

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 ground and CRT anode lead. DO NOT lift the CRT by the neck. Always wear shatterproof goggles when handling the CRT to protect eyes in case of implosion.

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

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

GENERAL GUIDELINES

Perform a final SAFETY CHECK before returning receiver to customer. Check repaired area for poorly soldered connections, and check entire circuit board for solder splashes. Check 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.

HORIZONTAL OSCILLATOR DISABLE TEST

Connect a variable DC power supply to the cathode of D531 and ground. Start low and increase the DC voltage. The horizontal should lose sync when the DC voltage reaches about 26.8V. If the horizontal fails to lose sync, the horizontal oscillator disable circuit should be repaired.

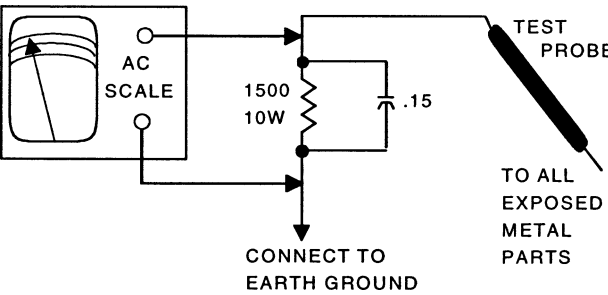
SAFETY CHECKS — FIRE AND SHOCK HAZARD

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.



The listing of any available replacement part herein in no case constitutes a recommendation, warranty, or guarantee by SAMS Technical Publishing as to the quality and suitability of such replacement part. The numbers of the listed parts have been compiled from information furnished to SAMS Technical Publishing by the manufacturers of the specific type of replacement part listed.

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SET 4619

MODEL CT-36SF37B (CHASSIS DP322)

PANASONIC

PHOTOFACT[®] Technical Service Data
SILVER

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PANASONIC
Model CT-36SF37B (Chassis DP322)



Representative Model

Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models and chassis:

Models	Chassis
CT-32SF37B	DP319
CT-32XF37CB	DP319
CT-36XF37CB	DP322



AUGUST 2002 SET 4619

For Supplier Address,
See PHOTOFACT Annual Index

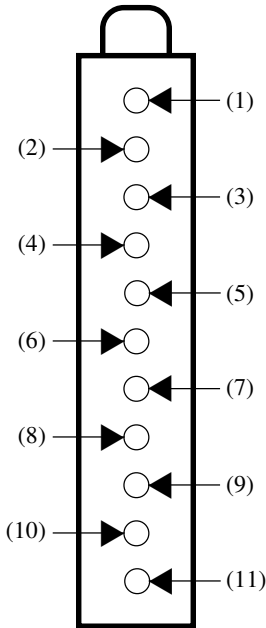
TUNER INFORMATION

MAIN TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	4.6V	5.8V	4.8V
(2) TU	1.2V	4.3V	5.1V
(3) ADD	0V	0V	0V
(4) SCL	4.3V	4.3V	4.3V
(5) SDA	4.3V	4.3V	4.3V
(6) BM	0V	0V	0V
(7) BPL	5.0V	5.0V	5.0V
(8) NC	0V	0V	0V
(9) BTL	4.3V	7.4V	8.2V
(10) NC	0V	0V	0V
(11) IF1	0V	0V	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

MAIN TUNER TERMINAL GUIDE

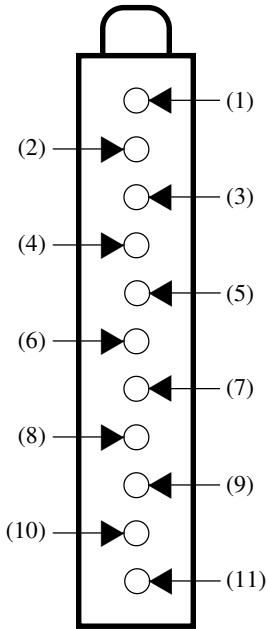


PIP TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	4.6V	5.4V	4.8V
(2) TU	1.1V	4.3V	5.0V
(3) ADD	5.0V	5.0V	5.0V
(4) SCL	4.3V	4.3V	4.3V
(5) SDA	4.3V	4.3V	4.3V
(6) BM	0V	0V	0V
(7) BPL	5.0V	5.0V	5.0V
(8) NC	0V	0V	0V
(9) BTL	4.2V	7.3V	8.1V
(10) NC	0V	0V	0V
(11) IF1	0V	0V	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

PIP TUNER TERMINAL GUIDE



MISCELLANEOUS ADJUSTMENTS

NOTE: This receiver employs digital customer controls. All adjustments are at normalized position unless otherwise indicated.

B+ CHECK

Connect a digital DC voltmeter to P2 of T801 and the common tie point. Set brightness and picture to minimum. With AC line voltage set to 120VAC, B+ should read 140V ± 2.0V.

HIGH VOLTAGE CHECK

Tune in a picture. Connect a high voltage probe to CRT anode. High voltage should read between 30kV to 32kV.

VIDEO LEVEL

NOTE: Do not adjust unless R115 has been replaced or misadjusted.

Tune in a color bar pattern with 100 IRE white and 87.5% modulation. Connect oscilloscope to pin 6 of connector A21. Adjust R115 for 1.0Vp-p ± .1Vp-p. Perform sub contrast (B03) adjustment, refer to the Sub Adjustments section of Miscellaneous Adjustments.

PURITY CHECK

Enter serviceman mode. Ensure that the red CHK is on the screen and press the recall button on the remote transmitter to enter purity check mode. Press recall button to display desired screen color. Repeatedly pressing the recall button will cycle the screen color from normal to white, to red, to green, to blue, and then back to normal.

PURITY

Operate the receiver for 60 minutes with the brightness control at maximum to allow CRT temperature to stabilize. Use a degaussing coil to demagnetize the CRT. Perform the Purity Check procedure. Select a green screen. Loosen the deflection yoke and move it back as far as possible. Move the purity tabs to center the vertical green band. Slowly slide the deflection yoke forward until a uniform green screen is obtained. Check purity adjustment for blue, white, and red screens.

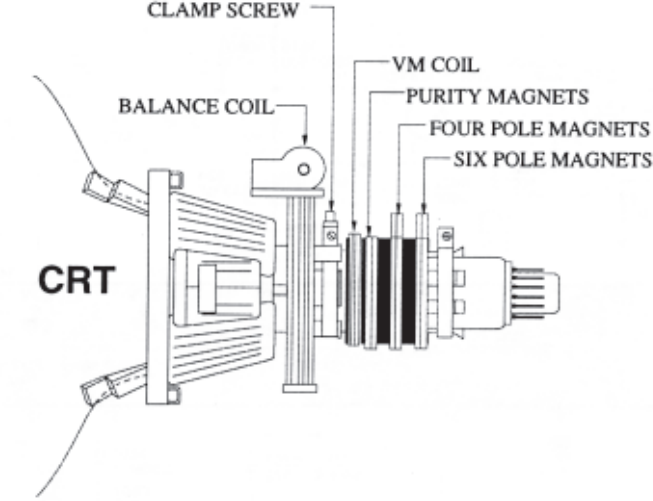
CONVERGENCE

Connect a signal generator to antenna terminals and tune in a dot pattern. Adjust the 4-pole magnets to converge the red and blue dots at the center of the screen. Adjust the 6-pole magnets to converge the red/blue dots over the green dots at the center of the screen.

NOTE: 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. Since the 4 and 6-pole magnets interact, repeat the 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 left and right sides of the screen. Tilt the deflection yoke left or right to converge the horizontal lines at the top and bottom of the screen and the vertical lines at the left and right sides of the screen. Adjust the balance coil to correct misconvergence of red and blue horizontal lines at the right and left sides of the screen. Repeat convergence procedure if necessary to obtain the best overall convergence. Replace rubber wedges. To obtain the best corner convergence it may be necessary to order the permalloy convergence corrector strip (Part No. 0FMK014ZZ). Place strip between CRT and yoke in area needing correction. Move and or rotate the strip until the best correction is obtained. Use tape in addition to the adhesive strip to secure it to the CRT.

CRT NECK ASSEMBLY



ENTERING SERVICEMAN MODE

Turn on receiver and momentarily short pins 3 and 8 of connector TP. The letters CHK will appear in yellow on the upper right of the screen, volume up and down will adjust rapidly. Press the action button and volume up button on P board simultaneously. The receiver will enter the serviceman mode, the letters CHK will turn red, the volume up and down buttons will adjust normally and all customer controls are set to normal. Press power button on remote to select one of seven service modes.

B = Sub Adjustments
C = White Balance Adjustments
D = Pincushion Adjustments
P = PIP Adjustments
S = Options Adjustments
Y = Y Adjustments
CHK = Normal operation of channel and volume buttons

NOTE : In all charts the default level is shown for 36" model with default level for 32" model shown in (). The on set level is shown for the 36" model.

SERVICEMAN MODE QUICK ENTRY

From the on screen menu, select the setup icon and select cable mode. Select the timer icon and set sleep timer to 30. Press the action button twice. Press the volume down button. Tune to channel 124. Adjust the volume to minimum. Press the receiver volume down button. The set will enter the serviceman mode and the red letters CHK will appear on the screen.

EXIT SERVICEMAN MODE

Press action and power buttons simultaneously and hold for approximately 2 seconds to exit serviceman mode. The receiver will shutoff then come back on channel 3 with audio.

MISCELLANEOUS ADJUSTMENTS continued

SUB ADJUSTMENTS

Write down original levels in detail before making any adjustments in case a misadjustment occurs. Always exit serviceman mode after making adjustments.

Enter serviceman mode and select service mode B. Press channel up and down buttons on remote to select adjustment. Press volume up and down buttons on remote to change level of adjustment.

Sub Adjustments Chart

Sub Adjustments	Range	Default Level	On Set Level
Sub Color (B00)	0-63	19 (27)	18
Sub Tint (B01)	0-63	34 (31)	27
Sub Brightness (B02)	0-192	97 (96)	104
Sub Contrast (B03)	0-63	34 (30)	36
RF AGC (B04)	0-255	130 (133)	133
Sub Brightness For AI (B05)	0-192	100 (92)	107
VCJ Sharpness (B06)	0-127	5 (5)	5
Sub Color AI on (B07)	0-15	5 (5)	5
Sub Tint Video (B08)	0-15	5 (5)	5

Check menu with audio on channel 3.

Sub Tint (B01) and Sub Color (B00)

Normalize picture settings, set brightness to minimum, set auto color to off position. Connect jumpers between TPD2 and ground. Connect jumpers between TP82 and ground. Record original levels of C00, C01, C02, C05, C06, S01, and S02, then set as follows:

C00	2 020	C06	127
C01	128	S01	0
C02	2 020	S02	0
C05	127		

Tune in a color bar pattern. Connect oscilloscope to pin 5 of connector C01. Adjust B02 for minimum saturation. Adjust B00 for 2.4Vp-p ±.05Vp-p. Adjust B01 so that peak 2 of the waveform is halfway between peaks 3 and 4. Record waveform voltage. Connect oscilloscope to pin 3 of connector C01. Adjust S06 so that voltage of waveform is equal to voltage recorded at pin 5 of connector C01 times 1.1V. Connect oscilloscope to pin 5 of connector C01. Adjust B01 so that peak 2 is halfway between peaks 3 and 4. Connect oscilloscope to pin 4 of connector C01. Adjust B00 for .9Vp-p ±.02Vp-p. Remove jumpers. Set S01 to 7 and S02 to 15. Ensure that color phase and saturation are normal.

Sub Brightness (B02)

This adjustment must be made after Sub Contrast or Color Temperature adjustments are made. DO NOT adjust Screen after sub brightness is set. Tune in a color bar signal with 100 IRE white and 7.5 IRE black. Switch generator color to off. Adjust B02 until the black bar starts to turn gray, then decrease adjustment until bar just turns black.

Sub Contrast (B03)

NOTE: This adjustment is factory set, DO NOT adjust unless repairs are made to associated circuits, CRT board, or CRT is replaced.

Tune in a pattern with 87.5% modulation, 70% saturated color bar with 100 IRE white and 7.5 black. Set picture to maximum, color and brightness to minimum, and sharpness to center. Set video NR to off. Record levels of B02, S01, and S02 and set levels to 0. Connect a jumper from TP82 to ground. Connect a jumper from TPD2 to ground. Connect oscilloscope to pin 4 of connector C01. Adjust B3 for 2.8Vp-p ±.1Vp-p from white to black level. Do not include sync tip in measurement. Return B02, S01, and S02 to recorded levels. Perform Sub Brightness (B02) adjustment.

RF AGC (B04)

Tune in a picture. Adjust B04 until snow appears in picture, then back until snow disappears.

WHITE BALANCE ADJUSTMENTS

Write down original values in detail before making any adjustments in case a misadjustment occurs. Always exit serviceman mode after making adjustments.

Enter serviceman mode and select service mode C. Press channel up and down buttons on remote to select adjustment. Press volume up and down buttons on remote to change level of adjustment.

White Balance Adjustments Chart

White Balance Adjustments	Range	Default Level	On Set Level
Red Cutoff (C00)	0-1 0-255	1 118 (2 72)	1 115
Green Cutoff (C01)	0-255	113 (122)	118
Blue Cutoff (C02)	0-1 0-255	1 77 (2 80)	1 80
User Brightness (C03)	0-63	31 (31)	31
Sub Brightness (C04)	0-194	97 (96)	104
Red Drive (C05)	0-255	101 (87)	86
Blue Drive (C06)	0-255	110 (99)	94
Red Drive Offset - Cool (C07)	0-63	12 (12)	12
Blue Drive Offset - Cool (C08)	0-63	12 (12)	12
Red Drive Offset - Warm (C09)	0-63	20 (20)	20
Blue Drive Offset - Warm (C0A)	0-63	12 (12)	12

NOTE: C03 adjustment and the brightness adjustment in the picture adjustment menu of the on screen menu are the same adjustment. C04 and B02 are the same adjustment.

Color Temperature (C00, C01, C02, C05, C06)

Tune in a white raster and allow 10 to 30 minutes warm-up time. Adjust C00, C01, and C02 for a white raster. Adjust C05 and C06 for warm white. Adjust C03 from low scale to high scale and check black and white tracking. Make needed adjustments to C00, C01, C02, C05, and C06. Perform Sub Brightness (B02) adjustment.

PINCUSHION ADJUSTMENTS

Write down original values in detail before making any adjustments in case a misadjustment occurs. Always exit serviceman mode after making adjustments.

Enter serviceman mode and select service mode D. Press channel up and down buttons on remote to select adjustment. Press volume up and down buttons on remote to change level of adjustment.

Pincushion Adjustments Chart

Pincushion Adjustments	Range	Default Level	On Set Level
Vertical Size (D00)	0-127	58 (73)	59
Vertical Linearity (D01)	0-63	39 (38)	42
S Compensation (D02)	0-63	11 (11)	11
Horizontal Size (D03)	0-63	41 (43)	40
Horizontal Centering (D04)	0-31	15 (14)	15
E-W Parabola (D05)	0-63	31 (31)	30
Trapezoid Compensation (D06)	0-63	37 (37)	32
E-W Corner 2 (D07)	0-15	5 (4)	9
E-W Corner 1 (D08)	0-15	6 (0)	5
Vertical EHT (D09)	0-15	8 (8)	8
Horizontal EHT (D0A)	0-15	8 (8)	8
Vertical Position (D0B)	0-63	20 (13)	32

Vertical Linearity (D01)

Tune in a crosshatch pattern. Adjust D01 so that boxes at top and bottom of screen are the same proportion.

Vertical Size (D00) and S Compensation (D02)

Tune in a crosshatch pattern. Adjust D00 for 1/2 inch overscan at top and bottom of screen. Adjust D02 so that the top and bottom boxes are the same proportion as the center boxes.

Horizontal Size (D03)

Tune in a crosshatch pattern. Adjust D03 so that the picture is just at the left and right edge of the screen and then increase the level by 3 digits.

Horizontal Centering (D04)

Tune in a crosshatch pattern. Adjust D04 so that pattern is centered.

E-W Pincushion Correction (D05, D07, D08)

Tune in a crosshatch pattern. Normalize picture settings. Set auto color to off. Adjust D05 for straight vertical lines at left and right side of screen. Adjust D07 for straight vertical lines at top of screen. Adjust D08 for straight vertical lines at bottom of screen.

Trapezoid Compensation (D06)

Tune in a crosshatch pattern. Adjust D06 so vertical lines are perpendicular to horizontal lines.

Vertical DC and Dynamic Range Confirmation (D0B)

Connect digital voltmeter to pin 2 of connector DY. Connect oscilloscope to pin 3 of connector DY. Tune in a monoscope pattern. Adjust D0B for 13.0V ±.1V with no distortion at top and bottom of vertical waveform. Remove jumper.

PIP ADJUSTMENTS

NOTE: Adjustment of PIP adjustments not listed is not recommended.

Write down original values in detail before making any adjustments in case a misadjustment occurs. Always exit serviceman mode after making adjustments.

Enter serviceman mode and select service mode P. Press channel up and down buttons on remote to select adjustment. Press volume up and down buttons on remote to change level of adjustment

PIP Adjustments Chart

PIP Adjustments	Range	Default Level	On Set Level
PIP Color (P00)	0-127	92 (92)	92
PIP Tint (P01)	0-255	54 (54)	54
PIP Brightness (P02)	0-31	22 (22)	22
PIP Contrast (P03)	0-127	69 (79)	58
PIP Position 1/9 Upper (P04)	0-255	26 (26)	26
PIP Position 1/9 Lower (P05)	0-255	143 (143)	143
PIP Position 1/9 Left (P06)	0-255	10 (10)	10
PIP Position 1/9 Right (P07)	0-255	101 (101)	101
PIP Position 1/16 Upper (P08)	0-255	26 (26)	26
PIP Position 1/16 Lower (P09)	0-255	160 (160)	160
PIP Position 1/16 Left (P0A)	0-255	10 (10)	10
PIP Position 1/16 Right (P0B)	0-255	116 (116)	116
PIP Freerun (P0C)	0	0 (0)	0
PIP Y Delay (P0D)	0-15	4 (4)	4

PIP COLOR, TINT, BRIGHTNESS, AND CONTRAST (P00 thru P03)

Tune in a color bar pattern on the PIP and main picture. Adjust P00 to match the PIP color with the main picture color. Adjust P01 to match the PIP tint with the main picture tint. Adjust P02 to match the PIP brightness with the main picture brightness. Adjust P03 to match the PIP contrast with the main picture contrast.

OPTIONS ADJUSTMENTS

NOTE: Adjustment of options adjustments not listed is not recommended.

Write down original values in detail before making any adjustments in case a misadjustment occurs. Always exit serviceman mode after making adjustments.

Enter serviceman mode and select service mode S. Press channel up and down buttons on remote to select adjustment. Press volume up and down buttons on remote to change level of adjustment.

Options Adjustments Chart

Options Adjustments	Range	Default Level	On Set Level
Pre & Overshoot (S00)	0-7	3 (3)	3
Black Expansion (S01)	0-15	4 (4)	4
White Gamma Level (S02)	0-15	15 (15)	15
White Gamma Gain (S03)	0-15	15 (15)	15
Small Gamma Level (S04)	0-15	7 (7)	7
Demodulation Angle (S05)	0-31	12 (12)	12
Demodulation Gain (S06)	0-63	28 (24)	26
G-Y Ratio (S07)	0-3	1 (1)	1
White Letter Compensation (S08)	0-15	4 (4)	4
White Letter Slice Voltage (S09)	0-15	5 (5)	5
Switches TV (S0A)	0-255	36 (36)	36
Switches Video (S0B)	0-255	36 (36)	36
Gradient of Contrast (S0C)	0-255	90 (90)	90
Stereo Input Level (S0D)	0-63	35 (44)	45
Stereo PLL VCO (S0E)	0-63	40 (20)	30
Stereo Filter (S0F)	0-63	23 (26)	28
Low Frequency Separation (S10)	0-63	37 (37)	41
High Frequency Separation (S11)	0-63	25 (27)	23
Clock Adjustment (S12)	0-255	117 (119)	121
S-Cutoff Red (S13)	0-28	14 (14)	14
S-Cutoff Blue (S14)	0-28	14 (14)	14
Loudness (S15)	0-15	7 (7)	7
Closed Caption Digital Filter (S16)	0,1	1 (1)	1
Closed Caption Scroll (S17)	0-2	1 (1)	1
Spatializer Effect (S18)	0-63	25 (25)	25

Stereo PLL VCO (S0E)

Tune in a stereo signal. Connect a frequency counter to pin 25 of IC2201, adjust S0E level to obtain 15.534kHz ± 50Hz.

Stereo Filter (S0F)

Tune in a stereo signal. On generator select 1kHz audio frequency, and L-R modulating signal. Connect a scope to pin 26 of IC2201, adjust S0F for minimum amplitude on the scope.

Frequency Separation (S10 & S11)

On generator select pilot, 1kHz audio frequency, and right modulating signal. Connect an oscilloscope to pin 26 of IC2201. Adjust S10 for minimum amplitude of waveform. On generator select 8kHz audio frequency. Adjust S11 for minimum amplitude of waveform.

Stereo Input Level (S0D)

On generator select pilot, 1kHz audio frequency, and L-R modulating signal. Connect oscilloscope to pin 25 of IC2201 adjust S0D for 900mVp-p.

Clock Adjustment (S12)

Connect a frequency counter to pin 34 of IC001. With AC power applied and receiver off, measure and record the frequency at pin 34 of IC001. Turn receiver on and enter the serviceman mode. Set S12 for the following formula:

S12 = 128 + 1.35 X 1000000 [187.5 - pin 34 (measured in Hz)]

187.5

MISCELLANEOUS ADJUSTMENTS continued

Y ADJUSTMENTS

Write down original values in detail before making any adjustments in case a misadjustment occurs. Always exit serviceman mode after making adjustments.

Enter serviceman mode and select service mode Y. Press channel up and down buttons on remote to select adjustment. Press volume up and down buttons on remote to change level of adjustment.

Y Adjustments Chart

Y Adjustments	Range	Default Level	On Set Level
Sync Separation (Y00)	0-7	4 (4)	4
Sync Separation (Y01)	0-255	24 (24)	24
Sync Separation (Y02)	0-255	44 (44)	44
Sync Separation (Y03)	0-255	12 (12)	12
V Comp Hold Start (Y04)	0-7	2 (2)	2
V Comp Hold End (Y05)	0-15	6 (6)	6
H Clamp Mode Level (Y06)	0-255	64 (64)	64
V Edge Coring Level (Y07)	0-31	22 (22)	22
V Edge Corr Limit Lev (Y08)	0-15	3 (3)	3
3D NStand Level (Y09)	0-15	15 (15)	15
3D Stand Level (Y0A)	0-15	2 (2)	2
1F2F Mdet High Level (Y0B)	0-15	5 (5)	5
1F2F Mdet Low Level (Y0C)	0-15	9 (9)	9
Mdet Set (Y0D)	0-15	12 (12)	12
Mdet Test (Y0E)	0,1	0 (0)	0
V Edge Gain (Y0F)	0-3	1 (3)	1
1F Color MLevel Set (Y10)	0-15	14 (14)	14
1F Color MLevel Set (Y11)	0-15	12 (12)	12
Mdet Set (Y12)	0-15	15 (15)	15
Color MEdge Det Lev (Y13)	0-15	5 (5)	5
1F Mdet Level (Y14)	0-15	8 (8)	8
2F Mdet Level (Y15)	0-15	2 (2)	2
1F Mdet Filter SW (Y16)	0,1	0 (0)	0
1F Mdet Edge Sens (Y17)	0,1	1 (1)	1
1F Mdet Sens (Y18)	0-15	15 (15)	15
1F Mdet High Level (Y19)	0-15	8 (8)	8
1F Mdet Low Level (Y1A)	0-15	4 (4)	4
2F Mdet High Level (Y1B)	0-15	3 (3)	3
2F Mdet Low Level (Y1C)	0-15	1 (1)	1
Mdet Edge Det Level (Y1D)	0-15	7 (7)	7
AI V Sampling start (Y1E)	0-31	4 (4)	4
AI V Sampling stop (Y1F)	0-63	30 (30)	30
AI H Sampling start (Y20)	0-31	5 (5)	5
AI H Sampling stop (Y21)	0-63	22 (22)	22
BGP Position (Y22)	0-255	16 (16)	16
B Exp APL Thresh L (Y23)	0-63	20 (20)	20
Pedestal Comp (Y24)	0-7	3 (3)	3
B Exp APL Calc (Y25)	0-31	6 (6)	6
B Comp Var Limiter (Y26)	0-15	4 (4)	4
Luminance Diff Gain (Y27)	0-3	3 (3)	3
Pseudo Contour Killer (Y28)	0,1	0 (0)	0
B Exp APL Reflection (Y29)	0,1	0 (0)	0
Base Value (Y2A)	0-15	15 (15)	15
B Exp Var Reflection (Y2B)	0-3	2 (2)	2
AntiBloom Threshold (Y2C)	0-63	0 (0)	0
S1 Histogram Limiter (Y2D)	0-63	30 (30)	30
S2 Histogram Limiter (Y2E)	0-63	30 (30)	30
S3 Histogram Limiter (Y2F)	0-63	30 (30)	30
S4 Histogram Limiter (Y30)	0-63	30 (30)	30
Ymin Det Offset (Y31)	0-7	4 (4)	4
Ymin Det Gain (Y32)	0-3	2 (2)	2
Ymin Limiter (Y33)	0-63	42 (42)	42
Ymax Limit Value (Y34)	0-63	39 (39)	39
AI Fleshstone SW (Y35)	0,1	1 (1)	1

Y Adjustments Chart continued

Y Adjustments	Range	Default Level	On Set Level
APL Corr Limiter (Y36)	0-63	10 (10)	10
APL Corr SW Point (Y37)	0-127	37 (37)	37
Col Cont Level L APL (Y38)	0-63	28 (28)	28
Col Cont Gain L APL (Y39)	0-3	0 (0)	0
Col Cont Gain H APL (Y3A)	0-63	54 (54)	54
AI Col Corr Gain (Y3B)	0-3	2 (2)	2
Color Det Gain (Y3C)	0-3	1 (1)	1
Color Det Threshold (Y3D)	0-63	39 (39)	39
DSC Noise Removal (Y3E)	0-63	4 (4)	4
DSC Delay SW (Y3F)	0,1	0 (0)	0
DSC Off SW (Y40)	0,1	0 (0)	0
DSC Limit Level (Y41)	0-255	112 (112)	112
Clip point Edge Corr (Y42)	0-15	8 (8)	8
BPF SW RF (Y43)	0-3	3 (3)	3
BPF SW Video (Y44)	0-3	0 (0)	0
DSC Gain SW big sig (Y45)	0-3	1 (1)	1
DSC Limit SW big sig (Y46)	0-63	12 (12)	12
DSC Gain SW sm sig (Y47)	0-3	1 (1)	1
DSC Limit SW sm sig (Y48)	0-63	24 (24)	24
Edge Corr Gain SW (Y49)	0-15	8 (8)	8
Detail Corr Limit Lev (Y4A)	0-15	8 (8)	8
B corr Gain on Edge (Y4B)	0-3	2 (2)	2
Coring Level on Edge (Y4C)	0-63	8 (8)	8
VM Freq SW (Y4D)	0,1	1 (1)	1
VM Coring Level (Y4E)	0-15	8 (8)	8
VM Limit Level (Y4F)	0-127	67 (67)	67
VM B corr SW (Y50)	0,1	0 (0)	0
Y Delay Adj (Y51)	0-7	3 (3)	3
C Delay Adj RF (Y52)	0-15	6 (6)	6
C Delay Adj Video (Y53)	0-15	6 (6)	6
DCOR Corr COEFFI A (Y54)	0-255	10 (10)	10
DCOR Corr COEFFI B (Y55)	0-255	200 (200)	200
DCOR Corr COEFFI C (Y56)	0-255	100 (100)	100
VMLM Corr COEFFI A (Y57)	0-255	255 (255)	255
VMLM Corr COEFFI B (Y58)	0-255	200 (200)	200
Sharp Offset Level (Y59)	0-127	0 (0)	0
WECOR Thresh s sig (Y5A)	0-255	28 (28)	28
WECOR Thresh w sig (Y5B)	0-255	34 (34)	34
Burst In 16msXn (Y5C)	0-255	6 (6)	6
Burst Out 16msXn (Y5D)	0-255	0 (0)	0
SD Threshold on (Y5E)	0-255	226 (226)	226
SD Threshold off (Y5F)	0-255	226 (226)	226
VP Threshold max (Y60)	0-255	127 (127)	127
VP Threshold min (Y61)	0-255	107 (107)	107
VP (NG—OK) 16msXn (Y62)	0-255	12 (12)	12
VP (OK—NG) 16msXn (Y63)	0-255	12 (12)	12
Std time 16msXn (Y64)	0-255	6 (6)	6
SD (NG—OK) 16msXn (Y65)	0-255	12 (12)	12
SD (OK—NG) 16msXn (Y66)	0-255	12 (12)	12
Freq Avg Quantity (Y67)	0-4	3 (3)	3

SERVICE INFORMATION

CRT PROTECTION

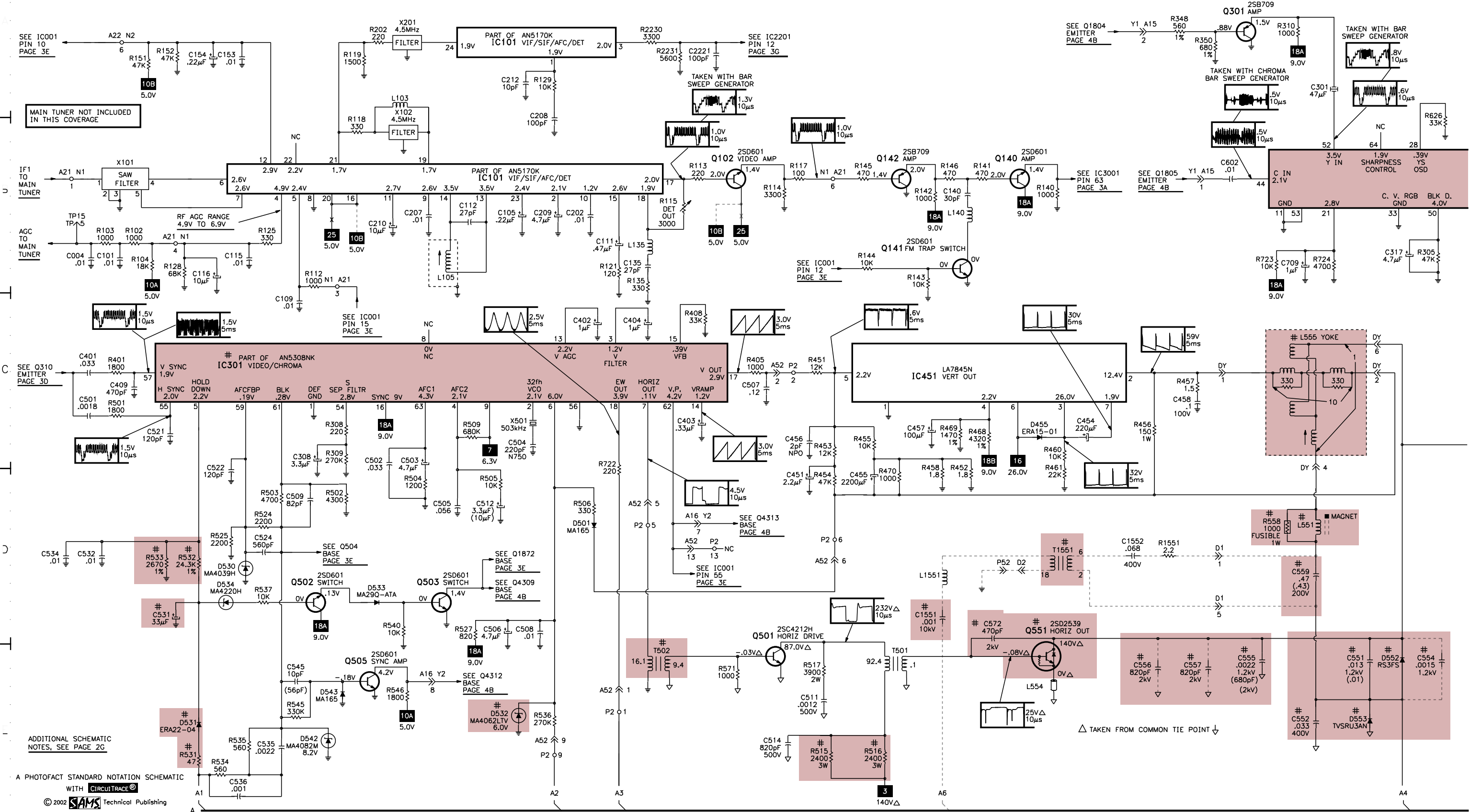
The CRT protection circuit is made up of Q451 and Q452. This circuit blanks out the CRT if vertical deflection failure occurs. It is important for the life of the CRT that this circuit be tested before returning the receiver to the customer. To test, short the base of Q452 to ground. The screen should go blank, if not this circuit needs repair.

TEST EQUIPMENT

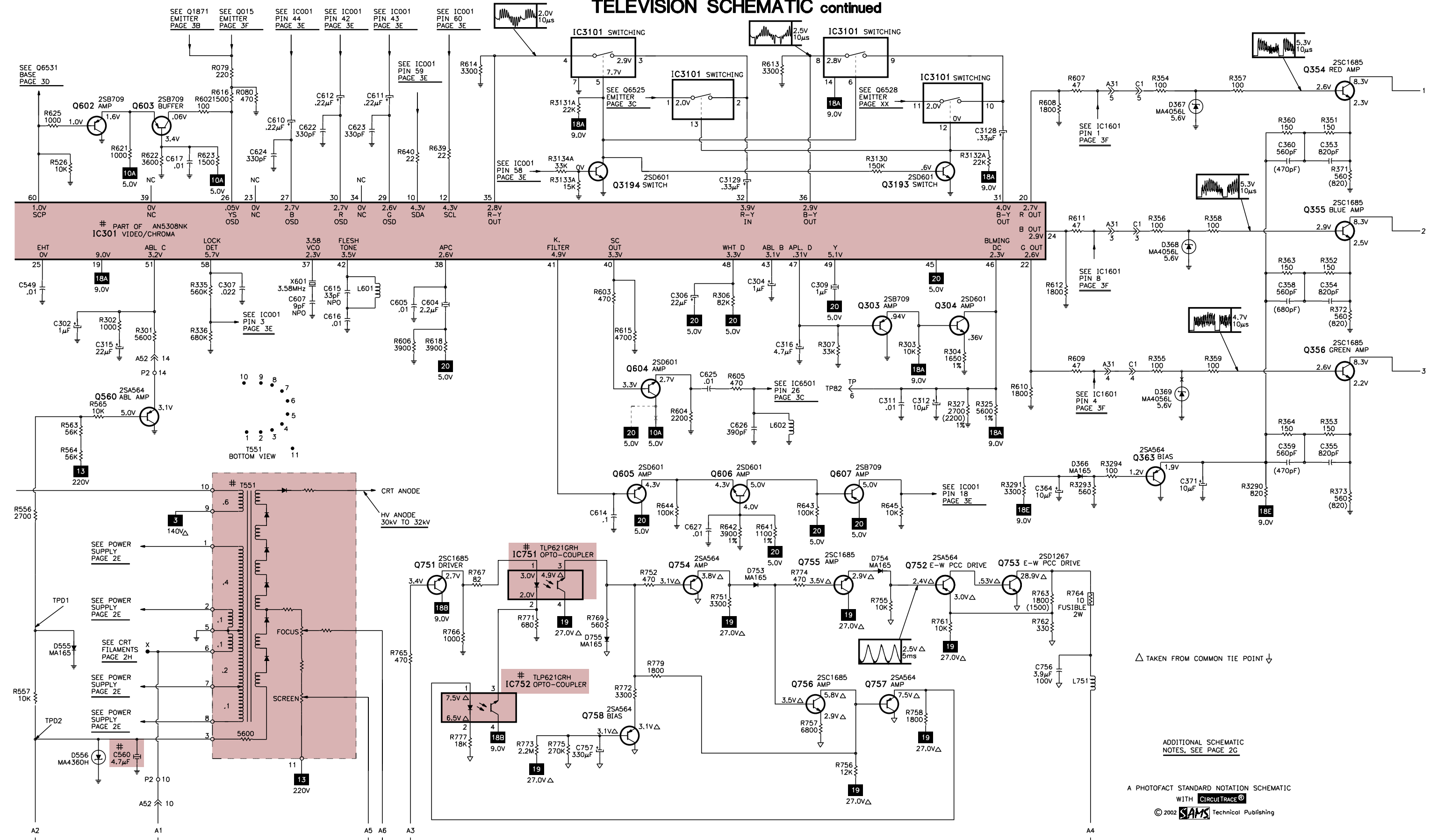
Test equipment listed by participating manufacturer illustrates typical or equivalent equipment used by Sams engineers to obtain measurements. This equipment is compatible with most types used by field service technicians.

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

TELEVISION SCHEMATIC



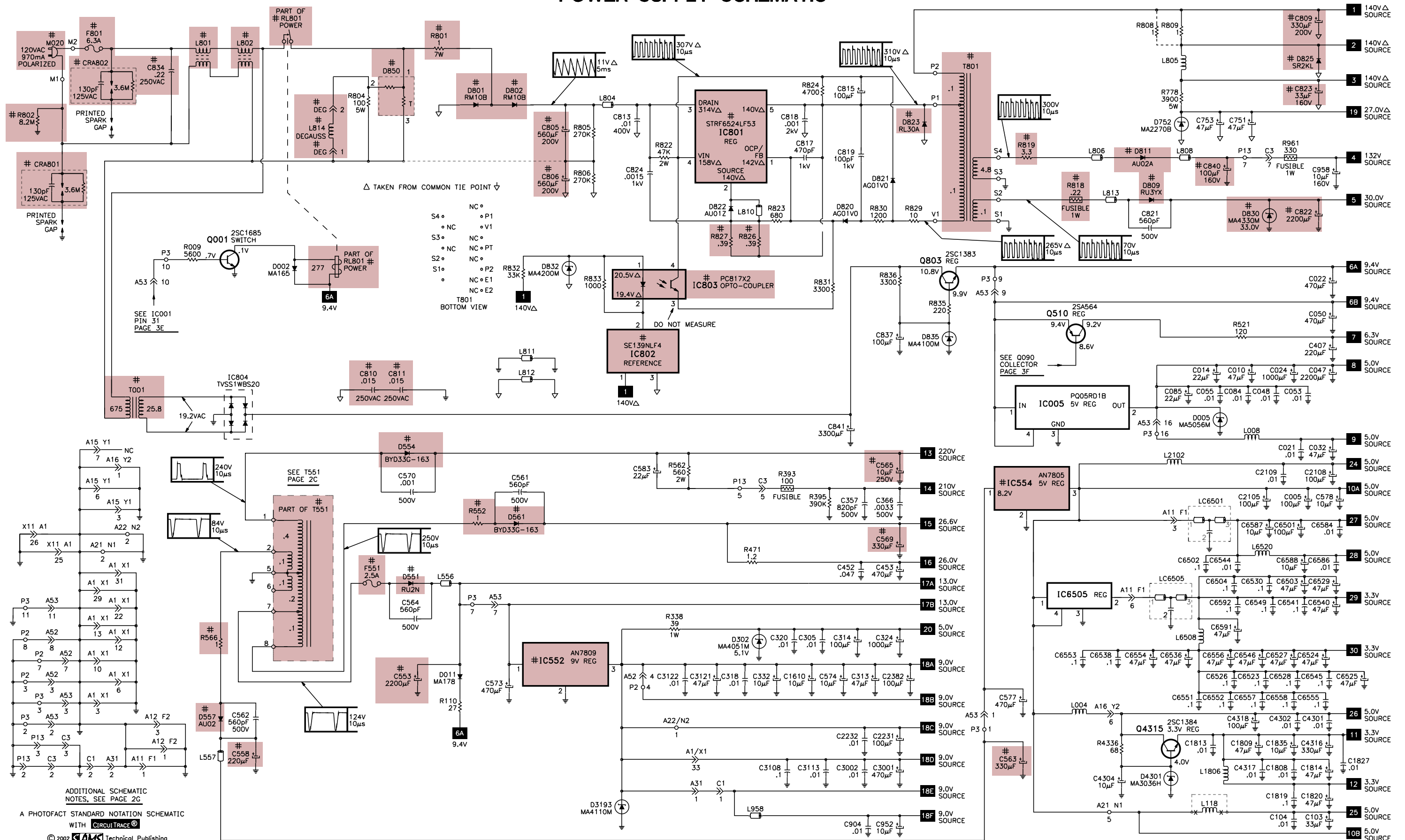
ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2G

TELEVISION SCHEMATIC continued

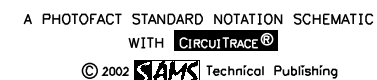
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POWER SUPPLY SCHEMATIC

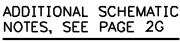
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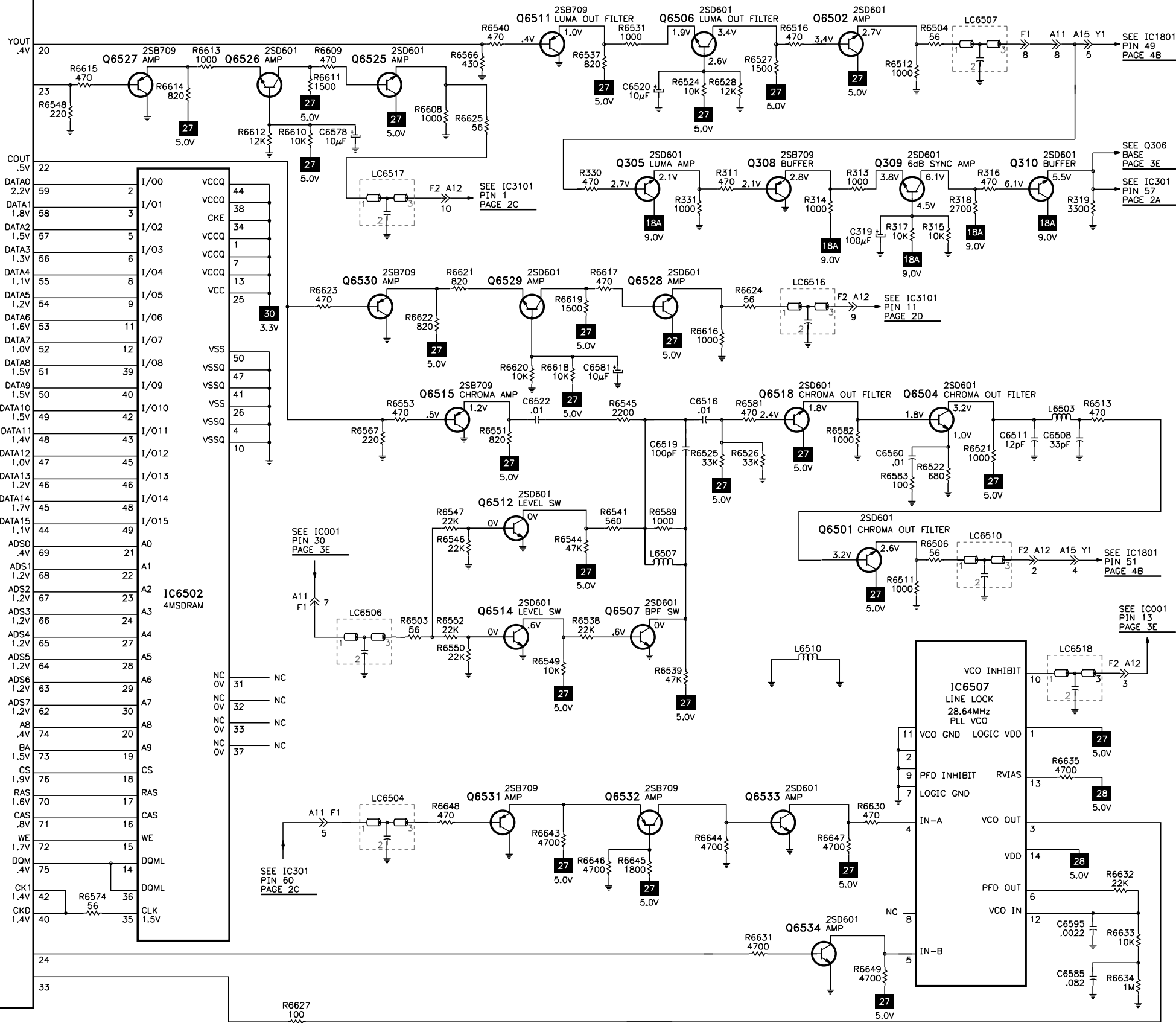
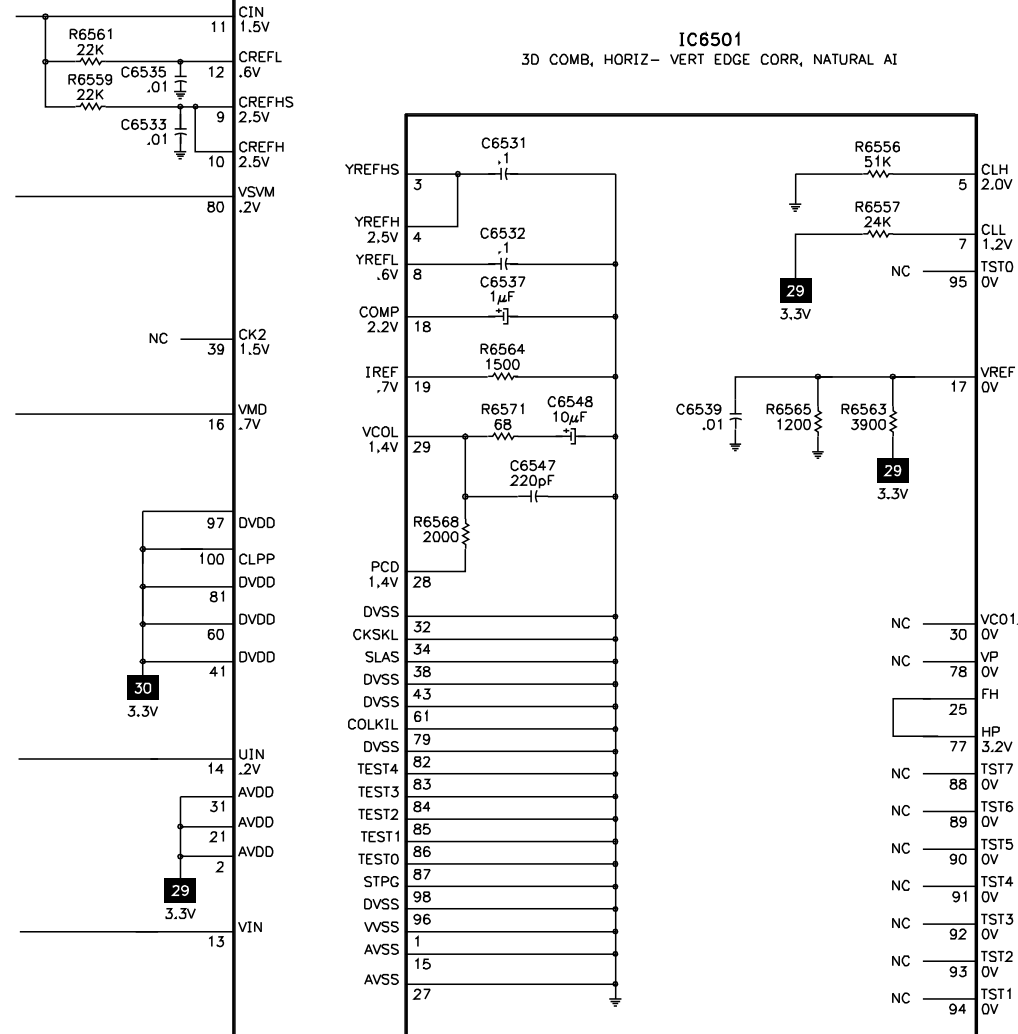
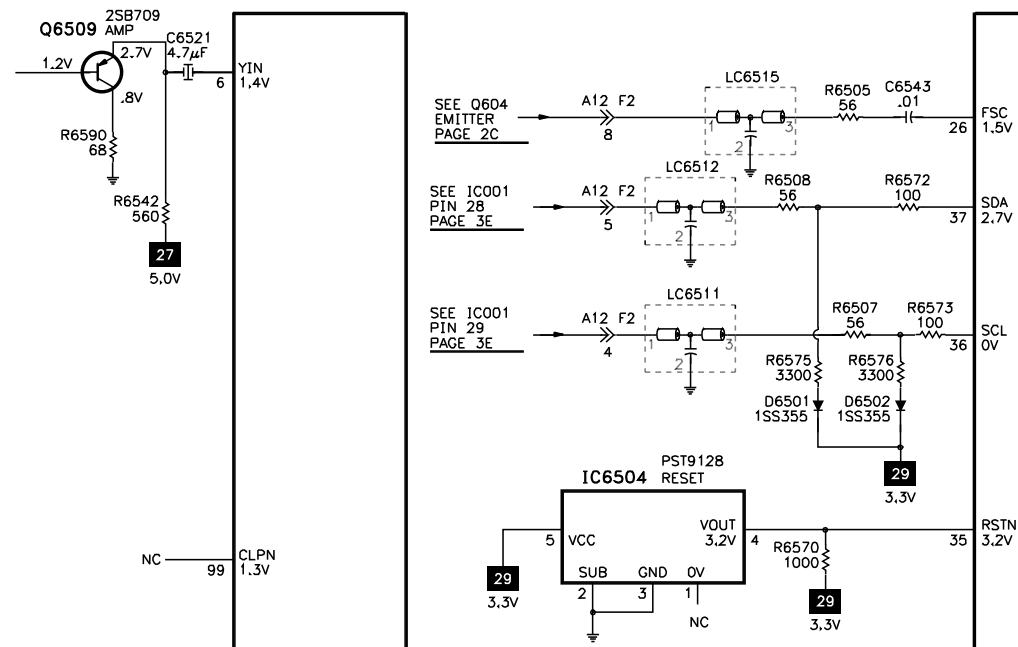
MODEL CT-36SF37B (CHASSIS DP322)



B



COMB FILTER SCHEMATIC continued



ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2G

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE®**

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H



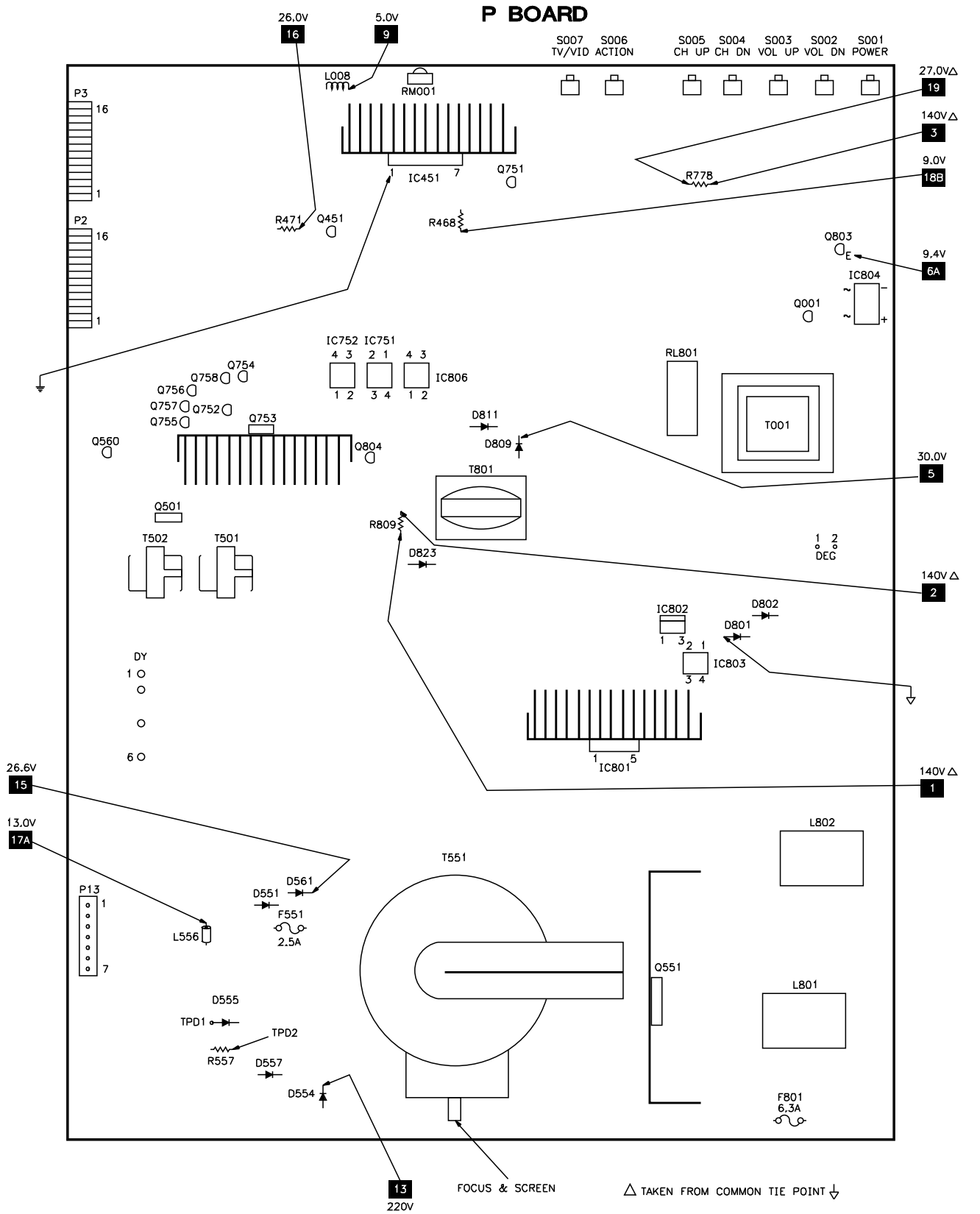


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SCHEMATIC COMPONENT LOCATION GUIDE

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E



Page 4 SET 4619

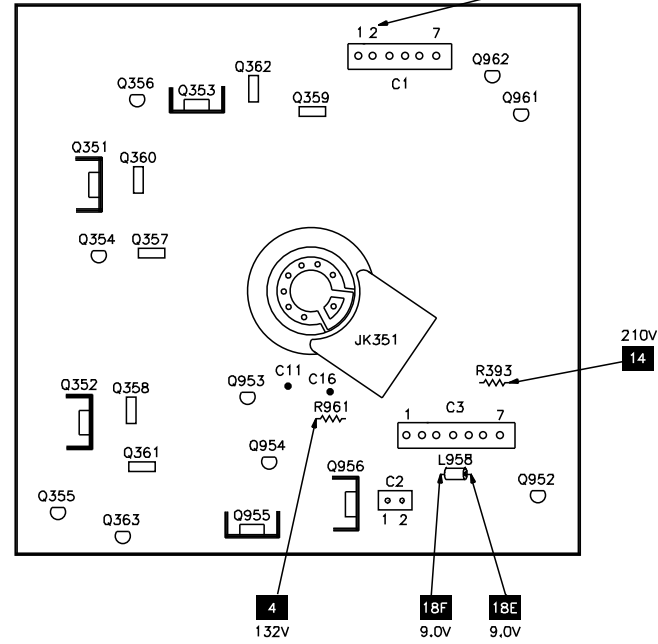
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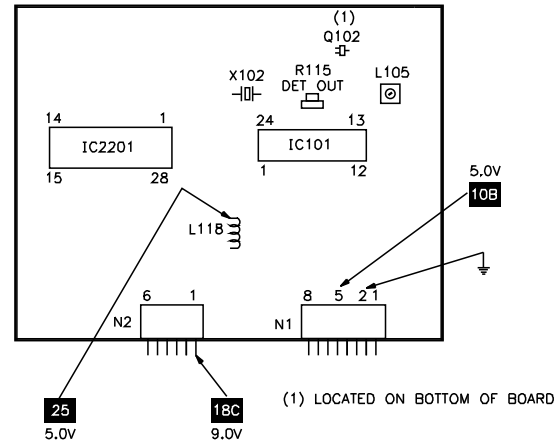
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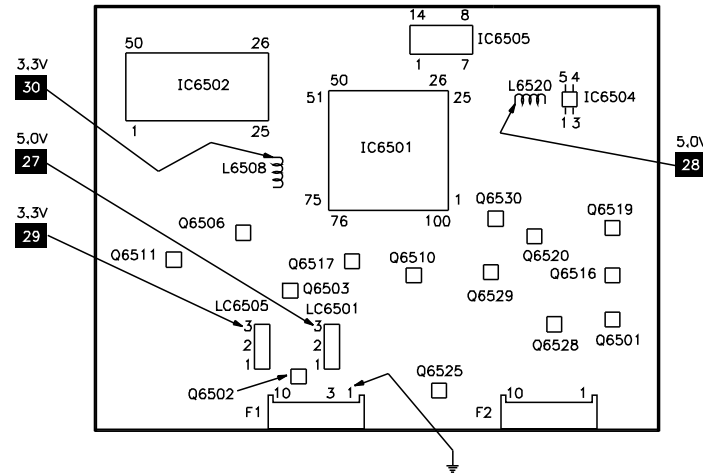
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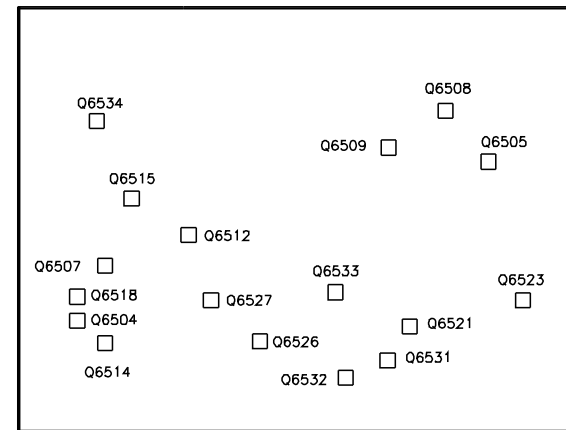
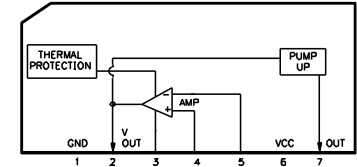
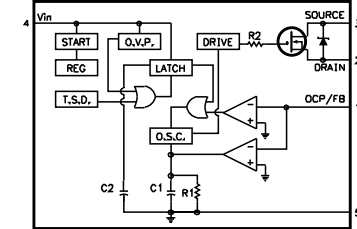
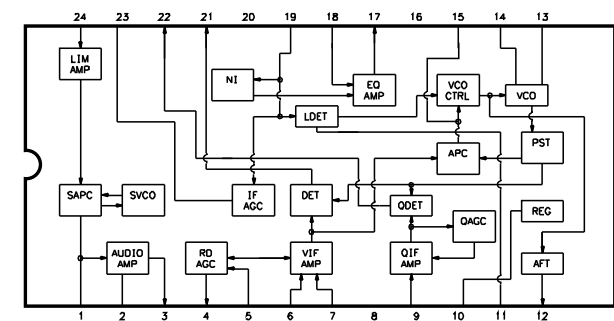
N BOARD



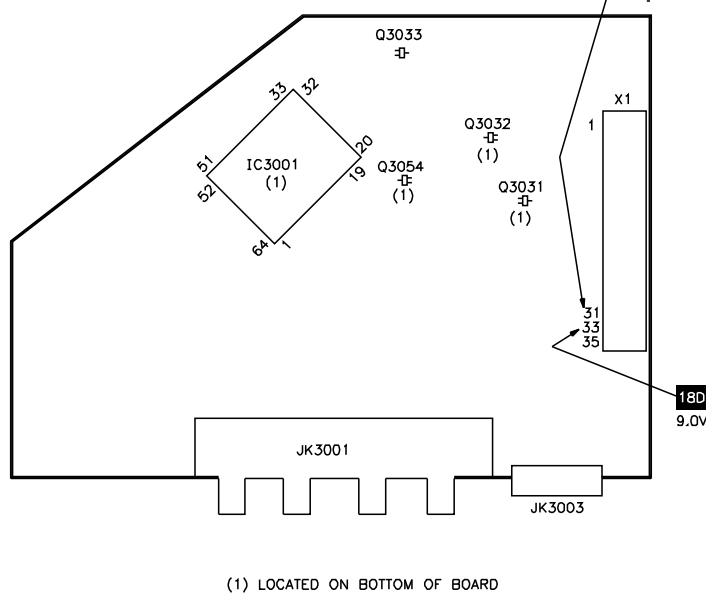
F BOARD - TOP VIEW



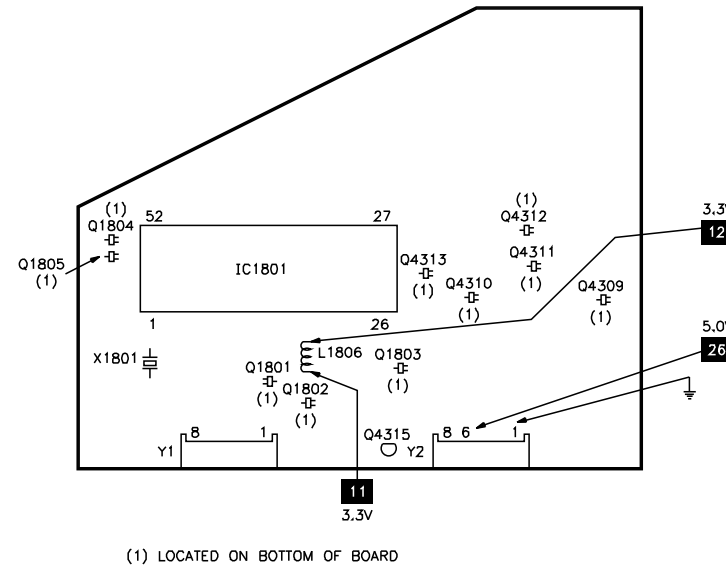
F BOARD - BOTTOM VIEW

IC451
LA7845NIC801
STRF6524LF53IC101, IC2101
AN5170K

X BOARD



Y BOARD



PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.	Item No.	Type No.	Mfr. Part No.	NTE Part No.
D002	-	MA165	NTE519	IC101	-	AN5170K	-
D004	-	MA4330H	-	# IC301	-	AN5308NK	-
D005	-	MA5056M	-	IC451	-	LA7845N	-
D011	-	MA178	NTE519	# IC552	-	AN7809	NTE1910
D097, 98	-	MA165	NTE519	# IC554	-	AN7805	NTE960
D302	-	MA4051M	NTE5010T1	# IC751, 52	-	TLP621GRH	NTE3098
D351 Thru	-			# IC801	-	STRF6524LF53	-
D356	-	MA165	NTE519	# IC802	-	SE139NLF4	-
D361, 62, 64, 66	-	MA165	NTE519	# IC803	-	PC817X2	NTE3098
D367 (1)	-	MA4056H	NTE5011A	IC804	-	TVSS1WBS20	-
D367 (2)	-	MA4056L	-	# IC806	-	PC817X2	NTE3098
D368 (1)	-	MA4056H	NTE5011A	IC1601	-	TC4066BP	NTE4066B
D368 (2)	-	MA4056L	-	IC1801	M65617SP-A	M65617SP	-
D369	-	MA4056L	-	IC2101	-	AN5170K	-
D455	-	ERA15-01	NTE116	# IC2201	-	AN5819K	-
D456	-	MA165	NTE519	IC2301	-	AN5277	-
D501	-	MA165	NTE519	IC2331	-	BA15218N	NTE778S
D530	-	MA4039H	-	IC2351	-	AN7396K	-
# D531	-	ERA22-04	NTE552	IC3001	-	CXA2079Q	-
# D532	MA4062LTV	MA4062L	NTE5012A	IC3101	-	TC74HC4066AL	-
D533	-	MA29Q-ATA	-	IC3191	-	TC4066BP	NTE4066B
D534	-	MA4220H	NTE5030A	IC6501	-	MN82831	-
D540	-	MA4047M	NTE5009A	IC6502	-	MNX4160-T10	-
D541	-	MA165	NTE519	IC6504	-	PST9128NR	-
D542	-	MA4082M	NTE5016A	IC6505	-	PQ3RD13B	-
D543	-	MA165	NTE519	IC6507	-	TLC2932IPWL	-
# D551	RU2N	TVSRU2N	NTE552	Q001	-	2SC1685QRS	NTE85
# D552	-	RS3FS	NTE506	Q014, 15, 90	2SD601A	2SD601ARTX	NTE2408
# D553	TVSRU3AN	TVSRU3ANV	-	Q102, 40, 41	2SD601A	2SD601ARTX	NTE2408
# D554	-	BYD33G-163	-	Q142	2SB709A	2SB709ARTX	NTE2409
D555	-	MA165	NTE519	Q301, 03	2SB709A	2SB709ARTX	NTE2409
D556	-	MA4360H	-	Q304, 05, 06	2SD601A	2SD601ARTX	NTE2408
# D557	-	AU02	NTE552	Q308	2SB709A	2SB709ARTX	NTE2409
# D561	-	BYD33G-163	-	Q309, 10	2SD601A	2SD601ARTX	NTE2408
D752	-	MA2270B	-	Q351, 52, 53	2SC3063RL	2SC3063	NTE157
D753, 54, 55	-	MA165	NTE519	Q354, 55, 56	2SC1685Q	2SC1685QRS	NTE85
# D801, 02	RM10B	TVSRM10B	NTE125	Q357, 58, 59	2SC3063RL	2SC3063	NTE157
D806	-	MA4047H	NTE5009A	Q360, 61, 62	2SB1011RL	2SB1011	-
D807	-	MA165	NTE519	Q363	-	2SA564AQRSTA	NTE290A
# D809	RU3YX	RU3YX-M	NTE588	Q451	-	2SA564AQRSTA	NTE290A
# D811	-	AU02A	NTE552	Q501	2SC4212HLB	2SC4212H	NTE2501
D820, 21	-	AG01V0	-	Q502 Thru			
D822	-	AU01Z	NTE552	Q505	2SD601A	2SD601ARTX	NTE2408
# D823	-	RL30A	-	Q510	2SA564AQ	2SA564AQRSTA	NTE290A
# D825	SR2KL	TVSSR2KL	-	# Q551	2SD2539	2SD2539306	NTE2353
# D830	-	MA4330M	-	Q560	2SA564AQ	2SA564AQRSTA	NTE290A
D832	-	MA4200M	-	Q602, 03	2SB709A	2SB709ARTX	NTE2409
D835	-	MA4120M	NTE5021T1	Q604, 05, 06	2SD601A	2SD601ARTX	NTE2408
D837	-	MA4100M	NTE5019T1	Q607	2SB709A	2SB709ARTX	NTE2409
D838	-	MA165	NTE519	Q751	2SC1685Q	2SC1685QTA	NTE85
D955	-	MA29W-BTA	-	Q752	2SA564AQ	2SA564AQTA	NTE290A
D957	-	MA165	NTE519	Q753	2SD1267A	2SD1267AP	NTE377
D2102	-	MA4330H	-	Q754	2SA564AQ	2SA564AQTA	NTE290A
D2302, 03, 07	-	MA165	NTE519	Q755, 56	2SC1685Q	2SC1685QTA	NTE85
D3001, 02, 04	-	MA3110M	-	Q757, 58	2SA564AQ	2SA564AQTA	NTE290A
D3006, 07, 09	-	MA3110M	-	Q803	2SC1383	2SC1383NC	NTE293
D3011 Thru	-			Q804	2SA1767QTA	2SA1767Q	-
D3014	-	MA3110M	-	Q952, 53	2SC1685R	2SC1685QRS	NTE85
D3051	-	MA3110M	-	Q954	2SA564AQ	2SA564AQRSTA	NTE290A
D3071 Thru	-			Q955	2SB1569AF51	2SB1569AF51E	-
D3075	-	MA3110M	-	Q956	2SD2400AF51	2SD2400AF51E	-
D3078 Thru	-			Q961	-	2SC1685QRS	NTE85
D3082	-	MA3110M	-	Q962	2SA564AQRS	2SA564AQRSTA	NTE234
D3093 Thru	-			Q1601, 02	2SD601A	2SD601ARTX	NTE2408
D3096	-	MA3110M	-	Q1801, 02, 03	2SD601A	2SD601ARTX	NTE2408
D3151, 52, 53	-	MA4110M	-	Q1804, 05	2SB709A	2SB709ARTX	NTE2409
D3156, 57, 58	-	MA4110M	-	Q1871, 72	2SB709A	2SB709ARTX	NTE2409
D3191, 92, 93	-	MA4110M	-	Q1873, 74	2SD601A	2SD601ARTX	NTE2408
D4301	-	MA3036H	-	Q2101	2SD601A	2SD601ARTX	NTE2408
D6501, 02	ISS355	ISS355TE-17	NTE519	Q2302, 31	2SD601A	2SD601ARTX	NTE2408
IC001	-	MN102L35GTC2	-	Q2332	2SB709A	2SB709ARTX	NTE2409
IC002	-	M24C08-WBN6	-	Q2333, 34	2SD601A	2SD601ARTX	NTE2408
IC005	-	PQ05RD1B	-	Q2335	2SB709A	2SB709ARTX	NTE2409
IC006	-	MN1280-R	-	Q2336	2SD601A	2SD601ARTX	NTE2408

PARTS LIST continued

Item No.	Type No.	Mfr. Part No.	NTE Part No.
Q3031	2SB709A	2SB709ARTX	NTE2409
Q3032, 33	2SD601A	2SD601ARTX	NTE2408
Q3054	2SB709A	2SB709ARTX	NTE2409
Q3070	2SD601A	2SD601ARTX	NTE2408
Q3072	2SB709A	2SB709ARTX	NTE2409
Q3104	2SD601A	2SD601ARTX	NTE2408
Q3105	2SC2480	2SC2480TX	-
Q3106, 07	2SD601A	2SD601ARTX	NTE2408
Q3108	2SC2480	2SC2480TX	-
Q3109	2SD601A	2SD601ARTX	NTE2408
Q3191 Thru			
Q3194	2SD601A	2SD601ARTX	NTE2408
Q4309	2SB709A	2SB709ARTX	NTE2409
Q4310	2SD601A	2SD601ARTX	NTE2408
Q4311	2SB709A	2SB709ARTX	NTE2409
Q4312, 13	2SD601A	2SD601ARTX	NTE2408
Q4315	2SC1384	2SC1384Q	NTE293
Q6501, 02	2SD601A	2SD601ARTX	NTE2408
Q6503	2SB709A	2SB709ARTX	NTE2409
Q6504 Thru			
Q6508	2SD601A	2SD601ARTX	NTE2408
Q6509	2SB709A	2SB709ARTX	NTE2409
Q6510	2SD601A	2SD601ARTX	NTE2408
Q6511	2SB709A	2SB709ARTX	NTE2409
Q6512, 14	2SD601A	2SD601ARTX	NTE2408
Q6515, 16	2SB709A	2SB709ARTX	NTE2409
Q6517 Thru			
Q6521	2SD601A	2SD601ARTX	NTE2408
Q6523, 25, 26	2SD601A	2SD601ARTX	NTE2408
Q6527	2SB709A	2SB709ARTX	NTE2409
Q6528, 29	2SD601A	2SD601ARTX	NTE2408
Q6530, 31, 32	2SB709A	2SB709ARTX	NTE2409
Q6533, 34	2SD601A	2SD601ARTX	NTE2408
Item No.	Function/Rating	Mfr. Part No.	Notes
C016	.47µF 50V NP	ECEA1HNR47U	-
C301	47µF 16V NP	ECEA1CN470U	-
C309	1µF 50V NP	ECEA1HN010U	-
C351	.001 10% 2kV	ECKD3D102KB	-
C352	1µF 50V NP	ECEA1HN010U	-
C402	1µF 25V Tantalum	ECSF1EE105	-
C403	.33µF 35V Tantalum	ECSF1VE334	-
C456	2pF ±.25pF 50V NPO	ECCF1H020CC	-
C504	220pF 5% 50V N750	ECJ2VU1H221J	-
# C531	33µF 50V	ECA1HM330	-
# C551	.013 5% 1.2kV	ECWH12H133JS	-
	.01 5% 1.2kV	ECWH12H103JS	-
# C552	.033 5% 400V	ECQM4333JZ	-
# C553	2200µF 20% 16V	ECA1CM222	-
# C554	.0015 5% 1.2kV	ECWH12H152JS	-
# C555	.0022 5% 1.2kV	ECWH12H222JS	-
	680pF 5% 2kV	ECKD3D681JB	-
# C556, 57	820pF 5% 2kV	ECKD3D821JB	-
# C558	220µF 16V	ECEA1CM221	-
# C559	.47 5% 200V	ECWF2474JBK	-
	.43 5% 200V	ECWF2434JB7	-
# C560	4.7µF 50V NP	ECEA1HN4R7U	-
# C563	330µF 16V	ECA1CM331	-
# C565	10µF 250V	ECA2EM100	-
# C569	330µF 35V	ECA1VM331	-
# C572	470pF 5% 2kV	ECKD3D471JB	-
C604	2.2µF 50V NP	ECEA1HN2R2U	-
C607	9pF ±.5pF 50V NPO	ECJ2VC1H090D	-
C615	33pF 5% 50V NPO	ECJ2VC1H330J	-
# C805, 06	560µF 20% 200V	EC0S2DA561BB	-
# C809	330µF 20% 200V	EC0S2DA331BB	-
# C810, 11	.015 20% 250VAC	ECQU2A153MN	-
C817	470pF 10% 1kV	ECKD3A471KB	-
C818	.001 10% 2kV	ECKD3D102KB	-
C819	100pF 10% 1kV	ECKD3A101KB	-
# C822	2200µF 35V	ECA1VM222	-
# C823	33µF 160V	ECEA160V33Z	-
C824	.0015 10% 1kV	ECKD3A152KB	-

Item No.	Function/Rating	Mfr. Part No.	Notes
# C834	.22 20% 250VAC	ECQU2A224MV	-
# C840	100µF 160V	ECA2CM101	-
# C1551	.001 20% 10kV	TACMSC46-01A	-
C1873	.47µF 20% 50V NP	ECEA1HNR47U	-
C2201	3.3µF 16V Tantalum	AP335K016CAE	-
C2219	10µF 16V Tantalum	AP106K016CAE	-
# C2222	.0047 10% 50V	ECJ2VB1H472K	-
# C2223	.01 10% 50V	TCUX1H103KBN	-
C2375	22µF 16V NP	ECEA1CN220U	-
C4307	10µF 16V NP	ECEA1CKN100	-
C6517	3.3µF 50V NP	ECEA1HN3R3U	-
C6521, 70, 75	4.7µF 50V NP	ECEA1HN4R7U	-
# CRA801, 02	Capristor	EXNG131P365	130pF 125VAC, 3.6M, Spark Gap
# D850 (1)	-	TAP1111M003	-
# D850 (2)	-	TAP107M003	-
# F551	Fuse	TSF39252	2.5A
# F801	Fuse	XBA1C63NU100	6.3Amp, 125V, Fast Acting
# JK351 (1)	Socket	TJSC01200	-
# JK351 (2)	Socket	TJSC01600	-
JK3001	Jack	-	Assembly
JK3002	Jack	TJB2AA0111-1	Assembly
JK3004	Jack	TJB2AA0131	Assembly
JS021, 22	Ferrite Bead	EXCELSA35	-
L004	100µH	ELESN220KA	-
L008	47µH	TLUABT470K	-
L010	Ferrite Bead	EXCELSA35T	-
L012, 13	10µH	TLUABTA100K	-
L015, 16	10µH	TLUABTA100K	-
L017	Ferrite Bead	EXCELSA35T	-
L103	15µH	ELESN150JA	-
L105	VCO	EIV7EN053B	-
L118	15µH	ELESN150JA	-
L135	56µH	ELESN560JA	-
L140	33µH	ELESN330JA	-
L355 (1)	27µH	ELESN270KA	-
L355 (2)	39µH	ELESN390KA	-
L356	39µH	ELESN390KA	-
L357	27µH	ELESN270KA	-
L358 (1)	18µH	ELESN180KA	-
L358 (2)	27µH	ELESN270KA	-
L359	18µH	ELESN180KA	-
L360	10µH	ELESN100KA	-
# L551	Horizontal Linearity	ELH5L7101	-
L554	Ferrite Bead	EXCELSA24T	-
# L555 (1)	Yoke	KDY4VH740F	Horiz 1mH, Vert 7.6mH
# L555 (2)	Yoke	TLYA028	Horiz .9mH, Vert 16.5mH
L556, 57	Ferrite Bead	EXCELSA24T	-
L601	82µH	ELESN820KA	-
L602	4.7µH	ELESN4R7JA	-
L751	Phasing	TLH15733M	-
# L801 (1)	Line Filter	ELF24V030A	-
# L801 (2)	Line Filter	ELF18D850C	-
# L802 (1)	Line Filter	ELF24V030A	-
# L802 (2)	Line Filter	ELF18D850C	-
L804	Ferrite Bead	EXCELSA39	-
L805	-	ELC08D470F	-
L806, 08, 10, 11	Ferrite Bead	EXCELSA35T	-
L812	Ferrite Bead	EXCELSA39	-
L813	Ferrite Bead	EXCELSA35T	-
# L814 (1)	Degaussing	TSP2AA007	-
# L814 (2)	Degaussing	0LK19049A-1	-
L953, 54, 58	Ferrite Bead	EXCELSA35	-
L1551	100µH	ELC08D101E	-
L1801	1.5µH	ELESN1R5KA	-
L1803	2.2µH	ELESN2R2K	-
L1804	15µH	ELESN150KA	-
L1806, 07	1µH	ELESN1R0KA	-
L1808	Ferrite Bead	EXCELDJR25	-
L2102	10µH	ELESN100KA	-
L2103	15µH	ELESN150JA	-
L2104	33µH	ELESN330JA	-
L2106	56µH	ELESN560JA	-
L2109	VCO	EIV7EN053B	-
# L2201	1000µH	ELESN102JA	-

PANASONIC

MODEL CT-36SF37B (CHASSIS DP322)

PARTS LIST continued

Item No.	Function/Rating	Mfr. Part No.	Notes
# L2202	470µH	ELESN471JA	-
L2302	Ferrite Bead	EXCELSA35T	-
L4301	3.9µH	ELESN3R9KA	-
L6501	4.7µH	ELESN4R7JA	-
L6502	10µH	ELESN100JA	-
L6503	33µH	ELESN330JA	-
L6505	22µH	ELESN220JA	-
L6507	12µH	ELESN120JA	-
L6508, 10	2.2µH	ELESN2R2KA	-
L6511	15µH	ELESN150JA	-
L6520	10µH	ELESN100JA	-
LC6501	Filter	TAX10075	-
LC6502, 03, 04	Filter	TAX10073	-
LC6505	Filter	TAX10075	-
LC6506 Thru			
LC6518	Filter	TAX10073	-
M003	Splitter	ENPE623	2RF
# M020	Line Cord	TSX2AA0111	AC, Polarized
R032	10K 1% 1/4W	ER0S2CKF1002	-
R040	120 1% 1/10W	ERJ6ENF1200	-
R041	1200 1% 1/10W	ERJ6ENF1201	-
R064, 66	120 1% 1/10W	ERJ6ENF1200	-
R082	1600 1%1/10W	ERJ6ENF1601	-
R083	680 1% 1/10W	ERJ6ENF6800	-
R115	3000 Detector Output	EVND2AA03B33	-
R304	1650 1% 1/10W	ERJ6ENF1651	-
R325	5600 1% 1/10W	ERJ6ENF5601	-
R327	2700 1% 1/10W	ERJ6ENF2701	-
	2200 1% 1/10W	ERJ6ENF2201	-
R348	560 1% 1/10W	ERJ6ENF5600	-
R350	680 1% 1/10W	ERJ6ENF6800	-
R393	100 5% 1/2W Fusible	ERQ12AJ101	-
R468	4320 1% 1/4W	ER0S2CKF4321	-
R469	1470 1% 1/4W	ER0S2CKF1471	-
# R515, 16	2400 5% 3W	ERG3FJ242H	-
# R531	47 5% 1/4W	ERD25FJ470	-
# R532	24.3K 1% 1/10W	ERJ6ENF2432	-
# R533	2670 1% 1/10W	ERJ6ENF2671	-
# R552	1 5% 1/4W	ERD25FJ1R0	-
# R558	1000 5% 1W Fusible	ERQ1CJP102	-
# R561	2 5% 2W Fusible	ERQ2CJ2R0	-
	2.7 5% 2W Fusible	ERQ2CJ2R7	-
# R566	1 5% 1/2W	ERDS1FJ1R0	-
R641	1100 1% 1/10W	ERJ6ENF1101	-
R642	3900 1% 1/10W	ERJ6ENF3901	-
R764	10 5% 2W Fusible	ERQ2CJP100	-
R778	3900 5% 5W	ERG5ZXJ392	-
# R801	1 10% 7W Wirewound	ERF7ZK1R0	-
# R802	8.2M 20% 1/2W	ERC12ZGM825	-
R804	100 5% 5W	ERG5FJ101	-
# R818	.22 10% 1W Fusible	ERQ1CZKR22	-
# R819	3.3 5% 1/4W	ERD25FJ3R3	-
# R826, 27	.39 10% 1/2W	ERW12PKR39	-
R960	10 5% 1/4W Fusible	ERQ14AJ100	-
R961	330 5% 1W Fusible	ERQ1CJP331	-
R2116	1500 1% 1/10W	ERJ6ENF1501	-
R2118	3000 AGC Delay	EVND8AA03B33	-
R2208	91K 1% 1/4W	ERJ6ENF9102	-
R3135	220 1% 1/10W	ERJ6ENF2200	-
R3137	680 1% 1/10W	ERJ6ENF6800	-
R3155	220 1% 1/10W	ERJ6ENF2200	-
R3157	680 1% 1/10W	ERJ6ENF6800	-
# RL801	Relay	TSEH0029	Power
RM001	Receiver	PIC-26042SR	Remote
S001	Switch	EVQPF106K	Power
S002	Switch	EVQPF106K	Volume Down
S003	Switch	EVQPF106K	Volume Up
S004	Switch	EVQPF106K	Channel Down
S005	Switch	EVQPF106K	Channel Up
S006	Switch	EVQPF106K	Action
S007	Switch	EVQPF106K	TV/Video
SP1, 2	Speaker	TAS2AA0008	2 1/4" X 5",8 Ohms,10W
# T001	Power	ETP28Z448AF	-
T501	Horizontal Driver	ETH19Y70AY	-

Item No.	Function/Rating	Mfr. Part No.	Notes
# T502	Horizontal Coupling	ETE19Z30AY	-
# T551 (1)(3)	Horizontal Output	KFT6AB140F2	-
# T551 (2)(3)	Horizontal Output	KFT6AB140F3	-
# T801	Power	ETS29AK2K6PC	-
# T1551	Convergence/Focus	ETS33AC3T6AD	-
TNR001	Main Tuner	ENC56D61G3	-
TNR2101	PIP Tuner	ENC56D61G3	-
# V1 (1)	CRT	M80L NK161X	A80L NK161X
# V1 (2)	CRT	A90AHS50X	-
X001	Crystal	TSSA096	12MHz
X101	Filter	M1972M	SAW
X102	Filter	EFCS4R5MW5BA	4.5MHz
X201	Crystal	SFSH4R5MDB	4.5MHz
X501	Crystal	TAFCSB503F38	503kHz
X601	Crystal	TSS816-N2X	3.58MHz
X1801	Crystal	TSSA092	-
X2102	Filter	EFCS4R5MW5BA	4.5MHz
X2103	Filter	M1972M	SAW
	Magnet	0FMK014ZZ	Convergence Corrector Strip
	Magnet (1)(4)	ETC35C65NA	Purity/Convergence
	Magnet (2)(4)	ETC39C65NA	Purity/Convergence
	PC Board (1)	TNP2AH015	A
	PC Board (2)	TNP2AH015AB	A
	PC Board (1)	TNPA1128AD	C
	PC Board (2)	TNPA1128AE	C
	PC Board (2)	TNPA1088	D
	PC Board	TNP2AA055	F
	PC Board	TNP2AA027AG	N
	PC Board (1)	TNPH0200AL	P
	PC Board (2)	TNPH0200AM	P
	PC Board	TNP2AA057	X
	PC Board	TNPA1059AC	Y
	Transmitter	EUR511151C	Remote
	Wedge	TMM2A30702	Yoke Positioning (3 Used)

For SAFETY use only equivalent replacement part.

- (1) Used in models CT-32SF37B and CT-32XF37CB.
(2) Used in models CT-36SF37B and CT-36XF37CB.
(3) Screen and focus controls are part of T551.
(4) Includes VM coil.

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

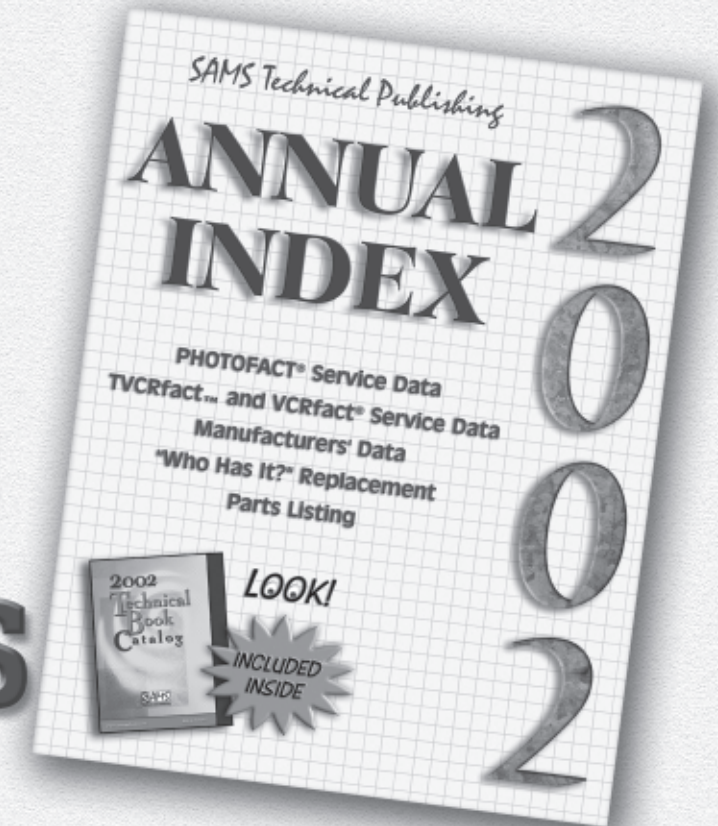
Or consult the Sams *Annual Index* for the address of the original equipment manufacturer.

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.

- ✓ NTE Electronics, Inc. (NTE)
- ✓ Sencore, Inc.

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