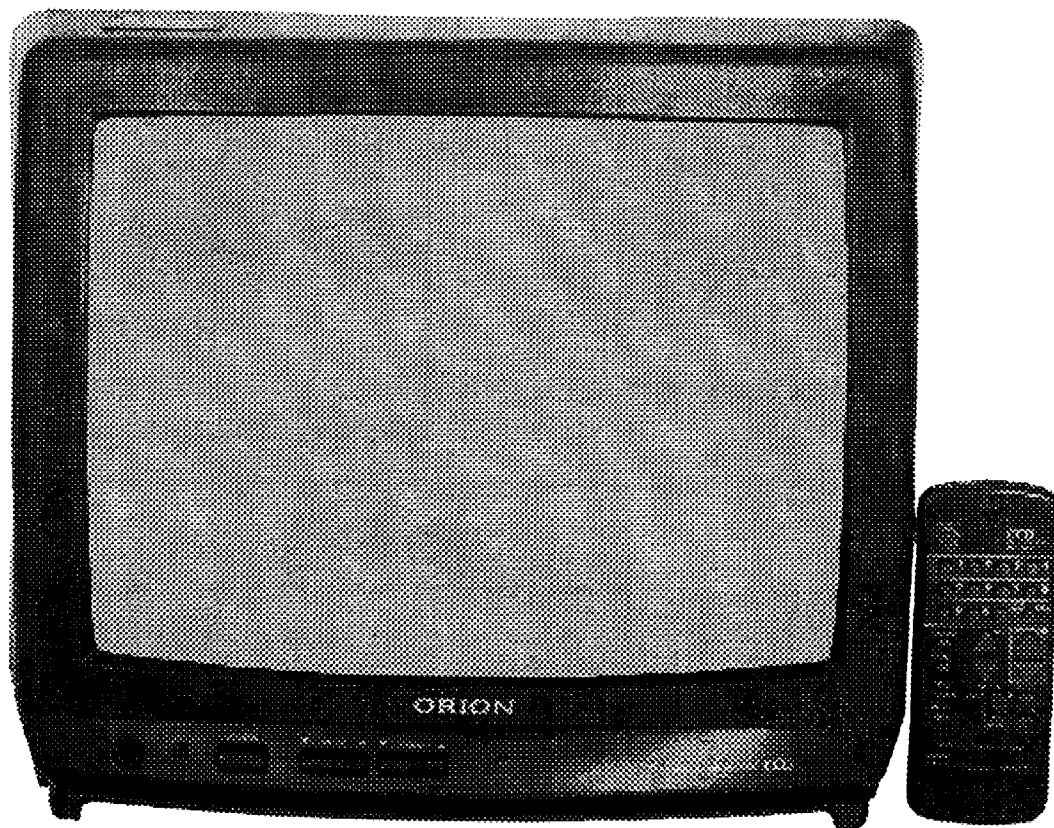


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For Supplier Address,
See PHOTOFACT Annual Index

ORION Model TV1329



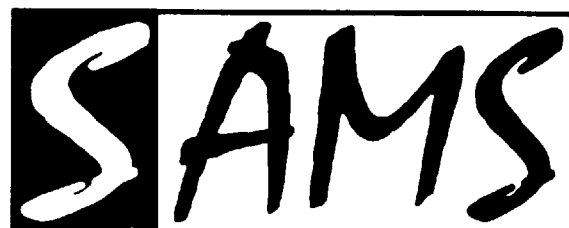
Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models:

MODELS

TV1329 Version A
TV1329 Version B
TV1329 Version C
TV1329 Version D



Technical Publishing™

JUNE 2000 SET 4305

BASIC ADJUSTMENTS DISPLAY

Turn receiver on and tune in an active station. There is a hole below the TV button on the remote. Insert the point of a paper clip into the hole and press once. There is another way to access the service mode, press the volume down button on the set, and at the same time press the 9 button on the remote for two seconds. The basic adjustments display items will appear on the screen in yellow. If the 1 button on the remote is pressed the color of the text displayed will change from yellow to blue. If the 1 button on the remote is pressed again the basic adjustments will be displayed one at a time as shown below. After selecting the item desired by pressing the item number, the other items in that adjust mode can be selected by pressing the channel up or down button. Pressing the volume up or down button will change the value. To select a different adjust mode after adjusting an item press the menu button. Exit the adjust mode by pressing the 0 button.

HIGH VOLTAGE CHECK

Tune in a picture. Set brightness, color, and picture to minimum. Connect a high voltage probe to the CRT anode. The high voltage should read between 24kV and 25kV.

B+ CHECK

Turn receiver on and tune in an active station. Set picture and brightness to normal. Check the voltage at pin 4 of IC501, it should be 135V ±1V.

SCREEN ADJUST

Access the service mode. Press the 5 button on the remote, that will change the menu, press the 5 button once more. The vertical will collapse to a horizontal line. Adjust the screen control for a very faint line. Press menu button to return to the basic adjust mode.

1. H / V
2. AKB
3. COLOR TEMP
4. PICTURE
5. OTHERS
6. TEST PATTERN
- 7.
8. (VOL TEST) 0. END

DISPLAY OF THE MAIN MENU CHANGES COLOR WHEN ANY NUMBER IS SELECTED

1. AKB AUTO
2. R. BIAS
3. G. BIAS
4. B. BIAS
5. R. DRIVE
6. G. DRIVE
7. B. DRIVE
8. AGC AUTO 0. RETURN

DISPLAY IF THE 2 BUTTON IS SELECTED ON THE MAIN MENU

1. RF AGC DELAY
2. VIDEO LEVEL
3. FM LEVEL
4. OSD H
5. CUT OFF
6. X - RAY
- 7.
8. 0. RETURN

DISPLAY IF THE 5 BUTTON IS SELECTED ON THE MAIN MENU

BASIC ADJUSTMENTS

Item	Adjustment	Value Range	On-set Value	Notes
H PHASE	Horizontal Centering	0 - 31	16	Adjust for proper horizontal centering.
H. BLK	Horizontal Blanking	R0 - R7	R0	-
V SIZE	Vertical Size	0 - 127	60	Adjust for proper vertical size.
V POSI	Vertical Centering	0 - 15	6	Adjust for proper vertical centering.
V LIN	Vertical Linearity	0 - 31	15	Adjust for proper vertical linearity.
V SC	Vertical Size Center	0 - 31	0	Adjust for proper vertical center size.
V COMP	Vertical Compression	0 - 7	7	-
H FREQ	Horizontal Frequency	0 - 63	63	-
RED BIAS	Red Cut Off	0 - 255	26	-
GREEN BIAS	Green Cut Off	0 - 255	83	-
BLUE BIAS	Blue Cut Off	0 - 255	10	-
RED DRIVE	Red Drive	0 - 127	74	-
GREEN DRIVE	Green Drive	0 - 127	15	-
BLUE DRIVE	Blue Drive	0 - 127	94	-
C.TEMP R	Color Temp Red	0 - 63	32	Set to 32.
C.TEMP G	Color Temp Green	0 - 63	32	Set to 32.
C.TEMP B	Color Temp Blue	0 - 63	32	Set to 32.
BRIGHT	Sub Brightness	0 - 127	59	-
CONTRAST	Sub Contrast	0 - 127	90	-
COLOR	Sub Color	0 - 96	76	-
TINT	Sub Tint	0 - 96	58	-
SHARPNESS	Sharpness	0 - 40	24	-
OSD CONT	OSD Contrast	0 - 3	0	-
RF AGC DELAY	RF AGC Delay	0 - 63	46	-
VIDEO LEVEL	Video Level	0 - 7	5	-
FM LEVEL	FM Level	0 - 31	7	-
OSD H	On Screen Display	0 - 35	19	Center the On Screen Display.
TONE CONT	Tone Control Level	0 - 80	80	-
IF / CHROMA	-	0 - 127	0	-

RF AGC DELAY

Tune in an active station. Activate the basic adjustments display. Press the 5 button on the remote, that will change the menu, press the 1 button. Press the volume up or down button to a point where snow just appears, then press the volume up or down button until snow disappears.

SUB BRIGHTNESS

Tune in a picture. Set color, contrast, and brightness to minimum. Activate the basic adjustments display. Press the 4 button on the remote, that will change the menu, press the 1 button. Press the volume up or down button to a point where highlights are just visible.

**DISPLAY IF
THE 4 BUTTON
IS SELECTED
ON THE MAIN
MENU**

- | | |
|--------------|-----------|
| 1. BRIGHT | |
| 2. CONTRAST | |
| 3. COLOR | |
| 4. TINT | |
| 5. SHARPNESS | |
| 6. OSD CONT. | |
| 7. | |
| 8. | 0. RETURN |

SUB COLOR

Tune in a color bar pattern. Set color and brightness to midrange. Set the contrast to maximum. Activate the basic adjustments display. Press the 4 button on the remote, that will change the menu, Press the 3 button. Press volume up or down button for best color level on screen. Check all channels.

SUB TINT

Tune in a picture. Set color and brightness to midrange. Set the contrast to maximum. Activate the basic adjustments display. Press the 4 button on the remote, that will change the menu, Press the 4 button. Press the volume up or down button to adjust for best flesh tone. Check other channels.

HORIZONTAL PHASE

Tune in a crosshatch pattern. Set color and brightness to midrange. Set the contrast to maximum. Activate the basic adjustments display. Press the 1 button on the remote, that will change the text color to blue, Press the 1 button. Press the volume up or down button to adjust for best horizontal centering with slight overscan on both sides.

VERTICAL SIZE

Tune in a crosshatch pattern. Set color and brightness to midrange. Set the contrast to maximum. Activate the basic adjustments display. Press the 1 button on the remote, that will change the text color to blue. Press the 1 button, then press channel up button on the remote to select V Size. Press volume up or down button to adjust for slight overscan on top and bottom.

VERTICAL CENTERING

Tune in a crosshatch pattern. Set color and brightness to midrange. Set the contrast to maximum. Activate the basic adjustments display. Press the 1 button on the remote, that will change the text color to blue. Press the 1 button, then press channel up button on the remote to select V Posi. Press volume up or down button to adjust for best vertical centering.

OSD HORIZONTAL CENTERING

Activate the basic adjustments display. Press the 1 button on the remote, that will change the text color to blue. Press the 1 button, then press channel down button twice on the remote to select OSD H. Press the volume up or down button to adjust for best horizontal centering of the on screen display.

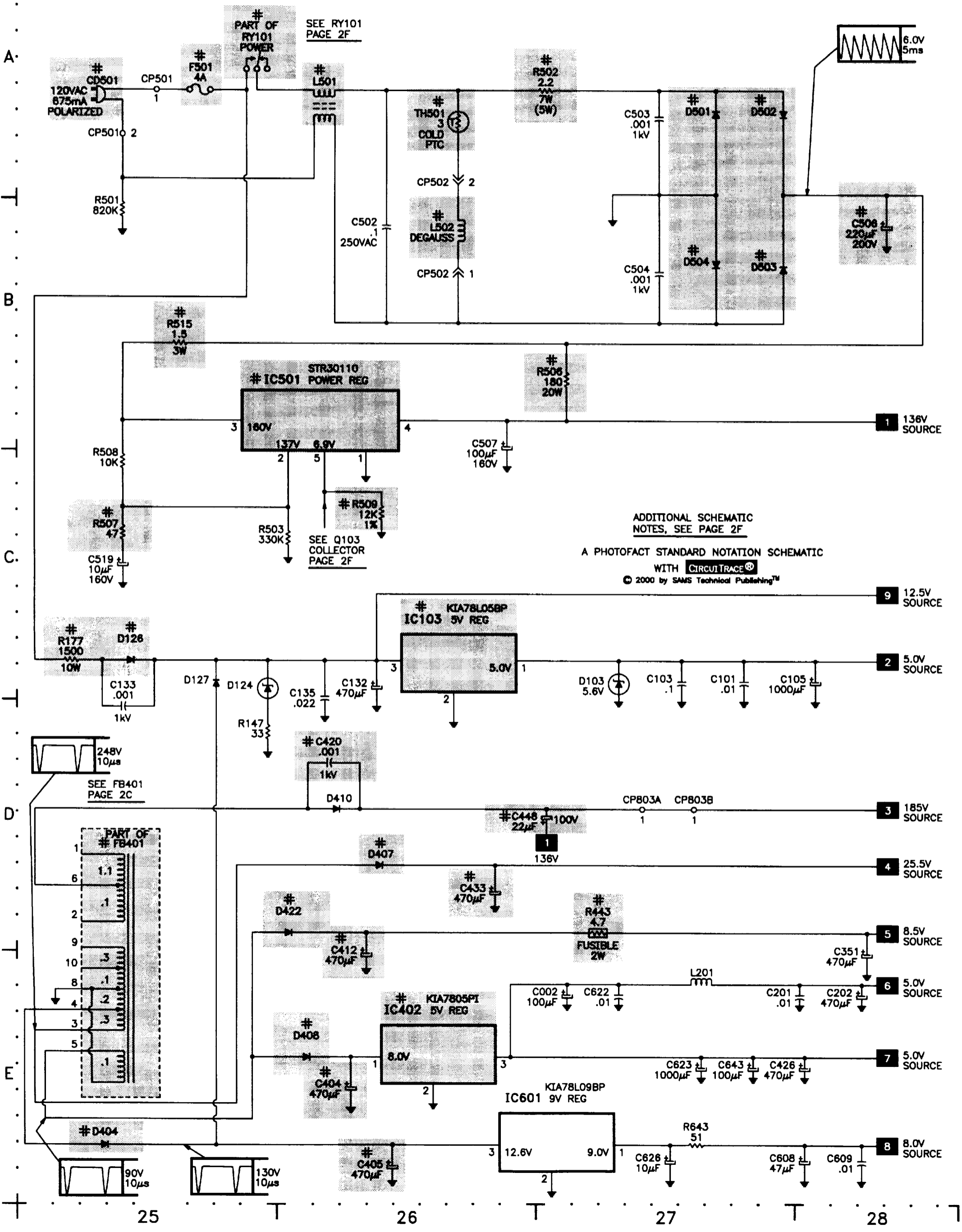
WHITE BALANCE

Operate the receiver for 15 minutes. Activate the basic adjustments display. Press the 1 button on the remote, that will change the text color to blue. Press the 2 button, then press channel up button on the remote to select and select service numbers 2, 3, and 4. Set the data values to obtain white screen. Set brightness for a visible raster. Alternately adjust data value of service numbers 5, 6, and 7 until a good gray scale with normal white is obtained. Set the data values for normal color level.

CONVERGENCE / PURITY

The deflection yoke is bonded to the CRT. Convergence and purity adjustments are not required.

G POWER SUPPLY SCHEMATIC



SEE RY101
PAGE 2F

PART OF
RY101
POWER



ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2F
A PHOTOFACIT STANDARD NOTATION SCHEMATIC
WITH CIRCUITRACE[®]
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SEE Q103
COLLECTOR
PAGE 2F

SEE FB401
PAGE 2C

PART OF
FB401

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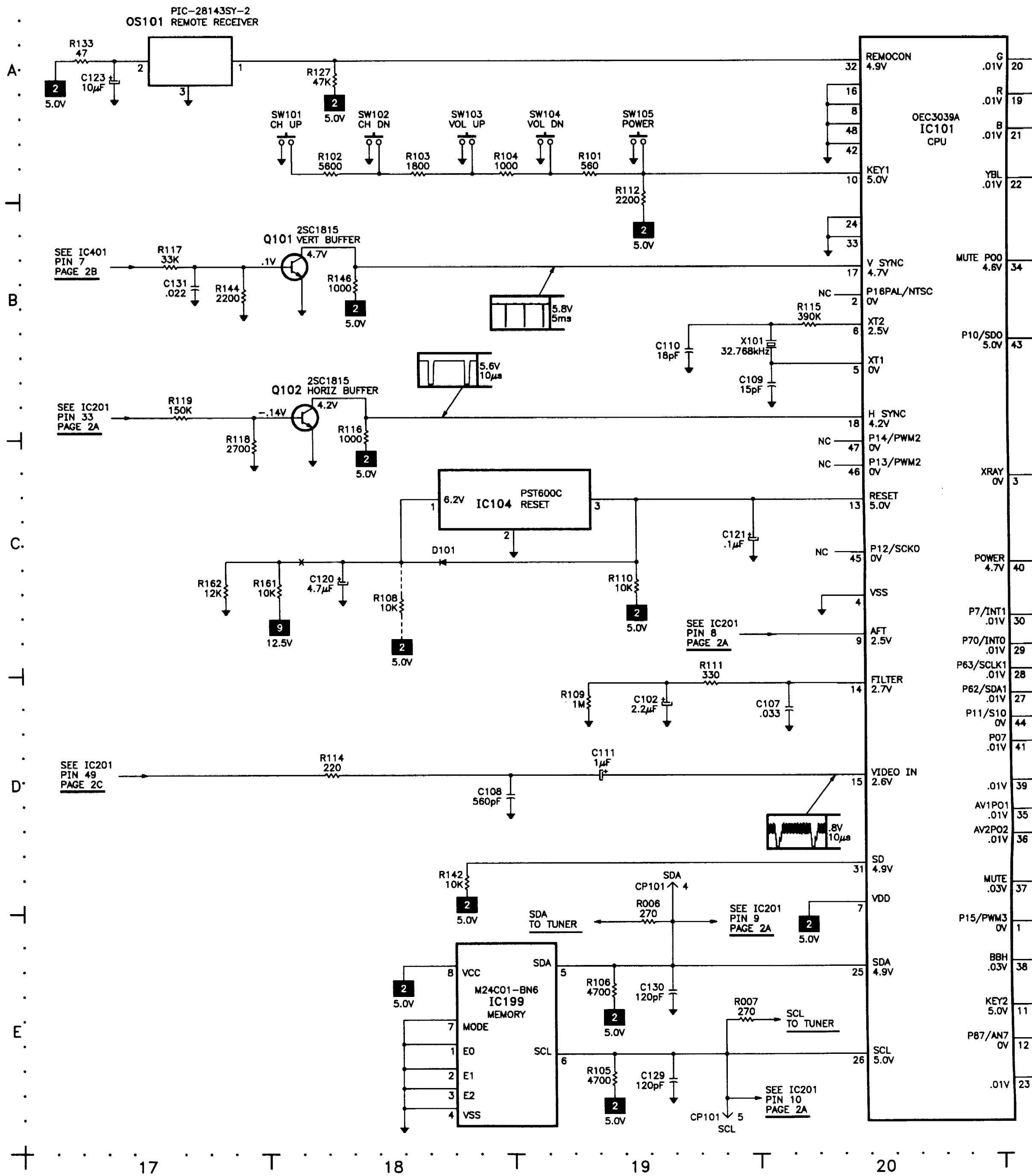
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E

SYSTEM CONTROL



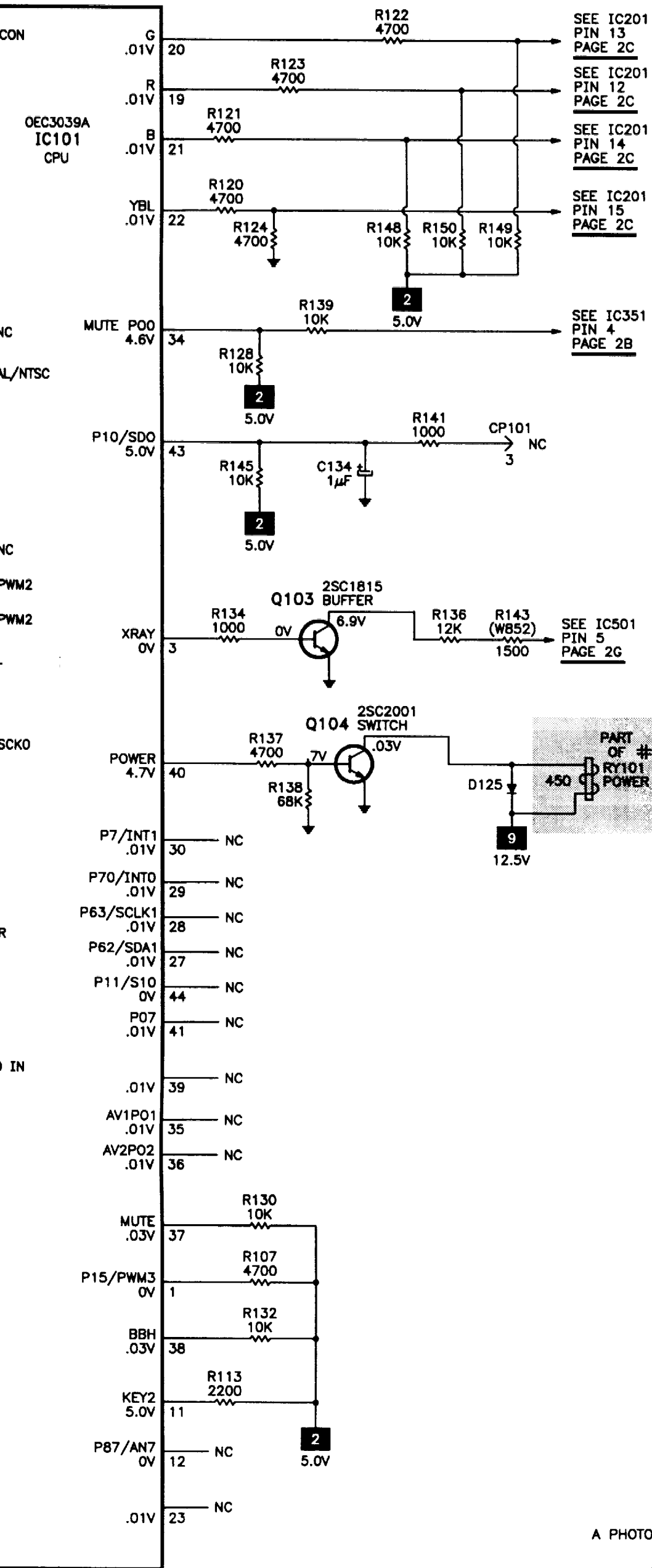
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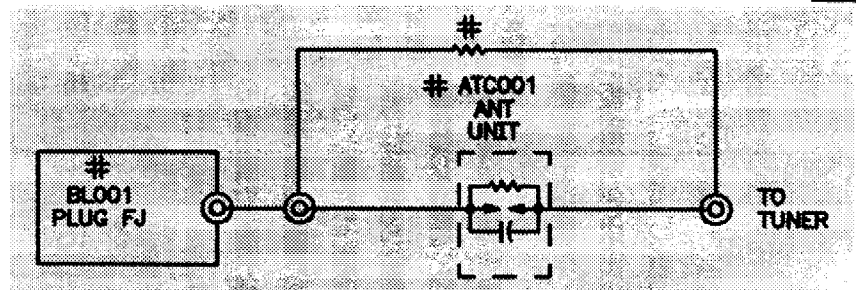
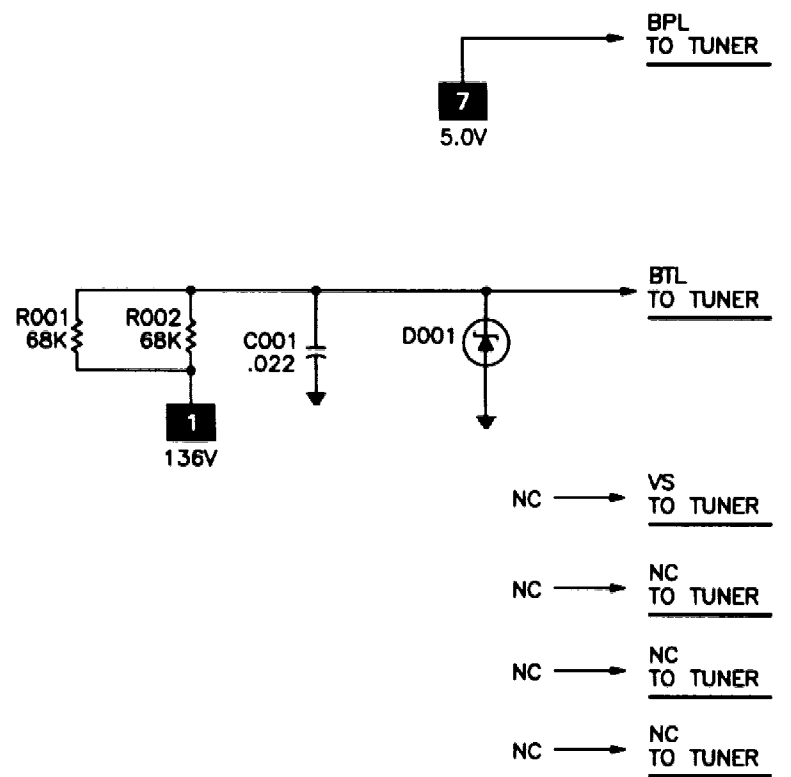
19

20

CONTROL SCHEMATIC



TUNER NOT INCLUDED
IN THIS COVERAGE



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 otherwise noted.
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.

(1) USED IN MODEL TV1329 VERSION B.

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2F

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

WITH CIRCUITTRACE[®]
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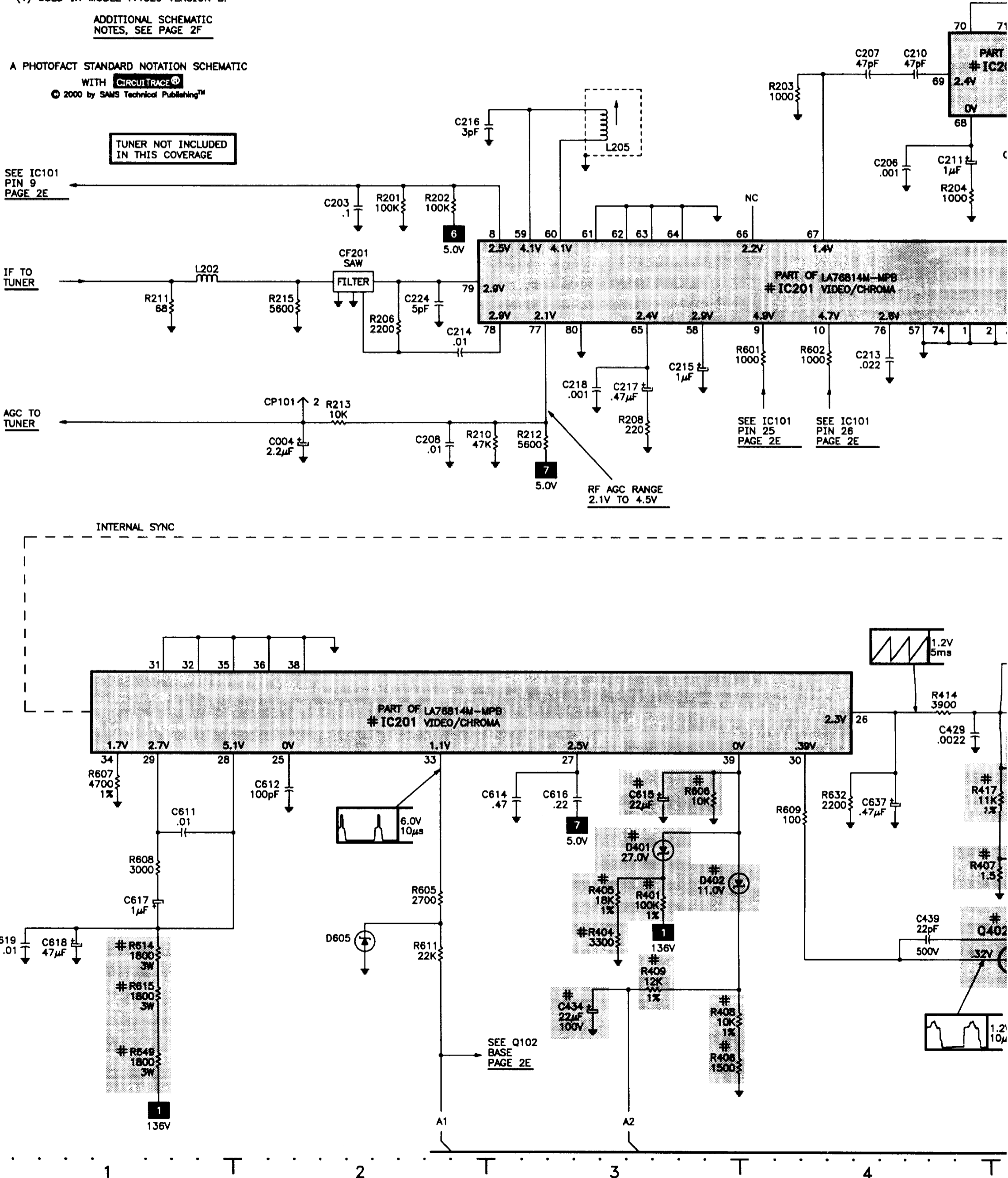
TUNER NOT INCLUDED IN THIS COVERAGE

SEE IC101 PIN 9 PAGE 2E

IF TO TUNER

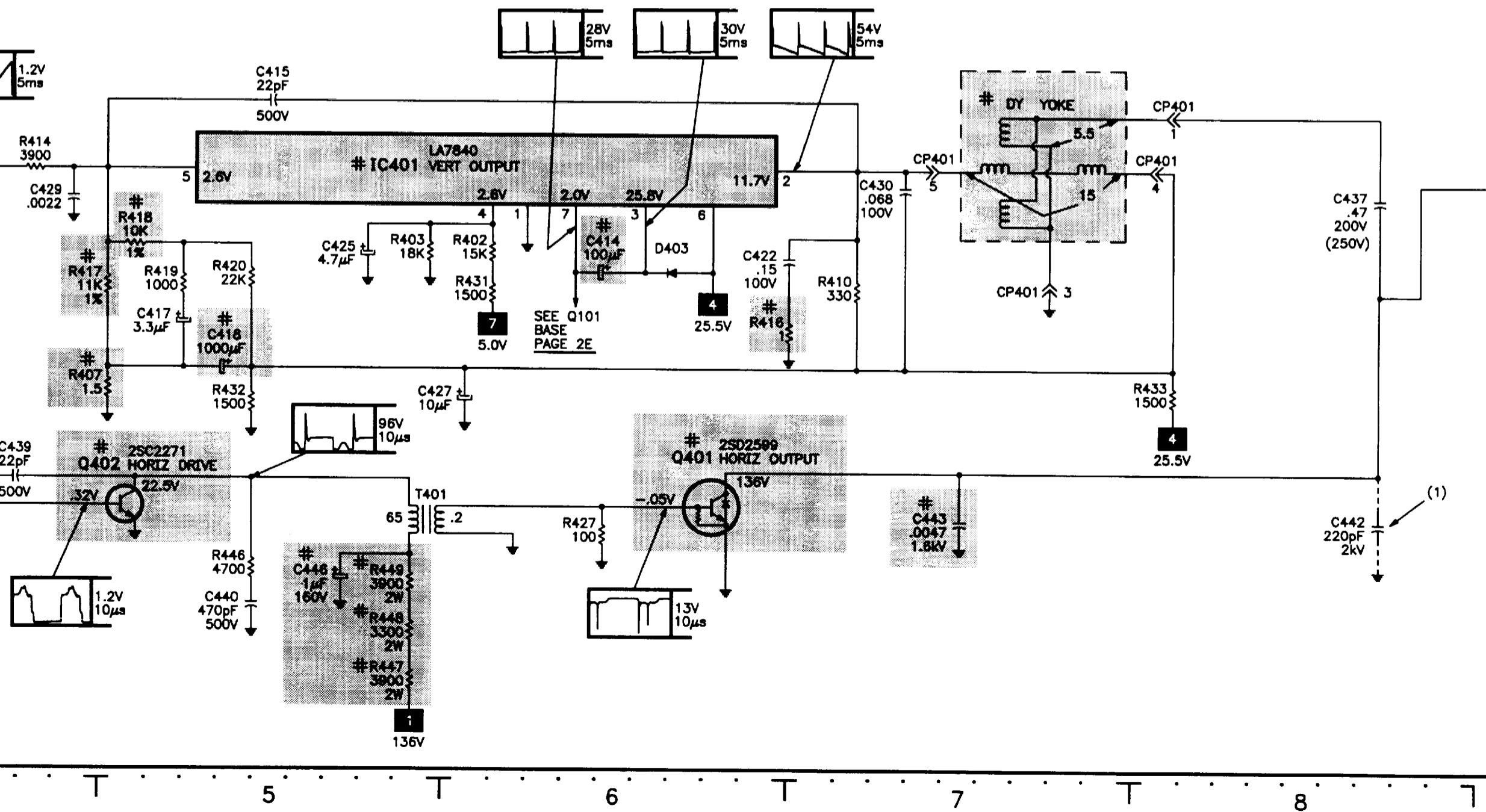
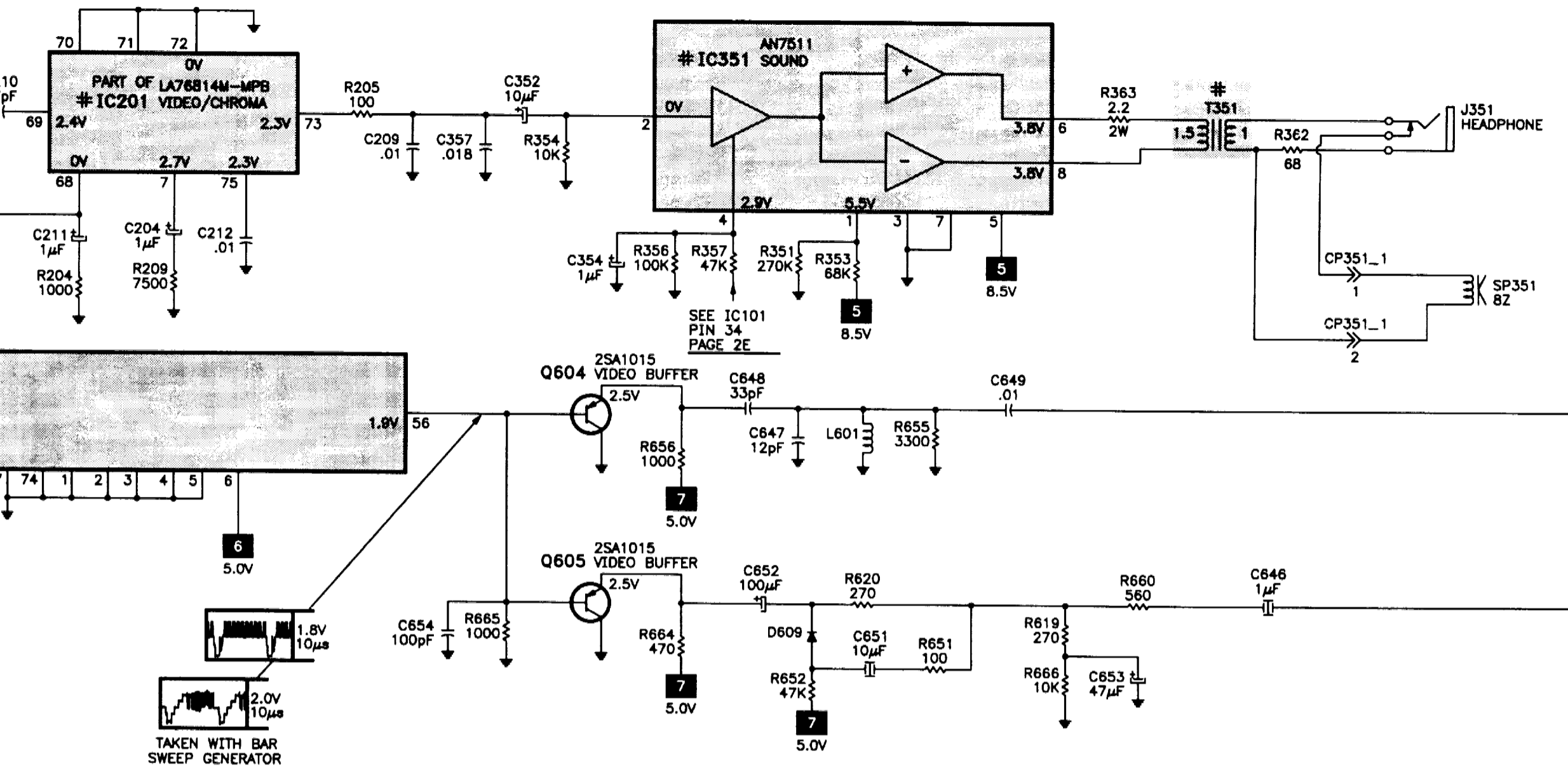
AGC TO TUNER

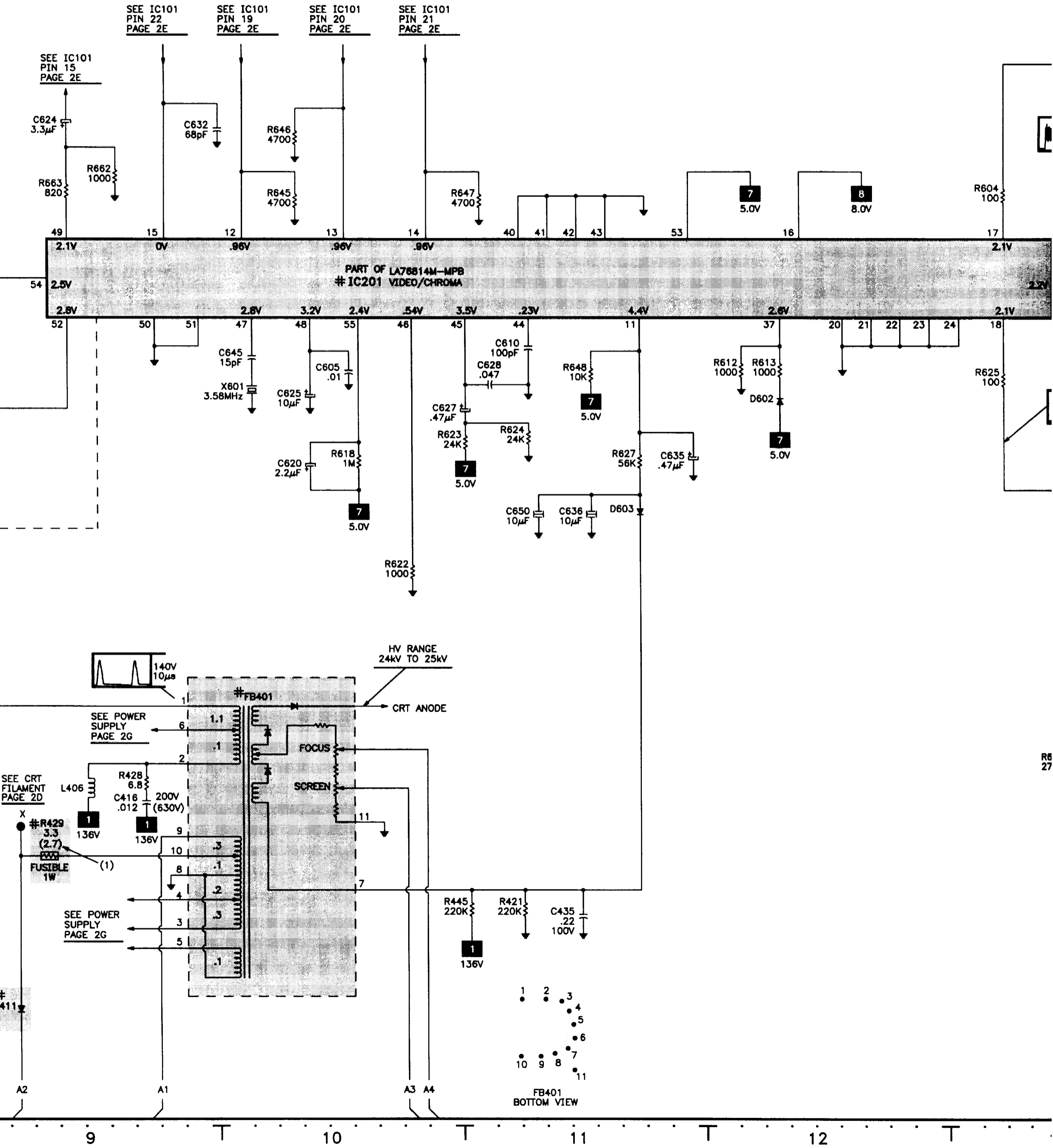
INTERNAL SYNC



ION SCHEMATIC

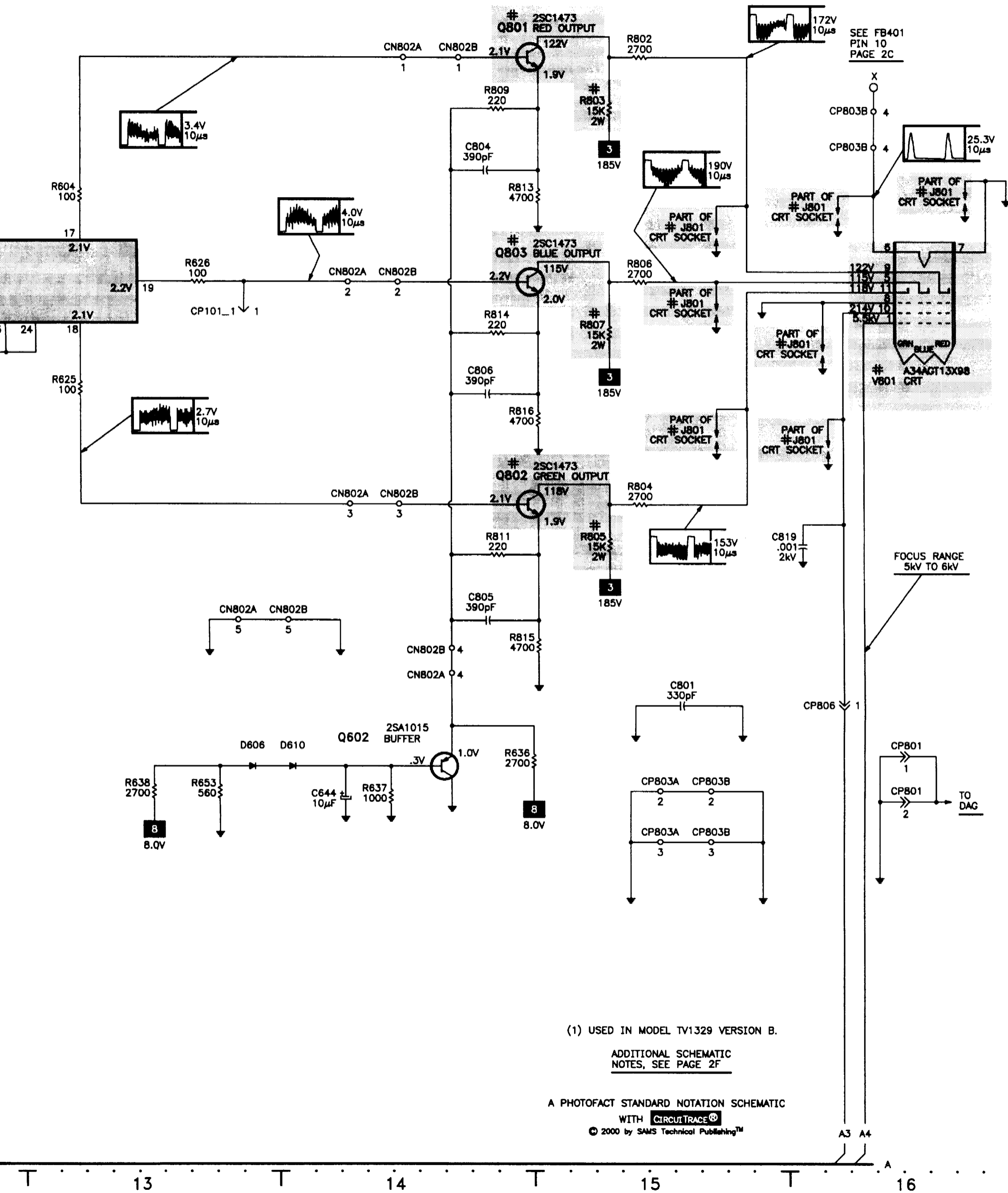
B





SCHEMATIC continued

D



(1) USED IN MODEL TV1329 VERSION B.

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2F

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITTRACE**

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A3 A4

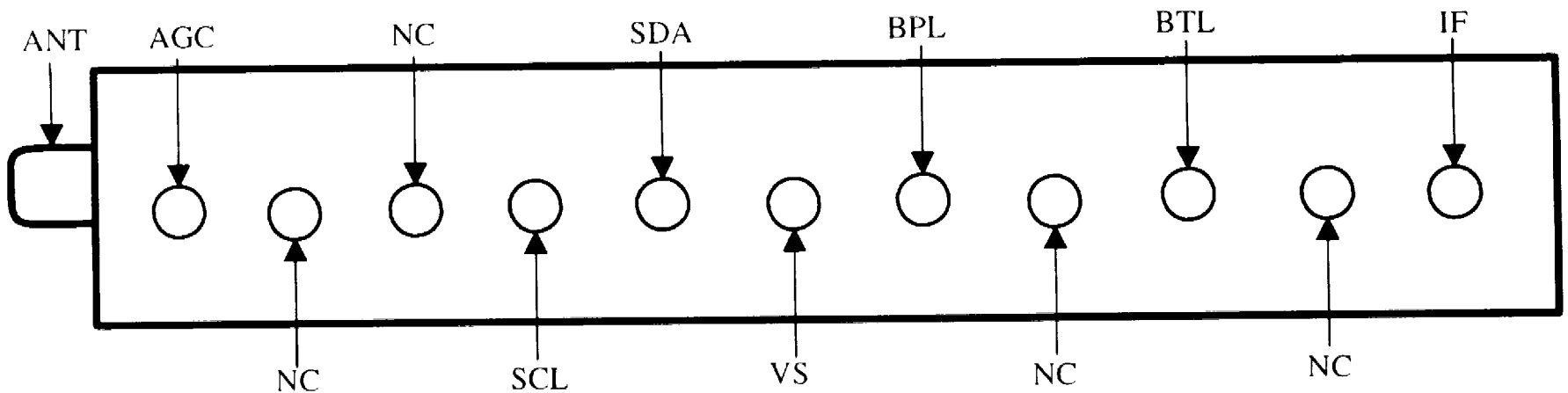
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
AGC	2.1V	2.2V	1.8V
NC	0.9V	4.5V	5.0V
NC	0.5V	0.5V	0.5V
SCL	4.9V	4.9V	4.9V
SDA	4.9V	4.9V	4.9V
VS	0V	0V	0V
BPL	5.0V	5.0V	5.0V
NC	0V	0V	0V
BTL	31.5V	31.6V	31.6V
NC	0V	0V	0V
IF	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.

TUNER TERMINAL GUIDE



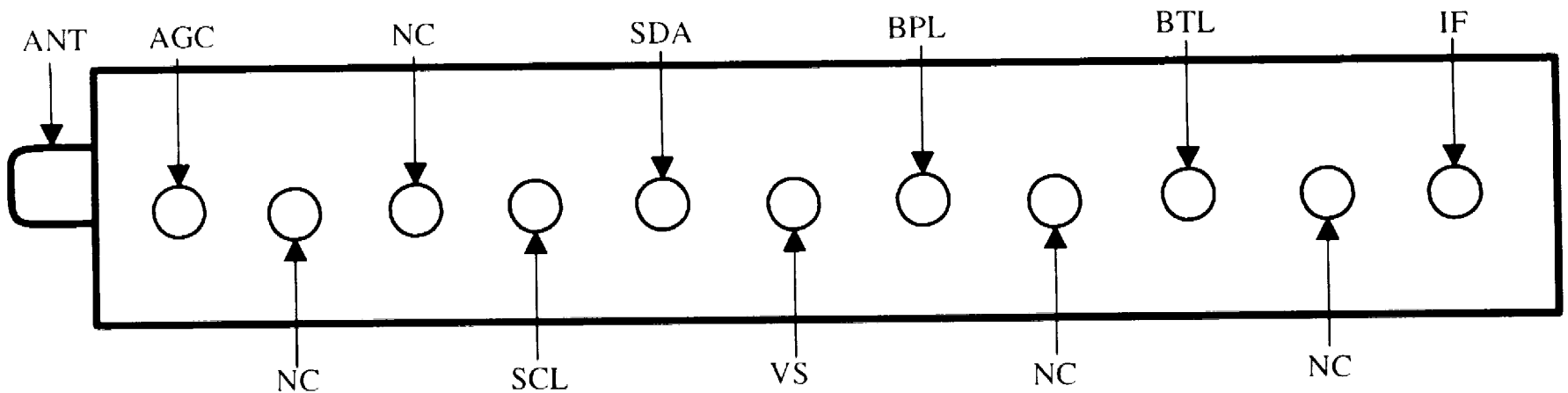
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
AGC	2.1V	2.2V	1.8V
NC	0.9V	4.5V	5.0V
NC	0.5V	0.5V	0.5V
SCL	4.9V	4.9V	4.9V
SDA	4.9V	4.9V	4.9V
VS	0V	0V	0V
BPL	5.0V	5.0V	5.0V
NC	0V	0V	0V
BTL	31.5V	31.6V	31.6V
NC	0V	0V	0V
IF	0V	0V	0V

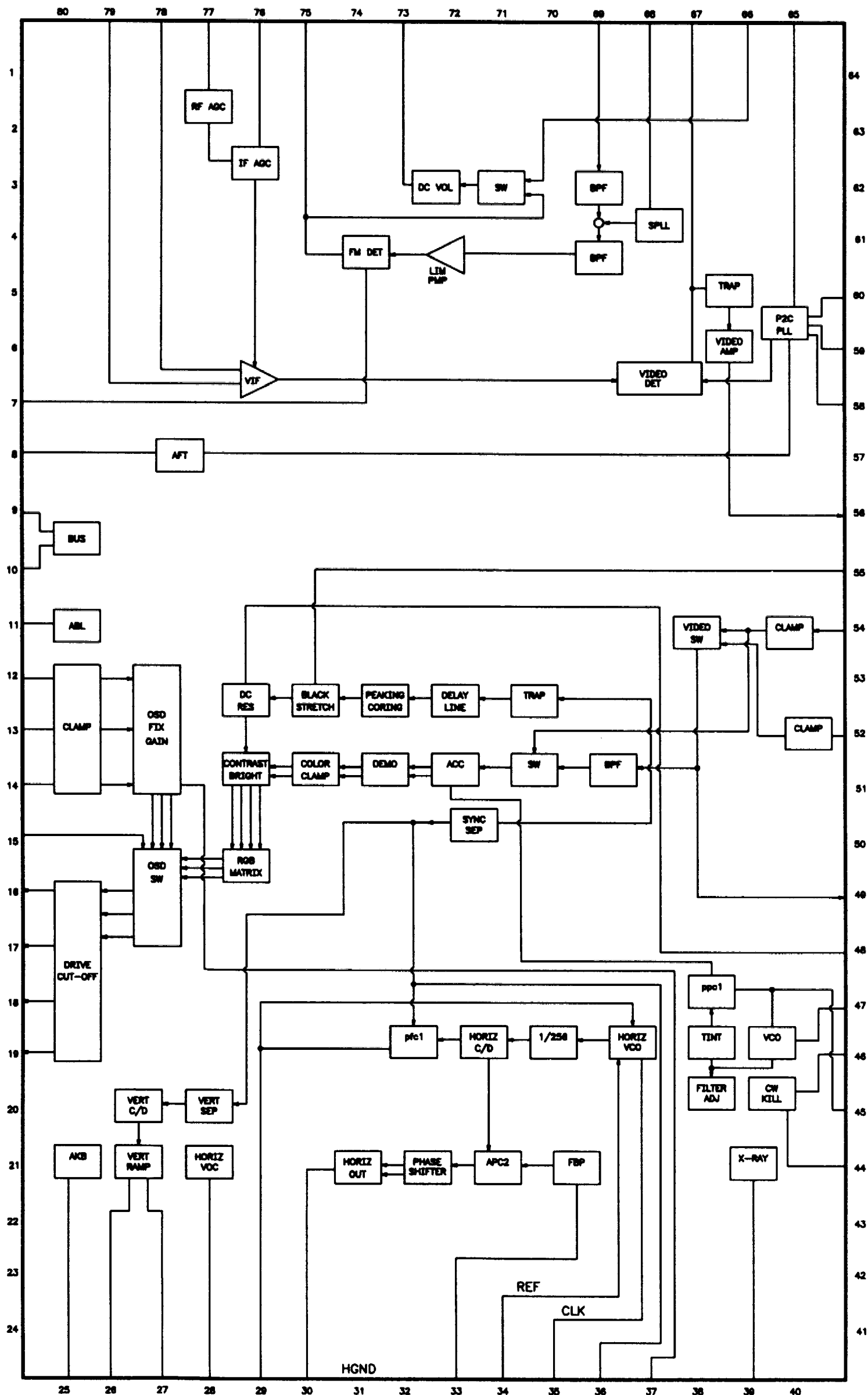
NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14.

TUNER TERMINAL GUIDE

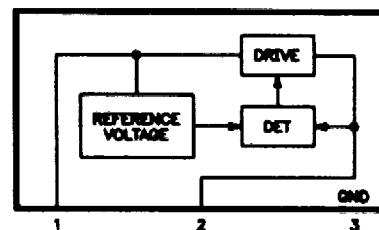


IC FUNCTIONS

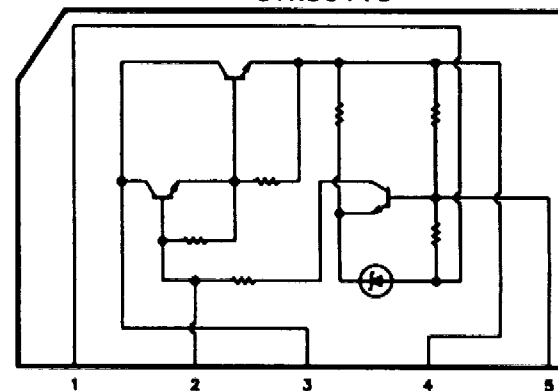
IC201
LA76814M-MPB



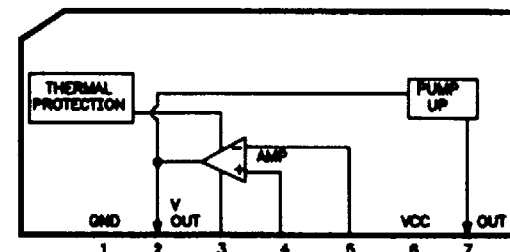
IC103
KIA78L05BP



IC501
STR30110



IC401
LA7840



ORION

MODEL TV1329

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.
D001	HZ30-3L	-	-
	HZ30-3LTD	D94TA30013	-
D101	1SS133	-	ECG519
	1SS133T-77	D1VT001330	ECG519
D103	MTZJ5.6B	-	ECG5011T1
	MTZJ5.6BT-77	D97U05R61B	ECG5011T1
D124	RD15FB1	D9201150B1	-
D125	1S2472	-	ECG519
	1S2472T-77	D1VT024720	ECG519
# D126	EM1C	-	ECG125
	EM1CV1	D2BT0EM1C0	-
D127	11E1N	-	ECG116
	11E1N-TA1B2	D28T11E1N1	ECG116
# D401	HZ27-1L	-	-
	HZ27-1LTD	D94TA27011	-
# D402	HZ11B1L	-	-
	HZ11B1LTD	D94TA11B11	-
D403	11E1N	-	ECG116
	11E1N-TA1B2	D28T11E1N1	ECG116
# D404	AU02A	-	ECG552
	AU02AV0	D2BTAU02A0	-
# D407, 08	AU02A	-	ECG552
	AU02AV0	D2BTAU02A0	-
	10ELS6TA1B2	D28T10ELS6	ECG552
D410	AU02A	-	ECG552
	AU02AV0	D2BTAU02A0	-
	10ELS6TA1B2	D28T10ELS6	ECG552
# D411, 22	AU02A	-	ECG552
	AU02AV0	D2BTAU02A0	-
	10ELS6TA1B2	D28T10ELS6	ECG552
# D501 Thru			
# D504	RM11C	D2BTRM11C0	ECG125
D602	1SS133	-	ECG519
	1SS133T-77	D1VT001330	ECG519
D603	11E1N	-	ECG116
	11E1N-TA1B2	D28T11E1N1	ECG116
D605	HZ6B2L	-	-
	HZ6B2LTD	D94TA6RB12	-
D606, 09, 10	1SS133	-	ECG519
	1SS133T-77	D1VT001330	ECG519
IC101 (1)	OEC3039A	I53F53039A	-
IC101 (2)	OEC3039B	I53F53039B	-
# IC103	KIA78L05BP	I1K998L050	ECG977
IC104	PST600C	I9UJ0T600C	-
IC199	M24C01-BN6	A3H201A015	-
# IC201	LA76814M-MPB	I03FE76814	-
# IC351	AN7511	I01DP75110	-
# IC401	LA7840	I03SD78400	-
# IC402	KIA7805PI	I1KA978050	ECG1960

For SAFETY use only equivalent replacement part.

(1) Used in models TV1329 and TV1329 Versions A and B.

(2) Used in models TV1329 Versions C and D.

PARTS LIST

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.
# IC501	STR30110	I2B4901100	ECG7077
IC601	K1A78L09BP	I1KJ98L090	-
Q101, 02, 03	2SC1815-Y	-	ECG85
Q104	2SC1815Y(TPE2)	TC5T018154	ECG85
	2SC2001L	-	ECG85
	2SC2001(C)-T_L	TCLT02001L	ECG85
# Q401	2SD2599	-	-
	2SD2599(LBOEC1)	TDUU025990	-
# Q402	2SC2271D	-	ECG399
	2SC2271(D,E)-AE	TC3T022710	ECG399
Q602, 04, 05	2SA1015Y	-	ECG290A
	2SA1015Y(TPE2)	TA5T010154	ECG290A
# Q801, 02, 03	2SC4217R	-	ECG399
	2SC1473A-TA-(RQ)	TCKT1473A0	ECG399

For SAFETY use only equivalent replacement part.

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
# DY (1)	Yoke Horiz 4mH Vert 30mH	-
# FB401 (2)	Horizontal Output	043214029F
L201	10µH	O21LA6100K
L202	1µH	O216731R0K
L205	AFT	O336020388
L406	18µH	O2186G180M
# L501	Line Filter	O29K000074
# L502	Degaussing	O28F140025
L601	15µH	O21LA6150K
# T351	Audio Output	O45126001A
T401	Horizontal Driver	O3305Y002S

For SAFETY use only equivalent replacement part.

(1) Bonded part of CRT.

(2) Screen and focus controls are part of FB401.

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	PR570
Generators		Capacitance Analyzer	LC102
RGB	CM2125	CRT Analyzer	CR7000
Multiburst Signal	VG91	AC Leakage Tester	PR570
Color Bar	VG91	Inductance Analyzer	LC102
TV Stereo	VG91	Flyback Yoke Tester	TVA92
Digital VOM	SC3100	Field Strength Meter	SL753
Frequency Meter	SC3100	Transistor Tester	TF46
Hi-Voltage Probe	HP200	Horizontal Analyzer	HA-2500
Accessory Probes	TP212	Video Analyzer	VG91, TVA92

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.
# R177	1500 5% 10W Wirewound	R5Y2CF152J
# R401	100K 1% 1/4W	R4X5T4104F
# R404	3300 5% 1/8W	R903N8332J
# R405	18K 1% 1/4W	R4X5T4183F
# R406	1500 5% 1/8W	R903N8152J
# R407	1.5 5% 1/2W	R002T21R5J
# R408	10K 1% 1/6W	R4X5T6103F
# R409	12K 1% 1/6W	R4X5T6123F
# R416	1 5% 1/2W	R0L2U2010J
# R417	11K 1% 1/6W	R425T6113F
# R418	10K 1% 1/6W	R425T6103F
# R429 (1)	3.3 5% 1W Fusible	R655813R3J
# R429 (2)	2.7 5% 1W Fusible	R655812R7J
# R443	4.7 5% 2W Fusible	R6550A4R7J
# R447	3900 5% 2W	R3X18A392J
# R448	3300 5% 2W	R3X18A332J
# R449	3900 5% 2W	R3X18A392J
# R502	2.2 5% 7W Wirewound	-
# R506	2.2 5% 5W Wirewound	R5Y2CD2R2J
# R507	180 5% 20W Wirewound	R5Y2CH181J
# R509	47 5% 1/4W	R65584470J
# R515	12K 1% 1/6W	R4X5T6123F
# R606	1.5 5% 3W	R3X28B1R5J
R607	10K 5% 1/8W	R903N8103J
# R614, 15, 49	4700 1% 1/6W	R4X5T6472F
# R803, 05, 07	1800 5% 3W	R3X28B182J
# R803, 05, 07	15K 5% 2W	R3X10A153J
# TH501	3 Cold PTC	DF20BGC3R0Q

For SAFETY use only equivalent replacement part.

(1) Not used in model TV1329 Version B.

(2) Used in model TV1329 Version B.

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
C133	.001 10% 1KV	C0JTB0613K
# C404	470µF 20% 10V	E02LT1471M
	470µF 20% 10V	E01VT1471M
	470µF 20% 10V	E632T1471D
# C405	470µF 20% 16V	E02LT2471M
	470µF 20% 16V	E01VT2471M
# C412	470µF 20% 10V	E02LT1471M
	470µF 20% 10V	E01VT1471M
	470µF 20% 10V	E632T1471D
# C414	100µF 20% 35V	E02LT4101M
	100µF 20% 35V	E01VT4101M
# C418	1000µF 20% 25V	E02LF3102M
# C420	.001 10% 1KV	C0JTB0613K
# C433	470µF 20% 35V	E02LT4471M
# C434	22µF 20% 100V	E02LT8220M
C442 (1)	220µF 10% 2KV	C01BBP7H2K
# C443	.0047 +50% -10% 1.6KV	P414F9472H
# C446	1µF 20% 160V	E02L TB010M
# C448	22µF 20% 100V	E02L T8220M
C502	.1 20% 250VAC	P2122B104M
C503, 04	.001 10% 1KV	C0JTB0613K
# C506	220µF 20% 200V	E02LFC221M
# C615	22µF 20% 16V	E50HU2220M
C636	10µF 20% 50V NP	E02ET5100M
C646	1µF 20% 50V NP	E50HU5010M
C650	10µF 20% 50V NP	E0EE05100M
C651	10µF 20% 50V NP	E00NU2100M
C819	.001 10% 2KV	C13VB0713K

For SAFETY use only equivalent replacement part.

(1) Used in model TV1329 Version B.

CABINET PARTS

Models TV1329 and TV1329 Versions A, B, C, and D.

Item	Mfr. Part No.
Button Frame	735WPAA122
Button Holder	735WPAA121
Cabinet Front	701WPB0162
Cabinet Front Assembly	A3H401A720
Cabinet Rear	702WPA0535

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
# ATC001	Assembly	NXC0032-010010	Antenna
	Assembly	NXC0027-010010	Antenna
# CD501	Line Cord	120R614908	AC, Polarized
CF201	Filter	1022T45R71	SAW
# F501	Fuse	O81PC04003	4Amp, Slow Blow
FH501, 02	Fuse Holder	O6710T0006	For F501
J351	Jack	O602121012	Earphone
# J801	Socket	O66X120014	CRT
OS101	Receiver	O77Q014003	Remote, PIC-28143SY-2
# RY101	Relay	0560V20115	Power
# SP351	Speaker	070C132014	3" Round, 8 Ohms, 1W
SW101	Switch	O504201T31	Channel Up
SW102	Switch	O504201T31	Channel Down
SW103	Switch	O504201T31	Volume Up
SW104	Switch	O504201T31	Volume Down
SW105	Switch	O504201T31	Power
# TU001 (1)	Tuner	O145S00049	UHF/VHF, ENV56D67G3
# V801 (2)	CRT	O98Q140495	A34AGT13X98
# V801 (3)(4)(5)	CRT	O98Y140497	A34JXV70X28N45
X101	Crystal	100C32R803	32.768kHz
X601	Crystal	100W3R5702	3.58MHz
	Antenna	125C108030	Rod
	PC Board (2)	A3H201A11A	CRT
	PC Board (3)(4)	A3H401C11A	CRT
	PC Board (5)	A3H401C11B	CRT
	PC Board (2)	A3H401A01A	Main
	PC Board (3)	A3H401C01A	Main
	PC Board (4)	A3H401C01B	Main
	PC Board (5)	A3H401C01C	Main
	Transmitter	O76R074150	Remote, R25-1028

For SAFETY use only equivalent replacement part.

- (1) Contact TNI Electronics for replacement; order by manufacturer's part number.
- (2) Used in models TV1329 and TV1329 Version A.
- (3) Used in model TV1329 Version B.
- (4) Used in model TV1329 Version C.
- (5) Used in model TV1329 Version D.

ORION

MODEL TV1329