

For Service Manuals  
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## SERVICE MANUAL

**MODEL 1084P MONITOR**  
*includes 1084P-S SCHEMATIC*

JULY, 1988

PN-314890-01

CM 8505

8562

8705

8762

505

515

542

643

6523

8CM 505

8CM 515

8CM 542

8CM 643

NAP 6523

 **commodore**  
COMPUTERS

# **SERVICE MANUAL**

## **MODEL 1084P MONITOR**

***includes 1084P-S SCHEMATIC***

**JULY, 1988**

**PN-314890-01**

### **Commodore Business Machines, Inc.**

1200 Wilson Drive, West Chester, Pennsylvania 19380 U.S.A.

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## SPECIFICATIONS

CRT size	13 inch diagonal
CRT Deflection Angle	90 degrees
CRT Mask Pitch:	
-8CM505/CM8505/CM8705	0.65mm
-8CM515/8CM542/CM8562/CM8762	0.42mm
-8CM643	0.39mm
CRT Light Transmission:	
-CM8505/CM8705	56%
-8CM505/8CM515/8CM643	46%
-8CM542/CM8562/CM8762	46%
Power Requirements	115Vac/60Hz
Power Consumption	75W max.
Degaussing	Automatic (when switching on set)
Video Input Signals:	
CM8505/CM8705/8CM505/8CM515/8CM643	RGB analog 0.7, composite sync, 6 pin connector
Composite video	1Vp-p, negative sync, RCA connector
	RGB-1 TTL, separate horiz. and vert. sync, 8 pin connector
Horizontal Scanning Frequency	15734Hz
Horizontal Frequency Drift	1 % max.
Horizontal Flyback Time	12uS max.
Horizontal Blanking Time	12uS max.
Vertical Scanning Frequency	47-62.5Hz
Vertical Frequency Drift	1% max.
Vertical Flyback Time	0.95mS max.
Vertical Blanking Time	(21H) 1.33mS
RGB Amp Bandwidth	8MHz min.
RGB Amp Bandwidth (8CM643)	15MHz min.
Resolution:	
-Vertical	240 lines
-CM8505/CM8705 Horizontal	390 dots
-8CM505 Horizontal	390 dots
-8CM515/CM8562 Horizontal	640 dots
-8CM542/8CM643	690 dots
Character Display:	
-CM8505/CM8705	1000 characters (40 x 25)
-8CM505	1600 characters (64 x 25)
-8CM515/8CM542/CM8562/CM8762/8CM643	2000 characters (80 x 25)
Overshoot/Undershoot	5% max.
Black Level Shift	3% max.
Audio Input Signal	150mV eff.
Audio Input Impedance	10k
Audio Output Power	1W a 5% distortion
Audio Frequency Range	300Hz - 7kHz
Audio S/N Ratio	40dB min.
Operating Humidity Range	less than 80%
Dimensions (HxWxD)	320x350x387mm


\* Specifications subject to change without notice.

## IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all NAPCEC Equipment. The service procedures recommended by NAPCEC and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. NAPCEC could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, NAPCEC has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by NAPCEC must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

### WARNING

Critical components having special safety characteristics are identified with an S by the Ref. No. in the parts list and enclosed within a broken line\* along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from the N.A.P. Consumer Electronics Corp. NAPCEC assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

\* Broken line: 

## ADJUSTMENT PROCEDURES

**Adjustment Notes:**

unless otherwise specified:

1. An isolation transformer must be used when servicing this unit.
2. Line voltage maintained at 120Vac, 60Hz.
3. The unit should be allowed to warm up for at least 30 minutes prior to making any adjustments.
4. Voltages measured with respect to ground.
5. Signal injection point is the Video In Jack.

**R496 Pincushion Adjustment (8CM643 only)**

1. Inject a cross-hatch pattern and set Brightness Control (R598) and Contrast Control (R585) to their mechanical centers.
2. Adjust R496 so that 14 blocks correspond to a width of 26cm.
3. Horizontal Amplitude and Centering Adjustment
4. Vertical Amplitude and Centering Adjustment

**R598 Sub-Brightness Control Adjustment (8CM643 only)**

(Dual Trace Oscilloscope required)

1. Inject a signal with a white raster to input connector.
2. Adjust G2 (R727) and Contrast Control to minimum. Adjust Brightness Control to mechanical center.
3. Connect a DC coupled probe from Channel A of the oscilloscope to pin 1 of IC502.
4. Connect a DC coupled probe from Channel B of the oscilloscope to the emitter of TS641.
5. Adjust the Sub-Brightness (R598) to place the top of the video signal (Channel A) at the same voltage level as the emitter of TS641 (Channel B).
6. Adjust Red (R705), Green (R705) and Blue (R706) cut off controls to set pins 6, 8, and 11 of Picture Tube at 100 volts each.
7. Advance G2 control (R727) until screen just begins to illuminate.
8. If the electron guns of the CRT are balanced, you should get a dull gray raster. However, if one color is more predominant than the others, adjust the cut-off controls of other 2 corresponding guns as required to obtain a gray raster.

**Power Supply Adjustment**

1. With the unit off, set the Volume Control (R316), Contrast Control (R585), and Brightness Control (R589) to minimum.
2. Preset R114 to mechanical center.
3. Connect a voltmeter across C494 and turn on the unit.
4. Adjust R114 for a reading of 125V on the meter.

**Horizontal Synchronization Adjustment**

1. Inject a cross-hatch pattern signal and short C434.
2. Adjust the horizontal sync with R437.
3. Remove the short from C434.

**Vertical Synchronization Adjustment**

1. Inject a cross-hatch pattern signal and short C434.
2. Adjust the vertical sync with R331.
3. Remove the short C434.

**Horizontal Amplitude and Centering Adjustment**

1. Inject a cross-hatch pattern signal and set the Brightness Control (R589) and Contrast Control (R585) to their mechanical centers.
2. Adjust R485 so that 14 blocks correspond to a width of 26cm.
3. Adjust R453 to center display horizontally.

**Vertical Amplitude and Centering Adjustment**

1. Inject a cross-hatch pattern and set the Brightness Control (R585) to their mechanical centers.
2. Adjust R353 so that 10 blocks correspond to a height of 18.5cm.
3. Adjust R364 to center the display vertically.

**Chrominance Adjustment**

(Note: pin nos. in parenthesis indicate alternate 16-pin IC.)

1. Inject a color bar pattern signal and adjust the secondary controls for normal viewing. Place SK3 (not used in CM8562, CM8762, 8CM542) in the off position.
2. Connect an oscilloscope to pin 15 of IC502 and adjust S533 for minimum amplitude of the chrominance signal that is present on the various brightness steps of the luminance signal.
3. Short pins 9 (3) and 17 (11) of IC501.
4. Adjust C567 to minimize the chroma as visible on the screen.
5. Remove the shorting clips from pins.

**Comb Filter Adjustment**

(CM8505/CM8705/8CM505/8CM515/8CM643 ONLY)

1. Inject a color bar pattern signal and place the Comb Filter Switch (SK3 in the on position).
2. Connect an oscilloscope to the emitter of TS531 and adjust R523 and S515 for minimum amplitude of the chrominance signal. For optimum performance, repeat the adjustment.

**Focus Adjustment**

1. Inject a cross-hatch pattern signal and set the Brightness Control (R589) to minimum and the Contrast control (R585) to maximum.
2. Adjust R732 for optimum focus.

**X-Ray Protection Circuit Adjustment**

1. Inject a color bar pattern signal and set the Brightness and Contrast Controls to minimum.
2. Connect a voltmeter between the wiper of R457 and ground.
3. Adjust R457 for a reading of 6.9V.

Note: The following adjustments need only be performed if the CRT has been replaced. Minor corrections for purity and convergence may be accomplished through the use of the Purity and Convergence Assembly located on the neck of the CRT.

**Color Purity Adjustment (Refer to Figure 1)**

1. Loosen the yoke clamp screw and slide the yoke back away from the rubber wedges.
2. Remove the rubber wedges (G) and slide the yoke forward until it rests firmly against the bell of the CRT.
3. Tighten the yoke clamp screw slightly so that the yoke can still be moved with some friction.
4. Place the multi-pole Purity and Convergence Assembly in the position shown in Figure 1.
5. Tighten screw (A) and turn securing ring (B) counter-clockwise. Position the unit so that it faces in an East/West direction and degauss the instrument.
6. Turn on the power and inject a cross-hatch pattern signal. Allow a 10 minute warm-up period.
7. Roughly adjust the static convergence, using tabs C and D.
8. Set the Vertical Centering Control (R364) to its mechanical center. Disconnect R723 and R724 to turn off the green and blue guns.

## ADJUSTMENT PROCEDURES (Continued)

9. Adjust the two-pole purity rings (E) to center the red vertical and horizontal lines.
10. Inject a white pattern signal and move the deflection yoke to obtain a full red raster.
11. Turn on the green and blue guns by reconnecting R723 and R724. If a uniformly white raster does not appear, minor adjustments may be made by adjusting the purity rings (E).
12. Inject a cross-hatch pattern signal to ensure that the yoke is not tilted. If necessary, rotate the yoke to obtain a level raster.
13. Tighten screw F and adjust R364 for proper vertical centering. Proceed to the Static Convergence Adjustment.

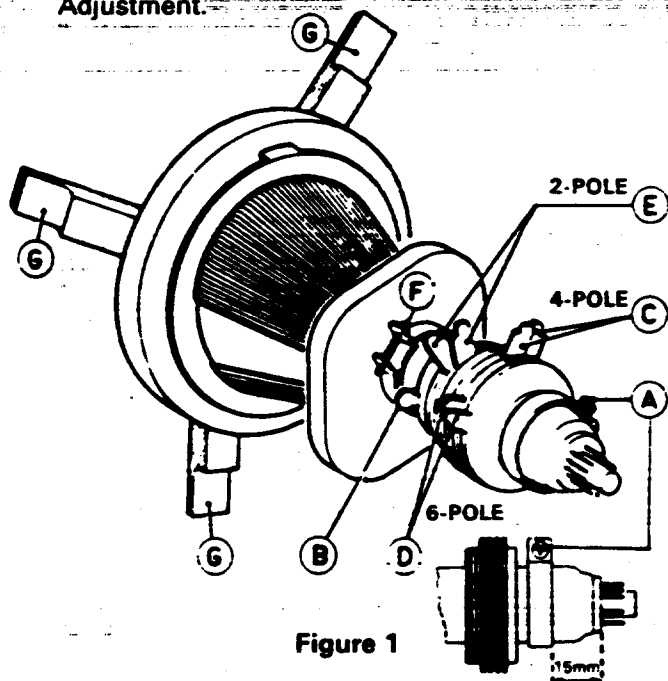


Figure 1

**Static Convergence Adjustment**

1. Inject a crosshatch pattern signal and allow a 10 minute warm-up period.
2. Turn off the green gun by disconnecting R723. Turn locking ring (B) counterclockwise.
3. Slowly spread, and if necessary, rotate the 4-pole magnetic rings (C) to converge red and blue lines at the center of the screen.
4. Reconnect R723 to turn on the green gun and disconnect R724 to turn off the blue gun.
5. Slowly spread, and if necessary, rotate the 6-pole magnetic rings (D) to converge the red and green lines at the center of the screen.
6. Reconnect R724 to turn on the blue gun.
7. For optimum performance, repeat steps 1 through 6. Proceed to the Dynamic Convergence Adjustment.

**Dynamic Convergence Adjustment**

1. Inject a cross-hatch pattern signal and turn off the green gun by disconnecting R723.
2. Tilt the yoke up and down to achieve the best convergence of the red and blue vertical lines at the 6 and 12 o'clock and the red and blue horizontal lines at the 3 and 9 o'clock positions (see Figure 2).
3. When the correct position is found, place a rubber wedge between the CRT. If the yoke is tilted up, place wedge 1 as shown in Figure 3a; if it is tilted down, place wedge 1 as shown in Figure 4a.
4. Tilt the yoke to the left and right to find the point of best possible convergence of the red and blue lines

- at the edges, top, and bottom of the screen as shown in Figure 5.
5. When the correct position is located, place wedges 2 and 3 as shown in Figure 3b or 4b.
6. Remove wedge 1 and place it in the final position as shown in Figure 3c or 4c. Reconnect resistor R723 to turn on the green gun.

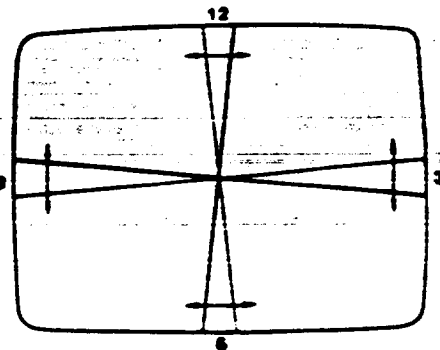


Figure 2 — Tilt yoke up or down to converge Red and Blue vertical lines at 6 and 12 o'clock positions, and Blue horizontal lines at 3 and 9 o'clock positions.



Figure 3a

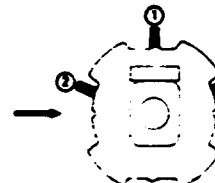


Figure 3b

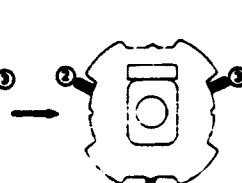


Figure 3c



Figure 4a

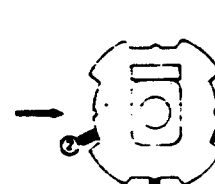


Figure 4b

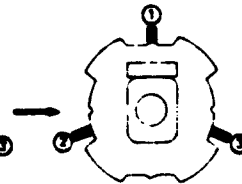


Figure 4c

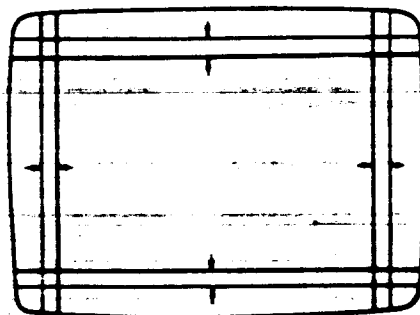


Figure 5 - Tilt yoke left or right to converge Red and Blue horizontal lines at the 6 and 12 o'clock positions, and Red and Blue vertical lines at the 3 and 9 o'clock positions.

**Note:** A computer delivering RGB TTL output (IBM or Apple) should be used to properly test the RGB circuitry. However, if a computer is not available, the following procedure may be used.  
**EXCEPTION:** CM8562/CM8762/8CM542 does not accept Analog RGB or X-RGB signals.

ADJUSTMENT PROCEDURES (Continued)

**RGB INTERFACE P.C. BOARD CHECKS FOR ALL MODELS (Except CM8562/CM8762/8CM542)**

**APPLE TRUTH TABLE**

Late Production RGB Interface models are IBM Compatible only after Feb. 87.  
Early Production models accept Apple (X-RGB) or IBM (RGB-1) prior to Feb. 2, 1987.

The purpose of this board is to accept RGB TTL signal inputs (RGB-I or X-RGB) and develop the R, G, and B signals in the monitor. By grounding the control input (Pin 1 of 8 pin Din Plug) the interface circuit will decode X-RGB to equal RGB-I signals in the monitor.

**Interface P.C. Board Check**

1. If either Apple (X-RGB) or IBM (RGB-I) signals are available as a TTL input the interface operation in the other signal mode may be checked. By grounding the control input on each color the other mode will appear. Pins 2, 3, 4, and 5 the 8 Pin Din Jack are high level when open. Use the cross reference chart for this cross color check.
2. To confirm proper operation of the RGB Interface Board, refer to the following truth table and ground the pins as shown. A voltmeter may be used to determine whether the output levels are high (1) or low (0). (Refer to schematic for pin nos.)
3. Another quick check may be done using a sine or square wave generator. A 1 to 3 kHz square wave (2Vp-p) may be injected into the pins of the DIN jack in the truth table. Color flashes should be visible on the screen which correspond to the pin or pins connected to the signal generator. Pin 2 should give red flashes, pin 3 green flashes, etc. when in the IBM mode. The colors will vary when pin 1 is grounded along with any of the others because the Apple colors are not the same as the IBM colors.

INPUTS					OUTPUTS												
DIN PLUG PINS					IC272 PINS								IC271 PINS				
(1)	(2)	(3)	(4)	(5)	1	2	3	4	5	6	7	8	9	11	13		
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0		
0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1		
0	0	1	1	0	1	1	0	1	0	0	1	1	1	0	1		
0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0		
0	1	0	1	0	1	0	0	1	1	0	1	0	1	1	1		
0	1	1	0	0	0	1	0	0	1	0	0	1	0	1	1		
0	1	1	1	0	1	1	0	1	1	0	1	1	1	1	1		
1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0		
1	0	0	1	0	1	0	1	1	0	1	1	0	1	0	0		
1	0	1	0	0	0	1	1	0	0	1	0	1	0	1	0		
1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1		
1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0		
1	1	0	1	0	1	1	0	0	1	0	0	1	1	1	0		
1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1		
1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1		

\* IBM/APPLE switching line. (open=IBM; ground=APPLE)

**IBM TRUTH TABLE**

INPUTS					OUTPUTS										
DIN PLUG PINS					IC272 PINS										
(1)	(2)	(3)	(4)	(5)	1	2	3	4	5	6	7	8	9	11	13
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1
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1	0	1	0	0	0	0	0	1	1	1	0	0	0	0	1
1	0	1	1	0	1	1	1	1	1	1	0	0	0	0	1
1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0
1	1	0	1	0	1	1	1	0	0	0	1	1	1	1	0
1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1

**RGB-TTL INPUTS (8 PIN DIN) Color Decoding Chart**

Levels shown are with monitor driven by computer.

	Pin				
APPLE X-RGB	5	4	3	2	IBM RGB-I
BLACK	0	0	0	0	BLACK
MAGENTA	0	0	0	1	RED
DARK BLUE	0	0	1	0	GREEN
PURPLE	0	0	1	1	BROWN
DARK GREEN	0	1	0	0	BLUE
GREY 1	0	1	0	1	MAGENTA
MIDDLE BLUE	0	1	1	0	CYAN
LIGHT BLUE	0	1	1	1	WHITE
BROWN	1	0	0	0	GREY
ORANGE	1	0	0	1	LIGHT RED
GREY 2	1	0	1	0	LIGHT GREEN
PINK	1	0	1	1	LIGHT YELLOW
GREEN	1	1	0	0	LIGHT BLUE
YELLOW	1	1	0	1	LIGHT MAGENTA
AQUA	1	1	1	0	LIGHT CYAN
WHITE	1	1	1	1	INTENSIFIED WHITE

**TTL Levels**  
 Low (0) = Zero to .8 volts  
 High (1) = 2.4 to 5 volts  
 Pin 1 is Apple/IBM Control Line  
 Low (0) = Apple, High (1) = IBM Colors

Apple is a registered trademark of Apple Computers

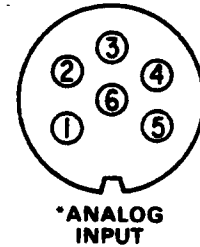
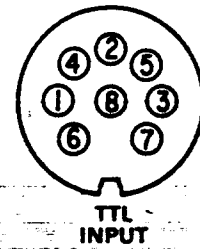
IBM is a registered trademark of International Business Machines

## ADJUSTMENT PROCEDURES (Continued)

## RGB 8 and 6 Pin DIN Sockets

## PIN ASSIGNMENTS

PIN NO.	TTL INPUT 8 PIN SIGNAL	ANALOG 6 PIN SIGNAL
*1	IBM Open/Apple Gnd.	Green
2	Red	Horiz. Sync
3	Green	Ground
4	Blue	Red
5	Intensity	Blue
6	Ground	Vert. Sync
7	Horiz. Sync	
8	Vert. Sync	

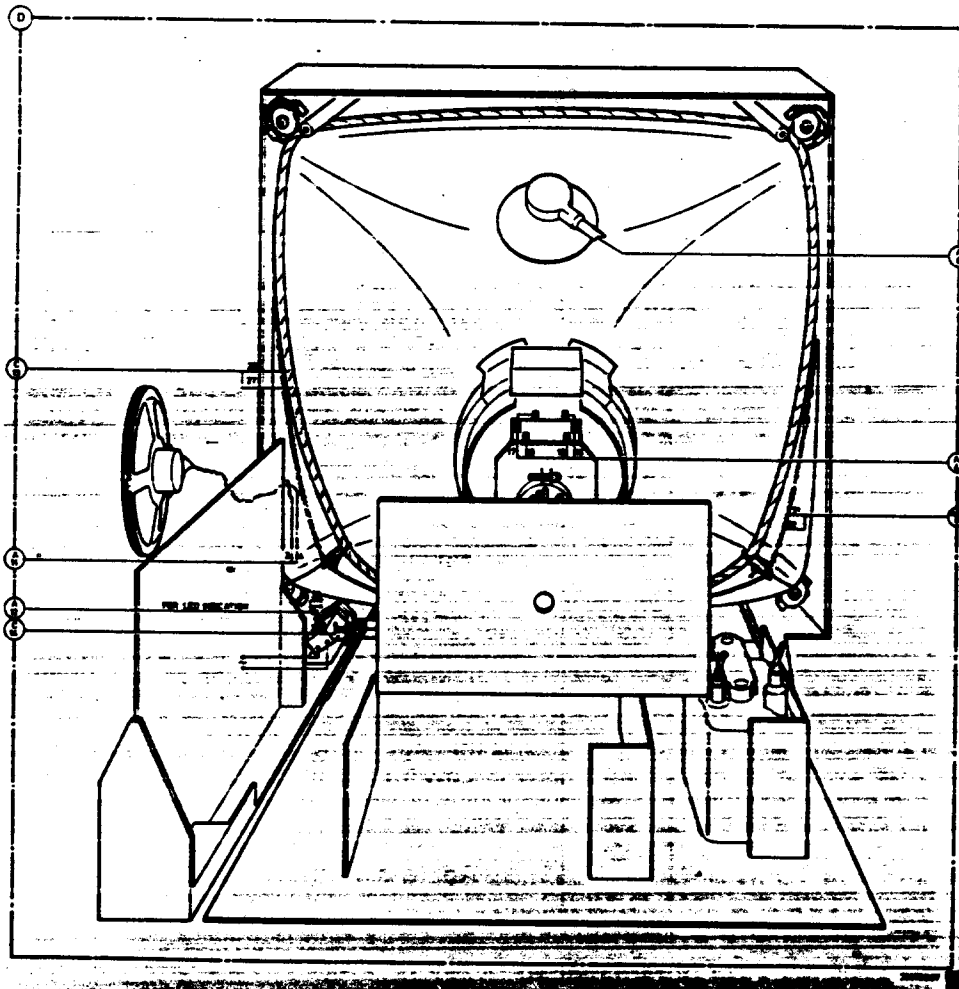


When using these sockets before connecting the equipment, place the RGB/Composite Switch in the RGB position.

\*Not used in CM8562/CM8762/8CM542

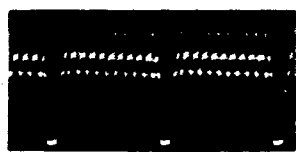
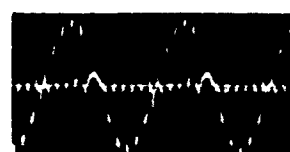
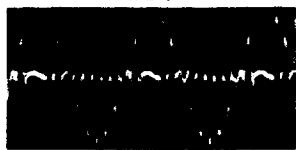
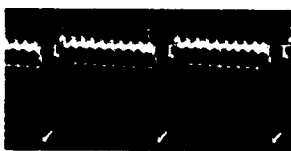
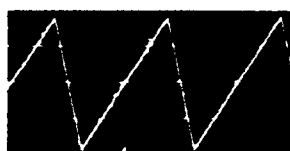
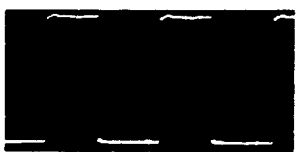
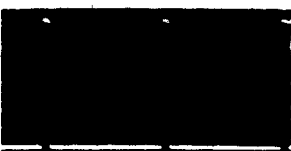
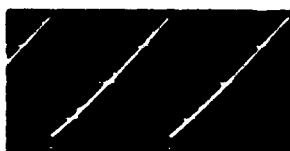
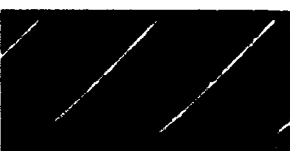
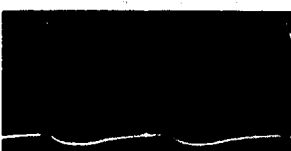
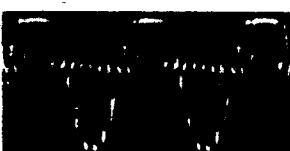
## INTERCONNECT DIAGRAM

Note: To Remove Power Board Depress Locking Clip Located on Bottom of Cabinet Beneath Power Board.





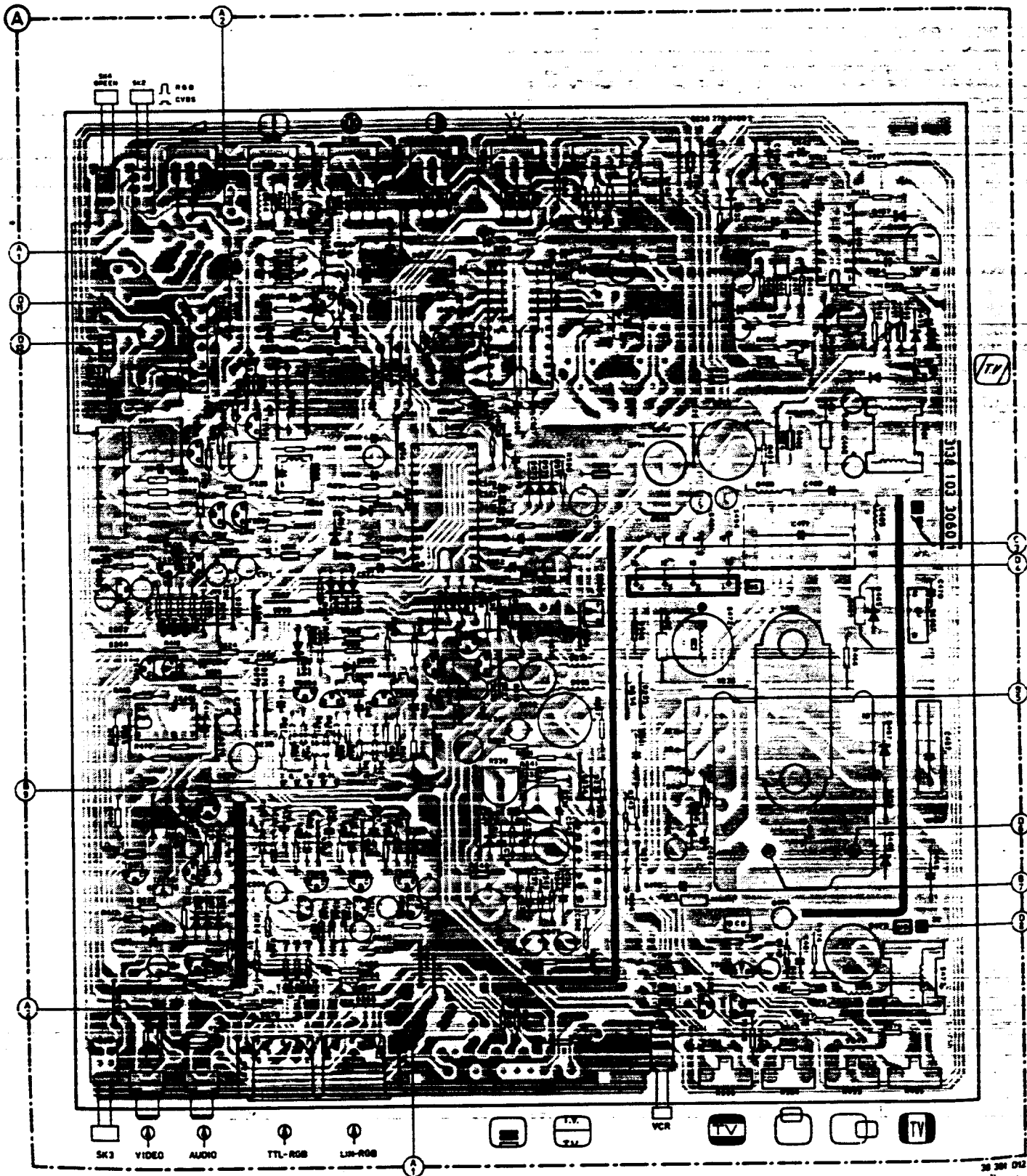
## WAVEFORMS

1. .7Vp-p  
20 $\mu$ S2. 1Vp-p  
20 $\mu$ S3. .65Vp-p  
20 $\mu$ S4. .45Vp-p  
20 $\mu$ S5. .7Vp-p  
20 $\mu$ S6. 10.2Vp-p  
20 $\mu$ S7. .25Vp-p  
20 $\mu$ S8. 2.5Vp-p  
20 $\mu$ S9. 1.4Vp-p  
20 $\mu$ S10. 1.75Vp-p  
20 $\mu$ S11. .8Vp-p  
20 $\mu$ S12. 3.2Vp-p  
20 $\mu$ S13. 1.7Vp-p  
20 $\mu$ S14. 5.8Vp-p  
20 $\mu$ S15. 10.3Vp-p  
20 $\mu$ S16. 10.2Vp-p  
5mS17. 48Vp-p  
20 $\mu$ S18. 11.5Vp-p  
20 $\mu$ S19. 19Vp-p  
5mS20. 11Vp-p  
5mS21. 2Vp-p  
5mS22. 11.3Vp-p  
5mS23. 24Vp-p  
5mS24. 1.9Vp-p  
5mS25. 47Vp-p  
5mS26. 4Vp-p  
5mS27. 100Vp-p  
20 $\mu$ S28. 65Vp-p  
20 $\mu$ S29. 44Vp-p  
20 $\mu$ S30. 64Vp-p  
20 $\mu$ SWAVEFORM NOTES  
UNLESS OTHERWISE SPECIFIED:

1. WAVEFORMS TAKEN UNDER THE CONDITIONS SPECIFIED THE SCHEMATIC NOTES.
2. SWEEP/TIME CM SETTINGS ARE SHOWN JUST BELOW PHOTOS. ALL PHOTOS WERE TAKEN WITH THE SWEEP TIME CONTROLS IN THE CALIBRATED POSITION. HORIZONTAL POSITIONING OF THE WAVEFORMS WAS ADJUSTED FOR MAXIMUM CLARITY.

# 8CM505/8CM515/8CM643/CM8505/CM8705 MAIN P.C. BOARD (viewed from component side)

NOTE: When IC501 has 16 Pin IC the following parts are not used; R550, R559, R561 & C568

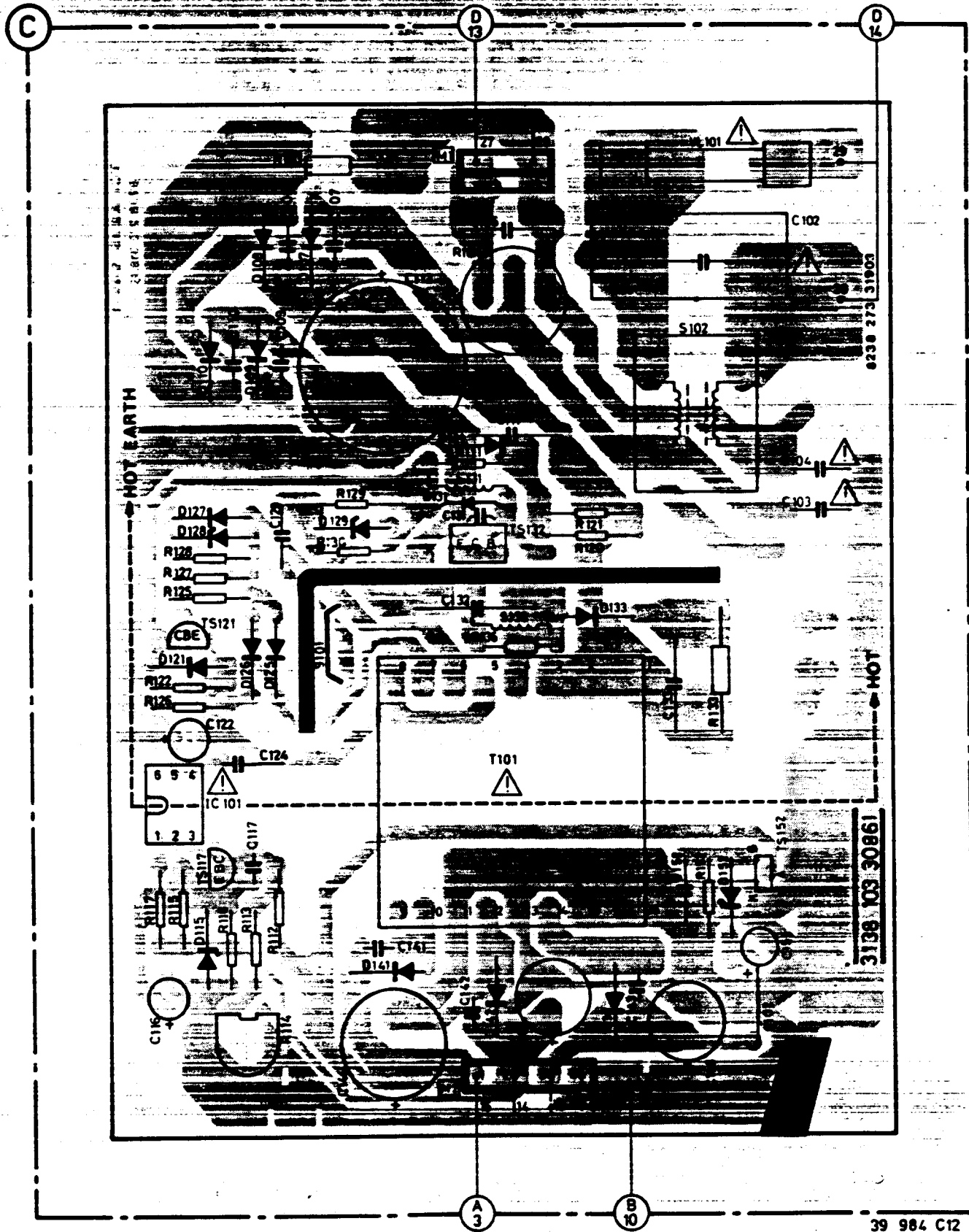






**POWER SUPPLY P.C. BOARD (Late Production Version)**  
 (viewed from component side)

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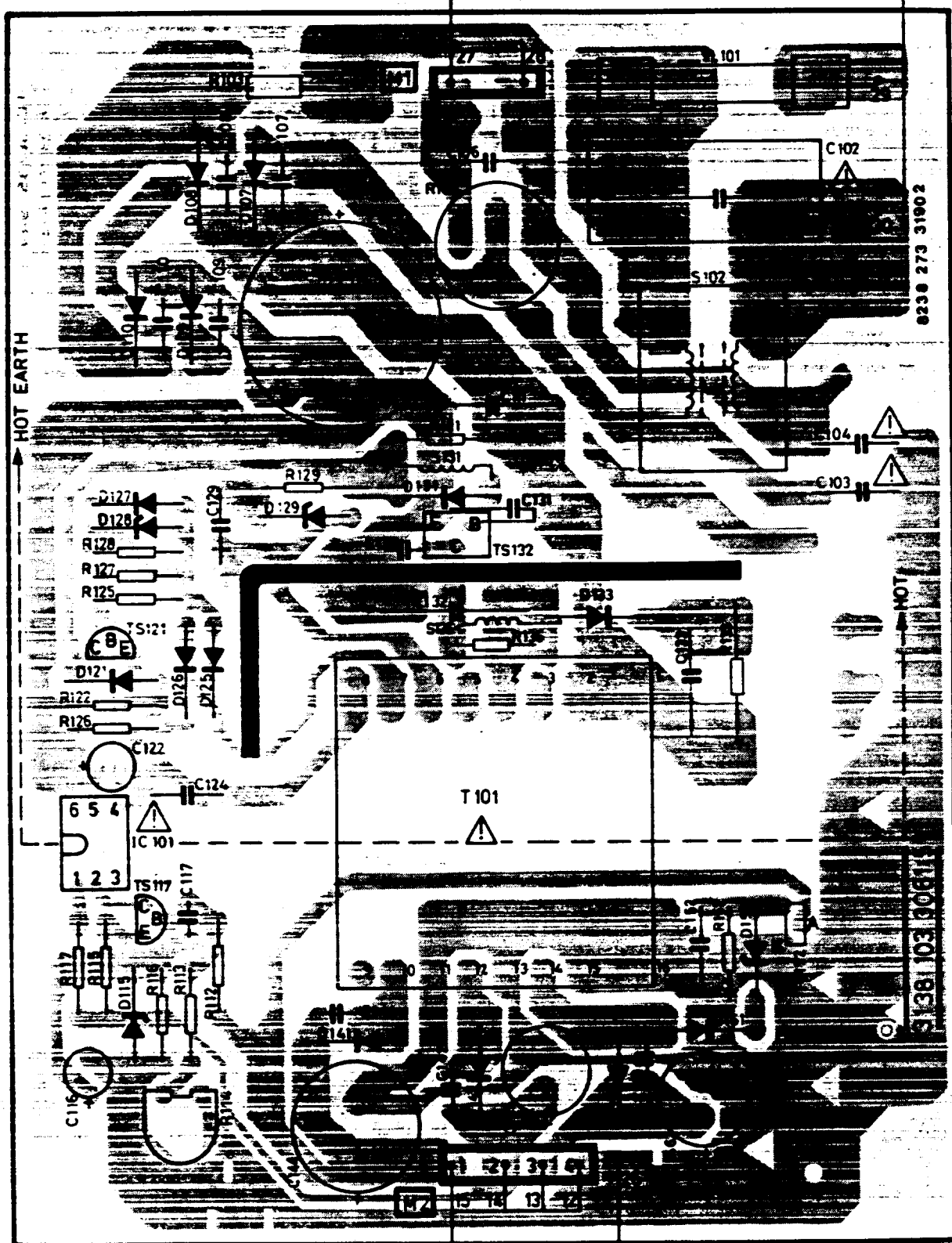
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POWER SUPPLY P.C. BOARD (Early Production Version)  
(viewed from component side)

C

D 13

D 14



8238 273 31902

8138 103 10611

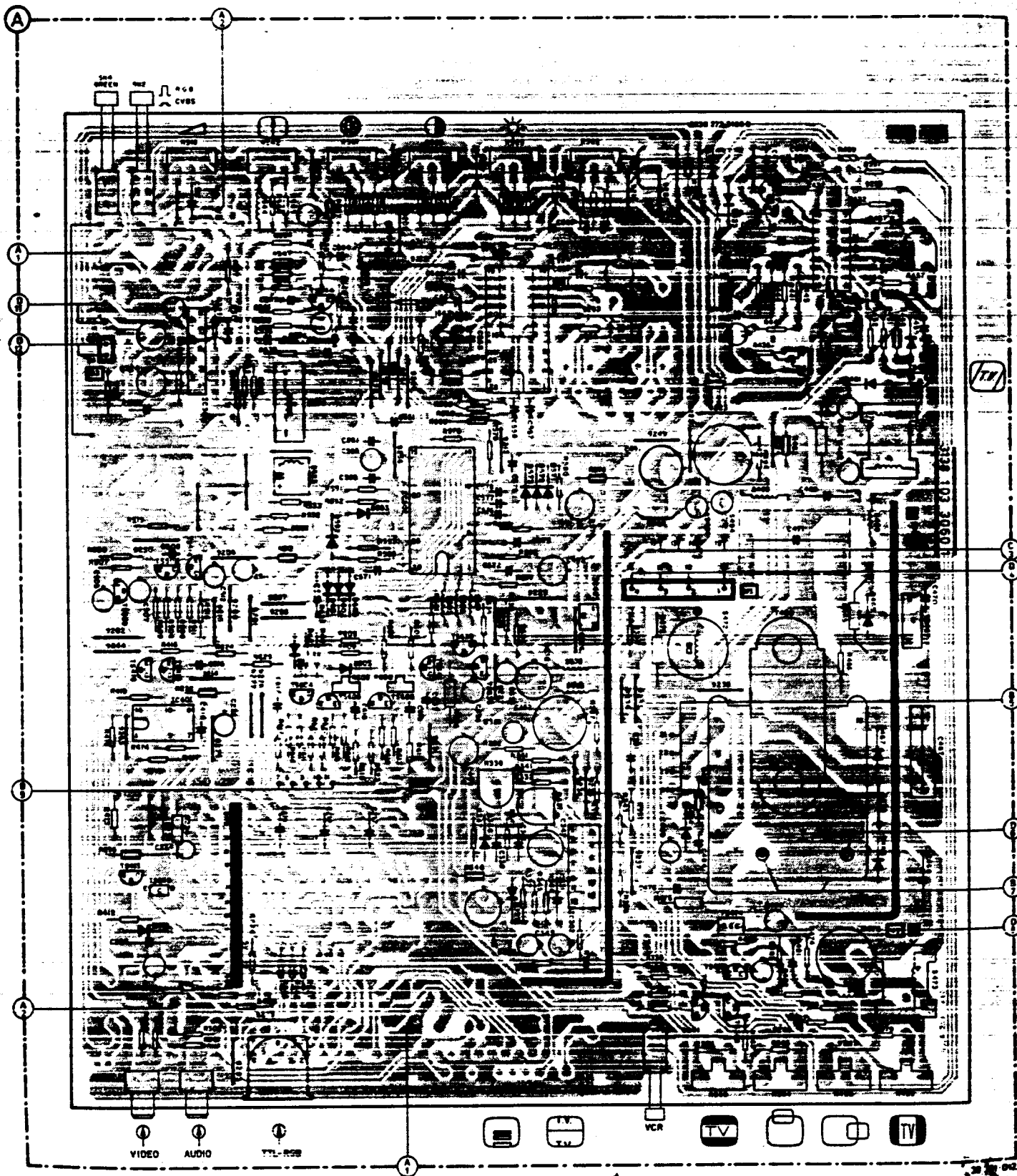
A 3

B 10



### 8CM542/CM8562/CM8762 MAIN P.C. BOARD (viewed from component side)

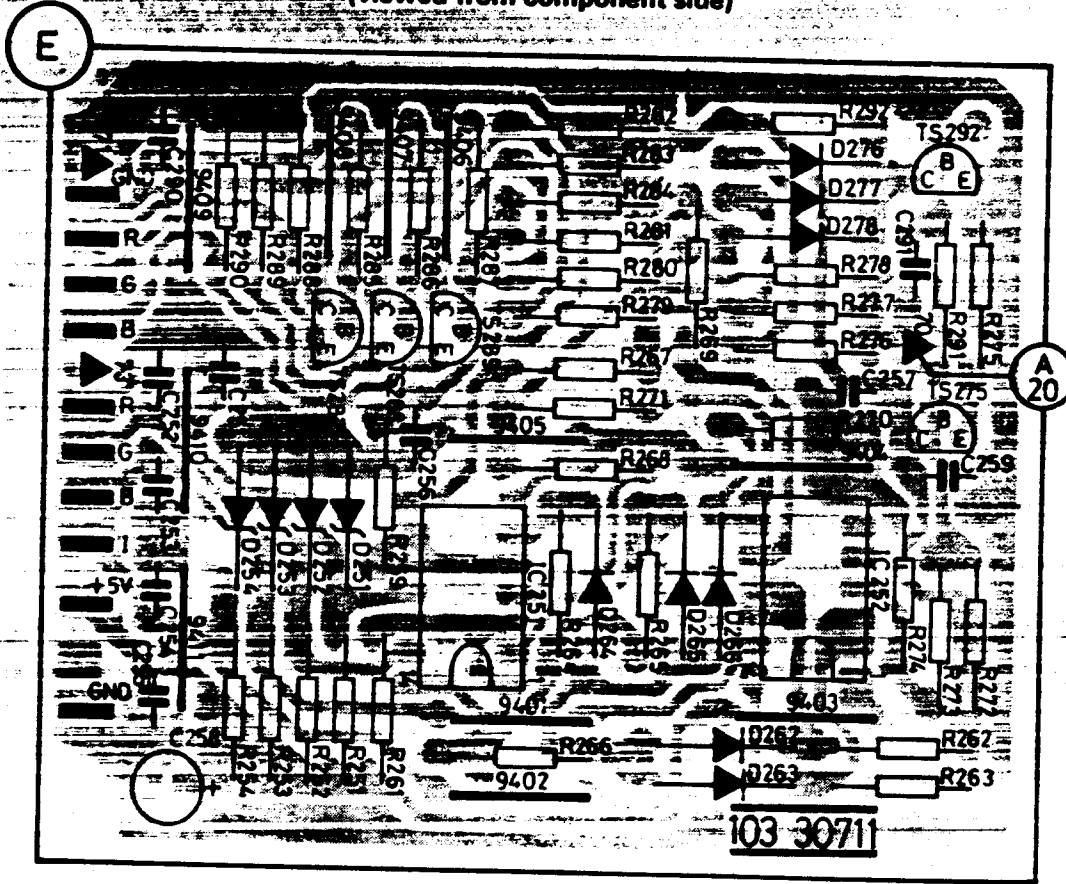
NOTE: When IC501 has 16 Pin IC the following parts are not used; R550, R559, R561 & C568





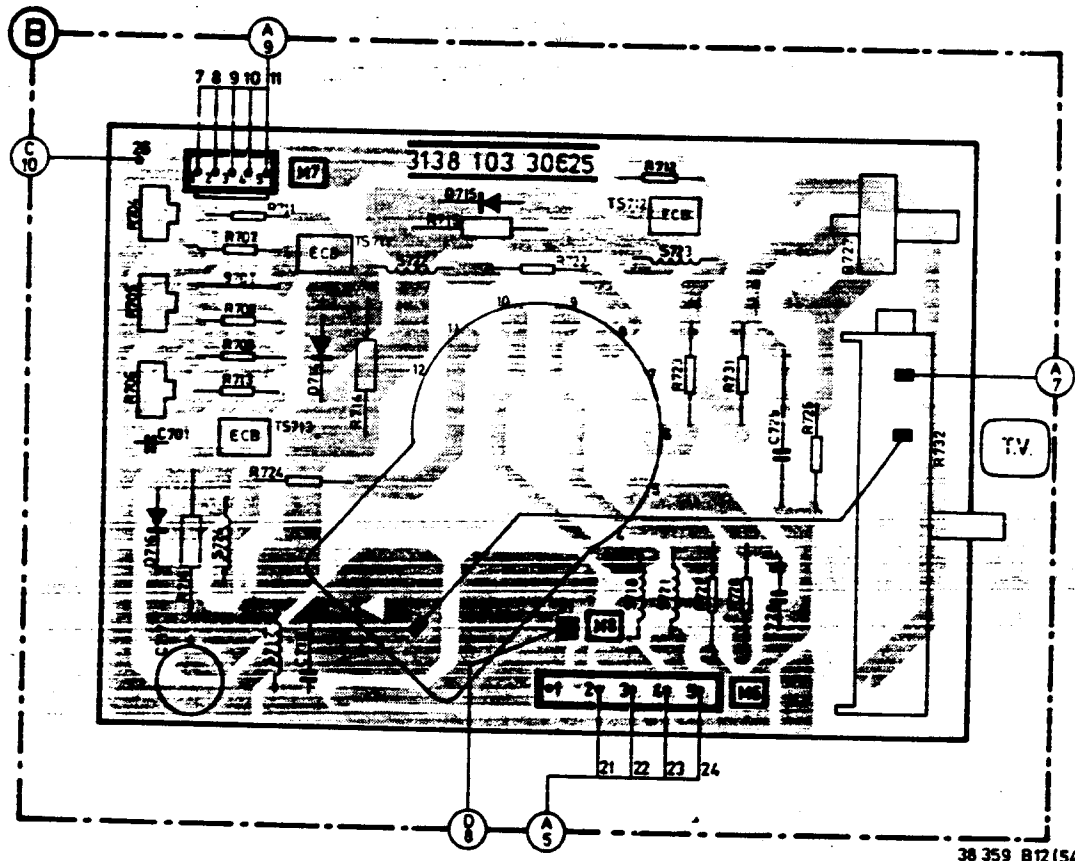


**8CM542/CM8562/CM8762 RGB INTERFACE P.C. BOARD**  
 (Early Production Version)  
 (viewed from component side)



**CRT P.C. BOARD**  
 (viewed from component side)

38 671 A12



38 359 B12 (544)

ALL VOLTAGE  
 OWING  
 LINE VOLTAC  
 TION TRANS  
 CUSTOMER CC  
 VOLUME COP  
 COLOR CON  
 GROUND.  
 CONTRAST (G  
 GROUND.  
 BRIGHTNESS  
 GROUND.  
 HUE CONTRC  
 SK2 IN CVBS  
 SK3, SK4 & S  
  
 P. REFERS TO  
 P. REFERS TO  
  
 compone  
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 ed within a  
 the schem.  
  
 substitute  
 pecified sa  
 r hazards.



Ref.	Description	Part No.
<b>CONTROLS &amp; SWITCHES (Continued)</b>		
R706	Trimpot, 4.7k	4H10010236
R727	Potentiometer, 5M	2204290726
S R732	Focus Control, 59M	2204290730
S SK1	Power Switch	1606780548
SK2	RGB/CVBS Switch	1606780549
SK3	Comb Filter Switch (CM8505/ CM8705/8CM505/8CM515)	1606780549
SK4	Green Switch	1606780549
SK5	VCR Switch	1606780549

**SEMICONDUCTORS**

S IC101	Optic Coupler IC	5303110001
IC251	Inverter IC (CM8562)	6193100140
IC252	Inverter IC (CM8562)	6193100140
IC271	Inverter IC (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6121970001
IC272	Decoder/Matrix IC (CM8505/CM8705/8CM505/ 8CM515/8CM643)	6193100070
IC273	AND Gate IC (CM8505/8CM505/ 8CM515/8CM643)	6121990001
IC301	Audio Amp IC	6192001060
IC302	Vertical Signal Processor IC	6123300289
IC401	Exclusive OR Gate IC	6122890001
IC402	Horizontal Signal Processor IC	6123300330
IC403	Voltage Stabilizer IC	6192140331
IC501	Video Processor IC (28 Pin)	6123300332
IC501	Video Processor IC (16 Pin)	6123300374
IC502	Video Processor/Video Amp IC	6192080240
TS117	NPN, Silicon	6105000004
TS121	NPN, Silicon	6190004040
TS132	NPN, Silicon	6190002200
TS152	Thyristor	6191400010
TS211	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS212	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS213	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS217	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS218	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS219	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS228	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS233	PNP, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6190101480
TS235	NPN, Silicon	6190004860
TS275	NPN, Silicon (CM8562/CM8762/ 8CM542)	6104350002
TS287	NPN, Silicon (CM8562/CM8762/ 8CM542)	6103700001
TS288	NPN, Silicon (CM8562/CM8762/ 8CM542)	6103700001
TS289	NPN, Silicon (CM8562/CM8762/ 8CM542)	6103700001
TS291	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS292	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6104350002
TS293	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS298	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS299	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6104350002
TS367	PNP, Silicon	6190101480
TS368	NPN, Silicon	6103680002
TS406	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6104350002
TS413	NPN, Silicon	6104350002
TS418	NPN, Silicon	6103700001
TS419	NPN, Silicon	6103700001
TS439	NPN, Silicon	6104350002
TS461	NPN, Silicon	6105350003
TS467	NPN, Silicon	6104330001
TS474	PNP, Silicon	6104380001
TS478	NPN, Silicon	6104350002
TS508	NPN, Silicon	6103700001
TS509	NPN, Silicon	6104350002
TS514	NPN, Silicon	6103700001
TS517	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS518	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001

Ref.	Description	Part No.
<b>SEMICONDUCTORS (Continued)</b>		
TS531	NPN, Silicon (CM8505/CM8706/ 8CM505/8CM515/8CM643)	6103700001
TS544	NPN, Silicon	6103700001
TS552	NPN, Silicon (CM8505/CM8705/ 8CM505/8CM515/8CM643)	6103700001
TS604	NPN, Silicon (CM8505/CM8705/ 8CM505)	6103700001
TS604	NPN, Silicon (8CM515/CM8562/ CM8762/8CM542)	4H13041594
TS605	NPN, Silicon (CM8505/CM8705/ 8CM505)	6103700001
TS605	NPN, Silicon (8CM515/CM8562/ CM8762/8CM542)	4H13041594
TS606	NPN, Silicon (CM8505/CM8705/ 8CM505)	6103700001
TS606	NPN, Silicon (8CM515/CM8562/ CM8762/8CM542)	4H13041594
TS633	NPN, Silicon	6104350002
TS635	NPN, Silicon	6105270002
TS641	NPN, Silicon	6103720002
TS711	NPN, Silicon	6104390001
TS712	NPN, Silicon	6104390001
TS713	NPN, Silicon	6104390001
S D107	Diode	5391200341
S D108	Diode	5391200341
S D109	Diode	5391200341
S D110	Diode	5391200341
D111	Diode (L.P.)	5302250240
D115	Zener Diode	5301570629
D121	Diode	5301811002
D125	Diode	5301811002
D126	Diode	5301811001
D127	Diode	5301811001
D128	Zener Diode	4H13030862
D129	Zener Diode, 2.4V	4H13031253
D131	Diode	5301811002
D133	Diode	4H13031393
D141	Diode	4H13032833
D142	Diode	4H13031607
D143	Diode	5H13031971
D151	Diode	5302681002
D152	Diode	4H13031024
D221	Diode (CM8505/CM8705/ 8CM505/8CM515/8CM643)	5301811002
D222	Diode (CM8505/CM8705/ 8CM505/8CM515/8CM643)	5301811002
D223	Diode (CM8505/CM8705/ 8CM505/8CM515/8CM643)	5301811002
D234	Zener Diode	4H13034167
D262	Diode (CM8562/CM8762/ 8CM542)	5801811002
D263	Diode (CM8562/CM8762/ 8CM542)	5801811002
D264	Diode (CM8562/CM8762/ 8CM542)	5801811002
D265	Diode (CM8562/CM8762/ 8CM542)	5801811002
D266	Diode (CM8562/CM8762/ 8CM542)	5801811002
D276	Diode (CM8562/CM8762/ 8CM542)	5801811002
D277	Diode (CM8562/CM8762/ 8CM542)	5801811002
D278	Diode (CM8562/CM8762/ 8CM542)	5801811002
D325	Green LED	5392100470
D333	Diode	5301811002
D337	Diode	5301811002
D346	Diode	5301711002
D412	Diode	5301811002
D432	Zener Diode, 4.7V	5390150479
D433	Diode	5301811002
D455	Diode	5302681002
D457	Diode	5301811002
D461	Diode	4H13031607
D465	Diode	4H13031607
D467	Diode	5302591001
D468	Diode	5302601002

Ref.	Description	Part No.	Ref.	Description	Part No.
<b>SEMICONDUCTORS (Continued)</b>			<b>MISCELLANEOUS (Continued)</b>		
D484	Diode	5391800450		Cabinet Foot, 4 used (CM8505/ CM8562)	1491030002
D571	Diode	5301811002		Cabinet Foot, 4 used (8CM505/ 8CM515/8CM643)	1491030003
D572	Diode	5301811002		Cover Adjustment (8CM542)	1491320214
D573	Diode	5301811002		Secondary Control Door (CM8505)	1492180011
D592	Diode	5301811002		Secondary Control Door (8CM505)	1492180010
D593	Diode	5301811002		Secondary Control Door (8CM515/ 8CM643)	1492180012
D697	Diode	5301811002		Secondary Control Door (CM8562)	1492180018
D601	Diode	5301811002		Text Plate (CM8505/CM8562)	1591060003
D602	Diode	5301811002		Text Plate (8CM505/8CM515)	1591060004
D603	Diode	5301811002		On/Off Pushbutton Knob (CM8505/CM8705)	1494200066
D604	Diode	5302681002		On/Off Pushbutton Knob (8CM505/8CM515/8CM643)	1494200074
D605	Diode	5302681002		On/Off Pushbutton Knob (CM8562/CM8762/8CM542)	1494200074
D714	Diode	5302681002		Pushbutton Knob (VCR SW., Comb Defeat (2 used))	1494200067
D715	Diode	5302681002		Pushbutton Knob (RGB/CVBS, Green (2 used))	1494200068
D716	Diode	5302681002		High Voltage Cable (CM8505/ CM8705/8CM505/8CM515/ 8CM643)	4613990214
<b>MISCELLANEOUS</b>				High Voltage Cable (CM8562/ CM8762/8CM542)	4613990221
S L101	Fuse, 3A	1813900214		Focus Cable	4613990213
S	Fuse Holder (2 used)	1035300932		Control Extender Rod (4 used)	1191000039
S B100	CRT w/Deflection Yoke (CM8505/CM8705)	A34EAJ00X		Owner's Manual (CM8505)	1847290001
S B100	CRT w/Deflection Yoke (8CM505)	A34EAJ10X		Owner's Manual (8CM505)	1847540001
S B100	CRT w/Deflection Yoke (8CM515)	M34EAQ00X		Owner's Manual (8CM515)	1847550001
S B100	CRT w/Deflection Yoke (8CM542/8CM643)	E2971855		Owner's Manual (8CM643)	1850090001
S B100	CRT w/Deflection Yoke (CM8562/CM8762)	M34EAQ10X		Owner's Manual (CM8705)	1853160001
S	CRT Socket	1892250011		Owner's Manual (CM8762)	1853150001
S323	Speaker	5808360051		Owner's Manual (CM8562)	1848180001
1567	Crystal	5699000028		Owner's Manual (8CM542)	1852560001
	RCA Jack (2 used)	1813930160			
	6 Pin DIN Socket (CM8505/ CM8705/8CM505/8CM515/ 8CM643)	1814521073			
	8 Pin DIN Socket	1814521072			
	Cabinet (CM8505)	1492100002			
	Cabinet (8CM505)	1492100003			
	Cabinet (8CM515, 8CM643)	1492100004			
	Cabinet (8CM542)	1492900004			
	Cabinet (CM8562)	1492100005			

## COMMODORE STOCKED PARTS — 1084P

CBM PART NUMBER	DESCRIPTION	LOCATION	PHILIPS OEM NUMBER
314890-01	SERVICE MANUAL 1084.		
314851-01	CABLE 1084 (6 to 23)		
610200-11	LINE CHOKE	S102	3693400001
610200-12	DEGAUSSING COIL	S104	3693100005
610200-13	DEFLECTION YOKE (PART OF CRT)	S348	—
610200-14	TRANSFORMER	T101	3090200003
610200-15	HORZ DRIVE TRANSFORMER	T401	3293000001
610200-16	OUTPUT TRANSFORMER	T402	3291000006
610200-17	CAP .0082 $\mu$ F, 1.5KV POLY FILM	C467	2602320549
610200-18	CAP .022 $\mu$ F, 400V POLYPROP	C468	2602320597
610200-19	DUAL PTC	R104	4H11640035
610200-20	FOCUS CONTROL, 59M	R732	2204290730
610200-21	POWER SWITCH	SK1	1606780548
610200-22	IC OPTIC COUPLER	IC101	5303110001
610200-23	IC AUDIO AMP	IC301	6123300289
610200-24	IC VERT SIGNAL PROCESSOR	IC302	6123300289
610200-25	IC HORZ SIGNAL PROCESSOR	IC402	6123300330
610200-26	IC VIDEO PROCESSOR (28 PIN)	IC501	6123300332
610200-27	IC VIDEO AMP	IC502	6192080240
610200-28	TRANSISTOR NPN TS461	TS461	6105350003
610200-29	TRANSISTOR NPN TS467	TS467	6104330001
610200-30	TRANSISTOR NPN TS711, 712, 713	TS711	6104390001
610200-31	DIODE D107, 108, 109, 110	D107	5391200341
610200-32	CRT WITH DEFLECTION YOKE	B100	M34EAQ10X
610200-33	CRT SOCKET	—	1892250011
610200-34	CABINET (CM8562)	—	1492100005
610200-35	CONTROL PANEL DOOR	—	1492180018



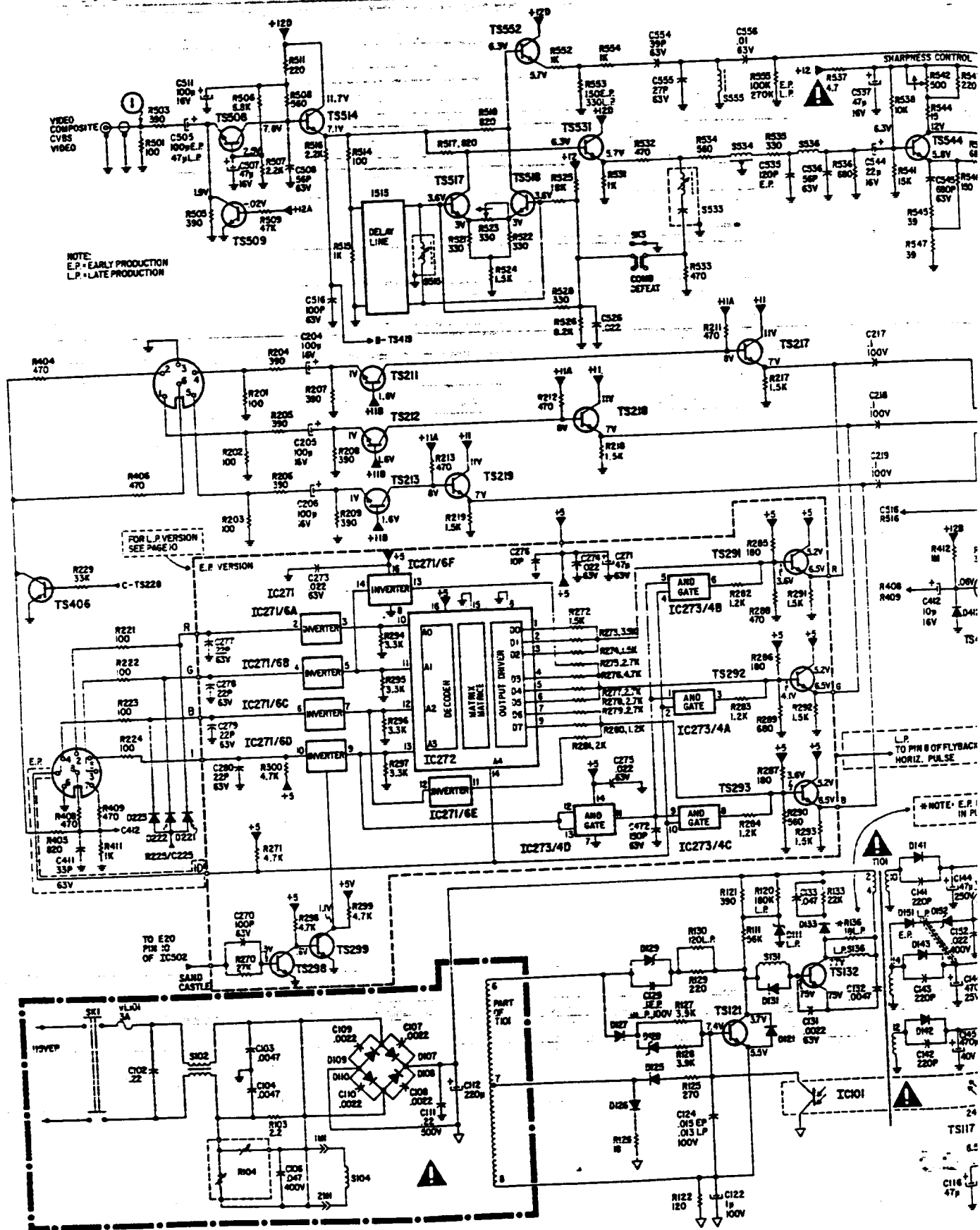
(CM8505/CM8562/CM8705/CM8762/  
8CM505/8CM515/8CM542/8CM643)

NAP 6523

6523-11

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

⚡ INDICATES "HOT" GROUND.  
⏏ INDICATES ISOLATED SIGNAL GROUND.



(CM8505/CM8562/CM8705/CM8762/  
8CM505/8CM515/8CM542/8CM643)



2/  
3)

# NAP 6523

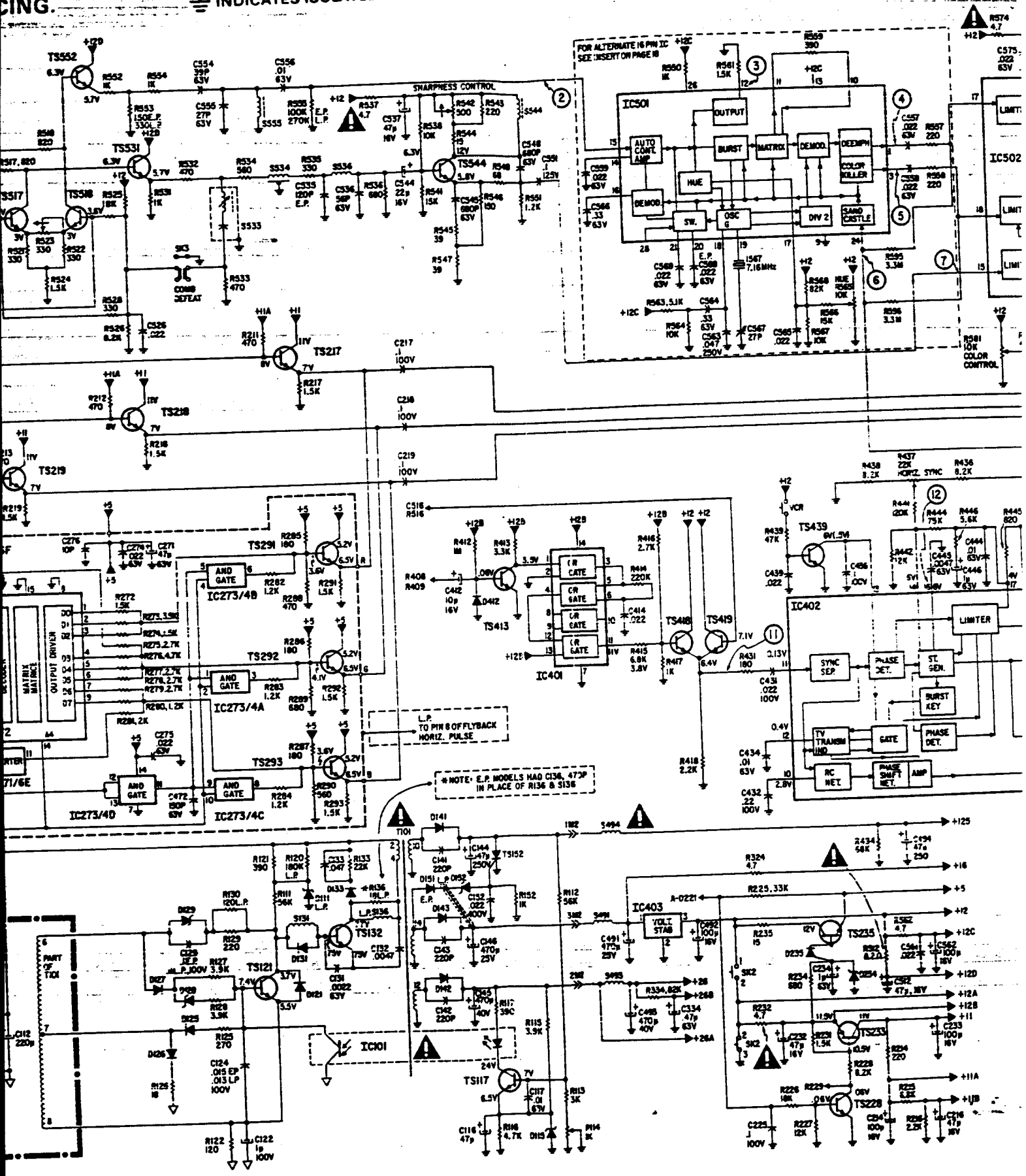
6523-11

8CM505/8CM515/8CM643/CM

TRANSFORMER  
WINDING.

▽ INDICATES "HOT" GROUND.  
⊥ INDICATES ISOLATED SIGNAL GROUND.

NOTE: IC501 Alternate 16 Pin IC, see Insert pag



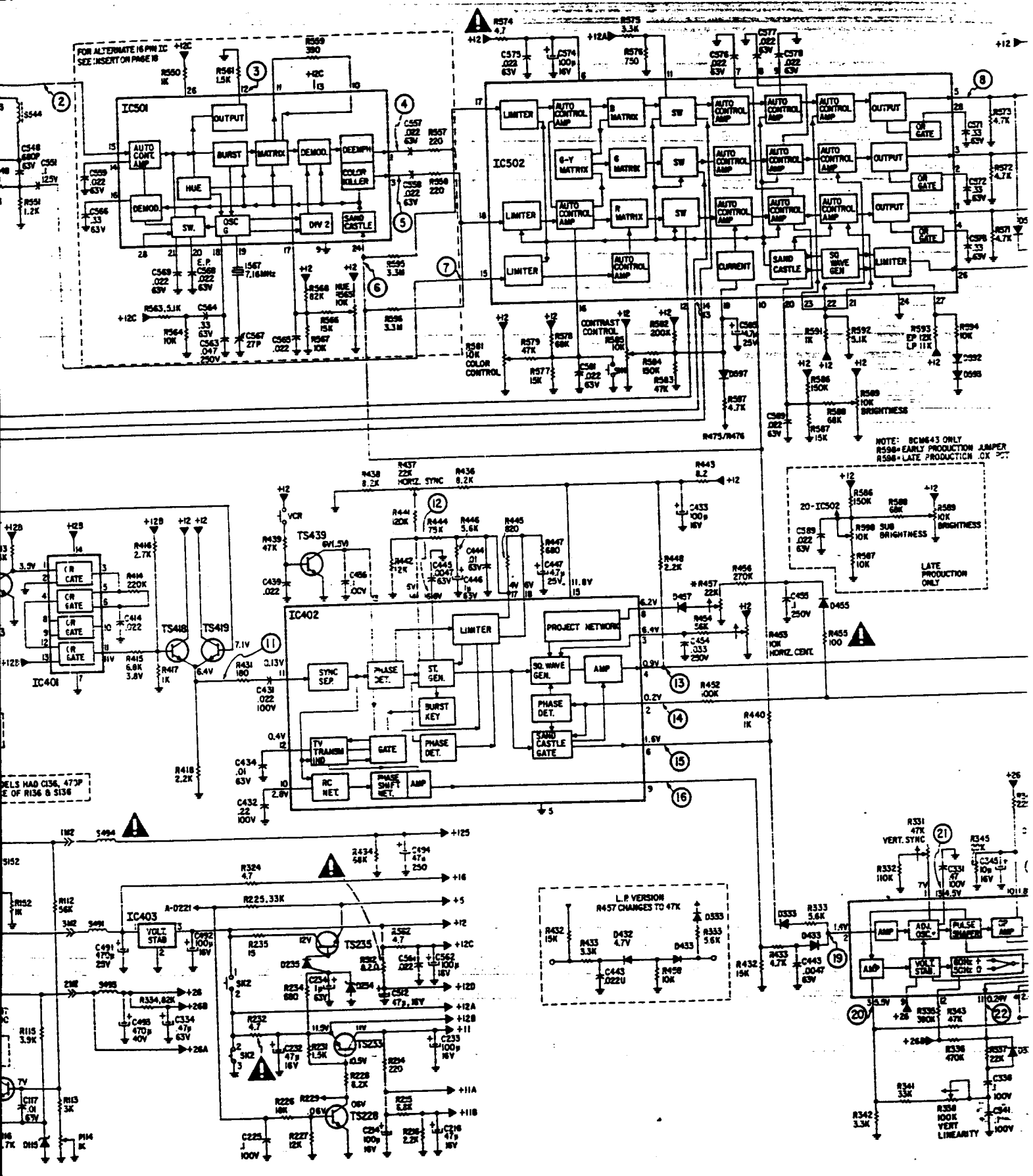
/CM8762/  
/8CM643)



# 8CM505/8CM515/8CM643/CM8505/CM8705 SCHEMATIC DIAGRAM

NOTE: IC501 Alternate 16 Pin IC, see Insert page 18

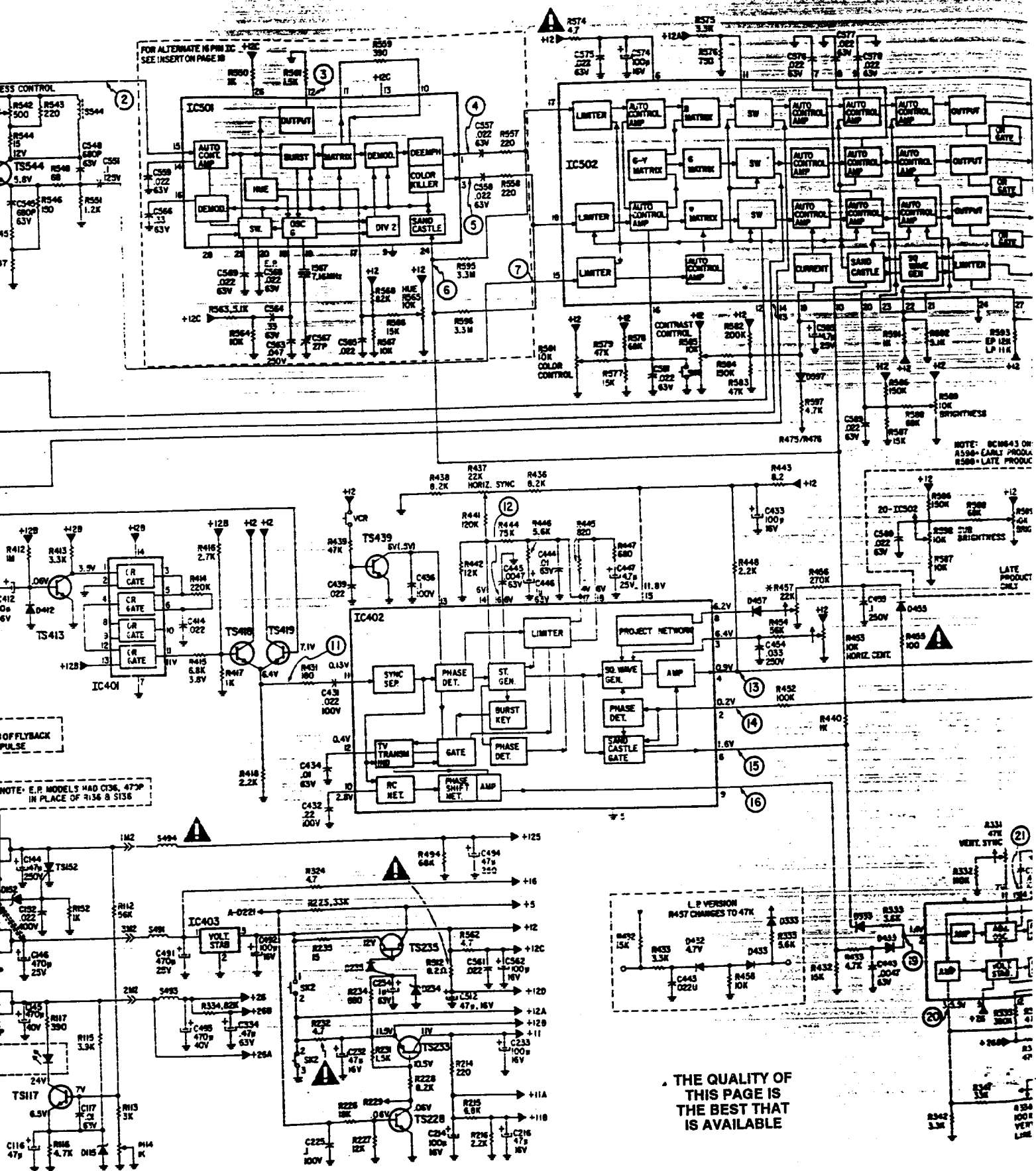
D.



# 8CM505/8CM515/8CM643/CM8505/CM8705 SCHEMATIC DIAGRAM

NOTE: IC501 Alternate 16 Pin IC, see Insert page 18

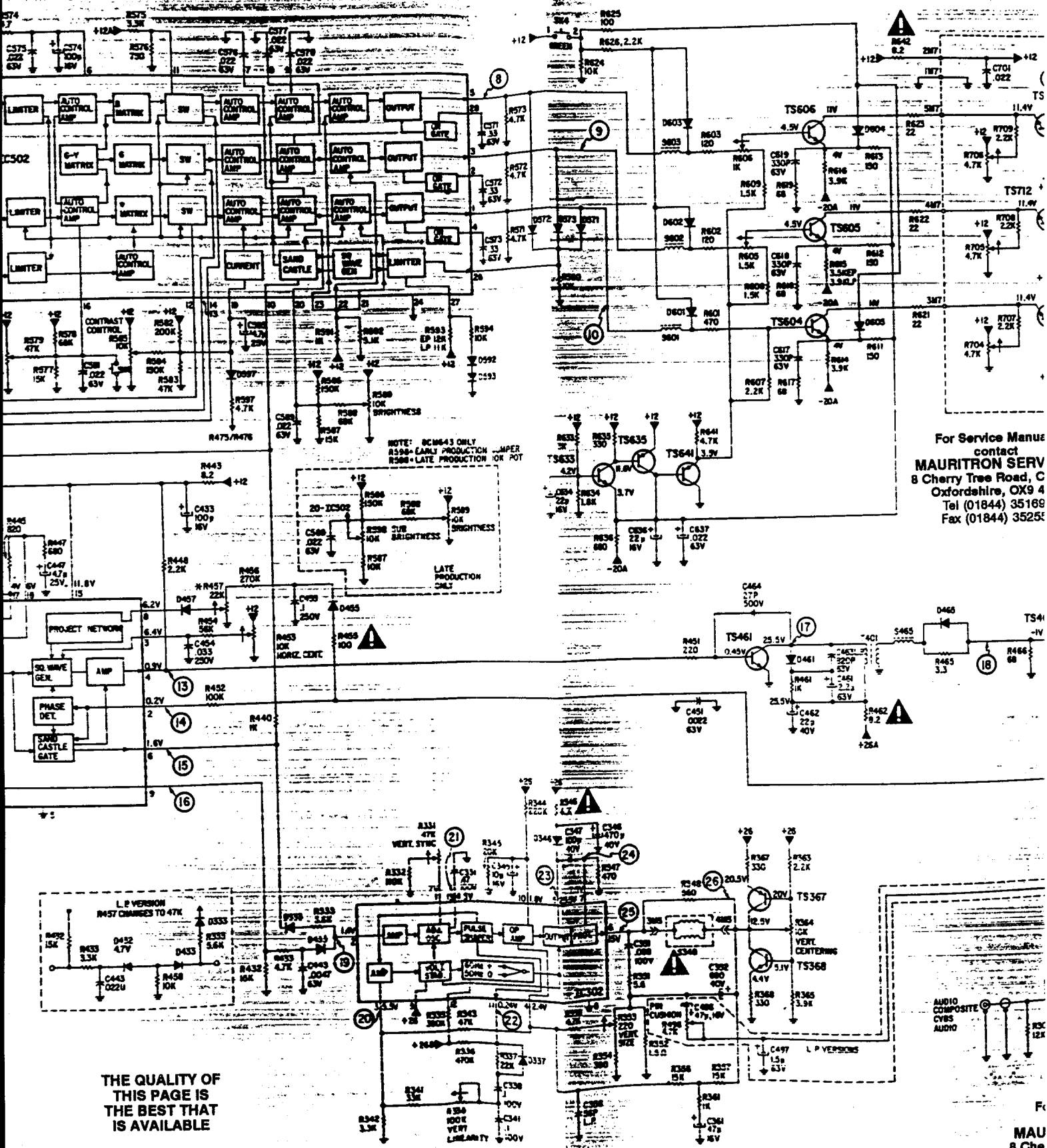
GROUND.



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# CM8505/CM8705 SCHEMATIC DIAGRAM

(Parts List - Pgs. 23, 24, 25)



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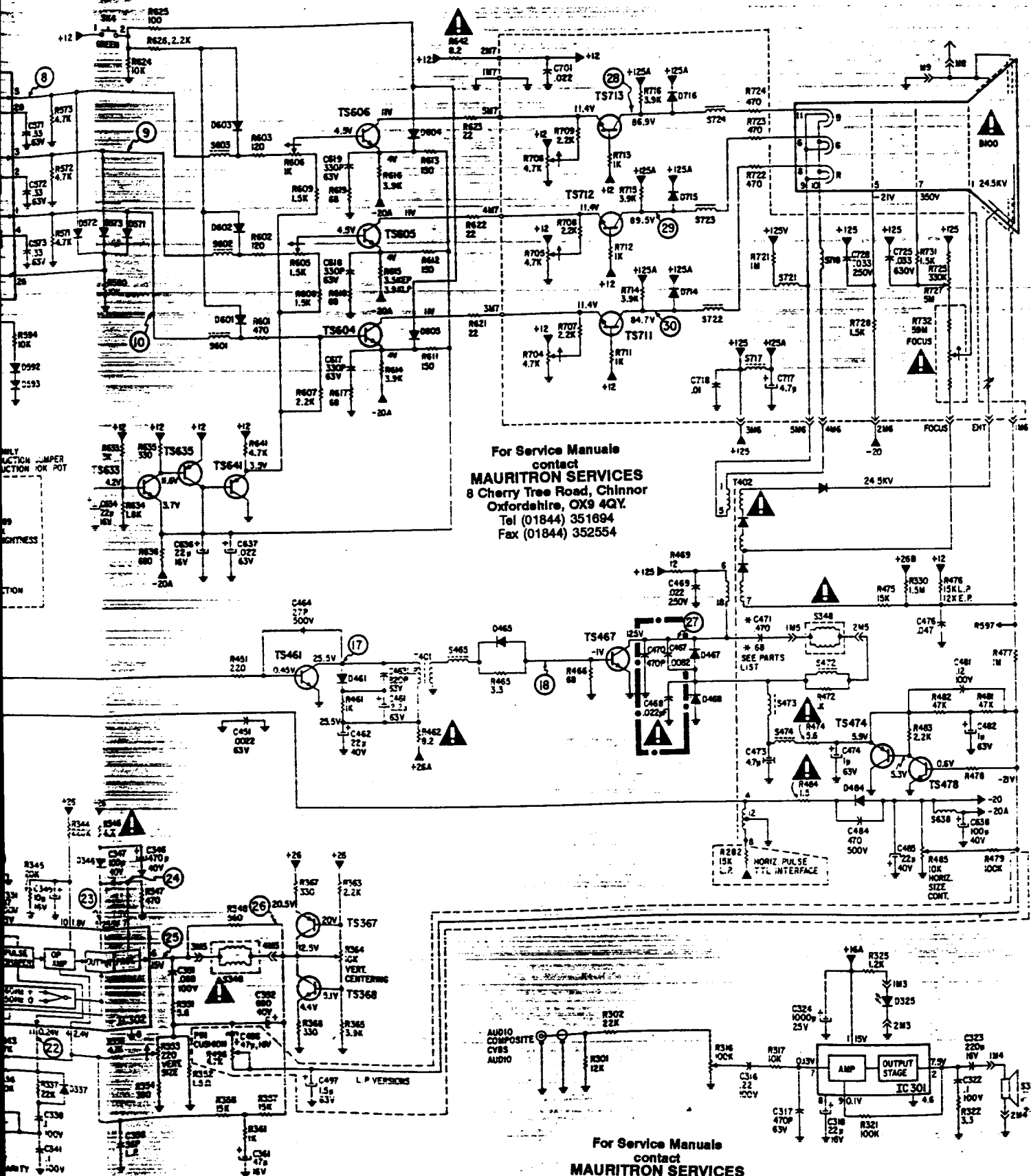
For Service Manual contact MAURITRON SERV 8 Cherry Tree Road, C Oxfordshire, OX9 4 Tel (01844) 35169 Fax (01844) 35255

NAP 6523

F. MAU 8 Che OX F

(Parts List - Pgs. 23, 24, 25)

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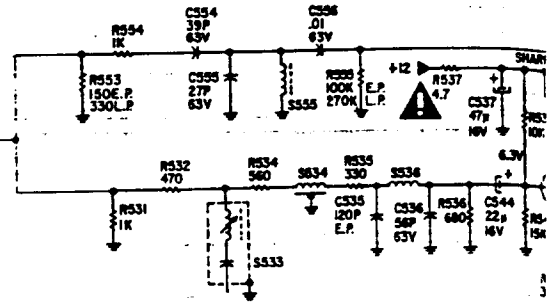
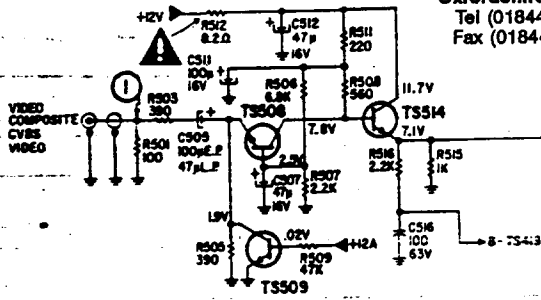
For Service Manuals contact  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554

For Service Manuals contact  
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 8 Cherry Tree Road, Chinnor  
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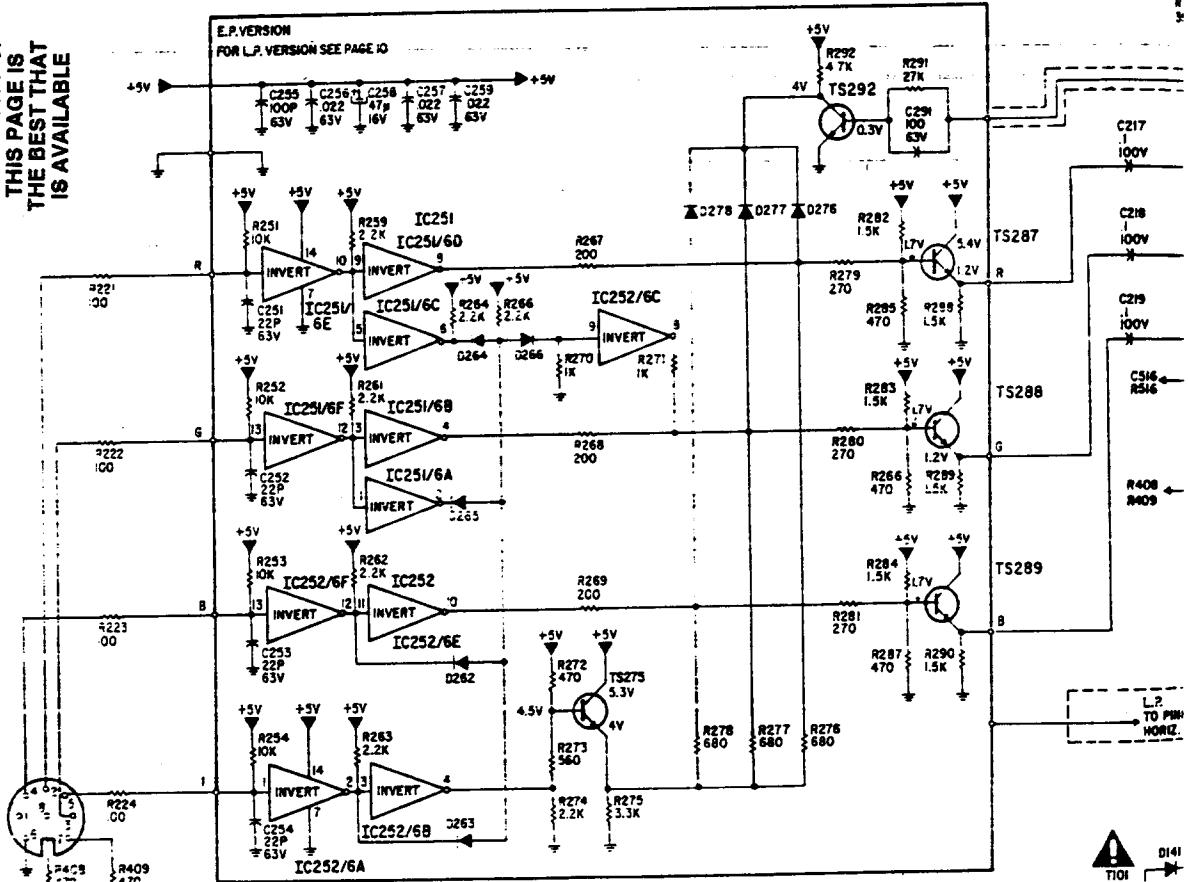
**CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.**

▽ INDICATES "HOT" GROUND  
 ≡ INDICATES ISOLATED SIGNAL

For Service Manuals  
 contact  
**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351684  
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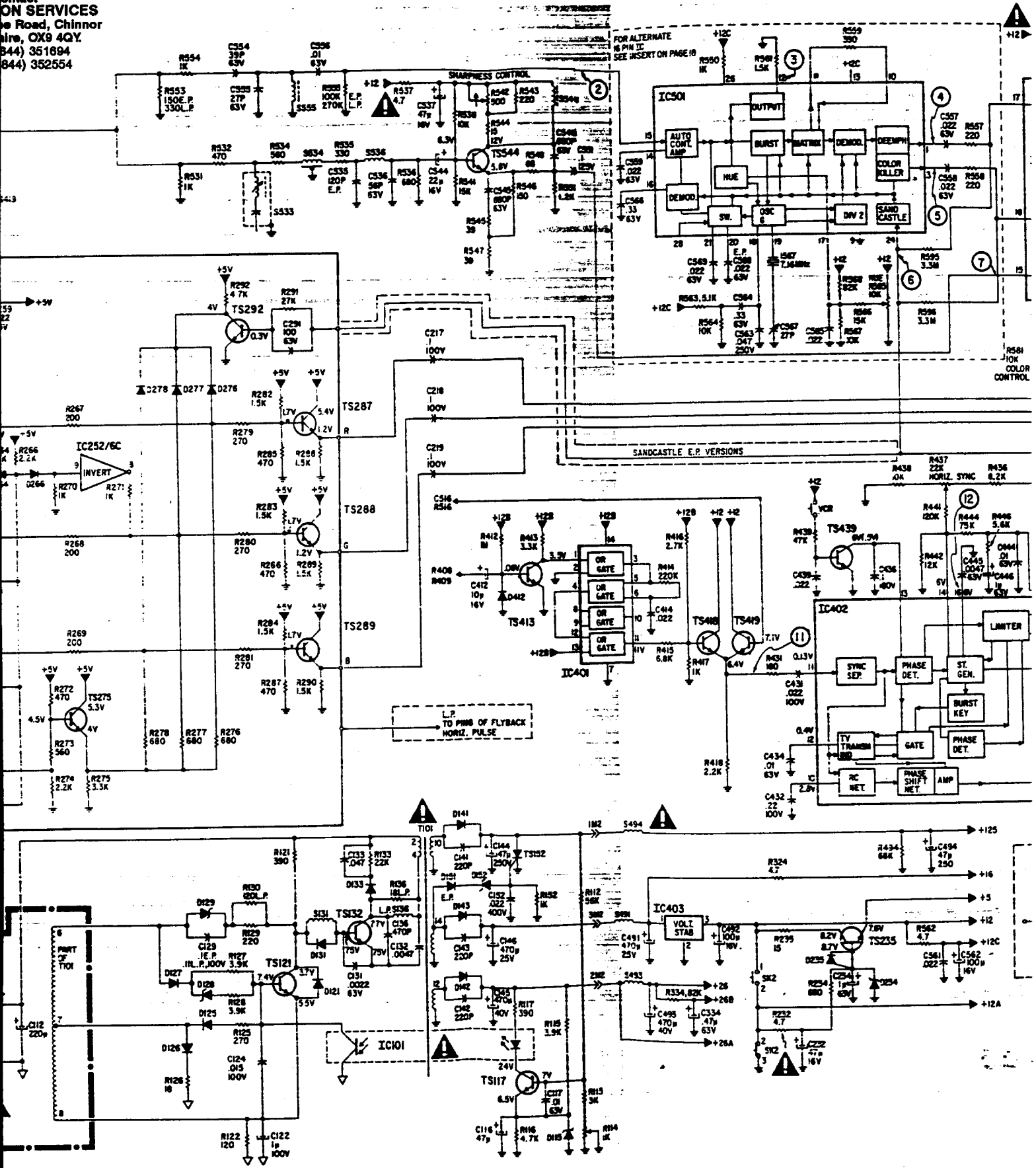


ION TRANSFORMER  
RVICING.

INDICATES "HOT" GROUND.  
INDICATES ISOLATED SIGNAL GROUND.

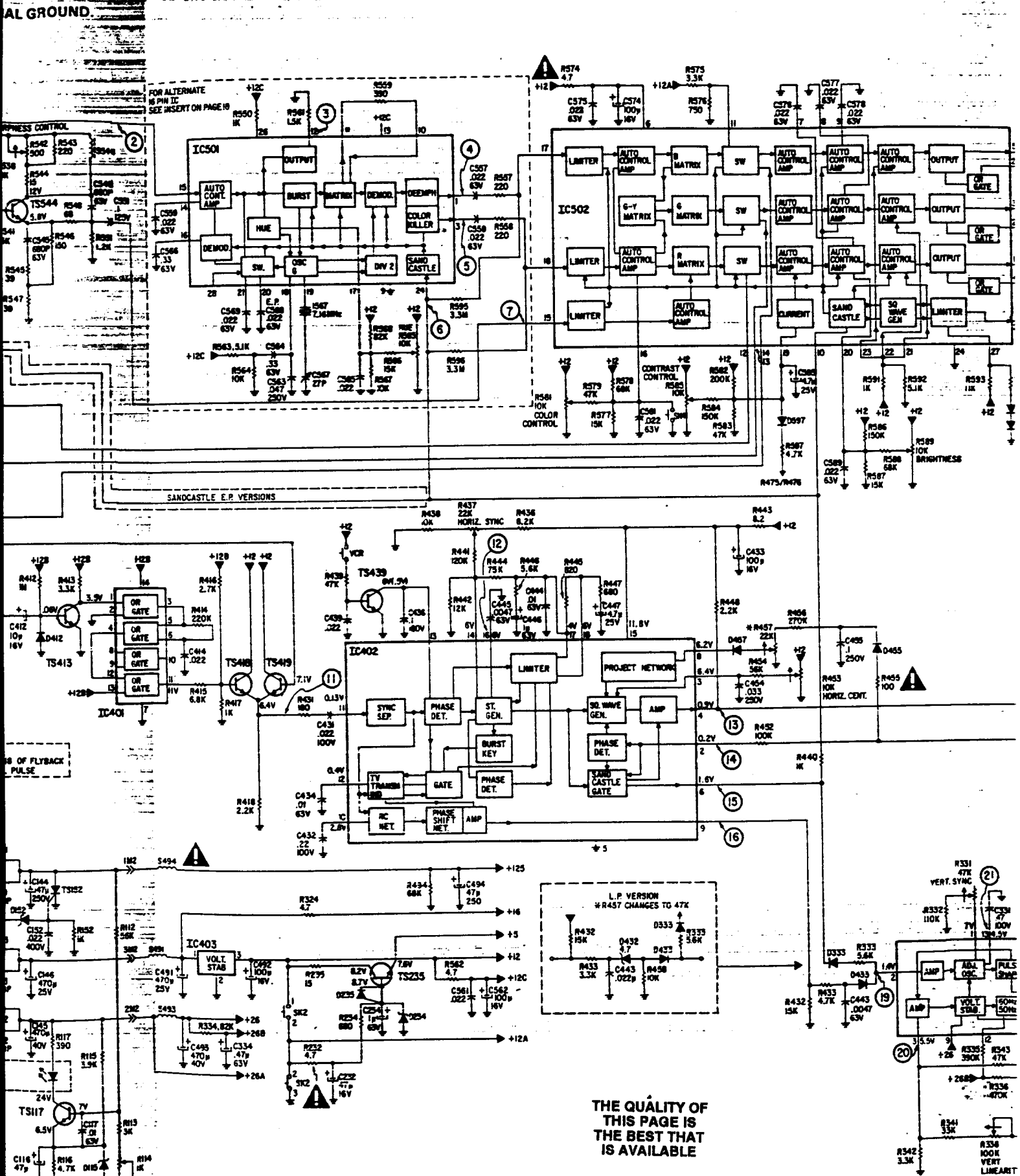
NOTE: IC501 Alternate 16 Pin IC. See Insert

Service Manuals  
Contact  
SERVICES  
Road, Chinnor  
ire, OX9 4QY.  
(844) 351894  
(844) 352554



# 8CM542/CM8562/CM8762 SCHEMATIC DIAGRAM

NOTE: IC501 Alternate 16 Pin IC. See Insert Page 18

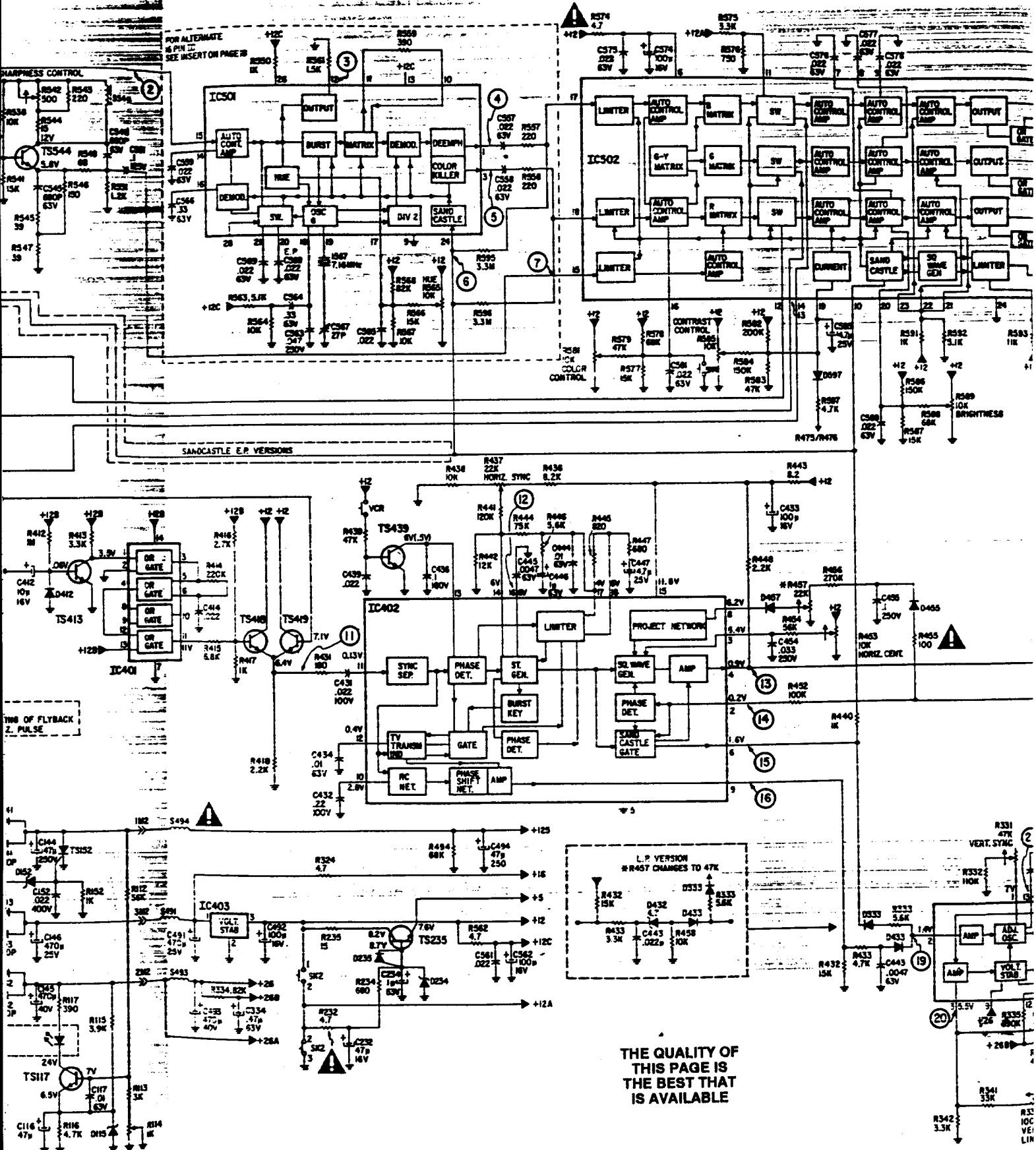




# 8CM542/CM8562/CM8762 SCHEMATIC DIAGRAM

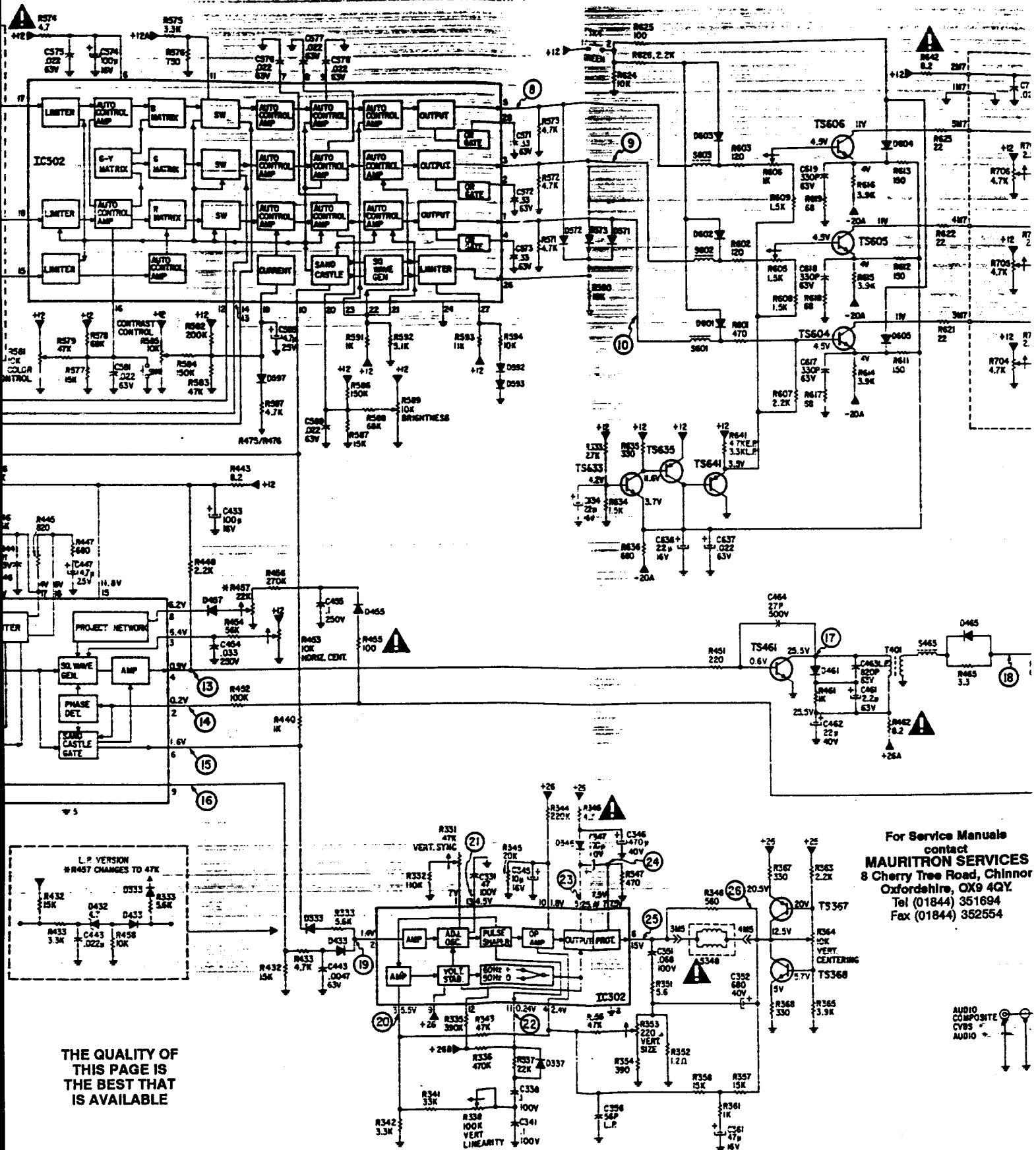
NOTE: IC501 Alternate 16 Pin IC. See Insert Page 18

ANAL GROUND



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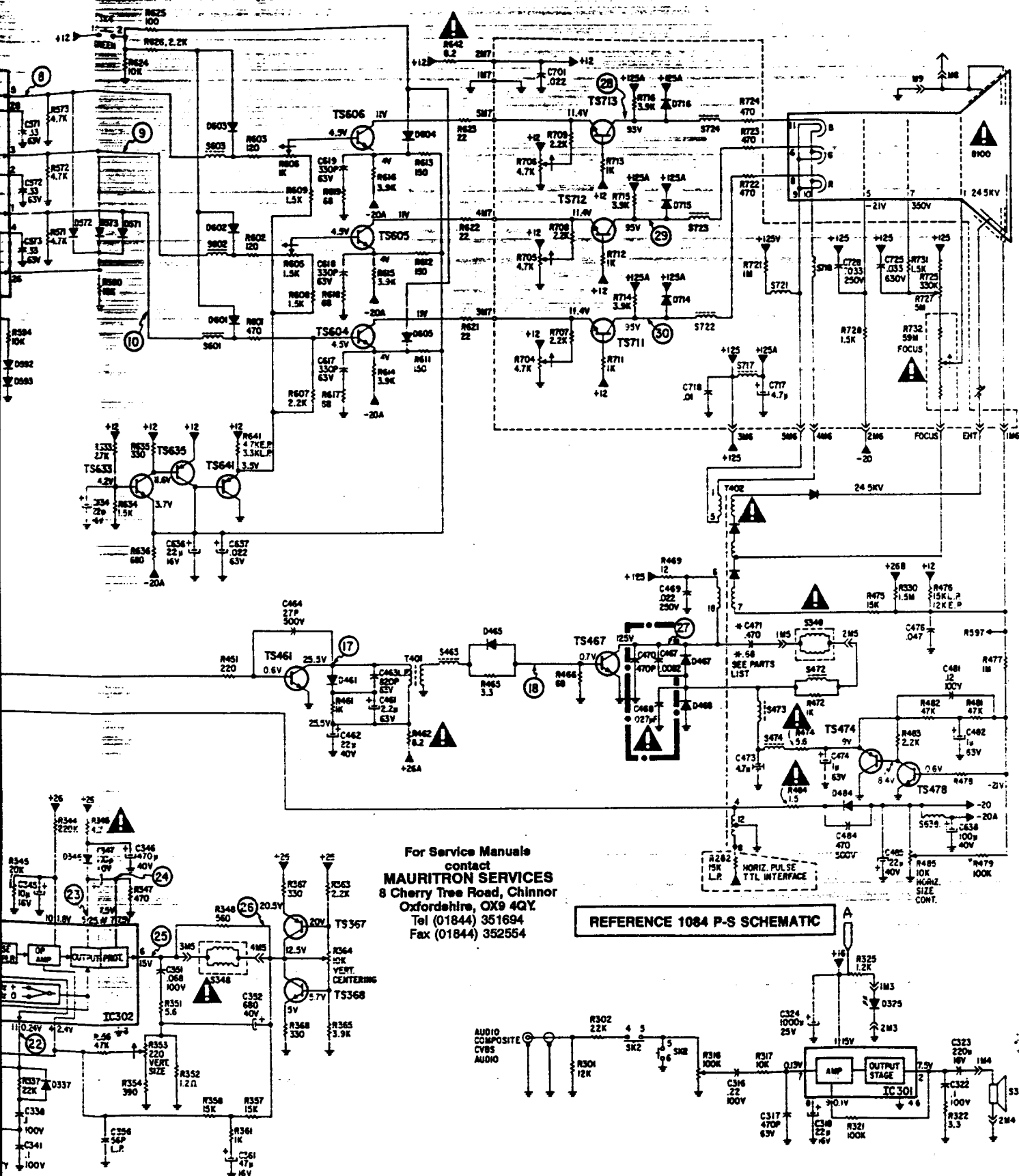
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**MAURITRON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY  
 Tel (01844) 351694 Fax (01844) 352554

AUDIO COMPOSITE  
 CVBS  
 AUDIO

(Parts List - Pgs. 23, 24, 25)

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 contact  
**MAURITON SERVICES**  
 8 Cherry Tree Road, Chinnor  
 Oxfordshire, OX9 4QY.  
 Tel (01844) 351694  
 Fax (01844) 352554

**REFERENCE 1084 P-S SCHEMATIC**

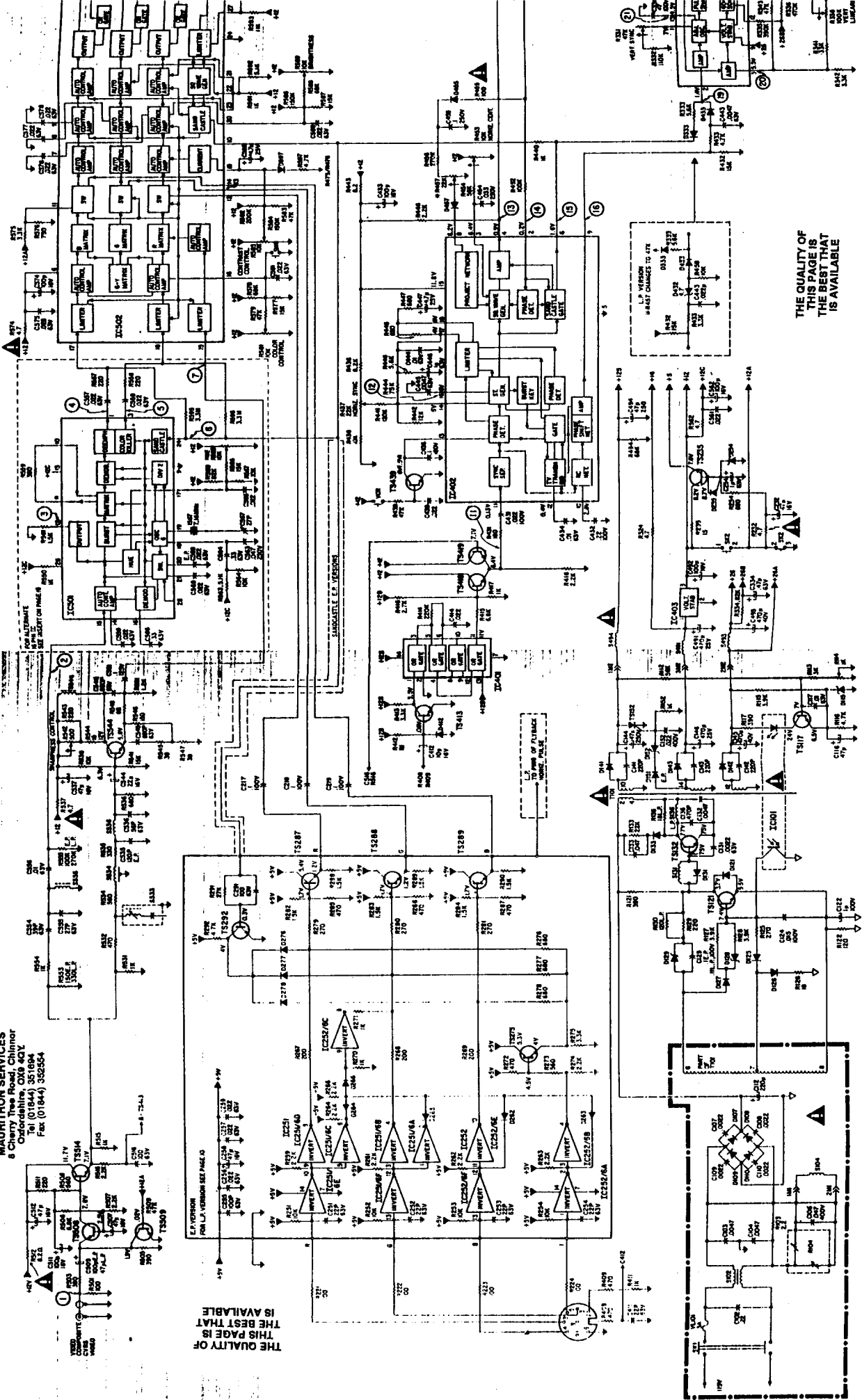
NOTE: IC501 Alternate 16 Pin IC. See Insert Page 18

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

INDICATES "HOT" GROUND. INDICATES ISOLATED SIGNAL GROUND.

For Service Manuals contact MAURITRON SERVICES

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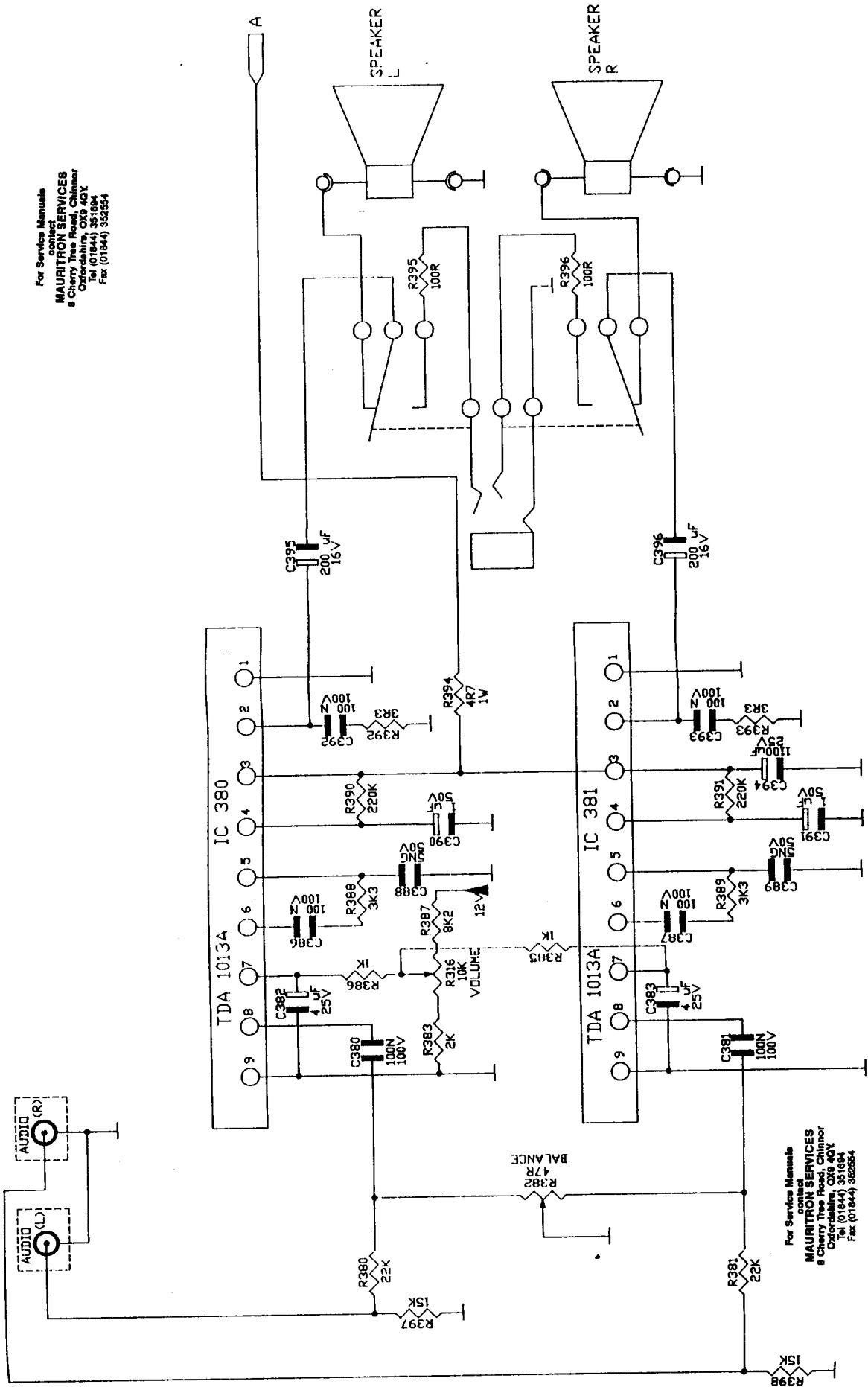
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