIN BOARD-SHIELD LOCATION (BOTTOM)

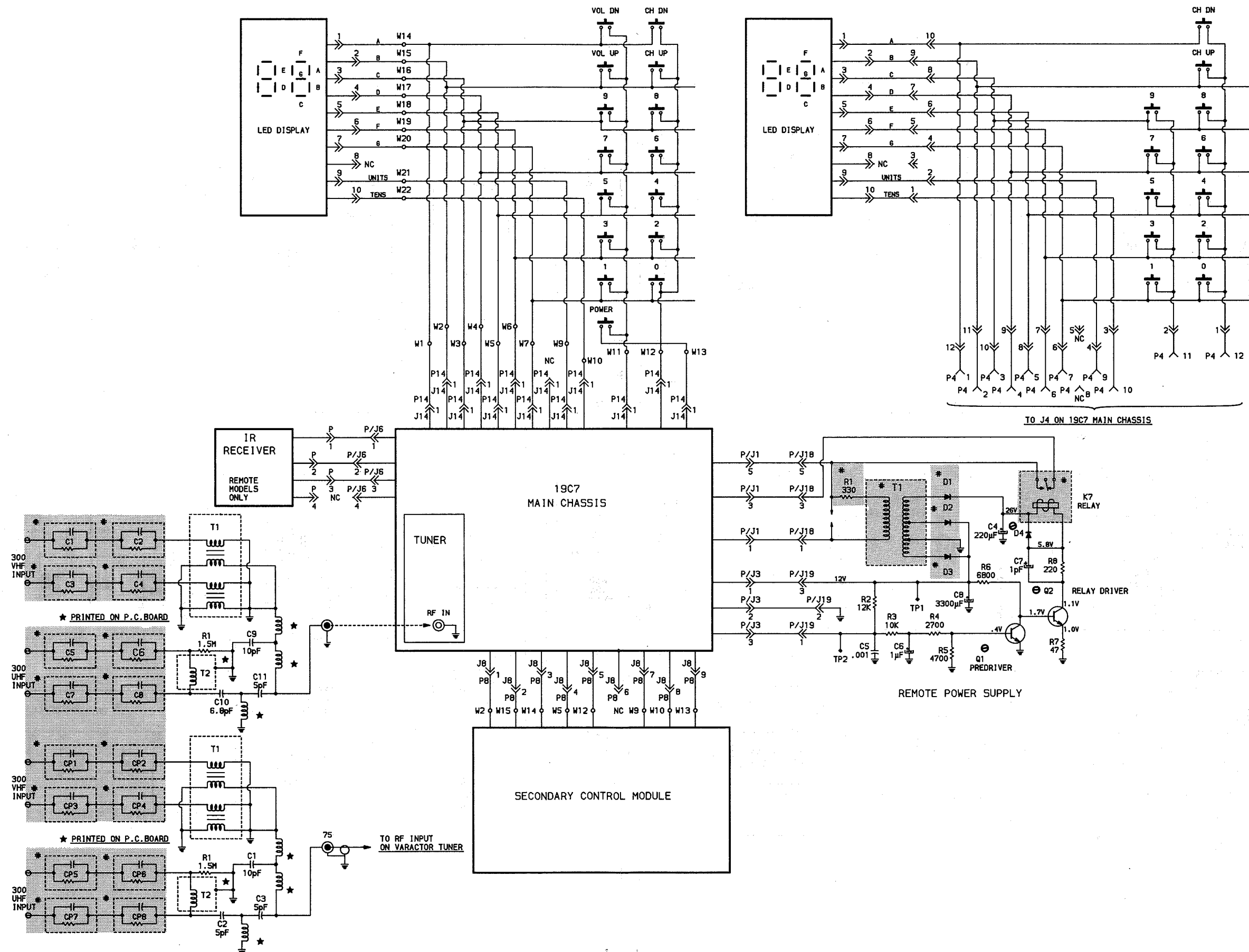


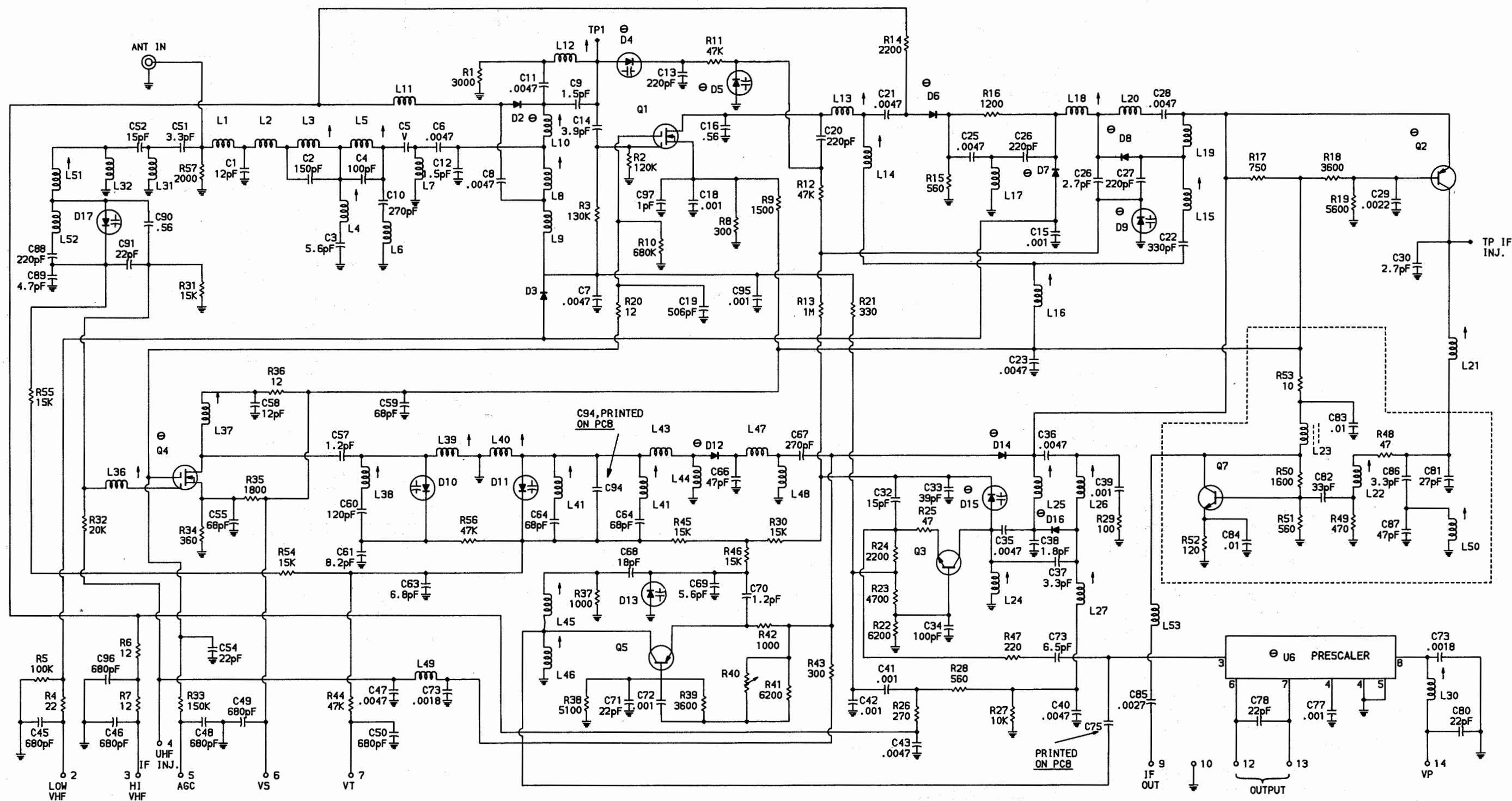
MAIN BOARD-SHIELD LOCATION (TOP)

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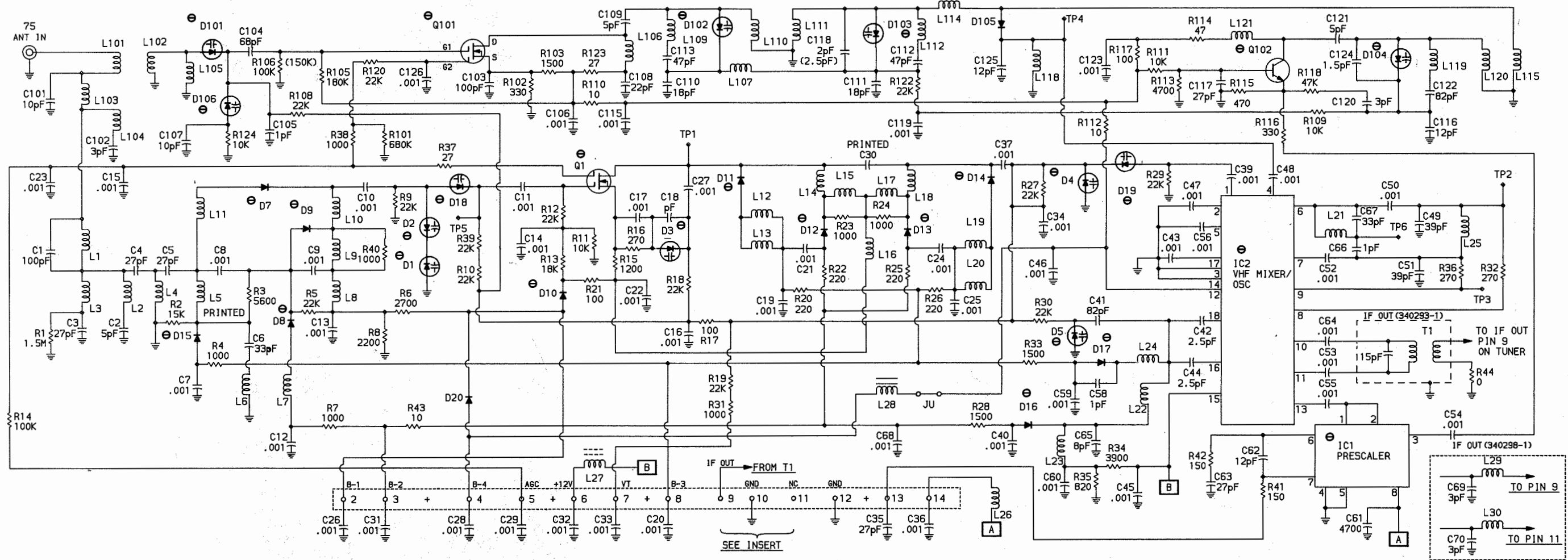
FOLDER 1







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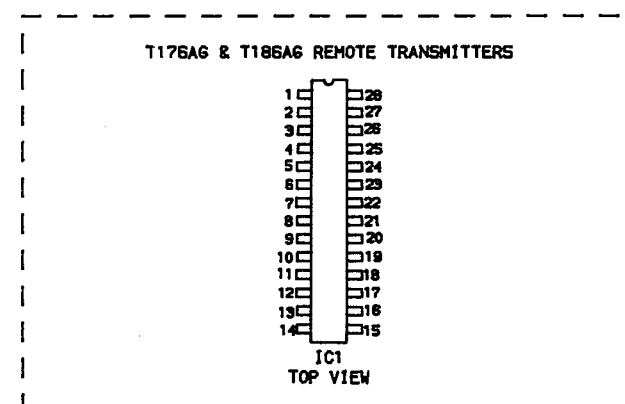
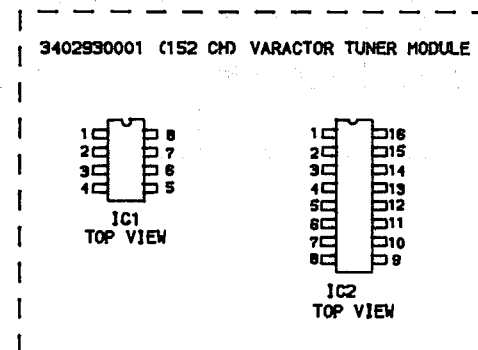
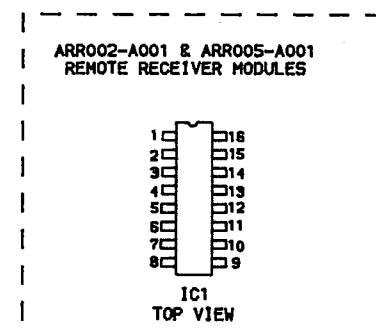
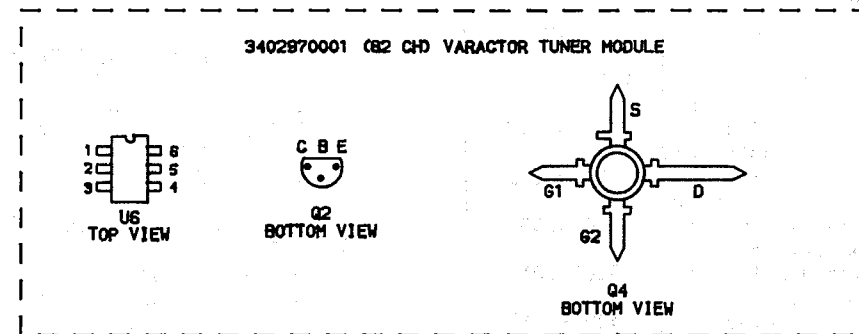
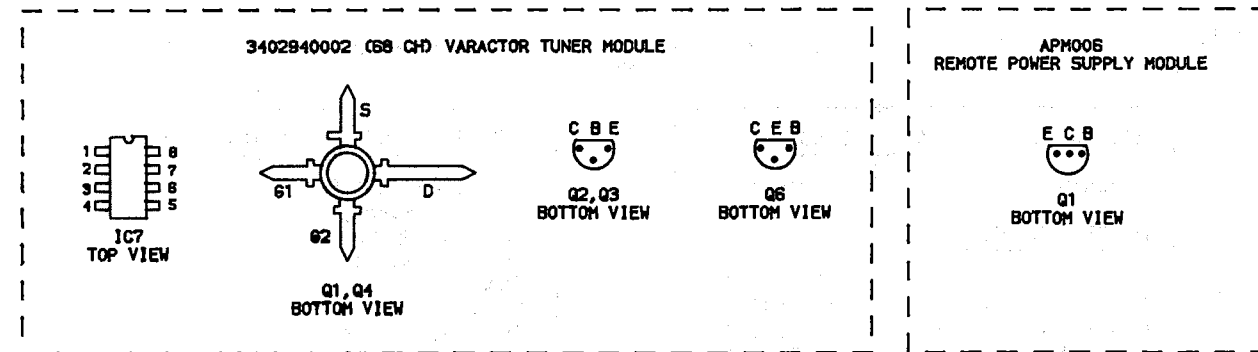
REMOTE RECEIVER AND CHANNEL/SELECT DISPLAY



CRT MODULE

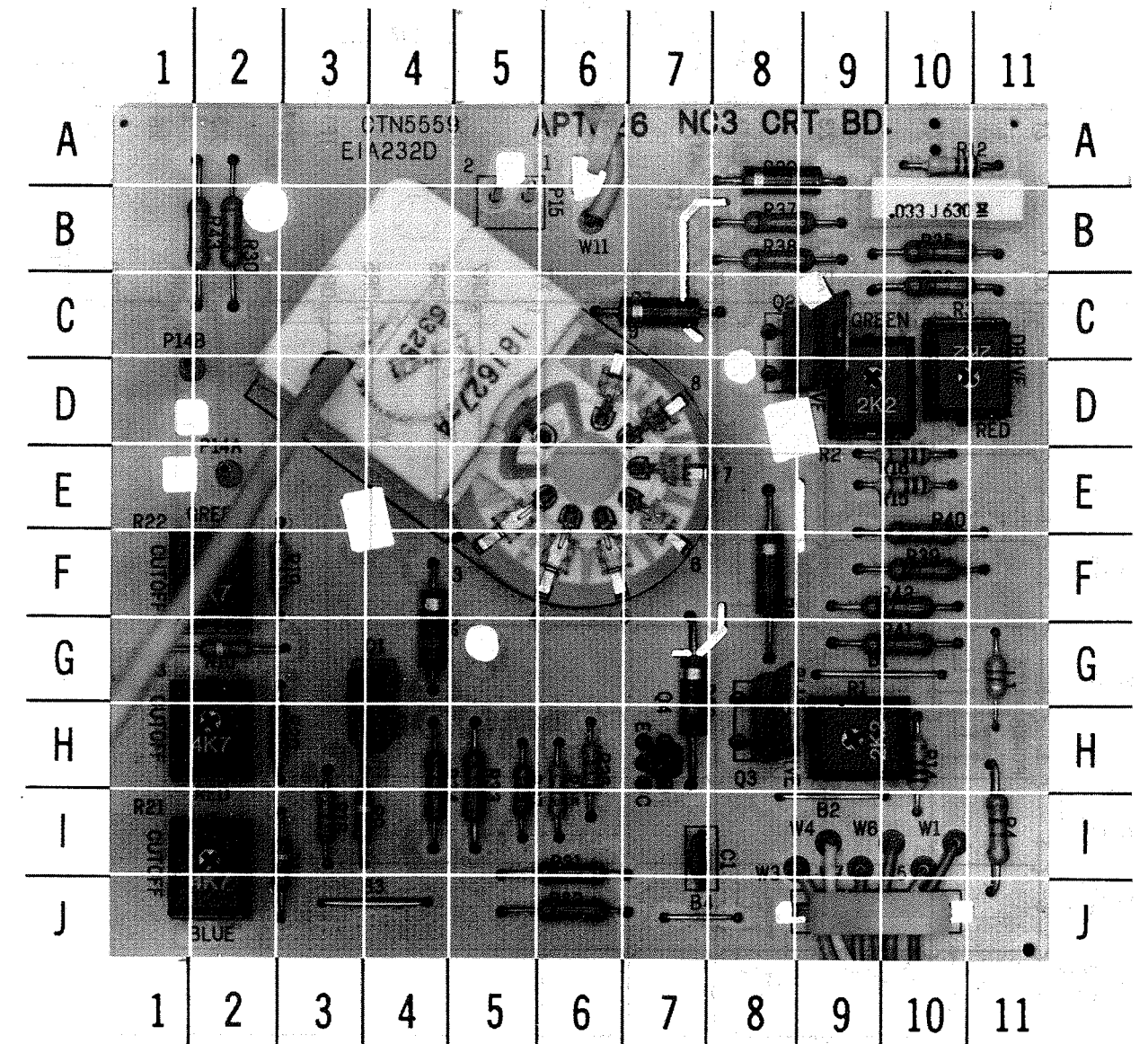
FOLDER 1

TERMINAL GUIDES



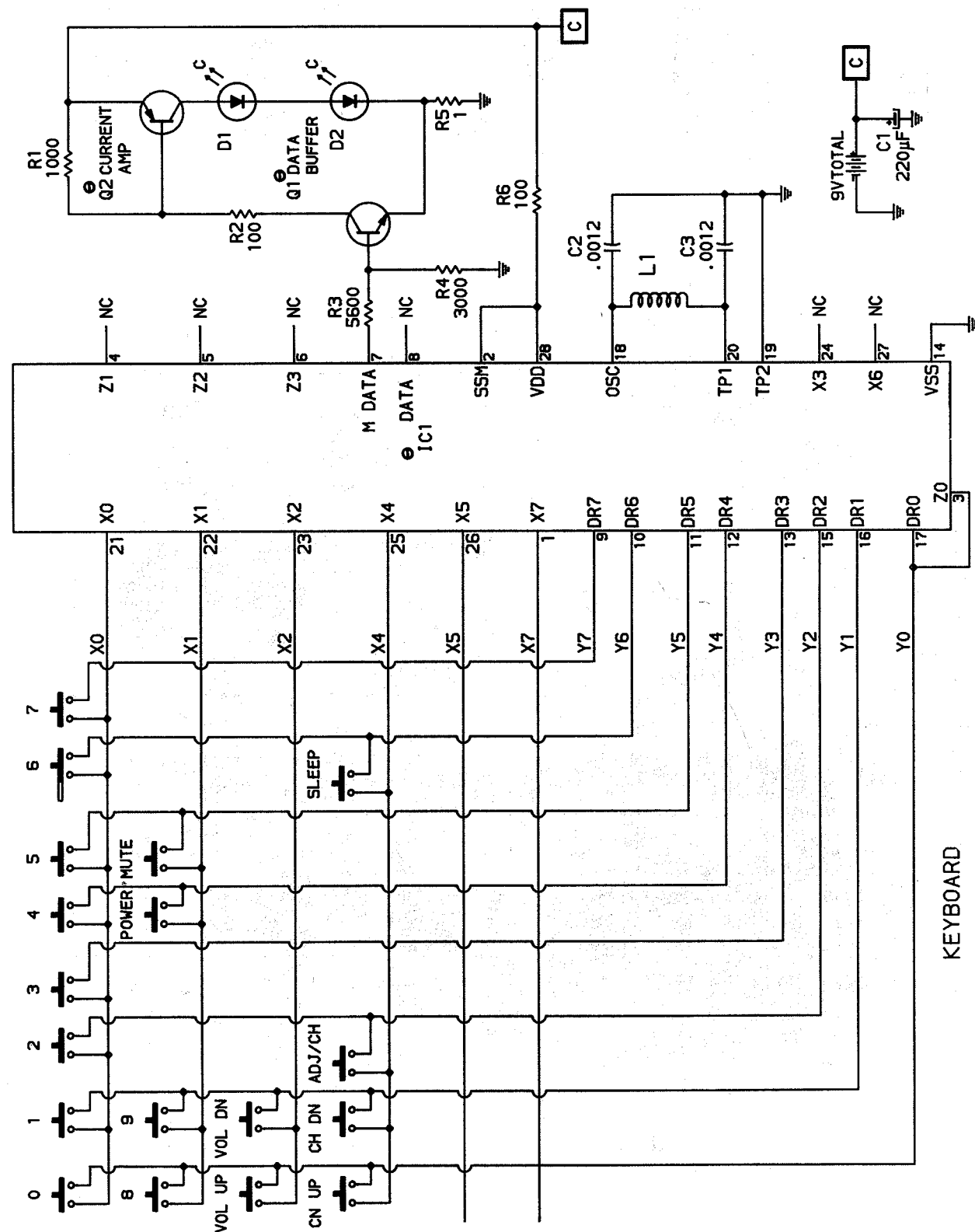
CRT MODULE-GridTrace LOCATION GUIDE

C1	I-7	R7	C-7	R21	I-2	R33	H-5
C2	B-10	R8	F-8	R22	F-2	R34	H-4
L1	G-11	R9	I-3	R23	H-2	R35	B-10
Q1	H-4	R10	G-2	R25	H-6	R36	C-10
Q2	C-9	R11	I-3	R26	H-6	R37	B-8
Q3	H-8	R12	A-10	R27	H-5	R38	B-8
Q4	H-7	R14	H-10	R28	G-7	R39	F-10
R1	H-9	R15	E-10	R29	A-8	R40	F-10
R2	D-9	R16	E-10	R30	B-2	R41	G-10
R3	C-10	R18	I-3	R31	I-6	R42	F-10
R4	I-11	R19	F-2	R32	J-6	R43	B-2
R6	G-4	R20	H-3				



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FOLDER 1



PARTS LIST

ITEM No.	DESCRIPTION	MFGR. PART No.	ITEM No.	DESCRIPTION	MFGR. PART No.
ASW045	ATC470 TUNER CONTROL ASSEMBLY			ADP014 CHANNEL SELECT DISPLAY MODULE	
	2 Pushbutton	ASW045-A001		Momentary Push-Button Switch. Power, Channel Up/Down and Volume Up/Down. (6 used).	1606880004
	MISCELLANEOUS			2 Digit Channel Display Module	5303030001
	Bezel	1459790002		ASW045 CHANNEL SELECT SWITCH MODULE	
ARR002-A001, ARR005-A001 REMOTE RECEIVER MODULES					
	MISCELLANEOUS			Momentary Push-Button Switches, Channel Up/Down. (4 used).	1606880001
	Keyboard Switch Matrix	7027850002		ASW046 CHANNEL SELECT SWITCH MODULE	
	Button Array (17 Button Transmitter)	1459060012		Momentary Push-Button Switches, Channel Up/Down and 0 thru 9. (12 used).	1606880001
	Button Array (18 Button Transmitter)	1459060017		ASW047 CHANNEL SELECT SWITCH MODULE	
	Keyboard Overlay (17 Button Magnavox)	1520890005		Momentary Push-Button Switches, Channel Up/Down, Volume Up/Down and Power. (5 used)	1606880001
	Keyboard Overlay (17 Button Sylvania)	1520890006			
	Keyboard Overlay (17 Button Philco)	1520890010			
	Keyboard Overlay (18 Button Magnavox)	1520890017			
	Keyboard Overlay (18 Button Sylvania)	1520890018			
	Keyboard Overlay (18 Button Philco)	1520890019			
340297 UHF/VHF TUNER					

PARTS LIST

ITEM No.	DESCRIPTION	MFGR. PART No.	ITEM No.	DESCRIPTION	MFGR. PART No.
# K7 # T1	APM006 REMOTE POWER SUPPLY MODULE		ASW046	ATC398 TUNER CONTROL ASSEMBLY	
	MISCELLANEOUS			12 Pushbutton Switch Module	ASW046-A001
	Relay	1607230007		MISCELLANEOUS	
	Power Transformer	3003840002		Bezel	1459790002
	ATC378 TUNER CONTROL ASSEMBLY			Buttons (12 used)	1458330006
	MISCELLANEOUS			Overlay w/Graphics	1521110002
	Button 0	1455360010		2 Digit Channel Display Module	5303200001
	Button 1	1455360001		ATC400 TUNER CONTROL ASSEMBLY	
	Button 2	1455360002		2 Pushbutton Switch Module	ASW045-A001
	Button 3	1455360003		MISCELLANEOUS	
ADP014	Button 4	1455360004	ASW045	Bezel	1459790003
	Button 5	1455360005		Buttons (2 used)	1456240005
	Button 6	1455360006		Overlay w/Graphics	1521110007
	Button 7	1455360007		2 Digit Channel Display Module	5303200001
	Button 8	1455360008		ATC401 TUNER CONTROL ASSEMBLY	
	Button 9	1455360019		12 Pushbutton Switch Module	ASW046-A001
	Channel Button Down	1455360012		MISCELLANEOUS	
	Channel Button Up	1455360011		Bezel	1459790002
	Knob Volume On/Off	1449540004		Buttons (12 used)	1458330005
	2 Digit Channel Display Module	5303200001		Overlay w/Graphics	1521110006
ASW046	Crystal, R.H. Controls	1458240001	ASW046	2 Digit Channel Display Module	5303200001
	Keyboard	7027720008		ATC402 TUNER CONTROL ASSEMBLY	
	ATC393 TUNER CONTROL ASSEMBLY			5 Pushbutton Switch Remote Receiver Module	ASW047-A001 ARR002-A001
	Channel Select/Display Module	ADP014-A001		MISCELLANEOUS	
	MISCELLANEOUS			Bezel	1459790001
	Bezel	1455840003		Buttons (5 used)	1458330005
	Channel Up Button	1455670006		Overlay w/Graphics	1521110005
	Channel Down Button	1455670007		2 Digit Channel Display Module	5303200001
	Volume Up Button	1455670008		ATC411 TUNER CONTROL ASSEMBLY	
	Volume Down	1455670009		5 Pushbutton Switch Module Remote Receiver Module	ASW047-A001 ARR001-A001
ASW047 ARR002	Power Button	1455670010	ASW047 ARR002	MISCELLANEOUS	
	ATC396 TUNER CONTROL ASSEMBLY			Bezel	1459790001
	12 Pushbutton Switch Module	ASW046-A001		Buttons (5 used)	1458330006
	MISCELLANEOUS			Overlay w/Graphics	4419200062
	Bezel	1459790002		2 Digit Channel Display Module	5303200002
	Buttons (12 used)	1458330005			
	Overlay w/Graphics	1521110004			
	2 Digit Channel Display Module	5303200001			
	ATC397 TUNER CONTROL ASSEMBLY				
	5 Pushbutton Switch Module Remote Receiver Module	ASW047-A001 ARR002-A001			
ASW047 ARR002	MISCELLANEOUS				
	Bezel	1459790001			
	Buttons (5 used)	1458330005			
	Overlay w/Graphics	1521110003			
	2 Digit Channel Display Module	5303200001			

PARTS LIST AND DESCRIPTION

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA				NOTES
			NTE PART No.	ECG PART No.	RCA PART No.	ZENITH PART No.	
D200,1	181-1	5301811001	NTE177	ECG177	SK9091/177	103-131	Remote Control Models Only
D300,1	171-2	5301711002	NTE116	ECG116	SK3311	212-76-02	
D302	247-1	5302471001	NTE112	ECG112	SK3089/112	103-61	
D304,5		5301811001	NTE177	ECG177	SK9091/177	103-131	
D306,8,9	181-1	5301811001	NTE177	ECG177	SK9091/177	103-131	
D390		5301811001	NTE177	ECG177	SK9091/177	103-131	
D400,1,2,3	1N5062	5302621001	NTE506	ECG506	SK3175A	212-Z9007	
D404,6,7,8,10,11	181-1	5301811001	NTE506	ECG506	SK3175A	212-Z9007	
D416	BYW95C	5303051003	NTE580	ECG580	SK5036/580	103-131	
D417	BYD33J	5303051003	NTE580	ECG580	SK5036/580	212-Z9000	
D418	BYW95C	5303101003	NTE580	ECG580	SK5036/580	212-Z9000	Remote Control Models Only
D512		5303051003	NTE580	ECG580	SK5036/580	212-Z9000	
D518	BYV96E	5302601003	NTE506	ECG506	SK5036/580	212-Z9000	
D523	BYV95C	5302601002	NTE580	ECG580	SK5036/580	212-Z9000	
D550,1	266-1	5302661001	NTE552	ECG552	SK9000/552	103-287	
D600		5302661001	NTE177	ECG177	SK9091/177	103-287	
D602 (R508A)	181-1	5301811001	NTE177	ECG177	SK9091/177	103-131	
IC200	181-1	5301811001	NTE519	ECG519	SK3100/519	103-131	
IC301	TDA4505A	6125070001	NTE177	ECG177	SK9091/177	103-131	
IC302	SAB3037	6125450001					Early Production
	612577-1	6125770001					
		6125600002					Used In 68 Channel Chassis Used In 82 Channel Chassis Used In 152 Channel Chassis
		6125710001					

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA				NOTES
			NTE PART No.	ECG PART No.	RCA PART No.	ZENITH PART No.	
IC303 IC600 Q1,2,3 Q4	612479-1 508-1 (IC) 250-3 (B)C558	6124790001 6125080001 6102500003 6104340001	NTE171	ECG171	SK3201/171	121-822	340293 & 340294 Tuners Only
			NTE159+	ECG159+	SK3466/159+	121-Z9003+	
			NTE159+	ECG159+	SK3466/159+	121-Z9003+	
			NTE159+	ECG159+	SK3466/159+	121-Z9003+	
Q200 Q201 Q202 Q221,2 Q270	435-2 546-1 545-1 435-1 390-1	6104350002 6105460001 6105450001 6104350001 6103900001	NTE123AP+	ECG123AP+	SK3854/123AP+	121-Z9000A+	Remote Control Models Only
			NTE129P	ECG129P	SK9469/129P	121-Z9000A+	
			NTE128P	ECG128P	SK9468/128P	121-Z9000A+	
			NTE123AP+	ECG123AP+	SK3854/123AP+	121-Z9000A+	
Q300,1 Q304 Q311 Q312,3 Q390	223-1 232-2 434-1 435-1	6102230001 6102320002 6104340001 6104350001 6104620003	NTE159	ECG159	SK3466/159	121-Z9003	Early Production Early Production Late Production
			NTE123AP	ECG123AP	SK3854/123AP	121-Z9000A	
			NTE159+	ECG159+	SK3466/159+	121-Z9003+	
			NTE123AP+	ECG123AP+	SK3854/123AP+	121-Z9000A+	
Q400 Q401 Q404	499-1 532-1 (B)C557	6104990001 6105320001 6104980001 6104350002	NTE123AP+	ECG123AP+	SK3854/123AP+	121-Z9000A+	Early Production Early Production Late Production
			NTE2315	ECG2315	SK3466/159+	121-Z9003+	
			NTE159+	ECG159+	SK3466/159+	121-Z9003+	
			NTE123AP+	ECG123AP+	SK3854/123AP+	121-Z9000A+	
Q501 Q502	435-2 437-1 BUW1A	6104370001 6105170002 6104330005 6104350001	NTE287*	ECG287*	SK3433/287*	121-Z9045*	Early Production Early Production Late Production
			NTE2310	ECG2310	SK3854/123AP+	121-Z9000A+	
			NTE2310	ECG2310	SK3854/123AP+	121-Z9000A+	
			NTE123AP+	ECG123AP+	SK3854/123AP+	121-Z9000A+	
Q550 Q551,2 Q601 Q602	435-1 BD941 499-1 434-1 611018-1 57-439	6104350001 6105390001 6104990001 6104340001 6110180001 5301571439	NTE123AP+	ECG123AP+	SK3854/123AP+	121-Z9000A+	Early Production Early Production Late Production
			NTE159+	ECG159+	SK3466/159+	121-Z9003+	
			NTE5456	ECG5457	SK3598/5457	185-Z9010	
			NTE5008A	ECG5008A	SK4A3/5008A	103-279-08	

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFG. PART No./ TYPE No.	REPLACEMENT DATA				NOTES
		NTE PART No.	ECG PART No.	RCA PART No.	ZENITH PART No.	
APM006 REMOTE POWER SUPPLY MODULE D1,2,3 D4 Q1 Q2	5301711001 5301711001 6102320002 6101480003	NTE552	ECG552	SK9000/552	103-287	
		NTE552	ECG552	SK9000/552	103-287	
		NTE123AP	ECG123AP	SK3854/123AP	121-Z9000A	
		NTE123AP	ECG123AP	SK3854/123AP	121-Z9000A	
ARR002-A001 & ARR005-A001 REMOTE RECEIVER MODULES IC1 T176AG & T186AG REMOTE TRANSMITTERS	6124500001	NTE123AP	ECG123AP	SK3854/123AP	121-Z9000A	
		NTE159	ECG159	SK3466/159	121-Z9003	
		NTE123AP	ECG123AP	SK3854/123AP	121-Z9000A	
		NTE159	ECG159	SK3466/159	121-Z9003	

For SAFETY use only equivalent replacement part.
+ Rotate 180° to conform with original lead configuration.

PARTS LIST AND DESCRIPTION (Continued)
When ordering parts, state Model, Part Number, and Description
SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	REPLACEMENT DATA				NOTES
		NTE PART No.	ECG PART No.	RCA PART No.	ZENITH PART No.	
D9 D10,1 D12 D13	5301880005 5301940003					
D14 D15 D16 D17	5303130001 5301880005 5392100120	NTE553	ECG553			
Q1 Q2 Q3 Q4 Q5 Q7 U6	6190100010 6105190001 6124400001	NTE395	ECG395	SK9434		
3402930001 [152 CH] VARACTOR TUNER MODULE						
D1,2,3,4,5 D7 THRU D17 D18,9 D20	5302300003 5303040001 5302300003 5303040001					
D101,2,3,4 D105 D106 IC1	5302300003 5302300003 6124400001					
IC2 Q1 Q101 Q102	6124990002 6105210001 6105360001 6105150002					

PARTS LIST AND DESCRIPTION (Continued)
When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA				NOTES
			NTE PART No.	ECG PART No.	RCA PART No.	ZENITH PART No.	
Z303 Z307 Z405 Z409	192-330 57-569 57-120 57-220	5301921330 5301571569 5301571120 5301571220	NTE147A NTE5011A NTE5021A NTE5030A	ECG147A ECG5011A ECG5021A ECG5030A	SK33V/147A SK5A6/5011A SK12A/5021A SK22A/5030A	103-Z9004 103-Z9007 103-279-21 103-144	
Z422 Z520 Z521	249-629 249-569 249-140	5302491629 5302491569 5302491140	NTE5013T1 NTE5011T1	ECG5013T1 ECG5011T1			

For SAFETY use only equivalent replacement part.
* Lead configuration may vary from original.

+ Rotate 180° to conform with original lead configuration.

WIRING DATA

High Voltage Lead	Use BELDEN No. 9867 (30 KV)
Shielded Hook-up Wire	Use BELDEN No. 8401 or 8421 (Single-Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8208 (Two-Conductor)
300-Ohm Tuner Input Lead	Use BELDEN No. 8529 (Solid) Available in 13 Colors
75-Ohm Tuner Input Lead	Use BELDEN No. 8522 (Stranded) Available in 13 Colors
300-Ohm Antenna Lead-In	Use BELDEN No. 8225
Antenna Rotor Cable	Use BELDEN No. 8241
	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
	Use BELDEN No. 8464 (Flat) or 8484 (Round) 4-Conductor
	Use BELDEN No. 8485 (Round) 5-Conductor
	Use BELDEN No. 8488 (Round) 8-Conductor

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	MFGR. PART No.	ITEM No.	RATING	MFGR. PART No.
C413	220 200V	2701392220	C525	100 25V	2702151225

For SAFETY use only equivalent replacement part.
Items Not Listed Are Normally Available At Local Distributors.

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	ITEM No.	RATING	MFGR. PART No.
# C2 C225 C241 C242 C270 C315 C316 C335 C400 C408 C414	MAIN BOARD		# C416	.0047 630V 5%	2507204725
	.033 250VAC	2506573330	# C420	.001 1KV	2508850007
	39 NPO 50V 5%	2508413905	# C512	330 2KV	2508850011
	10 NPO 50V 5%	2508411008	# C513	.0082 2KV	2508188225
	220 N750 50V 5%	2508422215	# C514	.001 2KV	2508850009
	18 NPO 50V 5%	2508411805	# C516	.0047 500V	2508624720
	27 NPO 50V 5%	2508412705	# C517	.56 250V 5%	2508050005
	27 NPO 50V 5%	2508412705	C600	39 NPO 50V 5%	2508413905
	39 NPO 50V 5%	2508413905	C601	220 N220 50V 5%	2508422215
	.22 120VAC	2509842240	C603	390 N750 50V 5%	2508433915
	1.8 100V	2508141850	C605	27 NPO 50V 5%	2508412705
	.0047 630V 5%	2507204725	C606	390 N750 50V 5%	2508433915
	ANTENNA ASSEMBLY	ANT002-3	C624	13 NPO 50V 5%	2508411305
C9	10pF NPO 50V ±.5	2508411008	C10	6.8pF NPO 50V ±.5	2508416898
			C11	5pF NPO 50V ±.5	2508415098

For SAFETY use only equivalent replacement part.
Items Not Listed Are Normally Available At Local Distributors.

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

ITEM NO.	FUNCTION	RESISTANCE	MFGR. PART NO.	NOTES
R1	Blue Drive	2200	2204202222	
R2	Green Drive	2200	2204202222	
R3	Red Drive	2200	2204202222	
R21	Blue Cutoff	4700	2204204722	
R22	Green Cutoff	4700	2204204722	
R23	Red Cutoff	4700	2204204722	
R234	Horiz Freq. Adjust	6800	2204696821	
R237	RF AGC Adjust	47K	2204694732	
R354	Audio Preset	10K	2204691032	
R433	B+ Adjust	2200	2204692222	
R558	Vert Height	100	2204691012	
R622	Color	10K	2204730001	
R623	Picture	10K	2204730001	
R624	Sharpness	10K	2204730001	
R625	Brightness	10K	2204730001	
R626	Tint	10K	2200473001	
R635	7.16MHz Osc Adjust	10K	2204691032	
R710	Volume Limiter Level	10K	2204130001	
# R798	Focuss		(1)	
# R799	Screen		(1)	
# S401	Volume/Switch	4700	2204580002	

For SAFETY use only equivalent replacement part.
(1) R978 and R799 are part of Flyback Transformer Part No. 3620403003.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement for best results)

ITEM No.	MFGR. PART No./ TYPE No.	NTE PART No.	ECG PART No.	RCA PART No.	ZENITH PART No.	NOTES
3402940002 [68 CH] VARACTOR	TUNER MODULE					
D1	5303130001	NTE553	ECG553			
D2	5301880005	NTE553	ECG553			
D3,4,5,6	5303130001	NTE553	ECG553			
D7	5303130002	NTE519	ECG519			
D8	5303130002					
D9	5301810002					
D10,1,2,3	5301940003					
D14	5392100120					
D15	5303130001					
D17	SP4653					
IC7	6124400001					
Q1	BF982					
Q2,3	F324 (EUROPE)	NTE395+	ECG395+			
Q4	6190100010	NTE395+	ECG395+			
Q5	BF980					
Q6	6105190001					
	BF926					
3402970001 [82 CH] VARACTOR	TUNER MODULE					
D2	5303130001	NTE553	ECG553			
D3	5301880005	NTE553	ECG553			
D4,5	5303130002	NTE519	ECG519			
D6	5303130002	NTE553	ECG553			
D7	5301810002					
D8	5303130002					

MAGNAVOX
CHASSIS 19C701 THRU 19C711

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

MISCELLANEOUS

ITEM No.	PART NAME	MFGR. PART No.	NOTES
	PC Board	ATC470	Tuner Control Assembly Model 19C707.
	PC Board	ATC401	Tuner Control Assembly Model 19C708.
	PC Board	ATC411	Tuner Control Assembly Model 19C709.
	PC Board	ATC396	Tuner Control Assembly Model 19C710.
	PC Board	ATC397	Tuner Control Assembly Model 19C711.
	Wedges	6458520002	3 Used

For SAFETY use only equivalent replacement part.

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	PART No.	PART No.	PART No.
MODEL	CF4149WC01	CF4149WC02	CG4146WA01	CG4146WA02
Cabinet Back	1454190017	1454190017	1459730003	1459730003
Cabinet Front	1447000010	1447000010	1459720015	1459720015
Door-Secondary Controls	1455820003	1455820003	1459780017	1459780017
Hinge-Door (2 Used)	1453290001	1453290001		
Inlay-Secondary Controls	1520290001	1520290001		
Knob-On/Off Volume	1449540004	1449540004	1458670007	1458670007
Latch-Door	1453920003	1453920003		
LED-Channel Display	5303200001	5303200001	5303200001	5303200001
Push-Button (1)	1455360001	1455360001		
Push-Button (2)	1455360002	1455360002		
Push-Button (3)	1455360003	1455360003		
Push-Button (4)	1455360004	1455360004		
Push-Button (5)	1455360005	1455360005		
Push-Button (6)	1455360006	1455360006		
Push-Button (7)	1455360007	1455360007		
Push-Button (8)	1455360008	1455360008		
Push-Button (9)	1455360009	1455360009		
Push-Button (0)	1455360010	1455360010		
Push-Button Channel Up	1455360011	1455360011		
Push-Button Channel Down	1455360012	1455360012		
Grille-Speaker			1521120012	1521120012
Knob-Secondary Controls			1459770002	1459770002
Overlay-Control			1521110007	1521110007
Push-Button Channel Select (2 Used)			1456240005	1456240005
MODEL	CG4147WA01	CG4147WA02	RF4246WC01	RF4246WC02
Cabinet Back	1459730003	1459730003	1454190017	1454190017
Cabinet Front	1459720015	1459720015	1447000010	1447000010
Door-Secondary Controls	1459780017	1459780017		
Grille-Speaker	1521120012	1521120012		
Knob-On/Off Volume	1458670007	1458670007		
Knob-Secondary Controls- (5 Used)	1459770002	1459770002		
LED-Channel Display	5303200001	5303200001		
Overlay Control	1521110002	1521110002		
Push Button Channel Select (12 Used)	1458330006	1458330006		
Hinge-Door (2 Used)			1453290001	1453290001
Inlay-Secondary Controls			1520290001	1520290001
Latch-Door			1453920003	1453920003
Push-Button-Channel Down			1455670007	1455670007
Push-Button Channel Up			1455670006	1455670006
Push-Button-Volume Down			1455670009	1455670009
Push-Button-Volume Up			1455670008	1455670008
Push Button-Power			1455670010	1455670010

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		MFGR. PART No.	NTE PART No.	WORKMAN PART No.
R31	13K 2% 1/2W Carbon Film	2302821332	QW313	
R32	13K 2% 1/2W Carbon Film	2302821332	QW313	
R33	13K 2% 1/2W Carbon Film	2302821332	QW313	
R34	13K 2% 1/2W Carbon Film	2302821332	QW313	
R35	13K 2% 1/2W Carbon Film	2302821332	QW313	
R36	13K 2% 1/2W Carbon Film	2302821332	QW313	
R37	13K 2% 1/2W Carbon Film	2302821332	QW313	
R38	13K 2% 1/2W Carbon Film	2302821332	QW313	
R39	13K 2% 1/2W Carbon Film	2302821332	QW313	
R40	13K 2% 1/2W Carbon Film	2302821332	QW313	
R41	13K 2% 1/2W Carbon Film	2302821332	QW313	
R42	13K 2% 1/2W Carbon Film	2302821332	QW313	
# R203	18K 5% 1.6W Metal Film	2303091835		
# R216	10 5% 1/2W Carbon Film	2302271095	HW010	22-1048
# R222	18 5% 1/2W Carbon Film	2302271895	HW018	22-2054
# R335	12K 5% 2.5W Metal Film	2303101235		
# R338	12 5% 1/6W Metal Film	2303091295		
# R340	12 5% 1/3W Carbon Film	2302681295		
# R345	27 5% 1/3W Carbon Film	2302682795		
# R400	10.5 Cold PTC	2302070008		FR605
# R401	1.8 10% 10W WW		10W1D8	
#	1.8 10% 5W WW	2401180006	5W1D8	
R404	2700 2% 1/4W Carbon Film	2302812722	QW227	
# R412	2.2M 5% 1/2W Carbon Comp.	2302342255	HW522	22-2176
# R414	36 10% 5W WW	2400800038		
# R417	1 5% 1/3W Carbon Film	2302681085		
# R418	1 5% 1/2W Metal Film	2302271085	HW1D0	
# R425	1 5% 1/2W Metal Film	2302271085	HW1D0	
R430	150K 2% 1/4W Carbon Film	2302811542	QW415	
R432	10K 2% 1/4W Carbon Film	2302811032	QW310	
# R517	10 10% 5W WW	2401451009	5W010	24-3030
# R518	82 5% 2.5W Metal Film	2303108295		
# R519	1000 5% 1/2W Carbon Film	2302821025	HW210	22-2096
# R520	150 5% 1/4W Carbon Film	2302811515	QW115	22-1076
# R521	1 5% 1/3W Carbon Film	2302681085		
# R553	24K 5% 1.6W Metal Film	2303092435		
R556	30K 2% 1/4W Carbon Film	2302813032	QW330	
R557	22K 2% 1/4W Carbon Film	2302812232	QW322	
R559	5600 2% 1/4W Carbon Film	2302815622	QW256	
R563	20K 2% 1/4W Carbon Film	2302812032	QW320	

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

ITEM No.	FUNCTION	MFGR. PART No.	OTHER IDENTIFICATION	NOTES
# DY1	Yoke Horiz 1.67mH 90° Vert 113mH	3620480002	362048-2(1)	
# T1	Power	3003840002(2)		
# T402	Switched Mode	3618040004	361804-4(1)	
T500	Horiz Drive	3204130001		
# T501	Horiz Output	3620403002	362040-3002(1)	

For SAFETY use only equivalent replacement part.

(1) Number on unit.

(2) Used In Some Versions.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

COILS (RF-IF)

ITEM No.	FUNCTION	MFGR. PART No.	ITEM No.	FUNCTION	MFGR. PART No.
L1	RF Choke (82uH)	3618138209	L309	Peaking (33uH)	3618133309
L220	Peaking (2.2uH)	3618132299	L310	Peaking (33uH)	3618133309
L221	Sound Discriminator 4.5MHz	3619680005	L311	Peaking (12uH)	3618131209
L222	Peaking	3617990008	L312	RF Choke (12uH)	3618131209
		3617990009	L400	Line Filter	3619840001
L225	Peaking (2.2uH)	3618132290	L401	Peaking (3.3uH)	3618353399
L226	RF Choke (2.2uH)	3618132290	L404	RF Choke (12uH)	3620410001
L227	Peaking (2.2uH)	3618132290	L508	Peaking (220uH)	3618132219
L270	Sound Trap 47.25MHz	3617990007	L512	RF Choke (1.8uH)	3620430002
L271	Peaking (1.2uH)	3618131290	L516	RF Choke (42uH)	3620440003
L272	Peaking	7023920002	L518	Horizontal Linearity	3620280003
L301	Peaking (33uH)	3618133309	L600	Peaking (10uH)	3618131009
L302	Peaking (33uH)	3618133309	L602	Peaking 18uH)	3618131805
L303	Peaking (33uH)	3618133309	L603	Peaking (22uH)	3620662209
L304	Peaking (33uH)	3618133309	L604	Peaking (68uH)	3618136805
L305	Peaking (33uH)	3618133309	L644	Peaking (3.3uH)	3618133399
L306	Peaking (33uH)	3618133309	L645	Peaking (3.3uH)	3618133399
L307	Peaking (33uH)	3618133309	L646	Peaking (3.3uH)	3618133399
L308	RF Choke (12uH)	3618131209	T219	Sound Input 4.5MHz	3619650002

For SAFETY use only equivalent replacement part.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP200	3 1/2" X 2" PM 16 Ohms	582301		

FUSE DEVICES

ITEM NO.	DESCRIPTION	MFGR. PART NO.		NOTES
		DEVICE	HOLDER	
# F400	4 Amp @ 125V Slow Blow	1815205400		

For SAFETY use only equivalent replacement part.

MODULES (PLUG-IN BOARDS)

ITEM No.	PART NAME	REPLACEMENT DATA		NOTES
		MFGR. PART No.		
	CRT Socket Module	APT026		Models 19C701(E.P.), 19C704(E.P.), 19C708(E.P.) and 19C710(E.P.).
	Antenna Input	ANT002		
	Antenna Input Module	ANT003		Models 19C701(L.P.), 19C704(L.P.), 19C705, 19C708(L.P.), 19C710(L.P.) and 19C711.
	Antenna Input Module	7049920011		Models 19C706.
	Channel Select Switch Module	ASW045		Models 19C701 and 19C707.
	Channel Select Switch Module	ASW046		Models 19C702, 19C704, 19C708 and 19C710.
	Channel Select Switch Module	ASW047		Models 19C705, 19C709 and 19C711.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

MODULES (PLUG-IN BOARDS)

ITEM No.	PART NAME	REPLACEMENT DATA		NOTES
		MFGR. PART No.	PTS PART No.	
	Secondary Control Module	ASC185		Models 19C703 and 19C706.
	Remote Power Supply Module	APM006		Models 19C705, 19C706, 19C709 and 19C711.
	Remote Receiver Module	ARR002		Models 19C705, 19C709 and 19C711.
	Remote Receiver Module	ARR005		Model 19C706.
	UHF/VHF Tuner Module	340294		Models 19C701, 19C703, 19C704, 19C706 and 19C710 (Early Production).
	UHF/VHF Tuner Module	340297		Models 19C701(L.P.), 19C703(L.P.), 19C704(L.P.), 19C705, 19C706(L.P.), 19C707, 19C708, 19C710(L.P.) and 19C711.
	UHF/VHF Tuner Module	340293		Models 19C702 and 19C709.

MISCELLANEOUS

ITEM No.	PART NAME	MFGR. PART No.	NOTES
# L402	Degaussing coil	3620210008	AC Power, Polarized Models 19C703, 19C706, 19C707, 19C708, 19C709, 19C710 and 19C711.
L403	Ferrite Bead	3640460003	
L406	Ferrite Bead	3640460003	
L410	Ferrite Bead	3640460003	
L412	Ferrite Bead	3640460003	
# P400	Cord	4614070004	AC Power, Polarized Models 19C703, 19C706, 19C707, 19C708, 19C709, 19C710 and 19C711.
		4614070005	
# S401	Switch	2204580002	Power On/Off (Part of Volume Control).
# V1	CRT	A48ADE01X	
	CRT	A48ADE00X	
Y200	Filter	3618020001	SAW
Y223	LC Trap	3616910003	
Y300	Crystal	5604440003	3.58MHz
Y301	Crystal	5604440004	
Y600	Ceramic	3617560001	4.5MHz
Y601	LC Trap	3616910003	
Y602	Crystal	5604450002	3.58MHz
	Antenna	7012090003	
	Antenna	7043890005	7.159MHz
	Magnet	3620260001	UHF RUSSELL Replacement BOW-4H.
	PC Board	EMC702	
	PC Board	EMC706	VHF RUSSELL Replacement Assembly POR-12H.
	PC Board	EMC707	VHF RUSSELL Replacement Rod SIM-4H.
	PC Board	EMC701	Convergence and Purity Assembly.
	PC Board	EMC709	Main Board, Models 19C701(E.P.), 19C704(E.P.), 19C708(L.P.) and 19C710(E.P.).
	PC Board	EMC704	Main Board, Models 19C701(L.P.), 19C704(L.P.), 19C708(L.P.) and 19C710(L.P.).
	PC Board	ADP014	Main Board, Model 19C702.
	PC Board	EMC703	Main Board, Model 19C703(E.P.).
	PC Board	EMC710	Main Board, Model 19C703(L.P.).
	PC Board	EMC711	Main Board, Models 19C705 and 19C711.
	PC Board	EMC708	Channel Select/Display Module Model 19C706.
	PC Board	ATC400	Main Board Model 19C706(E.P.).
	PC Board	ATC414	Main Board Model 19C706(L.P.).
	PC Board	ATC378	Main Board Model 19C707.
	PC Board	ATC398	Main Board Model 19C709.
	PC Board	ATC402	Tuner Control Assembly Model 19C701.
	PC Board	ATC393	Tuner Control Assembly Model 19C702.