SAFETY PRECAUTIONS

SERVICE WARNING

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

SERVICING THE HIGH VOLTAGE AND CRT

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

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

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

SAFETY CHECKS -- FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

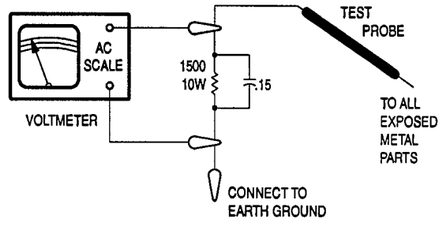
Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with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

Hot Leakage Current Check

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

GENERAL GUIDELINES

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



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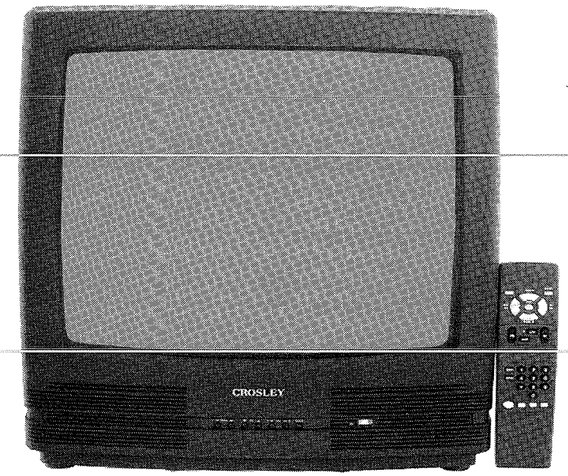
PHOTOFACT® Technical Service Data

INDEX

For Supplier Address,
See PHOTOFACT Annual Index

CROSLEY
Model CT1922C121 (Chassis 19E601-00AA)



Complete coverage for servicing a television receiver...

- Schematics
- Parts list
- Component locations
- Troubleshooting guide

HOWARD W. SAMS & COMPANY

JULY 1995 SET 3522

3522

AUDIO SCHEMATIC

P/J250 J210 2 3

P/J250 J210 1 4

SEE Q232 EMITTER PAGE 2B — J210 2 — C701 2.2µF

NC 16 4.6V | NC 19 4.6V | NC 20 4.6V | NC 42 4.6V

IC700 CXA1124BS STEREO DECODER

39 4.6V … 4.6V 18

0V 8 | 5.2V 7 | 4.6V 9 | 5.1V 3 | 0V 2 | 4.6V 35 | 1.3V 34 | 4.6V 24 | 4.5V 29 | 4.6V 28 | 4.5V 36 | 4.6V 23 | 4.6V 22 | 10 | 4.6V 33 | 11 | 4.6V 30 | 5.2V 1 | 4.6V 41 | 1.8V 25 | 4.5V 40 | 4.5V 6 | 6.1V 5 | 4.5V 21 | 1.2V 13 | 1.2V 14 | 1.2V 32 | 15 | 5.1V 12 | 4.6V 37 | 4.6V 38 | 17 | 4.5V 4 | 31 | 1.7V 26 | 27

SEE IC345 PIN 8 PAGE 3B — R732 100

SEE IC345 PIN 7 PAGE 3B — R730 100

SEE IC345 PIN 6 PAGE 3B — R731 100

SEE IC345 PIN 18 PAGE 3B — R705 820

SEE IC345 PIN 36 PAGE 3B — R706 820

R700 1000 | R717 43K 2% | C708 4.7µF | C712 4.7µF | C706 .047 | C710 47µF | C709 .0027 | C705 3.3µF | R707 100K | C704 1µF | C707 10µF

R718 300Hz 4700 | C711 4.7µF | R725 1500 | R716 3300 | C714 .0056 | R734 2700 | 21 9.2V | R711 47.5K 1% | 21 9.2V | C713 .47µF

R701 4300 | R715 3kHz 2200 | R702 270K | C702 2.2µF | R719 1M | R733 7500 | C716 4.7µF | R713 56K | R714 3900

C718 4.7µF | R720 100K | C715 .012 | R709 750K 1% | R710 47.5K 1% | R712 VCO 22K | TP60

R703 4700

R708 SAP/LPF 10K

NC 2 0V

IC740 TDA8198 AUDIO SWITCH/VOLUME CONTROL

7 3.7V … 6.2V 5

1 3.7V | 9 3.7V | 13 3.7V | 14 0V NC | 8 11.1V | 4 .7V | 11 | 12 | 10 7.2V | 6 12.0V | 3 6.2V

R721 910 | C723 1µF | R723 2400

R722 910 | C722 1µF | R724 2400

C743 1µF | C742 1µF | C741 100µF | R740 # 10 | 20 13.0V(B)

SEE Q83 EMITTER PAGE 3D — J2 3 — R741 1000 — R743 2000

SEE Q63 EMITTER PAGE 3D — J2 1 — R742 1000 — R744 2000

Q703 AUX SWITCH

SEE IC345 PIN 48 PAGE 3B — R746 47K — .1V

R749 4700 | 20 13.0V(B)

SEE IC345 PIN 35 PAGE 3B — R747 100

C750 1µF | R748 200K

R751 10K | R755 4700 | C747 1µF | R753 100K | C749 .0022 | R757 4700

R750 10K | R754 4700 | C746 1µF | R752 100K | C748 .0022 | R756 4700

NC 3 0V | NC 4 0V | NC 8 0V | NC 11 0V | NC 15 0V

IC760 TDA7053 AUDIO OUTPUT

0V 6 | 12.0V 5 | 1 | 7 | 10 | 14 | 6.4V 12 | 6.4V 9 | 6.4V 13 | 0V 2 | 6.4V 16

C762 1000µF | C761 .1 | # R760 6.8 3W | 20 13.0V(B)

LEFT CHANNEL — P/J290 1 — SP1 16Z

P/J290 2

RIGHT CHANNEL — P/J290 4 — SP2 16Z

P/J290 3

VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 1

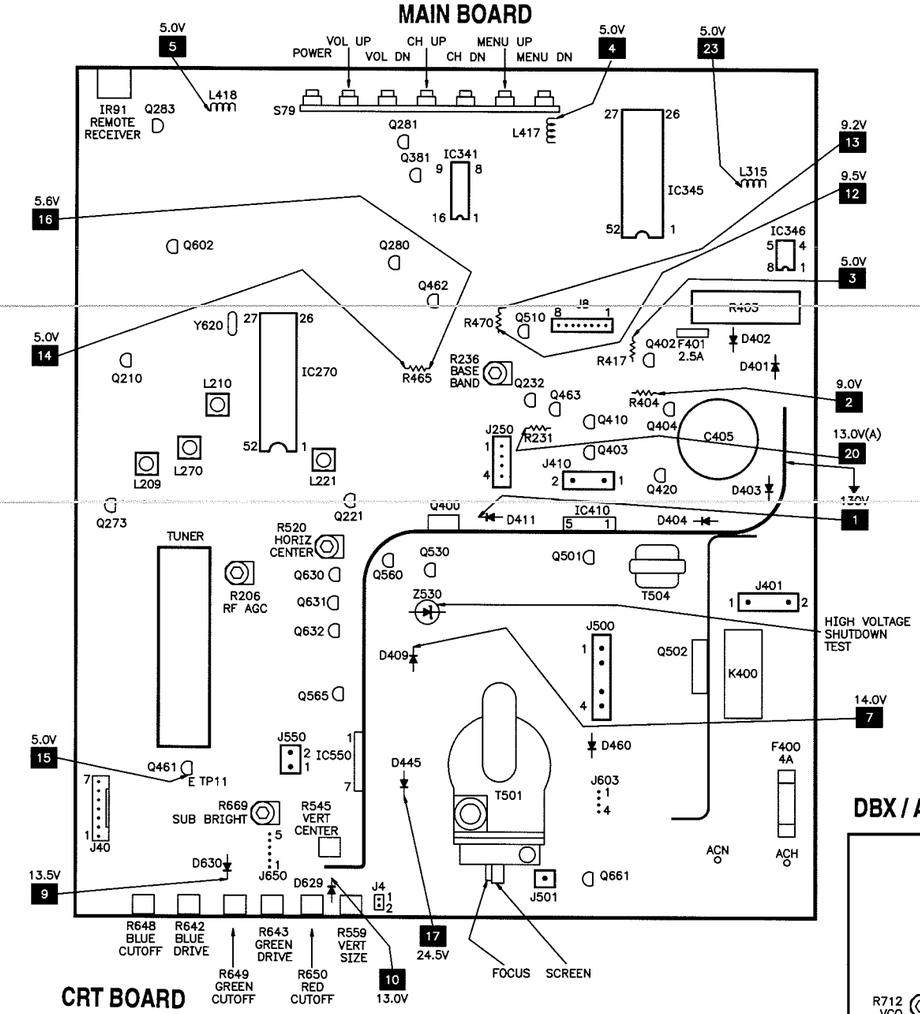
A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

G H

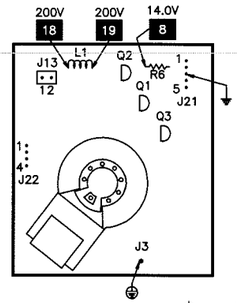
CROSLEY MODEL CT1922C121 (CHASSIS 19E601-00AA)

PLACEMENT CHART

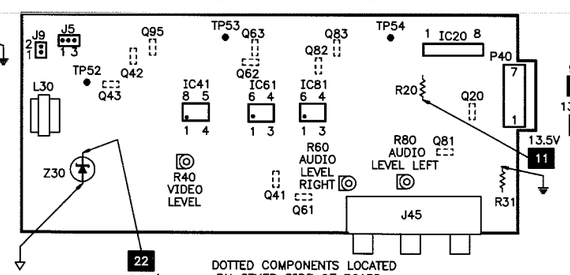
MAIN BOARD



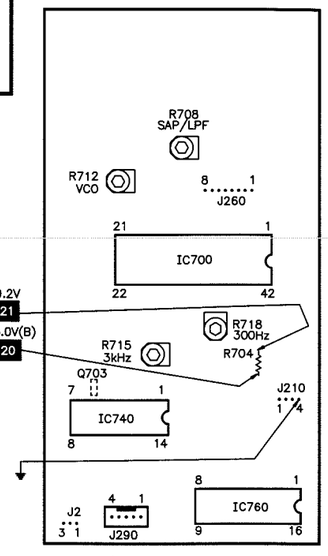
CRT BOARD



AUDIO / VIDEO JACK PANEL BOARD



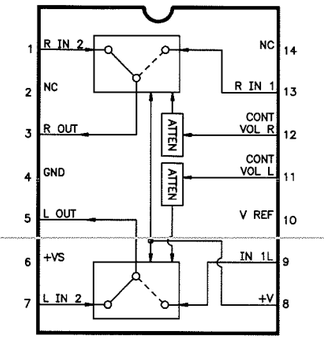
DBX / AVL STEREO BOARD



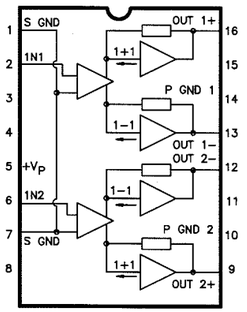
△ TAKEN FROM COMMON TIE POINT

IC FUNCTIONS

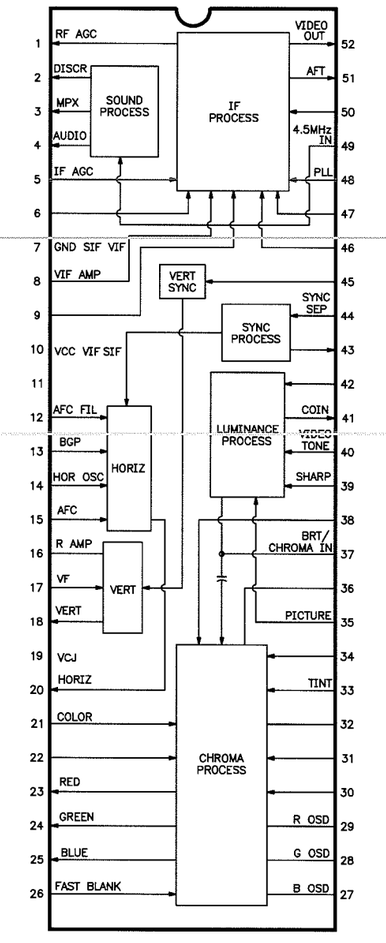
IC740 TDA8198



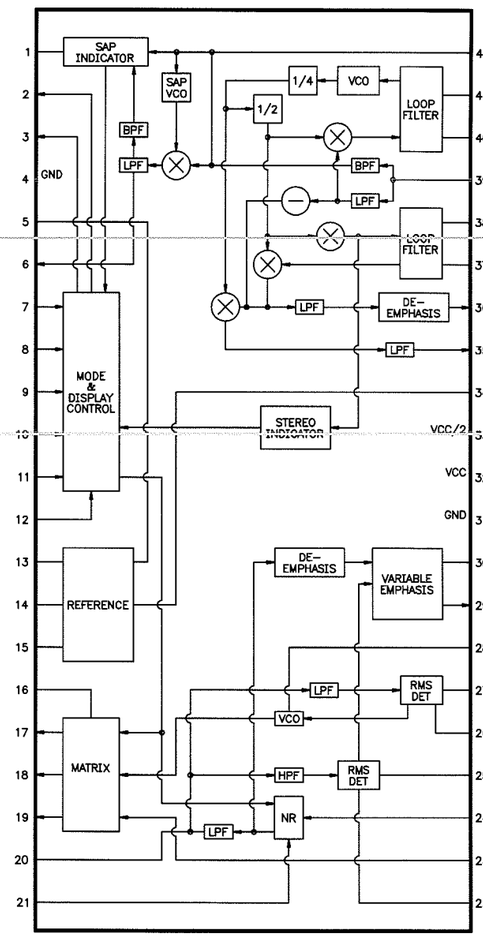
IC760 TDA7053



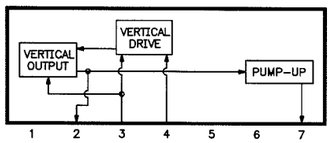
IC270 M52030ASP



IC700 CXA1124BS

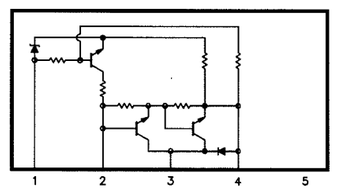


IC550 LA7830



IC20 LA7016

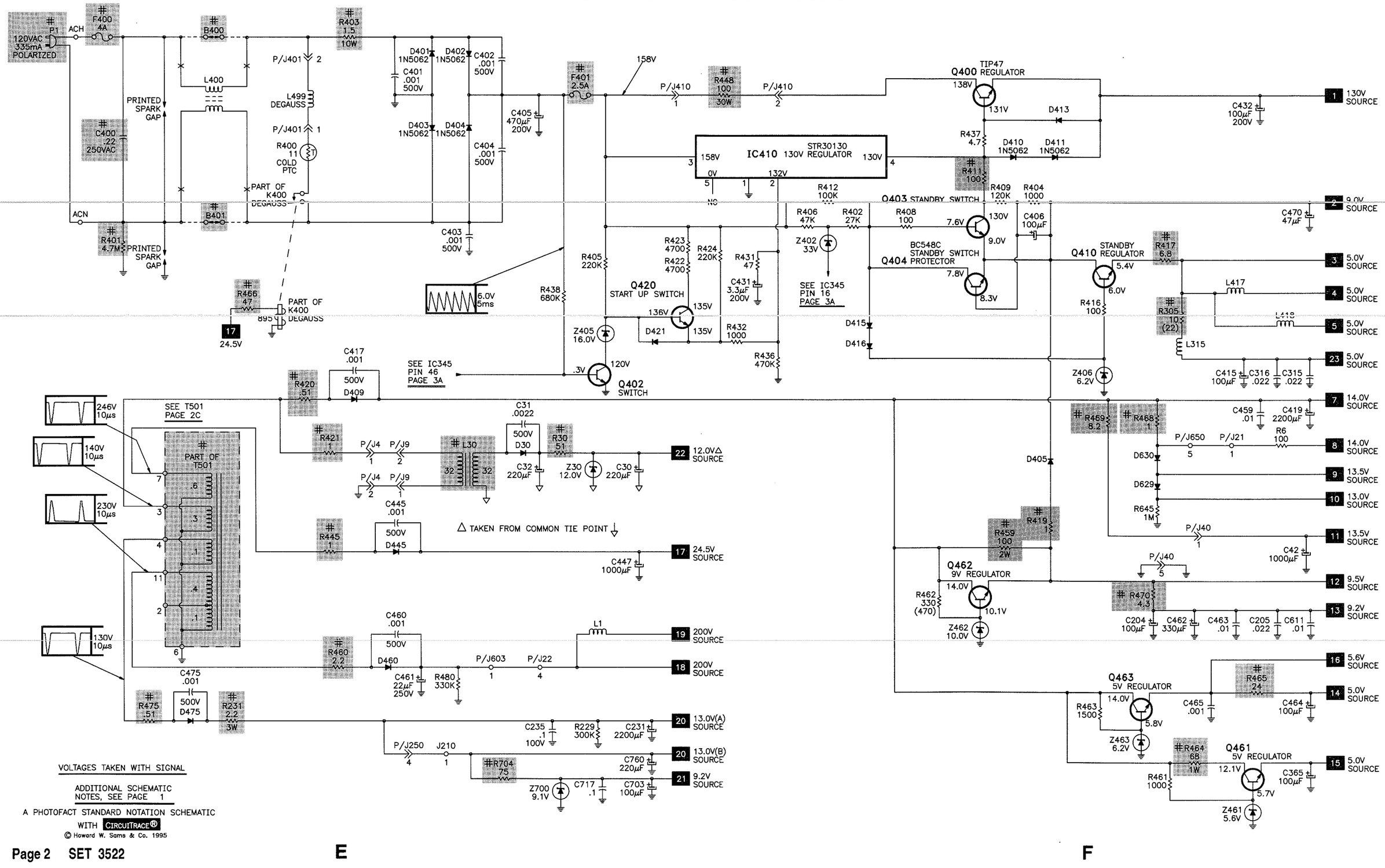
IC410 STR30130



CROSLEY

MODEL CT1922C121 (CHASSIS 19E601-00AA)

POWER SUPPLY SCHEMATIC



VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 1

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

E

F

TROUBLESHOOTING

POWER SUPPLY

Check AC fuse F400. If AC fuse is open, check D401 thru D404, R401, R403, and C400 thru C405. Check DC fuse F401. If DC fuse is open, check IC410, Q400, and Q502. Apply 120VAC, and with receiver off, check for 12.6V at the emitter of Q403. If the voltage is missing, check Q403, Q404, R411, R408, and Z402. Check for 16.0V at pin 4 of IC410. If voltage is missing, check Q402, Q420, and Z405. Check for 5.4V at the emitter of Q410. If voltage is missing, check Q410 and Z406. Turn receiver on and check for 130V at the emitter of Q400. If voltage is missing, check for 132V at pin 2 of IC410 and check Q400 and IC410. Check for 9.0V at collector of Q410. If voltage is missing, check D405, Q462, R419, and refer to the "Horizontal" section of this Troubleshooting guide.

HIGH VOLTAGE SHUTDOWN TEST

Connect a variable power supply to cathode of Z530, low side to ground. Increase power supply voltage, the receiver should shut down when voltage reaches 25.0V. If the receiver fails to shutdown the high voltage shutdown circuit needs repaired.

HIGH VOLTAGE SHUTDOWN

CAUTION: When defeating the high voltage shutdown circuit, do not exceed the maximum high voltage specified on the schematic, as this may cause excessive X-radiation and damage to the CRT and associated components. Monitor the high voltage while troubleshooting.

The high voltage is monitored by D530 rectifying the pulses from T501. Should the high voltage increase, the output to Q530 will increase and supply a voltage that is above 6.0V to pin 12 of IC270. The horizontal oscillator will change frequency and decrease the high voltage. To troubleshoot, remove R530 from the circuit and use a variable transformer for AC power. Start at 90.0VAC and increase as necessary to locate and repair the defect. Return R530 to the circuit.

HORIZONTAL

Determine if the receiver is in shutdown by referring to the "High Voltage Shutdown" section of this Troubleshooting guide. If the receiver is not in shutdown, inject a horizontal signal at the base of Q502. If horizontal deflection is now present, check Q501, and pins 13, 19, and 20 of IC270. If horizontal deflection is not present, check Q502, T501, and the components associated with D409, D445, D475, and D460 for defects. The high voltage rectifier is part of T501 and if defective will affect the operation of the horizontal circuits. Horizontal linearity or foldover may be caused by C505, C506, C507, C510, or C511 being defective.

VERTICAL

Check for a proper waveform at pin 18 of IC270. If the waveform is missing, check pins 16, 17, and 18 of IC270. If the waveform is present, check Q560, Q565, and IC550. Vertical linearity or height problems may be caused by vertical feedback and bias circuits. Check C551, C554, and C563.

IF AGC

Inject a video IF signal at pin 8 of IC270 and check for video on the CRT. If video is present, check the tuner, tuner control, and tuner AFC circuits. If video is missing from the CRT, apply AGC bias at pin 5 of IC270 and check for a video waveform at pin 52 of IC270. If the waveform is present, check pins 1, 5, 6, and 26 of IC270. If waveform is missing, check Q510, Q273, and pins 8, 9, 26, 34, 40, 47, 48, 50, 51, and 52 of IC270.

VIDEO

Inject a video signal at pin 52 of IC270 and check for video on the CRT. If video is present, refer to the "IF AGC" section of this Troubleshooting guide. If video is missing on the CRT, check for luminance at the base of Q602. If waveform is missing, check IC20, Q20, Q210. Check for proper waveforms at pins 23, 24, and 25 of IC270. If waveforms are missing or incorrect, check IC270 and Q610. If video is present, refer to the "Raster" section of this Troubleshooting guide. If brightness is inadequate or cannot be controlled, check the voltages and components associated with pin 37 of IC270.

CHROMA

Check for a chroma waveform at pin 37 of IC270. If waveform is missing, check Q210 and IC270. Check for the proper waveforms at pins 23, 24, and 25 of IC270. If these waveforms are missing, check pins 21 thru 25, 27 thru 34, 36, and 38 of IC270. Check the 3.58MHz oscillator at pins 30 and 31 of IC270. Check pin 21 of IC270. If there is inadequate tint range, check pin 33 of IC270.

RASTER

Check the CRT and CRT voltages. If red is missing, check pin 23 of IC270, Q632, and Q1. If green is missing, check pin 24 of IC270, Q631, and Q2. If blue is missing, check pin 25 of IC270, Q630, and Q3. If the raster has a keystone shape, check the deflection yoke. If the raster has height or width problems, refer to the "Vertical," "Horizontal," or "Power Supply" sections of this Troubleshooting guide.

AUDIO

Select an active channel and check for an audio waveform at pin 3 of IC270. If audio is missing, check pins 2, 3, and 49 of IC270. Select a station that is transmitting a stereo signal and check for an audio waveform at pin 39 of IC700. If waveform is missing, check Q232. Check for audio waveforms at pins 17 and 18 of IC700. If the waveforms are missing, check IC700. Check for audio at pins 9, 12, 13, and 16 of IC760. If audio is missing, check IC760 and IC740. Check the voltage at pin 11 of IC740, it should measure .7V at mute and 4.3V at maximum volume.

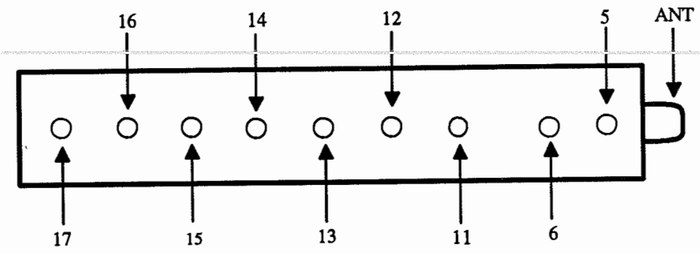
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin No.	VHF Low Band	VHF High Band	UHF Band	Pin No.	VHF Low Band	VHF High Band	UHF Band
5	8.8V	8.8V	8.8V	15	1.9V	2.0V	1.9V
6	12.0V	12.0V	12.0V	16	0V	0V	0V
11	.7V	1.6V	1.6V	17	0V	0V	0V
12	5.0V	5.0V	5.0V				
13	5.0V	5.0V	5.0V				
14	5.0V	5.0V	5.0V				

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

TUNER TERMINAL GUIDE



SCHEMATIC NOTES

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

-x- Circuitry not used in some versions.

--- Circuitry used in some versions.

⏚ Ground

⏚ Chassis ground

▽ Common tie point

△ Taken from common tie point

3 Schematic CIRCUITRACE ®: Voltage source tie point.

A— Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless noted otherwise.
Waveforms taken with triggered scope and colorbar signal. Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.
Supply voltages maintained as seen at input.
Voltages measured with digital meter and a 1000µV RF signal, with colorbar pattern, applied to antenna terminal.
Controls adjusted for normal operation.
Capacitors are 50 volts or less, 5% or greater unless noted.
Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.
Resistors are 1/2W or less, 5% or greater unless noted.
Value in ( ) used in some versions.
Measurements with switching as shown, unless noted.
Rated voltage shown on zener diodes.

TELEVISION SCHEMATIC continued

SEE IC345 PIN 39 PAGE 3A
SEE IC345 PIN 32 PAGE 3B
SEE IC345 PIN (21) 22 PAGE 3B
SEE IC345 PIN 33 PAGE 3B
SEE IC345 PIN 23 PAGE 3B
SEE IC345 PIN (22) 21 PAGE 3B
SEE IC345 PIN 31 PAGE 3B
SEE IC345 PIN 34 PAGE 3B

PART OF M52030ASP
IC270 IF, CHROMA, LUMINANCE, SWEEP, AUDIO PROCESS

Q632 BC548C RED AMP
Q630 BC548C BLUE AMP
Q631 BC548C GREEN AMP
Q661 BEAM LIMITER
Q1 RED DRIVER
Q3 BLUE DRIVER
Q2 GREEN DRIVER
Q530 SHUTDOWN SWITCH

R642 BLUE DRIVE 2200
R643 GREEN DRIVE 2200
R650 RED CUTOFF 4700
R648 BLUE CUTOFF 4700
R649 GREEN CUTOFF 4700

DY1 DEFLECTION YOKE
T501
V1 A48AFN40X CRT
N401

HV RANGE 28kV TO 30kV
FOCUS RANGE 5.0kV TO 8.5kV
SEE POWER SUPPLY PAGE 2E
SEE CRT FILAMENTS PAGE 2D
TO CRT DAG
ORION CRT
COMMON GROUND

VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 1

T501 BOTTOM VIEW

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

MISCELLANEOUS ADJUSTMENTS

RF AGC

Tune in a medium strength station. Rotate R206 clockwise until snow appears, then back to a point where snow just disappears.

HORIZONTAL CENTERING

Tune in a picture. Adjust R520 for best horizontal centering.

SUB BRIGHTNESS

Tune in an active station. Set color and picture settings to minimum. Set brightness to midrange. Adjust R669 for just visible highlights.

VIDEO INPUT

Inject a 1.0V p-p video signal into the Video Input jack. Connect an oscilloscope to TP52, low side to ground. Adjust R40 for 2.0V p-p.

LEFT AUDIO INPUT

Inject a 1.0V p-p 1kHz audio signal into the Left Audio In jack. Connect an oscilloscope to TP54, low side to ground. Adjust R80 for 1.5V p-p.

RIGHT AUDIO INPUT

Inject a 1.0V p-p 1kHz audio signal into the Mono/Right Audio In jack. Connect an oscilloscope to TP53, low side to ground. Adjust R60 for 1.5V p-p.

COLOR PURITY

Operate the receiver for 15 minutes. Use a degaussing coil to demagnetize the CRT and mounting hardware. Position the convergence/purity assembly with the 2Y pole rings over the gun element gap nearest the CRT bell gap (between G2 and G3). Turn R649 fully clockwise and R643 fully counterclockwise. Loosen the yoke and remove the yoke wedges. Slide the yoke against the bell of the CRT and tighten the clamp enough to hold the yoke in position. Tune in a single-cross pattern and adjust the 2Y pole rings for parallel red and blue lines, as centered and overlapped as possible. Tune in a white screen. Turn R650, R648, and R643 controls fully clockwise, and R649 and R642 controls fully counterclockwise. Spread the 2X pole rings for a centered green area. Move the yoke back for best green purity and tighten the yoke clamp just enough to hold the yoke in position. Perform convergence adjustment.

COLOR TEMPERATURE

Disconnect the antenna. Set the brightness, sharpness, tint, and picture to mid-range. Set the color, screen, R642, R643, R648, R649, and R650 controls to minimum. Disconnect the vertical yoke connector. Adjust the screen control to obtain a faintly visible line, then decrease until line just disappears. Set the drive and cutoff controls to maximum. Note the predominant color. Adjust the two remaining cutoff controls for best white balance of line. Reconnect the vertical yoke connector and set the color control to mid-range. Tune in a color picture and adjust the drive controls for best white balance at all brightness levels.

CONVERGENCE

Operate the receiver for fifteen minutes. Set R642, R643, R648, R649, and R650 to midrange. 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 with the green dots at the center of the screen. Spread the two tabs of each set of magnets equally and opposite to converge vertically, and rotate both tabs in the same direction to converge horizontally. The 4 and 6 pole magnets interact, repeat adjustment until center convergence is correct. Tune in a crosshatch pattern. Remove the rubber wedges between the deflection yoke and the CRT. Tilt the deflection yoke up or down to converge the vertical lines at the top and bottom of the screen, and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke right or left to converge the horizontal lines at the top and bottom of the screen, and vertical lines at the right and left sides of the screen. Repeat convergence procedure as necessary to obtain best overall convergence.

TEST MODE SERVICE INFORMATION

NOTE: To perform all test mode functions, a prior year 23 or 25 push-button "stick" transmitter, UR14, T251, or a NAP universal remote transmitter must be used.

To enter test mode, turn the receiver on, then enter 0, 6, 2, 5, 9, 6, and press menu button on the receiver, without allowing time out between key entries. The two line screen display indicates circuit and register information as follows.

Top left; 2988-4 indicates the software version of the microprocessor in use.

Top right; E indicates the failure of a functional part of the system. Error codes will be displayed only if the function is not operating properly or the receiver does not include a particular feature. A = tuner, B = memory, C = remote locator, D = automatic volume level, and E = color PIP.

Bottom left; channel number.

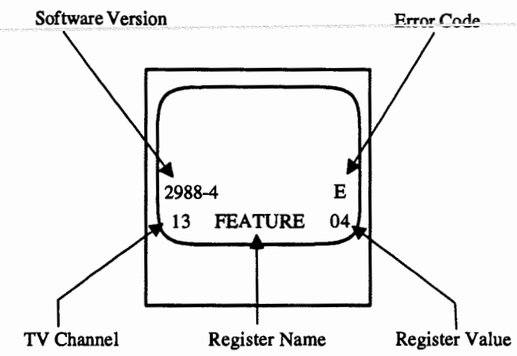
Bottom middle; name of current register.

Bottom right; register value in hexadecimal.

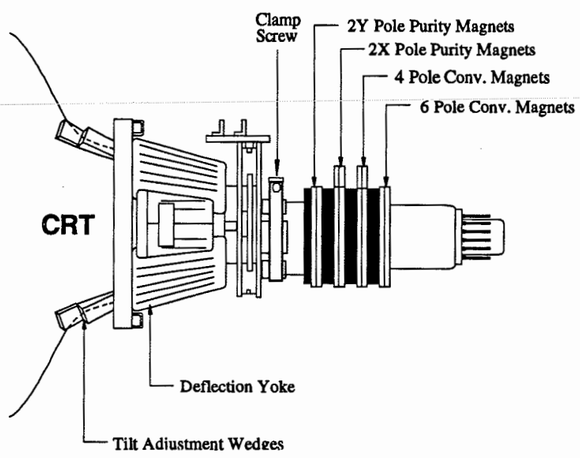
To access a register press menu button on remote transmitter until the desired register appears on screen. Change the value of a selected register by pressing the + or - keys. Depressing the "Status/Exit" key on the remote transmitter the runtimer will be displayed in hexadecimal format in the upper left hand corner of the screen. Depressing the "Personal Preference" key on the transmitter will reset all register values to the factory position (if used). Store the register value by turning the receiver off with the power switch on the cabinet, not on the remote transmitter. To exit the service test mode press the power button on the receiver.

See table below for register information.

Register	Factory Value
FEATURE	04
BRIGHT	1F
PICTURE	1F
COLOR	1F
TINT	1F
SHARP	1F
OSD	1A
PIP COLOR	1F
PIP TINT	1F
VOL INC	04



CRT NECK ASSEMBLY



STEREO ADJUSTMENTS

NOTE: Adjustments made using a MTS TV / stereo generator connected to antenna terminals.

BASEBAND LEVEL

Select pilot, 1kHz audio frequency, and L+R modulating signal. Connect one channel of a dual trace oscilloscope to pin 17 of IC700 and the other channel to pin 18 of IC700. Connect both probe grounds to pin 31 of IC700. Set oscilloscope time div. to 1ms, volts to .2V and select the add A+B function. Adjust R236 for .7V p-p.

STEREO VCO

Select stereo mode on receiver. Select pilot, 1kHz audio frequency, and L+R modulating signal. Adjust R712 counterclockwise until stereo indicator turns off and then clockwise until stereo indicator just turns on.

SAP FILTER

Select SAP mode on receiver. Select SAP, 1kHz audio frequency, and L-R modulating signal. Connect oscilloscope to pin 21 of IC700. Adjust R708 for maximum amplitude of waveform.

SEPARATION

Select stereo mode on receiver. Select pilot, 300Hz audio frequency, and left modulating signal. Connect an oscilloscope to pin 17 of IC700 and adjust R718 for minimum amplitude of waveform. Set audio frequency to 8kHz and adjust R715 for minimum amplitude of waveform. Repeat until no further decrease in amplitude can be obtained.

TELEVISION SCHEMATIC

A

B

SEE IC345 PIN 19 PAGE 3A

BC548C Q273 AFT BUFFER

R275 3.9M

R274 100K (82K) (160K)

R273 51K (82K)

R272 150K (240K)

SEE IC345 PIN 25 PAGE 3A

BC548C Q510 FLYBACK PULSE BUFFER

R513 100

R514 330

R509 430

R341 1000

R508 560

D508

D341

SEE IC345 PIN 24 PAGE 3B

SEE TUNER IF PIN 17 PAGE 3F

Y200 SAW FILTER

PART OF M52030ASP IC270 IF, CHROMA, LUMINANCE, SWEEP, AUDIO PROCESS

SEE TUNER AGC PIN 5 PAGE 3E

R218 100

C208 4.7µF

C206 .01

R206 RF AGC 47K

R264 51K

IF AGC RANGE 2.3V TO 4.8V

C682 .22µF

C209 .33µF

C248 .47µF

R248 100

L210

L270

C274 .01

Y220 4.5MHz FILTER

C213 620pF

C215 620pF

C217 .001

C218 15pF NPO

L215

C216 620pF

PART OF M52030ASP IC270 IF, CHROMA, LUMINANCE, SWEEP, AUDIO PROCESS

SEE Q95 EMITTER PAGE 3D

P/J40

R225 100K (10K)

C225 4.7µF

BC548C Q221 AUDIO SWAP

R221 330

C224 .001

L221

C220 220pF

R220 620

L211

R212 120

L209

R209 4300

L212

C210 150pF NPO

R213 1000

R215 100

BC558B VIDEO BUFFER Q210

R216 10

R214 680

SEE IC20 PIN 7 PAGE 3D

SEE Q20 EMITTER PAGE 3D

TAKEN WITH BAR SWEEP GENERATOR

BC548C Q232 BASEBAND BUFFER

R237 680

C236 2.2µF

R240 1000

R236 BASEBAND 1500

R238 1500

R239 1000

P/J250

SEE IC700 PIN 39 PAGE 2G

BC548C Q280 SYNC STRIPPER

R280 1000

C280 .01

C281 100pF NPO

R281 1M

R282 4700

C282 47pF NPO

R283 47K

C283 1µF

BC548C Q281 COIN DET

R285 1000

R284 10K

C609 18pF

C613 .01

L614

L615

C614 22pF NPO

TAKEN WITH CHROMA BAR SWEEP GENERATOR

R676 22K

SUB BRIGHT 22K

R669 22K

R671 1000

C618 4.7µF

R345 22K

SEE IC345 PIN 30 PAGE 3B

C603 47µF

Y603 3.58MHz TRAP

C604 82pF NPO

BC548C Q602 LUMA PROCESS

L604

L605

R607 1600

R606 2700

R604 1000

R605 1000

R610 1000

C605 220pF

C606 330pF

N750

R603 1000

R608 120

L606

SEE Q381 BASE PAGE 3C

C550 100pF

R550 3900

LA7830 VERT OUTPUT IC550

C551 100µF

D550

SEE IC345 PIN 26 PAGE 3A

R551 330

C556 .01

C562 .056 200V

R552 3.3

R553 560

R562 680 1W

R545 VERT CENTER 4700

BC548C Q560 LOW AC TRACKING

R556 470

C565 100µF

R561 1800 2%

C554 10µF

Z561 7.5V

R554 8200 2%

C563 1000µF

R557 150K

C557 1µF

R560 2

2SC2482 Q501 HORIZ DRIVER

#Q502 HORIZ OUTPUT

T504

V516 .47

C503 470pF 500V

R503 820

C502 470pF 500V

C504 .1 250V

R524 11K 2W

R504 11K 2W

R515 20

C505 .0047 2kV (1.5kV)

C506 820pF (.001) 2kV N3300

DO NOT MEASURE

ORION CRT

R511 300K

C511 39pF 1kV

R512 300K

BC548C Q565 VERT RAMP GEN

R565 100K

R566 1500

D567

R567 62K

R559 VERT SIZE 68K

R568 180K

C555 .22 100V

R501 100

R502 130

R500 10K

R520 HORIZ CENTER 47K

C500 100pF NPO

R250 8200

C252 1µF

C250 .0047

D406

C509 220pF

SEE Q283 EMITTER PAGE 3A

R245 220

R244 220

R243 1M

C243 330pF

C244 .0022

C245 .22 100V

R255 16K

C255 .01

R256 3300

R257 180K

C257 .0082

C256 .0022

C525 .001

R505 30K

R251 47

Y250 503.5kHz

C501 470pF

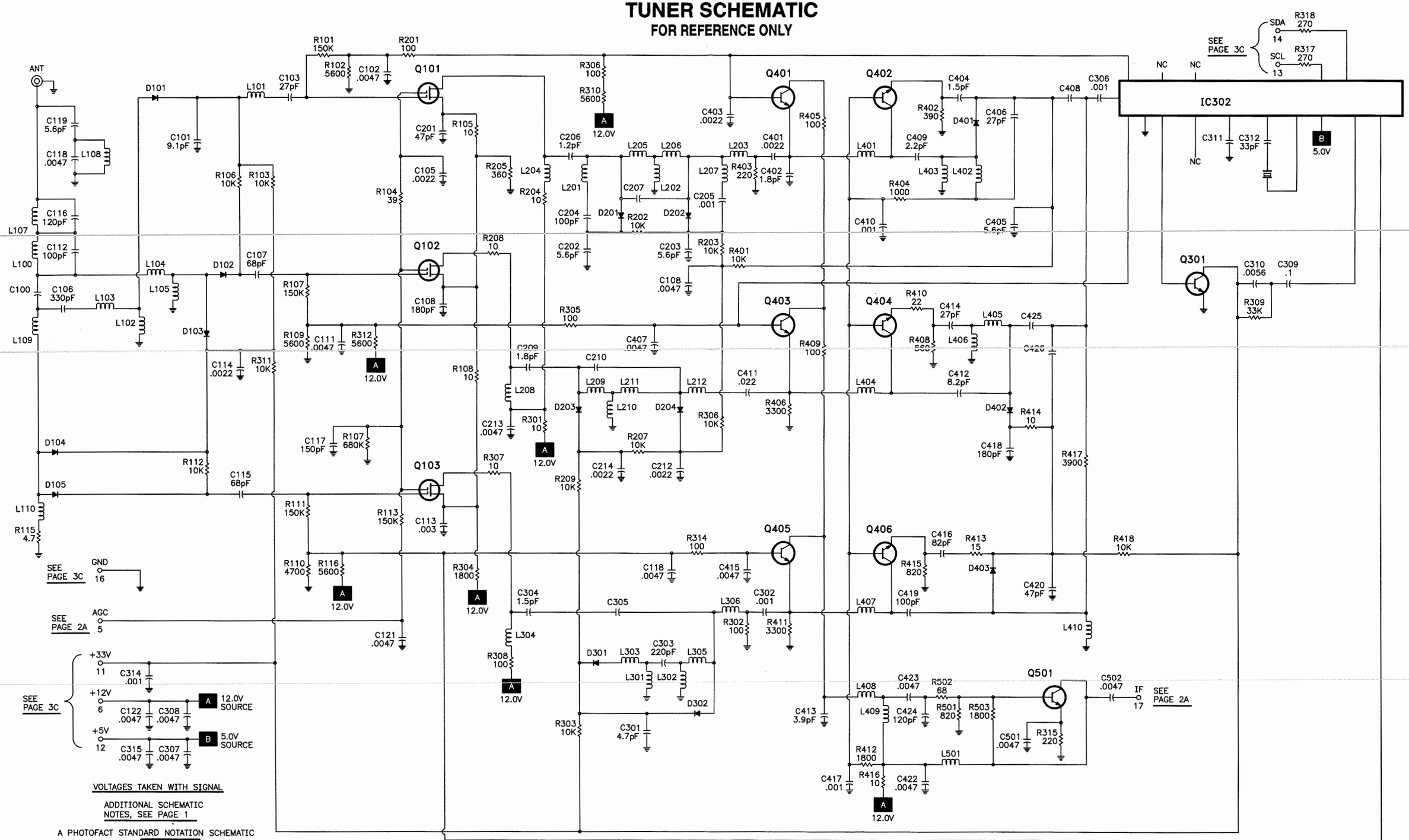
VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 1

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

TUNER SCHEMATIC

FOR REFERENCE ONLY



VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 1

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

CONTROLS & RESISTORS

	Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
#	R1	.3 5% 1/2W	-	-
		30 5% 1/2W	4835 116 57113	HW030
#	R3	.3 5% 1/2W	-	-
		30 5% 1/2W	4835 116 57113	HW030
#	R10, 11, 12	15K 5% 3W	4835 116 67018	3W315
#	R20	10 5% 1/3W	4822 111 30508	-
#	R30	51 5% 1/2W	4835 116 67086	HW051
#	R31	4.7M 5% 1/2W	4835 116 57009	HW547
	R40	1000 Video Level	4835 100 97031	-
#	R49	82 5% 1/4W	4835 111 37126	HW082
	R60	470 Audio Level Right	4835 100 97038	-
#	R66	100 5% 1/10W	4835 111 37001	-
	R80	470 Audio Level Left	4835 100 97038	-
#	R86	100 5% 1/4W	4835 111 37021	QW110
	R206	47K RF AGC	4835 100 17017	-
#	R231	2.2 5% 3W	4835 116 67069	3W2D2
	R236	1500 Baseband	4835 100 17043	-
	R301	75K 2% 1/8W	4835 110 67226	EW375
	R302	3300 2% 1/8W	4835 110 67223	EW233
	R303	6200 2% 1/8W	4835 110 67093	EW262
	R304	10K 2% 1/8W	-	EW310
		11K 2% 1/8W	4835 110 67217	EW311
#	R305	22 5% 1/4W	-	QW022
		10 5% 1/4W	4835 116 57362	QW010
	R306	22K 2% 1/8W	-	EW322
		18K 2% 1/8W	4835 110 67221	EW318
	R307	30K 2% 1/8W	4835 110 67117	EW330
	R309	10K 1% 1/8W	4835 116 57481	-
	R310	43K 2% 1/8W	4835 110 67224	EW343
#	R359	33 5% 1/3W	4835 116 57159	-
	R400	11 Cold PTC	4835 116 47001	-
#	R401	4.7M 5% 1/2W	4835 116 57009	HW547
#	R403	1.5 10% 10W Wirewound	4835 112 37024	10W1D5
#	R411	100 5% 1/3W	4835 116 87002	-
#	R417	6.8 5% 1/4W	4835 116 57559	QW6D8
#	R419	1 5% 1/3W	4822 111 30483	-
#	R420	.51 5% 1/2W	4835 116 67001	HWD51
#	R421, 45	1 5% 1/3W	4822 111 30483	-
#	R448	100 5% 30W Wirewound	4835 112 37019	-
#	R459	100 5% 2W	4835 116 57132	2W110
#	R460	2.2 5% 1/3W	4822 111 30492	-
#	R464	68 5% 1W	4835 116 57279	1W068
#	R465	24 5% 1/4W	4835 116 57493	QW024
#	R466	47 5% 1/3W	4835 116 57069	-
#	R468	1 5% 1/3W	4822 111 30483	-
#	R469	8.2 5% 1/3W	4822 111 30506	-
#	R470	4.3 5% 1/8W	4835 116 57497	EW4D3
#	R475	.51 5% 1/2W	4835 116 67001	HWD51
#	R504	11K 5% 2W	4835 116 67167	2W311
#	R506	18 5% 2W	4835 116 67017	2W018
#	R510	39K 5% 1/4W	4835 116 57475	QW339
#	R515	20 5% 1/3W	4835 116 57065	-
	R520	47K Horizontal Centering	4835 100 17017	-
#	R524	11K 5% 2W	4835 116 67167	2W311
#	R530	1 5% 1/3W	4822 111 30483	-
#	R533	5490 1% 1/4W	4835 116 57577	-
#	R534	24K 1% 1/4W	4835 116 57273	-
#	R535	7500 5% 1/4W	4835 116 57438	QW275
#	R536	5600 5% 1/4W	4835 116 57434	QW256
#	R537	3900 5% 1/4W	4835 116 57425	QW239
	R545	4700 Vertical Centering	4835 100 17054	-

 # For SAFETY use only equivalent replacement part.

CONTROLS & RESISTORS continued

	Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
	R554	8200 2% 1/8W	4835 110 67232	QW282
	R559	68K Vertical Size	4835 100 17052	-
	R561	1800 2% 1/8W	4835 110 67227	EW218
#	R562	680 5% 1W	4835 116 67144	1W168
	R642	2200 Blue Drive	4835 100 17021	-
	R643	2200 Green Drive	4835 100 17021	-
	R648	4700 Blue Cutoff	4835 100 17022	-
	R649	4700 Green Cutoff	4835 100 17022	-
	R650	4700 Red Cutoff	4835 100 17022	-
	R660	22K Sub Brightness	4835 100 17045	-
#	R704	75 5% 1/2W	4835 116 57371	HW075
	R708	10K SAP/LPF	4835 100 97032	-
	R709	750K 1% 1/8W	4835 111 37362	-
	R710, 11	47.5K 1% 1/8W	4835 111 37359	-
	R712	22K VCO	4835 100 97041	-
	R715	2200 3kHz	4835 101 37005	-
	R717	43K 2% 1/10W	4835 111 37344	-
	R718	4700 300Hz	4835 100 97039	-
#	R740	10 5% 1/3W	4822 111 30508	-
#	R760	6.8 5% 3W	4835 116 67088	3W6D8
	RA2	22K 5% 1/4W X 6 Network	4835 111 97038	-

 # For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

	Item No.	Function/Rating	Mfr. Part No.
#	DY1	Yoke 90° Horiz 3.2mH Vert 29mH	4835 150 17023
	L1	100µH	4835 157 57141
#	L30	-	4835 148 27042
	L209	4.5MHz	4835 157 57113
	L210	45.75MHz	4835 157 57485
	L211	2.2µH	4835 157 67005
	L212	4.7µH	4835 157 57059
	L215	3.9µH	4835 157 67007
	L221	4.5MHz	4835 157 57113
	L270	45.8MHz	4835 157 57608
	L315, 22	2.7µH	4835 157 67006
	L341	1.8µH	4835 157 67033
	L348	2.7µH	4835 157 67006
	L351, 52, 53	1.8µH	4835 157 67033
	L357	8.2µH	4835 150 57068
	L382	47µH	4835 157 67013
	L400	Line Filter	4835 157 57077
	L417, 18	2.7µH	4835 157 67006
	L499	Degaussing	4835 157 97059
	L502	Suppresion	4835 152 27047
	L604	27µH	4835 157 67019
	L605	22µH	4835 157 67018
	L606	33µH	4835 157 67025
	L614	15µH	4835 157 57057
	L615	47µH	4835 150 57045
	L630	.47µH	4835 157 57947
#	T501 (1)	Horizontal Output	4835 140 67112
#	T504	Horizontal Drive	4835 142 47021

 # For SAFETY use only equivalent replacement part.
(1) Focus and screen controls are part of T501.

Important Parts Information

- The parts listed here are those not usually available from a well-stocked supply cabinet or bin.
- Where items may be replaced with equivalent parts, several alternates are shown from participating vendors.
- On the parts lists, safety items are marked with a # to remind you that only exact replacements are recommended for these items.
- When ordering parts, state the model number, part number, and description.

Obtaining Parts

Many of these parts are available from your local Sams authorized distributor or the manufacturer of the equipment. Call Sams for the name of your nearest distributor:

800-428-7267

Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors. Consult the Sams *Annual Index* for their current address.

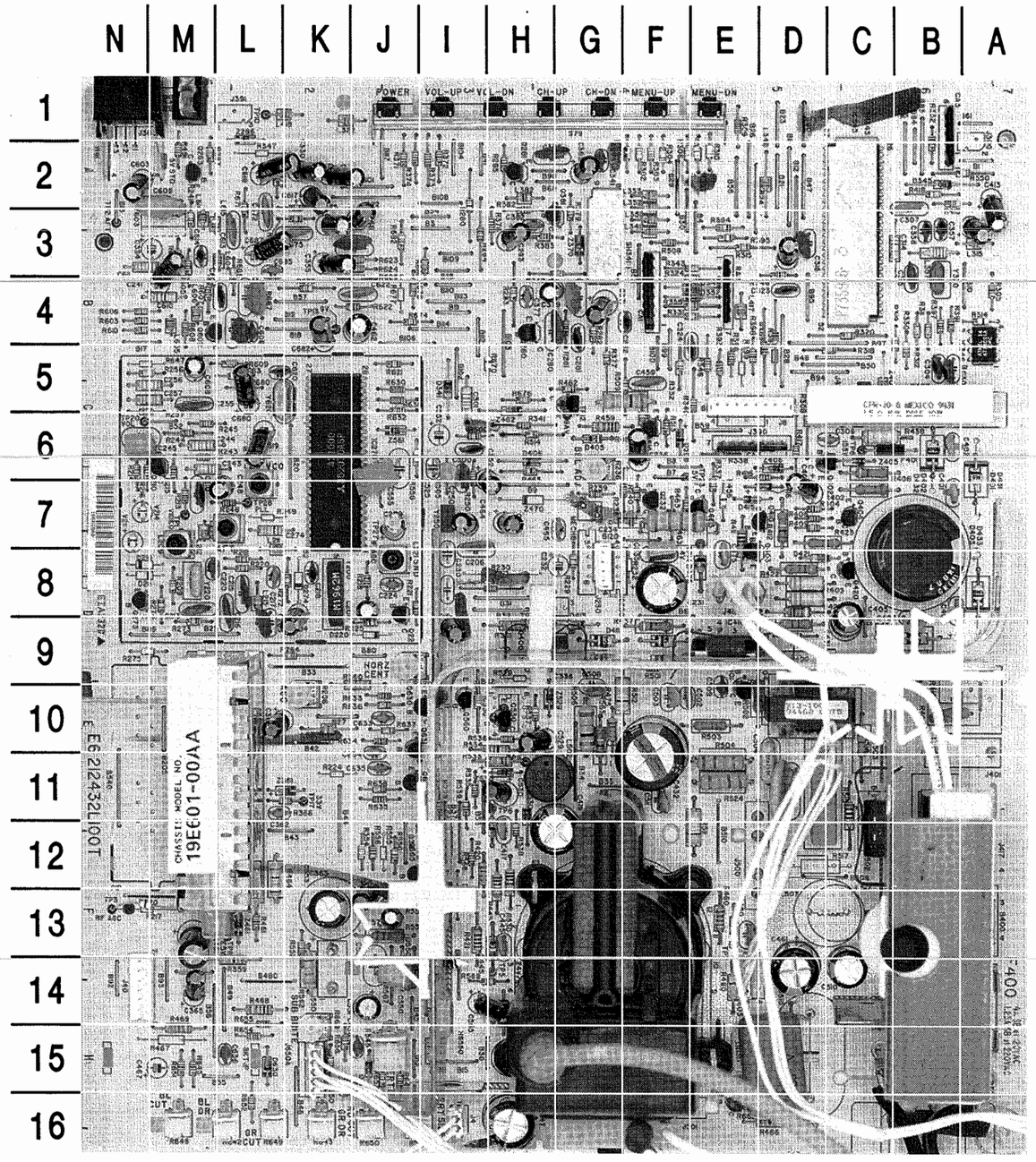
- Custom Components Corporation (Chek-A-Color)
- NTE Electronics, Inc. (NTE)
- Philips ECG Company (ECG)
- PTS Electronics Corporation (PTS)
- Sencore, Inc.
- Thomson Consumer Electronics, Inc. (SK, TCE)

TEST EQUIPMENT

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

Equipment	Sencore No.	Equipment	Sencore No.
Oscilloscope	SC3100	Isolation Transformer	PR57
Generators		Capacitance Analyzer	LC101, LC102
RGB	CM2000	CRT Analyzer	CR70
Multiburst Signal	VG91	AC Leakage Tester	PR57
Color Bar	VG91	Inductance Analyzer	LC101, LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	TV Stereo Power Monitor	SR68, PA81
Frequency Meter	SC3100	Field Strength Meter	SL750
Hi-Voltage Probe	HP200	Transistor Tester	TF46
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

MAIN BOARD



A HOWARD W. SAMS GRIDTRACE™ PHOTO

MAIN BOARD, GRIDTRACE LOCATION GUIDE

C204	K-9	C404	B-8	C635	J-11	J603	E-14	R215	M-6	R350	A-2	R469	M-15	R633	J-10
C205	L-9	C405	B-8	C636	L-15	J650	K-15	R216	N-6	R352	B-2	R470	F-6	R634	J-10
C206	I-7	C406	D-7	C637	K-15	K400	B-12	R218	J-8	R355	E-4	R475	G-10	R635	J-11
C208	J-8	C413	A-2	C638	J-15	L209	M-7	R220	L-8	R359	L-14	R480	E-14	R636	J-10
C209	J-7	C415	A-3	C663	E-15	L210	L-7	R221	J-8	R360	J-10	R491	M-2	R637	J-10
C210	M-7	C417	H-12	C668	J-3	L211	L-8	R225	J-9	R361	H-9	R500	I-6	R638	J-11
C213	M-8	C419	G-12	C672	L-3	L212	M-7	R229	G-8	R366	K-11	R501	F-9	R642	L-16
C215	L-8	C431	C-8	C674	J-3	L215	L-8	R231	F-7	R371	J-2	R502	D-10	R643	K-16
C216	L-8	C432	F-11	C675	K-3	L221	J-8	R236	G-6	R372	I-2	R503	E-10	R645	M-15
C217	L-8	C445	H-13	C680	L-5	L270	L-7	R237	H-8	R373	I-2	R504	E-11	R646	J-15
C218	K-8	C447	H-16	C682	K-4	L315	A-3	R238	F-7	R374	J-2	R505	I-6	R648	M-16
C220	M-8	C459	F-5	C685	L-3	L322	K-1	R239	G-7	R375	G-3	R506	G-10	R649	L-16
C224	J-8	C460	E-13	C687	L-3	L341	F-3	R240	F-7	R376	H-3	R508	F-3	R650	J-16
C225	I-9	C461	D-14	CA1	F-4	L348	D-2	R241	M-3	R377	G-5	R509	F-5	R651	M-15
C231	F-8	C462	J-4	CA3	B-2	L351	F-3	R243	M-6	R379	G-3	R510	D-15	R652	L-16
C235	F-8	C463	L-4	CA4	D-6	L352	F-2	R244	M-6	R382	H-2	R511	E-12	R653	J-15
C236	F-6	C464	I-7	D341	I-5	L353	F-2	R245	M-6	R383	H-3	R512	F-10	R654	L-15
C241	M-3	C465	G-7	D345	B-2	L357	B-3	R248	L-7	R390	D-4	R513	F-6	R655	L-14
C243	M-6	C470	H-7	D346	E-4	L382	H-2	R250	I-6	R391	B-4	R514	H-6	R656	K-15
C244	M-6	C475	E-8	D352	E-4	L400	A-13	R251	J-6	R392	D-5	R515	C-11	R662	D-16
C245	N-6	C500	I-6	D401	A-6	L417	E-4	R255	L-6	R393	E-5	R520	J-9	R663	D-16
C248	L-7	C501	I-5	D402	B-6	L418	K-1	R256	N-5	R394	E-3	R524	E-11	R669	K-15
C250	I-6	C502	E-10	D403	A-8	L502	H-11	R257	N-5	R395	E-3	R530	H-12	R671	L-2
C252	H-7	C503	F-10	D404	B-9	L604	L-3	R264	K-9	R396	E-5	R533	H-11	R672	K-3
C255	M-5	C504	D-11	D405	G-6	L605	M-4	R272	K-8	R397	B-4	R534	H-11	R673	K-4
C256	N-5	C505	D-11	D406	H-6	L606	M-4	R273	M-9	R398	E-5	R535	I-11	R674	J-4
C257	N-5	C506	D-11	D409	H-12	L614	M-3	R274	M-8	R400	B-10	R536	H-10	R675	K-2
C274	L-7	C507	D-15	D410	F-9	L615	M-3	R275	N-9	R401	B-15	R537	H-10	R676	H-5
C275	G-2	C508	G-10	D411	G-9	L630	K-10	R280	I-2	R402	C-7	R538	H-12	R678	J-4
C280	G-4	C509	E-10	D413	G-9	N401	E-15	R281	G-4	R403	B-5	R539	I-11	R679	L-2
C281	G-4	C510	C-14	D415	E-7	Q210	M-6	R282	G-4	R404	D-7	R545	J-15	R680	L-5
C282	F-4	C511	F-11	D416	D-7	Q221	J-8	R283	H-4	R405	D-8	R550	J-12	R681	I-3
C283	H-3	C525	I-6	D421	D-8	Q232	F-7	R284	I-3	R406	C-6	R551	I-14	R682	J-3
C301	D-3	C529	H-10	D445	H-13	Q273	N-8	R285	H-2	R408	D-7	R552	K-13	R683	L-5
C304	B-5	C530	H-11	D460	E-13	Q280	H-4	R287	M-2	R409	D-7	R553	J-13	R687	L-4
C306	C-6	C550	J-14	D475	E-8	Q281	H-2	R301	F-2	R411	E-7	R554	J-12	R688	L-3
C307	B-2	C551	J-14	D491	M-1	Q283	M-2	R302	F-2	R412	D-7	R556	J-12	RA2	E-3
C308	B-5	C554	J-13	D508	F-6	Q381	H-3	R303	F-2	R413	B-2	R557	J-13	S79	G-1
C314	B-3	C555	J-6	D510	D-15	Q400	G-9	R304	F-2	R416	D-6	R559	J-16	T501	G-14
C315	B-3	C556	I-15	D530	H-11	Q402	C-6	R305	A-4	R417	D-6	R560	J-13	T504	D-10
C316	D-3	C557	J-13	D550	J-14	Q403	E-8	R306	F-2	R418	B-2	R561	I-10	V516	C-10
C323	D-4	C562	J-14	D567	I-13	Q404	C-7	R307	E-2	R419	G-6	R562	K-14	Y200	K-8
C324	E-5	C563	K-13	D629	J-15	Q410	D-7	R308	D-6	R420	I-12	R565	G-10	Y220	M-8
C330	K-2	C565	I-14	D630	L-15	Q420	C-8	R309	E-1	R421	I-13	R566	I-12	Y250	I-7
C336	H-9	C603	N-2	D661	D-15	Q461	L-13	R310	E-2	R422	D-8	R567	J-14	Y320	B-4
C355	K-13	C604	L-4	F400	A-14	Q462	G-5	R311	B-4	R423	D-7	R568	H-14	Y603	M-3
C357	B-3	C605	L-4	F401	C-6	Q463	E-7	R312	B-4	R424	D-8	R569	H-14	Y620	L-5
C358	B-3	C606	L-4	IC270	J-7	Q501	E-10	R315	E-3	R431	D-9	R603	M-4	Z286	L-1
C360	M-13	C608	M-5	IC341	G-3	Q502	C-12	R318	C-5	R432	D-8	R604	M-3	Z361	K-11
C361	L-10	C609	N-2	IC345	C-4	Q510	F-6	R319	B-4	R436	D-9	R605	M-3	Z370	G-3
C362	L-11	C610	M-4	IC346	A-5	Q530	H-10	R320	C-4	R437	F-9	R606	N-4	Z402	C-5
C365	M-14	C611	N-3	IC410	E-9	Q560	I-10	R324	E-4	R438	C-6	R607	M-4	Z405	C-6
C370	G-4	C613	L-3	IC550	I-12	Q565	J-12	R330	B-5	R445	H-12	R608	M-4	Z406	D-6
C371	G-4	C614	M-3	IR91	N-1	Q602	M-4	R331	E-4	R448	B-13	R609	L-5	Z461	L-13
C377	H-4	C616	J-2	J4	I-16	Q630	I-10	R332	F-5	R459	F-5	R610	N-4	Z462	H-5
C379	H-4	C617	K-2	J8	D-5	Q631	J-10	R337	E-7	R460	E-13	R621	J-5	Z463	F-7
C382	H-3	C618	L-2	J40	N-14	Q632	J-11	R338	E-6	R461	L-13	R622	J-4	Z529	H-10
C383	G-2	C619	L-6	J250	G-8	Q661	E-16	R340	E-5	R462	G-5	R623	J-3	Z530	H-11
C385	H-2	C620	L-5	J401	B-10	R206	K-10	R341	H-6	R463	F-7	R624	J-3	Z561	J-6
C400	B-15	C621	K-3	J410	E-8	R209	M-8	R343	E-3	R464	L-12	R625	J-4		
C401	B-7	C622	J-4	J500	D-11	R212	L-8	R345	K-15	R465	H-6	R630	J-5		
C402	B-6	C633	J-10	J501	F-16	R213	M-7	R346	E-5	R466	D-16	R631	J-5		
C403	B-8	C634	J-10	J550	K-14	R214	N-6	R348	D-3	R468	L-14	R632	J-5		

CROSLEY MODEL CT1922C121 (CHASSIS 19E601-00AA)

PARTS LIST

SEMICONDUCTORS

(Select the replacement that gives the best results.)

	Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
	D30	-	4835 130 37052	NTE580	ECG580	SK5036
	D41, 61, 81	-	4835 130 37066	-	-	-
	D341, 45	-	4835 130 37048	NTE519	ECG519	SK3100
	D346, 52	-	4835 130 37048	NTE519	ECG519	SK3100
	D401 Thru					
	D404	1N5062	4822 130 41275	NTE125	ECG125	SK3081
	D405	-	4835 130 37094	NTE580	ECG580	SK5036
	D406	-	4835 130 37048	NTE519	ECG519	SK3100
	D409	-	4835 130 37094	NTE580	ECG580	SK5036
	D410, 11	1N5062	4822 130 41275	NTE125	ECG125	SK3081
	D413, 15	-	4835 130 37048	NTE519	ECG519	SK3100
	D416, 21	-	4835 130 37048	NTE519	ECG519	SK3100
	D445, 60	-	4835 130 37094	NTE580	ECG580	SK5036
	D475	-	4835 130 37052	NTE580	ECG580	SK5036
	D491	-	4835 130 87001	-	-	-
	D508	-	4835 130 37048	NTE519	ECG519	SK3100
	D510	-	4835 130 37052	NTE580	ECG580	SK5036
#	D530	-	4835 130 37048	NTE519	ECG519	SK3100
	D550	-	4835 130 37094	NTE580	ECG580	SK5036
	D567	-	4835 130 37048	NTE519	ECG519	SK3100
	D629	-	4835 130 37048	NTE519	ECG519	SK3100
	D630	-	4835 130 37058	NTE587	ECG587	SK9937
	D661	-	4835 130 37053	NTE552	ECG552	SK9000
	IC20	LA7016	4835 209 87074	NTE1781	ECG1781	SK9746
#	**IC41**	TLP651	4835 130 97058	-	-	-
#	**IC61, 81**	TLP631	4835 130 47903	NTE3041	ECG3041	SK2041
	IC270	M52030ASP	4835 209 88106	-	-	-
	IC341	LC7456A	4835 209 88189	-	-	-
	IC345	-	4835 209 88187	-	-	-
	IC346	AT24C01A	4835 209 88108	-	-	-
	IC410	STR30130	4835 209 47056	NTE1777	ECG1777	SK9870
	IC550	LA7830	4835 209 87069	NTE1773	ECG1773	SK9752
	IC700	CXA1124BS	4835 209 88002	-	-	-
	IC740	TDA8198	4835 209 87982	-	-	-
	IC760	TDA7053	4835 209 87808	-	-	-
	Q1, 2, 3	-	4835 130 47059	NTE399	ECG399	SK9352
	Q20	-	4835 130 47112	NTE2407	ECG2407	-
	Q41, 42	-	4835 130 47094	-	-	-
	Q43	-	4835 130 47751	NTE2406	ECG2406	-
	Q61, 62, 63	-	4835 130 47094	-	-	-
	Q81, 82, 83	-	4835 130 47094	-	-	-
	Q95	-	4835 130 47094	-	-	-
	Q210	BC558B	4835 130 47126	NTE159*	ECG159*	SK3466*
	Q221, 32, 73	BC548C	4835 130 47064	NTE123AP*	ECG123AP*	SK3854*
	Q280	-	4835 130 47126	NTE159*	ECG159*	SK3466*
	Q281, 83	BC548C	4835 130 47064	NTE123AP*	ECG123AP*	SK3854*
	Q381	BC548C	4835 130 47064	NTE123AP*	ECG123AP*	SK3854*
	Q400	TIP47	4835 130 47072	NTE198	ECG198	SK3220
	Q402	-	4835 130 47059	NTE399	ECG399	SK9352
	Q403	-	4835 130 47892	-	-	-
	Q404	BC548C	4835 130 47064	NTE123AP*	ECG123AP*	SK3854*
	Q410	-	4835 130 47051	NTE123AP	ECG123AP	SK3854
	Q420	-	4835 130 47059	NTE399	ECG399	SK9352
	Q461	-	4835 130 47051	NTE123AP	ECG123AP	SK3854
	Q462	-	4835 130 47059	NTE399	ECG399	SK9352
	Q463	-	4835 130 47051	NTE123AP	ECG123AP	SK3854
	Q501	2SC2482	4835 130 47073	NTE399	ECG399	SK9352
#	**Q502**	-	4835 130 67001	-	-	-
	Q510	BC548C	4835 130 47064	NTE123AP*	ECG123AP*	SK3854*

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

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

	Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
#	**Q530**	-	4835 130 47126	NTE159*	ECG159*	SK3466*
	Q560, 65	BC548C	4835 130 47064	NTE123AP*	ECG123AP*	SK3854*
	Q602, 30	BC548C	4835 130 47064	NTE123AP*	ECG123AP*	SK3854*
	Q631, 32	BC548C	4835 130 47064	NTE123AP*	ECG123AP*	SK3854*
	Q661	-	4835 130 47126	NTE159*	ECG159*	SK3466*
	Q703	-	4835 130 47086	NTE2406	ECG2406	SK10097
	Z30	-	4835 130 37423	NTE142A	ECG142A	-
	Z286	-	4835 130 37121	NTE5013T1	ECG5013T1	SK9969
	Z361	-	4835 130 37502	NTE147A	ECG147A	-
	Z370	-	4835 130 37119	-	-	-
	Z402	-	4835 130 37003	-	-	-
	Z405	-	4835 130 37501	NTE5075A	ECG5075A	-
	Z406	-	4835 130 37121	NTE5013T1	ECG5013T1	SK9969
	Z461	-	4835 130 37068	NTE5011T1	ECG5011T1	SK9968
	Z462	-	4835 130 37203	NTE5019T1	ECG5019T1	-
	Z463	-	4835 130 37121	NTE5013T1	ECG5013T1	SK9969
#	**Z529**	-	4835 130 37016	-	-	-
#	Z530	-	4835 130 37121	NTE5013T1	ECG5013T1	SK9969
	Z561	-	4835 130 37777	-	-	-
	Z700	-	4835 130 37778	-	-	-

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

CAPACITORS & ELECTROLYTICS

	Item No.	Rating	Mfr. Part No.
#	**C2**	.01 630V	4835 121 47335
#	**C33**	.0047 20% 250VAC	4835 122 97023
	C210	150pF 5% 50V NPO	4835 122 47042
	C218	15pF 5% 50V NPO	4835 122 47085
	C281	100pF 5% 50V NPO	4835 122 47014
	C282	47pF 5% 50V NPO	4835 122 47051
	C304, 08	100pF 5% 50V NPO	4835 122 47014
	C323, 24	100pF 5% 50V NPO	4835 122 47014
	C357	39pF 5% 50V NPO	4835 122 47021
	C358	27pF 5% 50V NPO	4835 122 47018
#	**C400**	.22 250VAC	4835 122 97047
	C500	100pF 5% 50V NPO	4835 122 47014
#	**C505**	.0047 2kV	-
		.0047 1.5kV	4835 121 47026

	Item No.	Rating	Mfr. Part No.
#	**C506**	820pF 5% 2kV N3300	4835 122 57004
		.001 5% 2kV	-
#	**C507**	.36 200V	4835 121 47126
		.51 200V	-
	C511	39pF 5% 1kV	4835 122 47224
#	**C529**	10µF 50V	4835 124 47499
	C604	82pF 5% 50V NPO	4835 122 47024
	C605	220pF 5% 50V N750	4835 122 47025
	C614	22pF 5% 50V NPO	4835 122 47017
	C620	39pF 5% 50V NPO	4835 122 47021
	CA1	.01 X 7 Network	4835 122 97049
	CA3	100pF X 4 Network	4835 122 97077
	CA4	100pF X 6 Network	4835 122 97042

 # For SAFETY use only equivalent replacement part.

MISCELLANEOUS

	Item No.	Description	Mfr. Part No.	Notes
#	**B400** (1)	Buss Wire	0046 012 60001	-
#	**B401** (1)	Buss Wire	0046 012 60001	-
#	**F400**	Fuse	4835 253 97095	4Amp, 125VAC, Slow Blow
#	**F401**	Fuse	4835 253 97031	2.5Amp
	IR91	Receiver	4835 219 47267	Remote
	J45	Jack	0018 220 40423	Assembly
	K400	Relay	4835 277 27016	Degaussing
	N401	Neon Bulb	4835 134 27001	-
#	**P1**	Line Cord	4835 321 17006	AC, Polarized
	S79	Switch	4835 276 57004	Assembly
	SP1, 2	Speaker	4835 240 37002	3", 1W, 16 Ohms
#	**V1**	CRT	4835 131 27087	A48AFN42X
		CRT	4835 131 27103	Orion
	Y200	Filter	4835 153 97022	SAW
	Y220	Filter	4835 158 97009	4.5MHz
	Y250	Crystal	4835 157 57145	503.5kHz
	Y320	Resonator	4835 157 57129	12MHz
	Y603	Trap	4835 154 97025	3.58MHz
	Y620	Crystal	4835 242 77022	3.58MHz
#		Antenna Isolator	4835 219 47242	-
#		CRT Socket	4835 265 97331	-
		Magnet	4835 150 27007	Purity/Convergence
		PC Board (2)	4835 219 57478	Audio/Video Jack Panel, 00AVJ129
		PC Board (2)	-	CRT, APT131
		PC Board (2)	-	Main, 00EME633-A003
		PC Board (2)	4835 219 57497	DBX / AVL Stereo, 00ASD031-A001
		Transmitter	4835 219 17554	Remote
#		Tuner (2)	4835 210 47058	UHF/VHF, UV936E
		Wedge	4835 535 27001	Yoke Positioning, 3 Used

 # 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.

CABINET PARTS

Item	Mfr. Part No.
Cabinet Front	4835 430 27108
Cabinet Rear	4835 432 97516
Lens, IR	4835 381 17006
Nameplate	4835 459 17498

Created with pride by the employees of Howard W. Sams & Company.

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

A

B

SYSTEM CONTROL SCHEMATIC

IR91 REMOTE RECEIVER
DATA
+5V
5.0V
L348
R348 1000
C323 100pF NPO
IR INPUT 5.0V
L322
D491 POWER
GREEN
R491 1800
9.2V
S79
POWER
VOL UP
VOL DN
CH UP
CH DN
MENU UP
MENU DN
R301 75K 2%
R302 3300 2%
R303 6200 2%
R304 10K (11K) 2%
R306 22K (18K) 2%
R307 30K 2%
R310 43K 2%
R309 10K 1%
C307 .047
5.0V
KEYBD 5.0V
NC
N/C 5.0V
SEE Q420 COLLECTOR PAGE 2E
R418 47K
R413 4700
C413 47µF
C314 .01
D345
5.0V
RESET 5.0V
SEE Q273 EMITTER PAGE 2A
C275 220pF
AFT 2.5V
SEE IC550 PIN 7 PAGE 2B
C336 330pF
R337 33K
R338 10K
R340 1000
C324 100pF NPO
VERT 0V
SEE IC270 PIN 41 PAGE 2C
COIN 4.9V
SEE Q510 EMITTER PAGE 2A
HORIZ .8V
HORIZ

PICTURE 1.8V
COLOR 1.2V
BRIGHT 2.1V
TINT 1.4V
SHARPNESS 1.8V
VOLUME 0.2V
R324 10K
D346
R343 33K
D352
R355 15K
R331 16K
RA2 22K
CA1 .01
R352 100K
R350 120K
5.0V
R678 51K
9.2V
R681 22K
C616 4.7µF
R679 68K
R682 39K
R673 4700
C621 22µF
C672 .01
C355 22µF
R346 16K
P/J8 P/J260A
R332 750K
C330 1µF
SEE IC270 PIN 35 PAGE 2C
SEE IC270 PIN 21 PAGE 2C
SEE IC270 PIN 37 PAGE 2B
SEE IC270 PIN 33 PAGE 2C
SEE IC270 PIN 39 PAGE 2C
SEE IC740 PIN 11 PAGE 2G
R674 10K
R672 10K

IC345
MICROPROCESSOR

DEGAUSS 0V
VERT HT 0V
VID BLANK 0V
ON/OFF 0V
REM LOC DATA 5.0V
REM LOC CTRL 0V
WATCH DOG 0V
NC
Z286 6.2V
R287 22K
BC548C Q283 AUTO PROG SYNC KILLER
6.1V
7.5V
9.2V
SEE IC270 PIN 44 PAGE 2A
R308 1000
C306 .001
SEE Q402 BASE PAGE 2E
C301 10µF (1µF)
R315 10K

BEAM CURRENT 4.1V
SPKR ON/OFF 0V
N/C 5.0V
TP21
CC TP 0V
VCC
OSD OSC 1 3.0V
OSD OSC 2 3.0V
PWR LED 5.0V
OSC1 2.2V
N/C 0V
OSC 2 2.6V
C357 39pF NPO
L357
C358 27pF NPO
Y320 12MHz

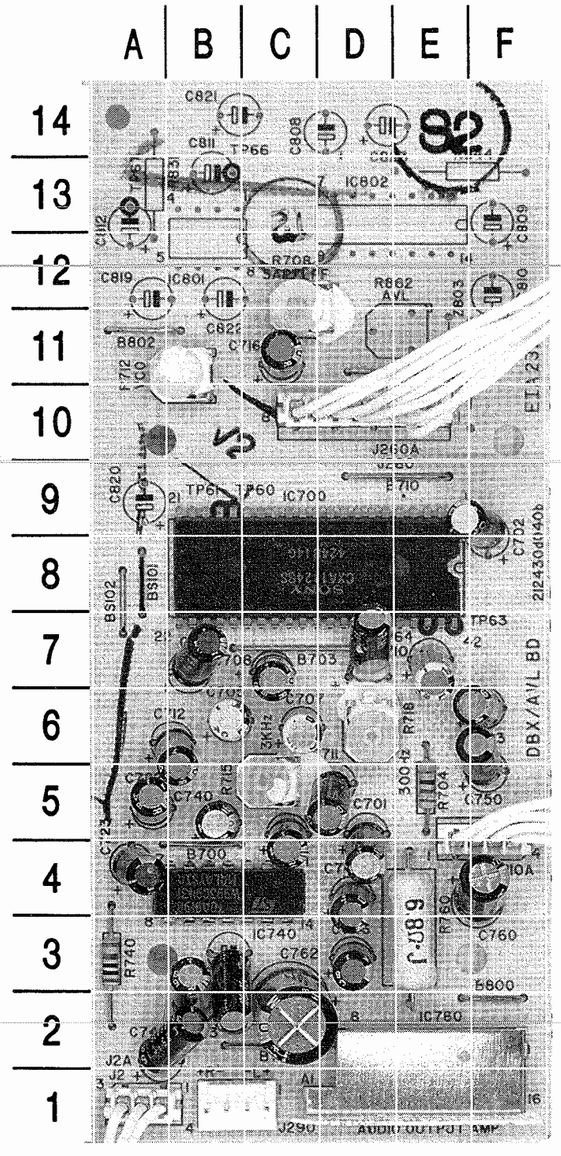
SDA 5.0V
SCL 5.0V
FST BLK 0V
RED 0V
BLUE 0V
GREEN 0V
SAP MAIN 0V
M/STR (D OUT) 5.0V
SAP AV 5.0V
STR AV 5.0V
INT/EXT (DIN) 0V
AVL (CLK) 0V
MAIN SAP 5.0V
GND
LINE 21 0V
CAP DATA 0V
CAP CLK 0V
CAP CLK 2.6V
R371 1000
R374 1000
R372 1000
R373 1000
CA3 100pF
R391 100
C304 100pF NPO
R397 100
C308 100pF NPO
R390 100
R394 100K
R392 100
R395 100K
R398 100
R396 100
R393 100
CA4 100pF
L341
L351
L352
L353
P/J8 P/J260
SEE IC270 PIN 26 PAGE 2A
SEE IC270 PIN (28) 29 PAGE 2C
SEE IC270 PIN 27 PAGE 2C
SEE IC270 PIN (29) 28 PAGE 2C
SEE IC700 PIN 8 PAGE 2G
SEE IC700 PIN 9 PAGE 2G
SEE IC700 PIN 3 PAGE 2G
SEE IC700 PIN 2 PAGE 2G
SEE IC20 PIN 3 PAGE 3D
SEE Q703 BASE PAGE 2G
NC
SEE IC700 PIN 7 PAGE 2G
J2

VOLTAGES TAKEN WITH SIGNAL

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 1

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

DBX / AVL STEREO BOARD, TOP VIEW

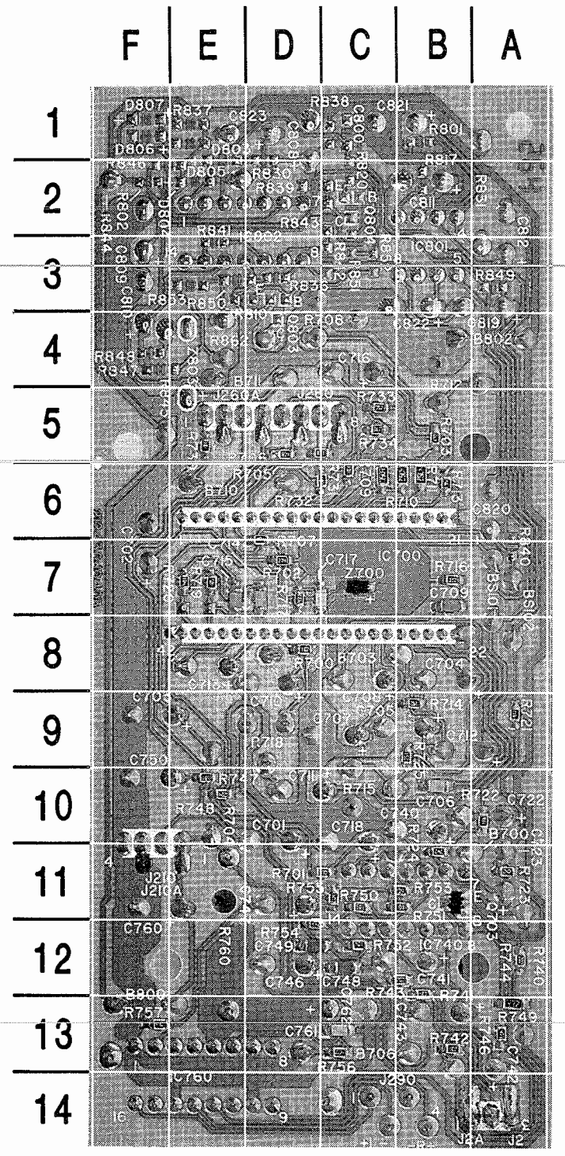


DBX / AVL STEREO BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C701	D-4	C746	D-3
C702	F-9	C747	D-4
C703	F-6	C750	F-6
C704	B-7	C760	F-4
C705	B-6	C762	C-2
C707	C-6	IC700	E-9
C708	C-7	IC740	C-4
C710	D-7	IC760	F-2
C711	D-5	J2	A-1
C712	B-6	J210	E-4
C713	E-7	J260	E-10
C716	C-11	J290	C-1
C718	C-4	R704	E-5
C722	A-5	R708	C-12
C723	A-4	R712	B-11
C740	B-5	R715	C-5
C741	B-2	R718	D-6
C742	A-2	R740	A-3
C743	B-3	R760	E-3

A HOWARD W. SAMS GRIDTRACE™ PHOTO

DBX / AVL STEREO BOARD, BOTTOM VIEW

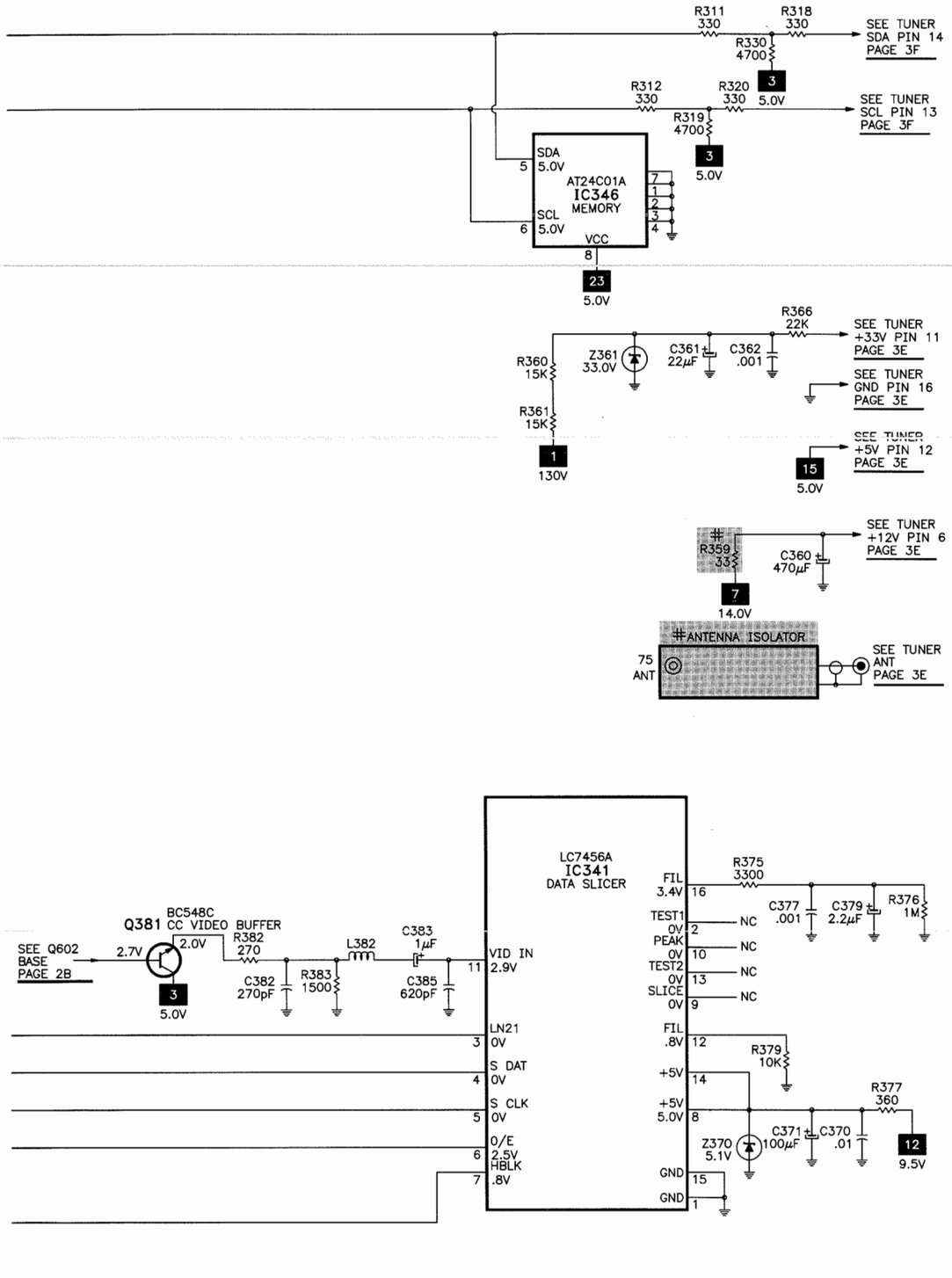


DBX / AVL STEREO BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

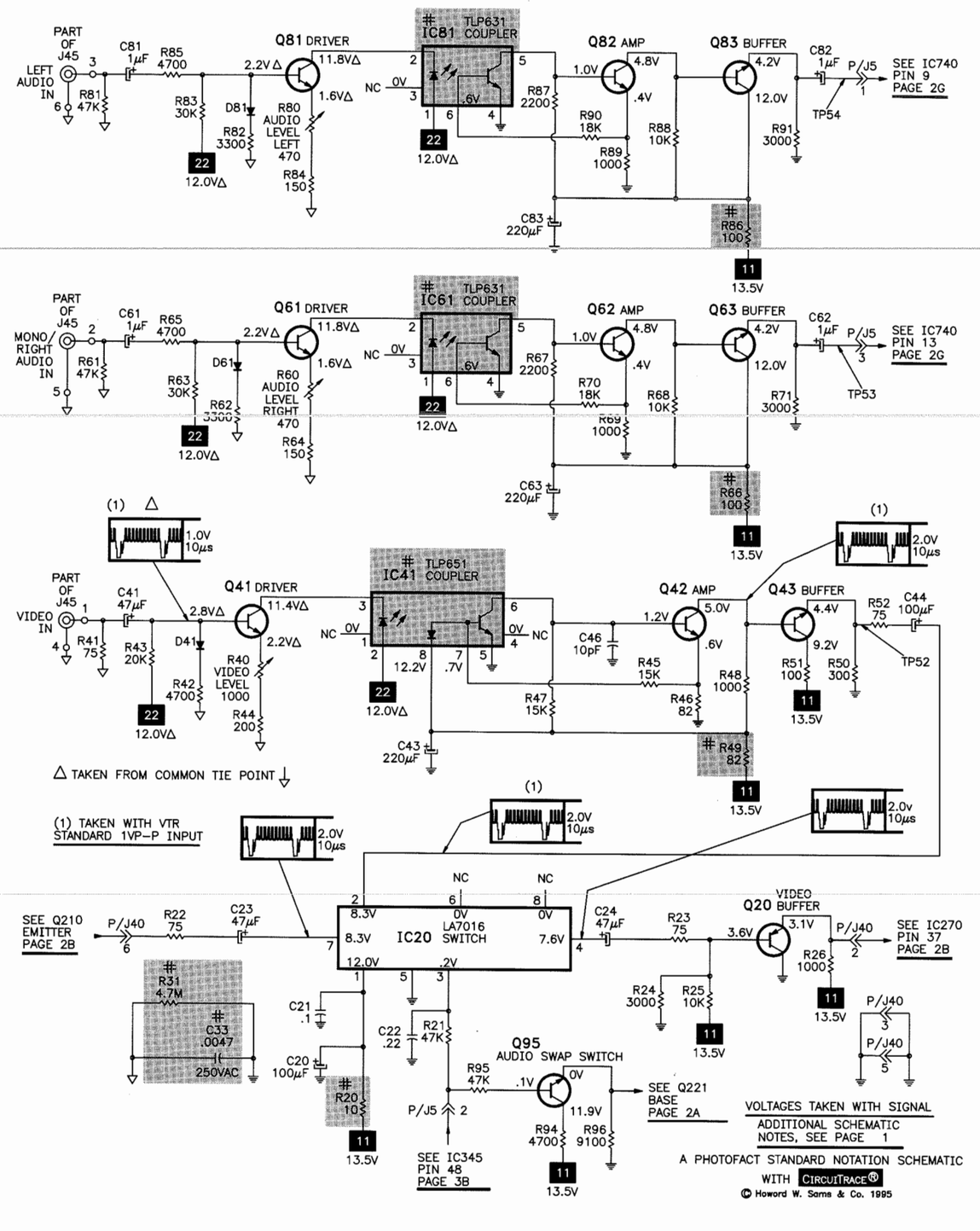
C706	B-10	R722	A-10
C709	B-7	R723	A-11
C714	D-7	R724	B-11
C715	E-7	R725	B-9
C717	C-7	R730	E-5
C748	C-12	R731	C-6
C749	D-12	R732	D-6
C761	C-13	R733	C-5
Q703	B-11	R734	C-5
R700	D-8	R741	B-12
R701	C-11	R742	B-13
R702	D-7	R743	B-12
R703	B-5	R744	A-12
R705	D-5	R746	A-13
R706	D-5	R747	E-10
R707	D-6	R748	E-10
R709	C-6	R749	A-13
R710	B-6	R750	C-11
R711	B-6	R751	B-11
R713	B-6	R752	C-12
R714	B-9	R753	B-11
R716	B-7	R754	D-12
R717	D-7	R755	C-11
R719	E-7	R756	C-13
R720	E-7	R757	F-13
R721	A-9	Z700	C-7

A HOWARD W. SAMS GRIDTRACE™ PHOTO

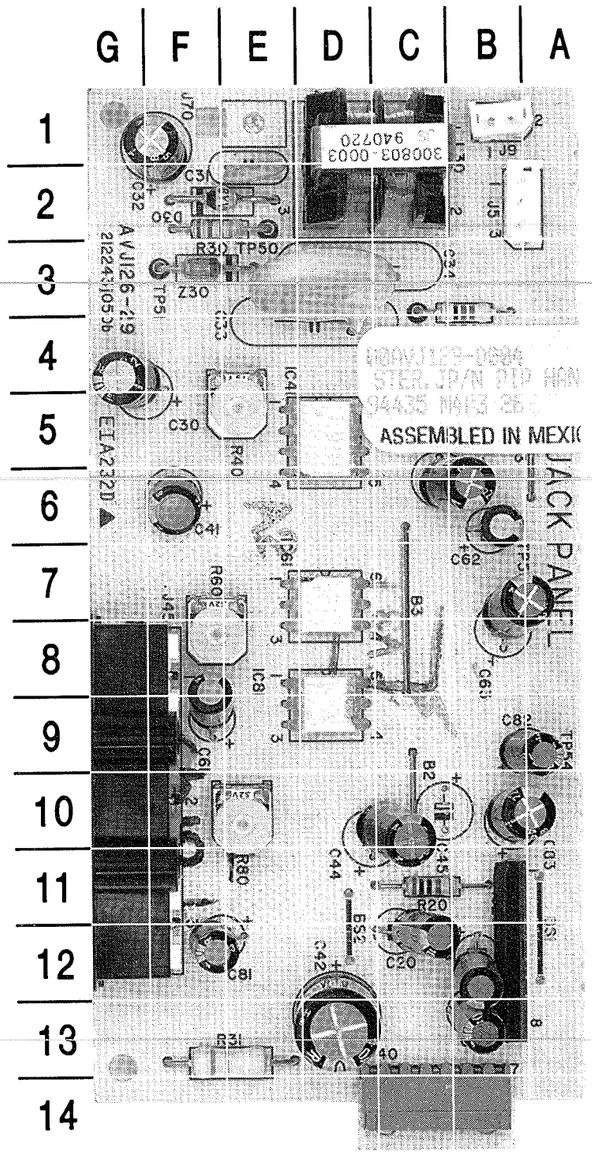
C
SYSTEM CONTROL SCHEMATIC continued



D
AUDIO / VIDEO SWITCHING SCHEMATIC



AUDIO / VIDEO JACK PANEL BOARD, TOP VIEW

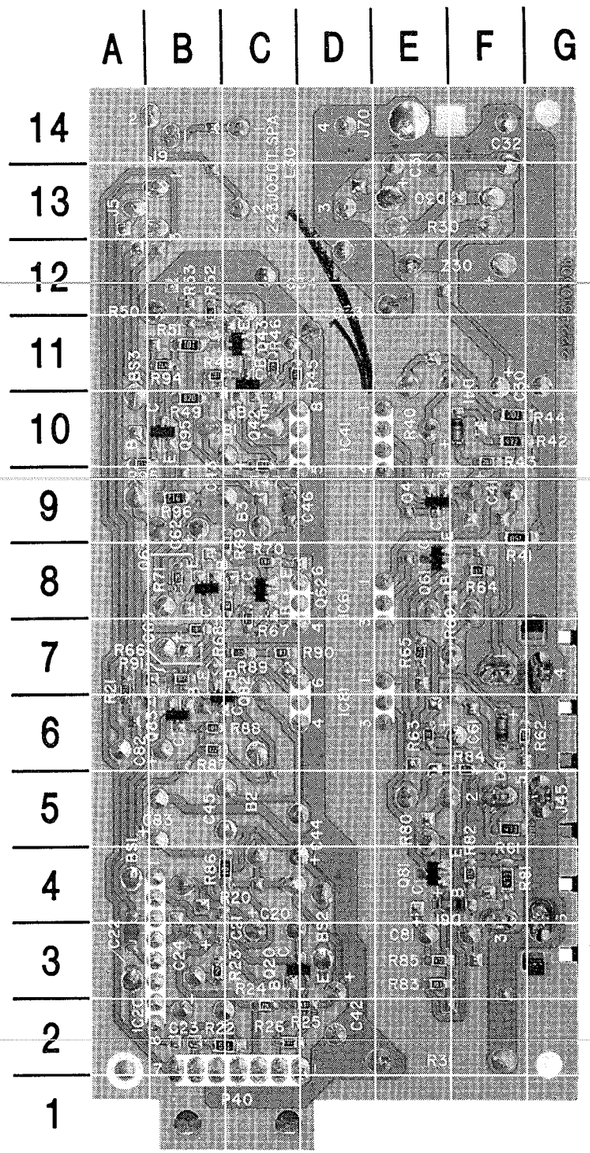


AUDIO / VIDEO JACK PANEL BOARD - TOP VIEW, GRIDTRACE LOCATION GUIDE

C20	C-12	IC41	E-5
C23	B-13	IC61	E-7
C24	B-12	IC81	E-8
C30	G-4	J5	A-2
C31	E-2	J9	B-1
C32	F-1	J45	G-8
C33	D-3	L30	C-1
C41	F-6	P40	C-14
C42	D-13	R20	C-11
C43	B-6	R30	F-2
C44	C-10	R31	E-13
C61	F-9	R40	E-5
C62	B-6	R50	B-3
C63	A-7	R60	F-8
C81	F-12	R80	E-10
C82	A-9	TP52	C-3
C83	A-10	TP53	B-6
D30	F-2	TP54	A-9
IC20	B-11	Z30	F-3

A HOWARD W. SAMS GRIDTRACE™ PHOTO

AUDIO / VIDEO JACK PANEL BOARD, BOTTOM VIEW



AUDIO / VIDEO JACK PANEL BOARD - BOTTOM VIEW, GRIDTRACE LOCATION GUIDE

C21	B-3	R48	B-11
C22	A-3	R49	B-10
C46	C-9	R51	B-11
D41	F-10	R52	B-12
D61	F-6	R61	F-5
D81	F-4	R62	F-6
Q20	C-3	R63	E-6
Q41	E-9	R64	F-8
Q42	C-11	R65	E-7
Q43	C-11	R66	B-7
Q61	E-8	R67	C-8
Q62	C-8	R68	C-8
Q63	B-8	R69	B-8
Q81	E-4	R70	B-8
Q82	B-6	R71	B-8
Q83	B-6	R81	F-4
Q95	B-10	R82	F-4
R21	A-7	R83	E-3
R22	B-2	R84	F-6
R23	B-3	R85	E-3
R24	C-2	R86	B-4
R25	C-2	R87	B-6
R26	C-2	R88	B-6
R41	F-9	R89	C-7
R42	F-10	R90	C-7
R43	F-10	R91	B-7
R44	F-10	R94	B-11
R45	C-11	R95	A-10
R46	C-11	R96	B-9
R47	C-9		

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