

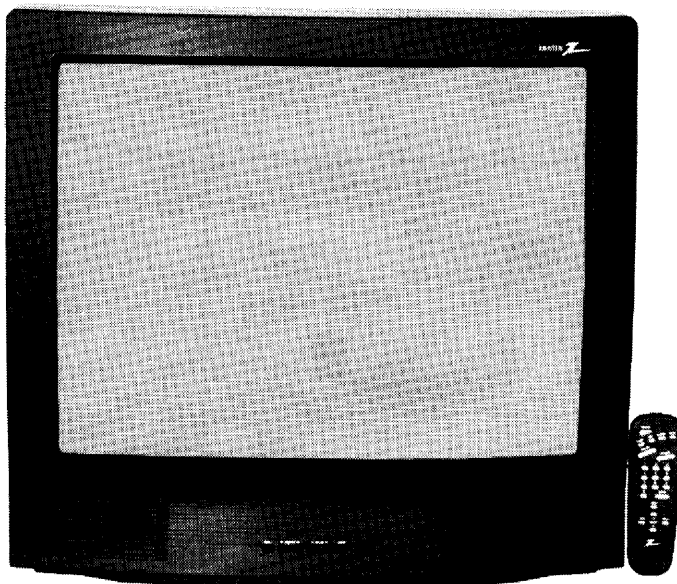
# Technical Service Data

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## ZENITH

Models A27A11D, LGA29A11GM



Model A27A11D

**Complete coverage**  
for servicing a television receiver...

- Schematics
- Component locations
- Parts list
- Troubleshooting guide

Note: Scaled Printable Cropped  
Images at end for the large  
main and power supply pages.

GA Chasis A Line mfg 1998

Technical  
Connections

# TROUBLESHOOTING

## POWER SUPPLY

Check FX3401. If FX3401 is open, check DX3401 thru DX3404, and CX3407. If FX3401 is good, apply 120VAC, and check for 146V\* at the cathode of DX3401. If 146V\* is missing, check LX3401, RX3401 and DX3401 thru DX3404. If 146V\* is present, check for 125V at the cathode of D3409 and 5.0V at ZD3401. If 125V is missing, check D3409, TX3401, ICX3431, and QX3401. If 5.0V is missing, check D3410 and FX3402. If 125V and 5.0V are present, turn receiver on, and check for 15.0V on the collector of Q3403. If 15.0V is missing, check Q3403 and Q3402. If 15.0V is present, refer to the "Horizontal" section of this Troubleshooting guide.

\* Taken from common tie point.

## HIGH VOLTAGE SHUTDOWN

NOTE: Monitor high voltage to insure that it does not exceed upper limit as this may cause excessive X-ray radiation and damage to CRT, TX3204, and associated components.

The high voltage from TX3204 is monitored and rectified by DX3006. The rectified voltage is applied to the cathode of ZDX3004. Should high voltage increase, the voltage at the cathode of ZDX3004 will also increase and trigger it into conduction. This action causes an increase in voltage at pin 29 of ICX2200 which internally kills the horizontal drive signal and shuts down the receiver. To troubleshoot, remove DX3006 from circuit, use a variable power supply, start at 90VAC and slowly increase voltage to locate defect. Reconnect DX3006.

### Voltages Taken in Shutdown

ICX1200 Pin 29 2.7V

## HORIZONTAL

To determine if the receiver is in shutdown, refer to the "High Voltage Shutdown" section of this Troubleshooting guide. Inject a horizontal signal at the base of QX3208. Check for horizontal deflection on CRT. If horizontal deflection is present, check Q3202, Q3206, T3205, and pins 29 thru 34 of ICX2200. If horizontal deflection is missing, check QX3208, TX3204, DX3273, DX3287, and DX3288. Horizontal linearity or width problems may be caused by, CX3229, CX3260, CX3261, CX3231, CX3264, and LX3262 being defective. The high voltage rectifier is part of TX3204 and if defective may affect the operation of horizontal circuits.

## VERTICAL

Inject a vertical drive signal at pin 4 of IC2100. If vertical deflection is present, check pins 11, 22, 23, and 24 of ICX2200. If vertical deflection is missing, check IC2100. Vertical linearity or height problems may be caused by CX2106, C2102, CX2108, and C2105 being defective.

## RASTER

Check the CRT and CRT voltages. If red is missing, check Q5103, Q2203, and pin 19 of ICX2200. If green is missing, check Q5102, Q2204, and pin 20 of ICX2200. If blue is missing, check Q5101, Q2205, and pin 21 of ICX2200. If raster has a keystone shape, check DY1. If raster has height or width problems, refer to "Vertical", "Horizontal", or "Power Supply" sections of this Troubleshooting Guide.

## CHROMA

Check for a chroma waveform at pin 45 of ICX2200. If the waveform is missing, check Q2202, and refer to the "Video" section of this Troubleshooting guide. Check for proper chroma waveforms at pins 19, 20, and 21 of ICX2200. If the waveforms are missing, check pins 15, 16, 17, and 38 of ICX2200. Check the 3.58MHz oscillator at pin 12 of ICX2200. If proper chroma waveforms are present at pins 19, 20, and 21 of ICX2200, refer to the "Raster" section of this Troubleshooting guide.

## IF AGC

Inject a video IF signal at IF input and check for video on CRT. If video is present, check the tuner and tuner control circuits. If video is missing, check for a video waveform at pin 47 of ICX2200. If the video waveform is present, refer to the "Video" section of this Troubleshooting guide. If the video waveform is missing at pin 47 of ICX2200, apply AGC bias to pin 5 of ICX2200. If video is now present, check pins 5, 3, 49, and 50 of ICX2200. If video is missing, check pins 3, 5, 7, 8, and 44 thru 48 of ICX2200. A defective AGC circuit can cause an overloaded picture, excessive snow or loss of audio and video.

## VIDEO

Inject a video signal at the base of Q1203. If video is present on the CRT, refer to the "IF AGC" section of this Troubleshooting guide. If the video is missing on the CRT, check for a luminance waveform at pin 37 of ICX2200. If luminance is missing, check Q1203 and Q1204. Check for a luminance waveform at pin 43 of ICX2200. If luminance is missing, check pins 37 and 41 of ICX2200 and Q2201. If luminance is present at pin 43 of ICX2200, refer to "Raster" section of this Troubleshooting guide.

## AUDIO

Select an active TV channel and check for an audio waveform at pin 5 of IC1400. If waveform is missing, check pins 52, 2, and 48 of ICX2200. Select a station transmitting a stereo signal and check for audio waveforms at pins 13 and 14 of IC1400. If audio waveforms are missing, check IC1400. If audio waveforms are present at pins 13 and 14 of IC1400, check IC830, IC850, and Q1402.

This receiver employs digital customer controls which are accessed through the service menu. All adjustments were performed at reset unless otherwise indicated. Record all the data values for all functions in the service menu before making any changes.

## HIGH VOLTAGE CHECK

Tune in a picture. Set brightness and color to minimum. Connect a high voltage probe to CRT anode. High voltage should read between 26.5kV to 28kV.

## SERVICE MENU

To access the service menu adjustments by using the remote transmitter keypad; Press and hold the menu button until the menu display disappears from the screen. Key in 9, 8, 7, 6, and press the enter button.

To access the service menu adjustments by using the receiver keypad; Press the menu button until the display disappears from the screen. Without releasing the menu button simultaneously press the adjust right and channel up buttons.

The receiver is now in service menu mode with function 03 H Pos 8 displayed. The first line on the service menu is a version number of the software used in the receiver. On the bottom is a date the module went through the factory. Use the select up and down buttons to select function. Use the adjust buttons to make changes to selected function. The function 00 F Mode (Factory Mode) is always set to 0. Only the first seven items in the service menu can be brought up. Use the select key to select the 00 F Mode function and change the adjustment to 1, now all the menu items will be accessible.

NOTE: Set value of function 00 F Mode (Factory Mode) to 0 before exiting the service menu mode. If not set to 0 the receiver will not shut off with the remote or power button on the receiver.

## HORIZONTAL SIZE

Tune in a crosshatch pattern. Adjust R3249 for slight overscan on both sides.

## RF AGC

Tune in a picture. Call up service menu, select function 15, set data value to a point where snow appears in picture, then to a point where snow disappears.

## WHITE LEVEL COMPRESSION

Tune in a picture. Set picture settings to preset. Call up service menu, select function 17, set data value to 0.

## COLOR TEMPERATURE

Tune in a crosshatch pattern. Set brightness, picture, and color to minimum. Call up service menu, select functions 20, 21, and 22, set data values to 0. Select functions 23 and 24 and reduce data values until one predominate color is just visible. Adjust data values for functions 20, 21, and 22 of the two least predominate colors to obtain a white pattern. Tune in an active black and white channel and adjust

functions 23 and 24 for best white to black tracking at high and low brightness.

## COLOR PURITY

Operate the receiver for 15 minutes. Use a degaussing coil to degauss the CRT and mounting hardware. Tune in a green raster pattern. Loosen the deflection yoke clamp screw and slide the deflection yoke backward to obtain a vertical green band. Rotate and/or spread the purity magnet tabs to center the vertical green band. Slide the deflection yoke forward until a pure green screen is obtained. Check red and blue purity.

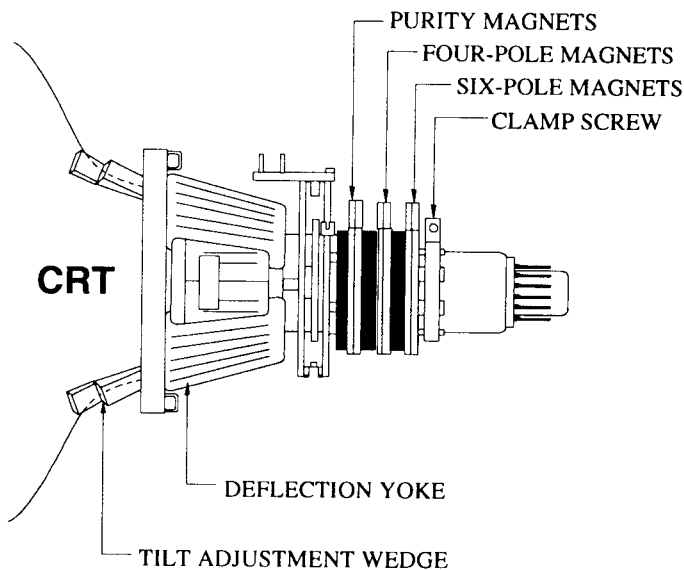
## CONVERGENCE

Operate the receiver for 15 minutes. Tune in a dot pattern. Adjust the four pole magnet tabs to converge the red and blue dots at the center of the screen. Adjust the six pole magnet tabs to converge the red/blue dots with the green dots at the center of the screen.

NOTE: Rotate 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 four and six pole magnets interact, repeat adjustment until center convergence is correct.

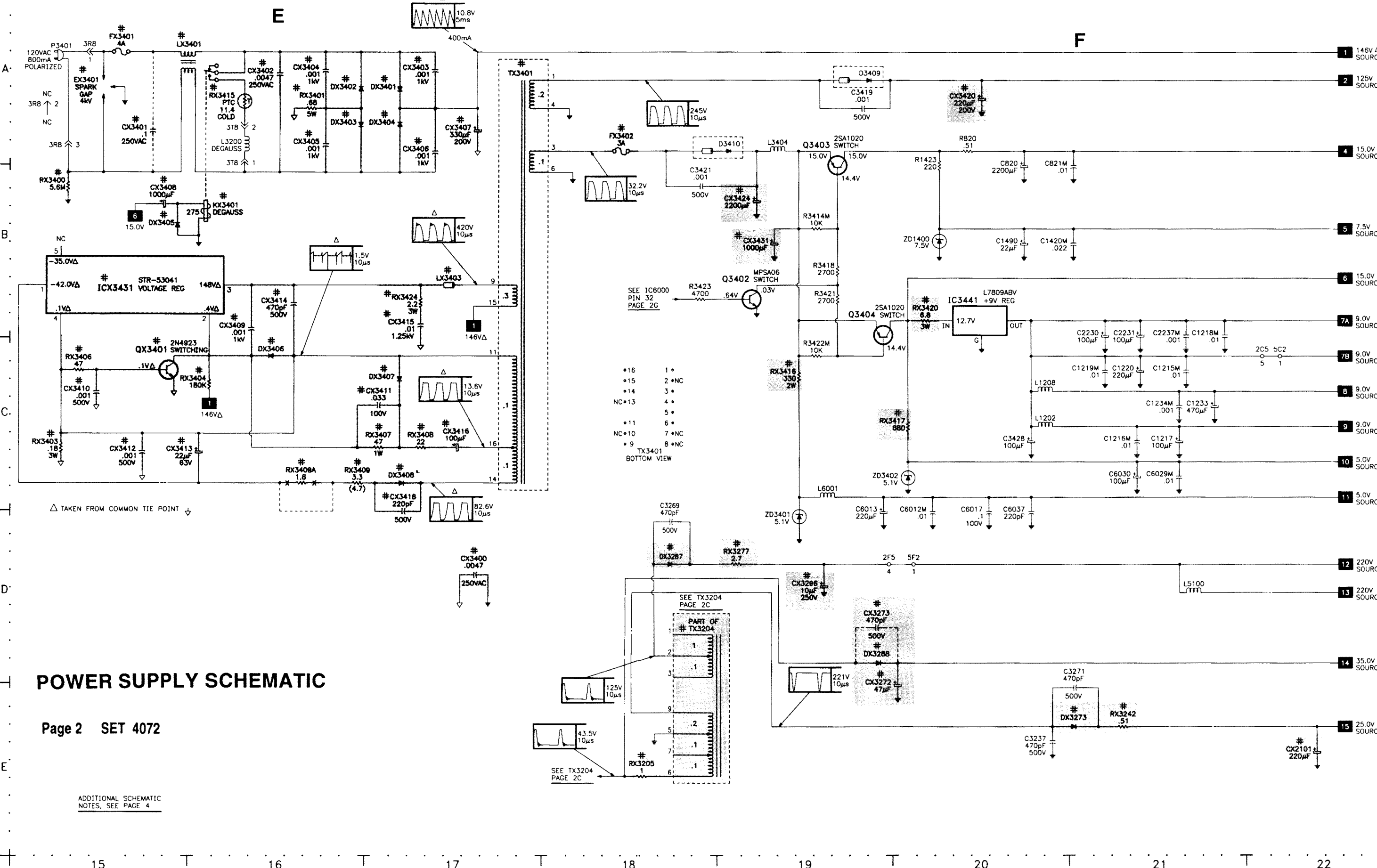
Tune in a crosshatch pattern. Remove the rubber wedges between the deflection yoke and the CRT. Tilt the deflection yoke up or down to converge the vertical lines at the top and bottom of the screen, and the horizontal lines at the right and left sides of the screen. Tilt the deflection yoke right or left to converge the horizontal lines at the top and bottom of the screen, and the vertical lines at the right and left sides of the screen. Repeat convergence procedure as necessary to obtain best overall convergence. Apply adhesive to wedges and replace between the deflection yoke and the CRT.

## CRT NECK ASSEMBLY



## SERVICE MENU CHART

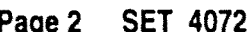
FUNCTION	DATA VALUE	ON-SET VALUE	RANGE	NOTES
<b>1164-01 1.10</b>				
00 F MODE	0	0	0 - 1	Factory Mode. Normal setting is 0, when set to 1, all other functions are accessible.
01 PRE PX	1	1	0 - 1	Stores customer video menu picture preference (Preset). 0 is custom, 1 is preset stored.
02 V POS	7	7	0 - 24	Vertical position of On Screen Displays (Menus & Captions).
03 H POS	10	8	0 - 13	Horizontal position of On Screen Displays (Menus & Captions).
04 LEVEL	1	1	0 - 2	Short pins 3 and 4 on connector 4G9 then set to level 1. Remove jumper after done.
05 BAND	0	0	0 - 7	This setting depends upon input signal. 0 Broadcast Fixed, 1 CATV AFC, 2 HRC AFC, 3 ICC AFC, 4 Broadcast AFC, 5 CATV Fixed, 6 HRC Fixed, 7 ICC Fixed.
06 AC ON	0	0	0 - 1	Enables AC Power On feature.
07 RFBpf	1	1	0 - 1	RF Bandpass.
08 3.58T	1	0	0 - 1	3.58MHz Trap.
09 RF Brt	32	28	0 - 63	RF Brightness.
10 AX Brt	32	27	0 - 63	Auxiliary Brightness.
11 V SIZE	36	39	0 - 63	Vertical Size.
12 V PHASE	2	2	0 - 7	Vertical Phase.
13 H PHASE	18	17	0 - 31	Horizontal Phase.
14 AUD LVL	46	41	0 - 63	Audio Level.
15 RF AGC	33	30	0 - 63	-
16 H AFC	1	1	0 - 1	Horizontal AFC.
17 WH COMP	0	0	0 - 1	White Level Compression.
18 60HZ SW	2	2	0 - 3	-
19 PIF VCO	31	55	0 - 127	Picture IF Voltage Controlled Oscillator.
20 R CUT	5	10	0 - 254	Red Cutoff.
21 G CUT	5	1	0 - 254	Green Cutoff.
22 B CUT	5	15	0 - 254	Blue Cutoff.
23 G GAIN	90	104	0 - 254	Green Gain.
24 B GAIN	90	82	0 - 254	Blue Gain.
25 C Type	2	3	0 - 5	Chassis Type. 0 Mono, 1 Mono W/Aux, 2 Stereo No MTS, 3 Stereo W/Aux, 4 MTS, 5 MTS W/Aux.
26 Scroll	1	1	0 - 1	Selects the method the user menus will appear on the screen.
27 6 Keys	1	1	0 - 1	Set to 0 for the 10 key keyboard, set to 1 for the 6 key keyboard.
28 Spkr Sw	0	0	0 - 1	This item is not used.
29 5 Jacks	0	0	0 - 1	This item is not used.
30 St & SAP	0	0	0 - 1	Selects the Stereo Icon or the SAP Icon, this item is not used.



POWER SUPPLY SCHEMATIC

Page 2 SET 4072

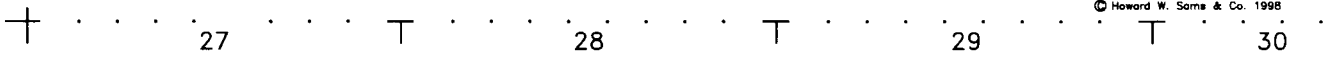
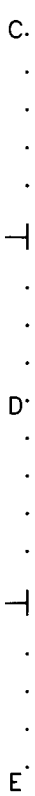
ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 4



## G



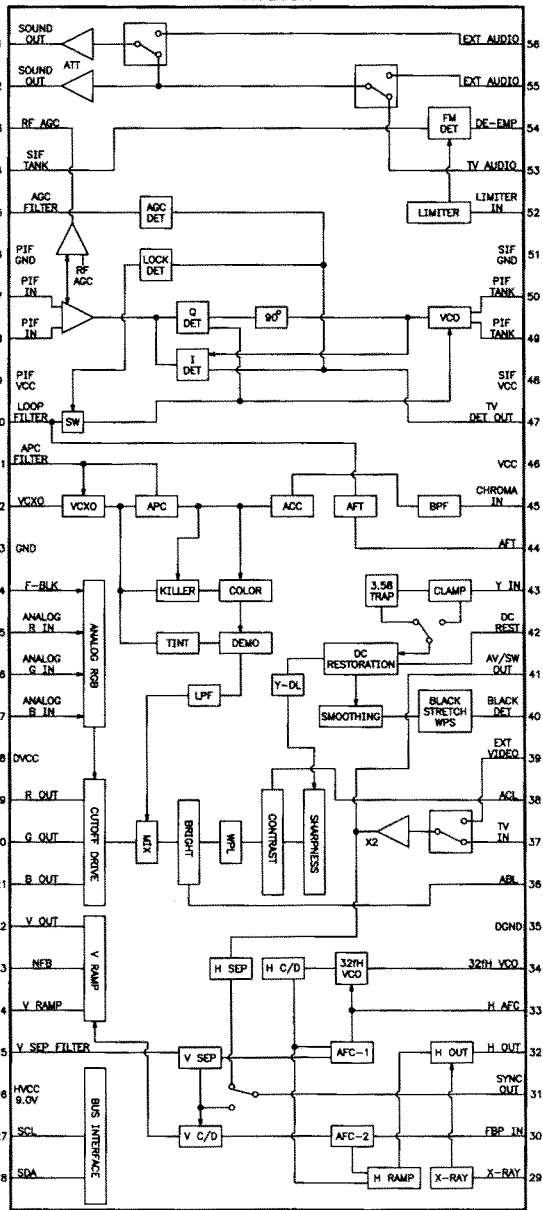
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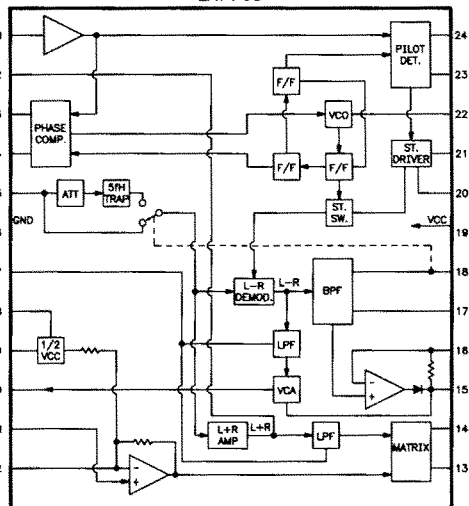
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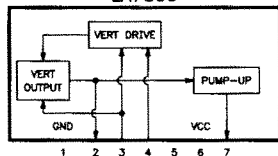
ICX2200  
TA1268N



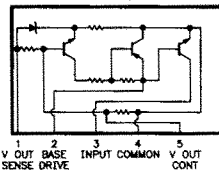
IC1400  
LA7765



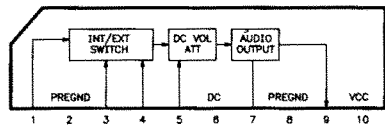
IC2100  
LA7833



ICX3431  
STR-53041



IC830 & IC850  
LA4285



# TUNER INFORMATION

## TUNER VOLTAGE CHART

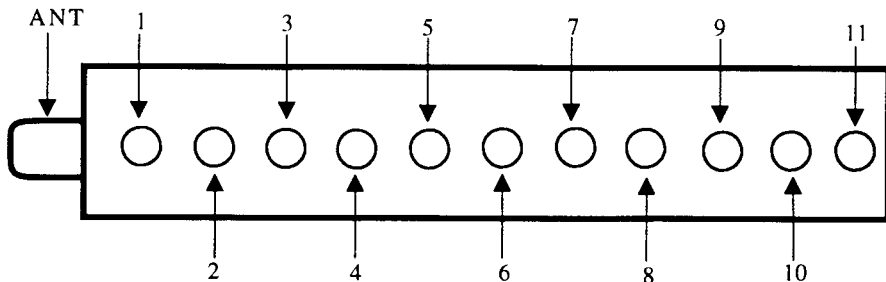
Pin		VHF Low Band	VHF High Band	UHF Band
1	AGC	3.3V	3.3V	3.5V
2	TU	1.3V	4.2V	6.3V
3	EN/AS	0V	0V	0V
4	CLK	5.1V	5.1V	5.1V
5	DATA	5.1V	5.1V	5.1V
6	+9V	9.0V	9.0V	9.0V
7	+5V	5.0V	5.0V	5.0V
8	LOCK	0V	0V	0V
9	+33V	33.0V	33.0V	33.0V
10	IF2	0V	0V	0V
11	IF OUT	0V	0V	0V

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



# PARTS LIST

## Important Parts Information

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

## Obtaining Parts

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

800-428-7267

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

## Participating Vendors

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

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

## SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
D2102	-	103-00254-01	NTE116	ECG116	SK3313
D2202, 03, 06	-	103-00461A	-	-	-
D2601	-	103-00461A	-	-	-
D3409	-	-	-	-	-
D3410	-	-	-	-	-
D6001	-	103-00461A	-	-	-
# DX3005	-	103-00461A	-	-	-
# DX3006	-	103-00344-04A	-	-	-
# DX3201	-	103-00344-06A	-	-	-
# DX3204	-	103-00461A	-	-	-
# DX3207	-	-	-	-	-
# DX3260	-	103-00284A	NTE552	ECG552	SK9000
# DX3273	-	103-00339-04A	NTE580	ECG580	SK5036
# DX3287	-	103-00326A	NTE552	ECG552	SK9000
# DX3288	-	103-00344-04A	-	-	-

# For SAFETY use only equivalent replacement part.

# SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
# DX3401 Thru					
# DX3404	-	103-00467A	-	-	-
# DX3405	-	103-00254-01	NTE116	ECG116	SK3313
# DX3406, 07, 08	-	103-00344-02A	NTE116	ECG116	SK3313
IC830, 50	LA4285	-	-	-	-
IC1400	LA7765	221-00907	-	-	-
IC2100	LA7833	-	-	-	-
IC3441	L7809ABV	-	-	-	-
IC6000	M37267M8-218SP	221-01164-01	-	-	-
IC6001	24C04PC	221-00745-04	-	-	-
IC6002	KIA7042P	221-01177A	-	-	-
# ICX2200	TA1268N	221-01165	-	-	-
# ICX3431	STR-53041	-	NTE1840	ECG1840	SK10144
Q1203, 04	2N3904	121-01310A	NTE85	ECG85	SK3124A
Q1205	-	121-01261A	-	-	-
Q1400	2N3906	121-01311A	NTE290A	ECG290A	SK3114A
Q1402	2N3904	121-01310A	NTE85	ECG85	SK3124A
Q2101	2N3904	121-01310A	NTE85	ECG85	SK3124A
Q2201 Thru					
Q2205	2N3906	121-01311A	NTE290A	ECG290A	SK3114A
Q2206	2N3904	121-01310A	NTE85	ECG85	SK3124A
Q2601, 02	2N3906	121-01311A	NTE290A	ECG290A	SK3114A
Q3202	2N3904	121-01310A	NTE85	ECG85	SK3124A
Q3203, 06	MPSA06	121-01264-01A	NTE287	ECG287	SK3433
Q3402	MPSA06	121-01340A	NTE287	ECG287	SK3433
Q3403, 04	2SA1020	121-01102A	NTE25	ECG25	SK3841
Q5101, 02, 03	2SC5147	121-01291-01	-	-	-
Q6001, 02, 03	2N3904	121-01310A	NTE85	ECG85	SK3124A
# QX3201	2SD45H11	-	-	-	-
# QX3208	2SD2499	-	-	-	-
# QX3401	2N4923	121-01348	NTE184	ECG184	SK3190
ZD1400	-	103-00279-15A	-	-	-
ZD1402, 03, 04	-	103-00279-18A	-	-	-
ZD3401	-	103-00279-10A	NTE5010A	ECG5010A	SK5A1
ZD3402	-	103-00336-10A	-	-	-
ZD6001	-	103-00279-36A	-	-	-
# ZDX3004	-	103-00472A	-	-	-

# For SAFETY use only equivalent replacement part.

## CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
C1208	1 $\mu$ F 20% 50V NP	022-08492-01A
C3232	.001 10% 1kV	022-07811A
C5104	.01 +80% -20% 2kV	022-07523-01B
# CX2101	220 $\mu$ F 20% 35V	022-08311-13
# CX2106	2200 $\mu$ F 20% 25V	022-08310-17
# CX2108	220 $\mu$ F 20% 35V	022-08311-13
# CX3003	10 $\mu$ F 20% 50V	022-08312-08A
# CX3004	10 $\mu$ F 20% 50V	022-08312-08A
# CX3007	470pF 10% 500V	022-07786-10C
# CX3201	.039 5% 630V	022-08116-07
# CX3208	4.7 $\mu$ F 20% 50V NP	022-08057-01
# CX3220	560pF 2kV	-
# CX3222	270pF 2kV	-
# CX3229	.016 3% 1.6kV	022-08229-29
# CX3231	560pF 10% 2kV	022-08386-05
# CX3233	47 $\mu$ F 20% 160V	022-08514-11
# CX3260	2.2 $\mu$ F 20% 160V	022-08315-05A
# CX3261	.56 5% 200V	022-08231-13
# CX3264	470pF 500V	-
# CX3272	47 $\mu$ F 20% 50V	022-08312-11A
# CX3273	470pF 10% 500V	022-07786-10C
# CX3274	100 $\mu$ F 20% 16V	022-08309-12A
# CX3296	10 $\mu$ F 20% 250V	022-08317-08
# CX3400	.0047 20% 250VAC	022-07431-06B
# CX3401	.1 250VAC	-
# CX3402	.0047 20% 250VAC	022-07431-06B
# CX3403 Thru		
# CX3406	.001 10% 1kV	022-07811A
# CX3407	330 $\mu$ F 20% 200V	022-08444-09
# CX3408	1000 $\mu$ F 20% 25V	022-08310-16
# CX3409	.001 10% 1kV	022-08160-01
# CX3410	.001 10% 500V	022-07786C
# CX3411	.033 10% 100V	022-07774-18
# CX3412	.001 10% 500V	022-07786C
# CX3413	22 $\mu$ F 20% 63V	022-08313-09A
# CX3414	470pF 10% 500V	022-07786-10C
# CX3415	.01 5% 1.25kV	022-08008-12
# CX3416	100 $\mu$ F 20% 25V	022-08310-12A
# CX3418	220pF 10% 500V	022-07786-01C
# CX3420	220 $\mu$ F 20% 200V	022-08444-07
# CX3424	2200 $\mu$ F 20% 25V	022-08310-17
# CX3431	1000 $\mu$ F 20% 25V	022-08310-16
# CX6027	1000 $\mu$ F 20% 16V	022-08309-16

# For SAFETY use only equivalent replacement part.

# CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
R3249	5000 Horizontal Size	063-11007-56	-
# RX2601	10K 5% 1/2W	063-10243-96	HW310
# RX3008	2210 1% 1/4W	063-10936-37	-
# RX3009	100K 5% 1/4W	063-10236-20	QW410
# RX3010	100 5% 1/4W	063-10235-48	QW110
# RX3015	68K 5% 1/4W	063-10236-16	QW368
# RX3016, 22	4320 1% 1/4W	063-10936-72	-
# RX3202	1000 5% 1/4W	063-10235-72	QW210
# RX3204	4700 5% 1/4W	063-10235-88	QW247
# RX3205	1 5% 1/2W	063-10565	HW1D0
# RX3237	1.5 5% 2W Wirewound	063-10420-28	-
# RX3242	.51 5% 1/2W	063-11214-16	HWD51
# RX3261	3.9 10% 10W Wirewound	063-10460-38A	10W3D9
# RX3263	22K 5% 1/2W	063-10244-04	HW322
# RX3264	750 5% 1W	-	1W175
# RX3277	2.7 5% 1/2W	063-10565-10	HW2D7
# RX3299	33 5% 1/2W	-	HW033
	4.7 5% 1/2W	063-11087-16	HW4D7
# RX3299A	33 5% 1/2W	-	HW033
# RX3400	5.6M 20% 1/2W	063-11182	HW556
# RX3401	.68 10% 5W Wirewound	063-10444-20A	5WD68
# RX3403	.18 5% 3W Wirewound	-	-
# RX3404	180K 5% 1/2W	063-10244-26	HW418
# RX3406	47 5% 1/4W	063-10235-40	QW047
# RX3407	47 5% 1W	063-11156-40B	1W047
# RX3408	22 5% 1/2W	063-10243-32	HW022
# RX3409	3.3 5% 1/4W	-	QW3D3
	4.7 5% 1/2W	063-11110-16	HW4D7
# RX3409A	1.8 5% 1/4W	-	QW1D8
# RX3411	15K 5% 2W	063-10837B	2W315
# RX3415	11.4 Cold PTC	063-10710A	-
# RX3416	330 5% 2W	063-11160-60B	2W133
# RX3417	680 5% 1/2W	063-10243-68	HW168
# RX3420	6.8 5% 3W	063-11164-20B	3W6D8
# RX3424	2.2 5% 3W	063-11164-08B	3W2D2
# RX5126, 27, 28	12K 5% 2W	063-10836-98B	2W312

# For SAFETY use only equivalent replacement part.

## COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
DY1	Yoke Horiz .98mH Vert 18.1mH	095-03797-05
FB6001, 02	Ferrite Bead	-
L1200	PIF	020-04506
L1201	10 $\mu$ H	020-04277-39A
L1202	10 $\mu$ H	020-03907-12A
L1203	12 $\mu$ H	020-04277-23A
L1205	SIF	020-04278B
L1206	.82 $\mu$ H	020-04277-09A
L1208	120 $\mu$ H	020-03907-25A
L2202	6.8 $\mu$ H	020-04277-20A
L3200	Degaussing	020-04330-30
L3404	33 $\mu$ H	020-04462-18A
L5100	220 $\mu$ H	020-03907-28A
L5102	Ferrite Bead	-
L6000	100 $\mu$ H	020-03907-24A
L6001	1 $\mu$ H	020-04129-08
L6002	1 $\mu$ H	020-04277-10A
L6003	1 $\mu$ H	020-04129-08
L6007	4.7 $\mu$ H	020-04129-16
L6008	8.2 $\mu$ H	020-04277-21A
# LX3201	Choke	020-04530
# LX3210	Ferrite Bead	-
# LX3262	Horizontal Linearity	020-04073-01
# LX3401	Line Filter	095-04285
# LX3403	Ferrite Bead	-
T3205	Horizontal Driver	095-04477
# TX3204 (1)	Horizontal Output	095-04372-01
# TX3401	Chopper	095-04473

**# For SAFETY use only equivalent replacement part.**

(1) Focus and screen (G-2) controls are part of TX3204.

## MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
CR1401	Resonator	224-00179	378kHz
CR2200	Crystal	224-00027A	3.58MHz
CR2205	Crystal	224-00178	503kHz
CRT1	Socket	078-03394-09	CRT
CRY6001	Crystal	224-00074-02	8MHz
# <b>EX3401</b>	Spark Gap	038-00102	4kV
# <b>FX3401</b>	Fuse	136-00114-23A	4Amp, 250V, Normal Lag
# <b>FX3402</b>	Fuse	136-00148-23	3Amp, 250V, Normal Lag
IR6000	Receiver	-	Remote
J1	Jack	A-18577	Assembly
# <b>KX3401</b>	Relay	195-00161	Power
P3401	Line Cord	A-18588-01	AC, Polarized
SP1, 2	Speaker	049-01368-03	5" X 2 1/2", 8 Ohms, 5W
SW1	Switch	085-01832	On/Off
SW2	Switch	085-01832	Channel Up
SW3	Switch	085-01832	Channel Down
SW4	Switch	085-01832	Volume Up
SW5	Switch	085-01832	Volume Down
SW6	Switch	085-01832	Menu
TU6000 (1)	Tuner	175-02721	UHF/VHF
U1200	Filter	224-00139-01A	4.5MHz
U1201	Filter	224-00160	SAW
U1202	Filter	224-00023A	4.5MHz
V1	CRT	A68AGD02X	-
	PC Board	009-01791	Main
	Transmitter	124-00213	Remote
	Wedge	152-00335	Yoke Positioning (3 Used)

**# For SAFETY use only equivalent replacement part.**

(1) Contact TNI Electronics for replacement; order by part number on tuner.



## **CABINET PARTS**

**Item**

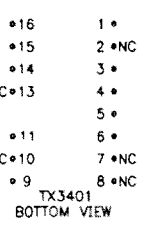
**Mfr. Part No.**

### **Model A27A11D**

Buttons	046-10578
Cabinet Front	014-12305-06
Cabinet Rear	014-12304-01
IR Lens	192-00916

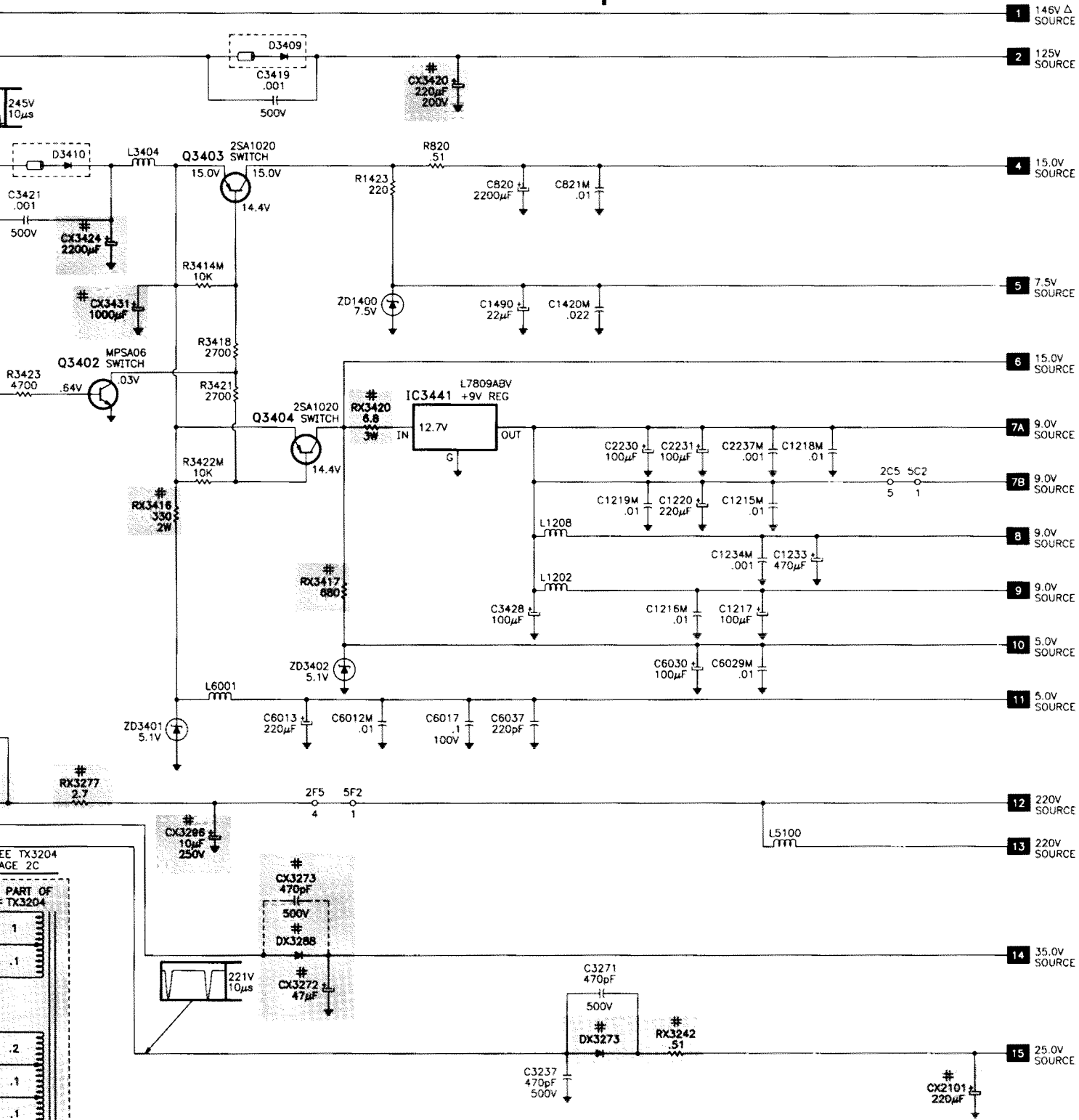
### **Model LGA29A11GM**

Buttons	046-10578
Cabinet Front	014-12305-07
Cabinet Rear	014-12304-01
IR Lens	192-00916



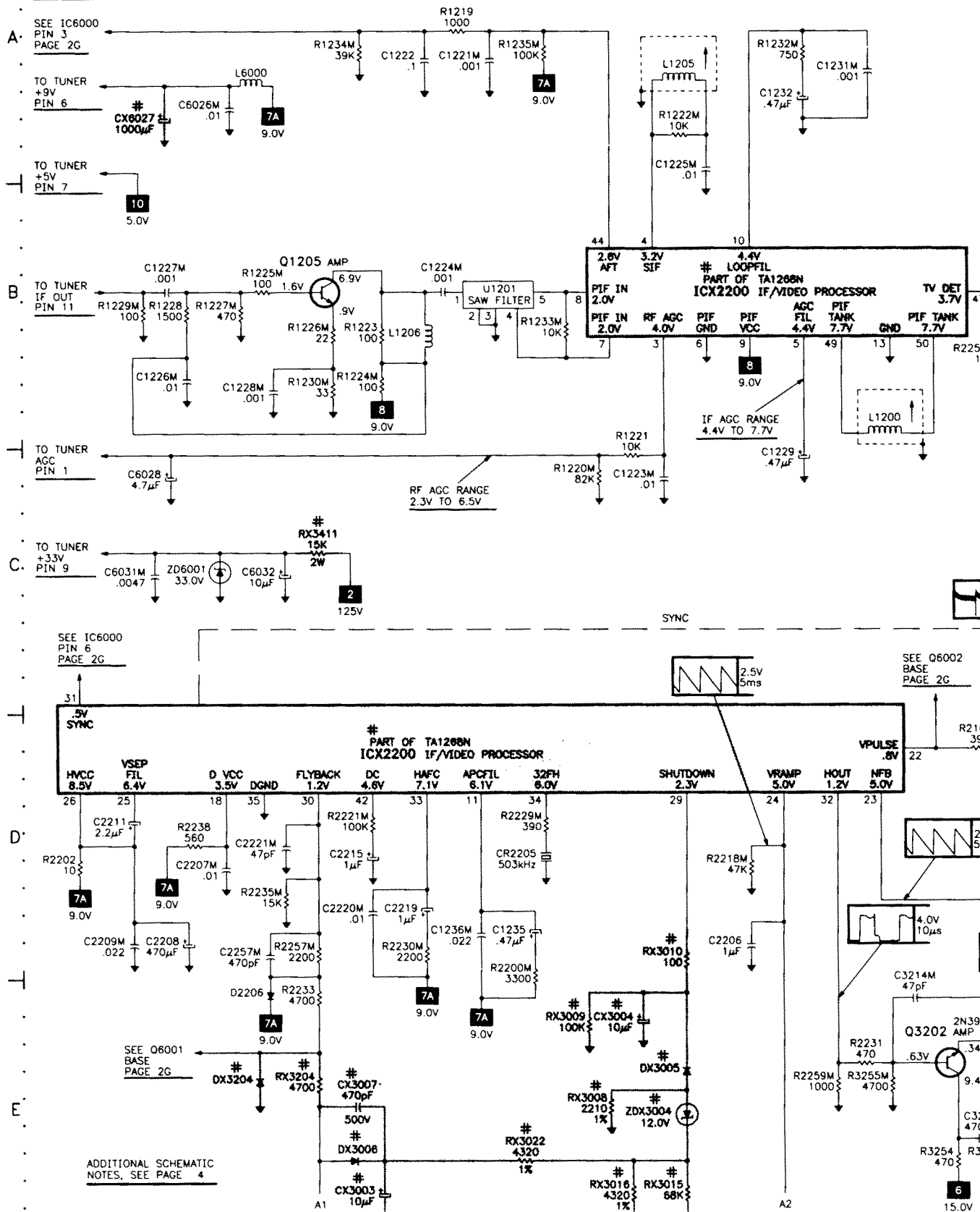
ADDITIONAL SCHEMATIC  
NOTES, SEE PAGE 4

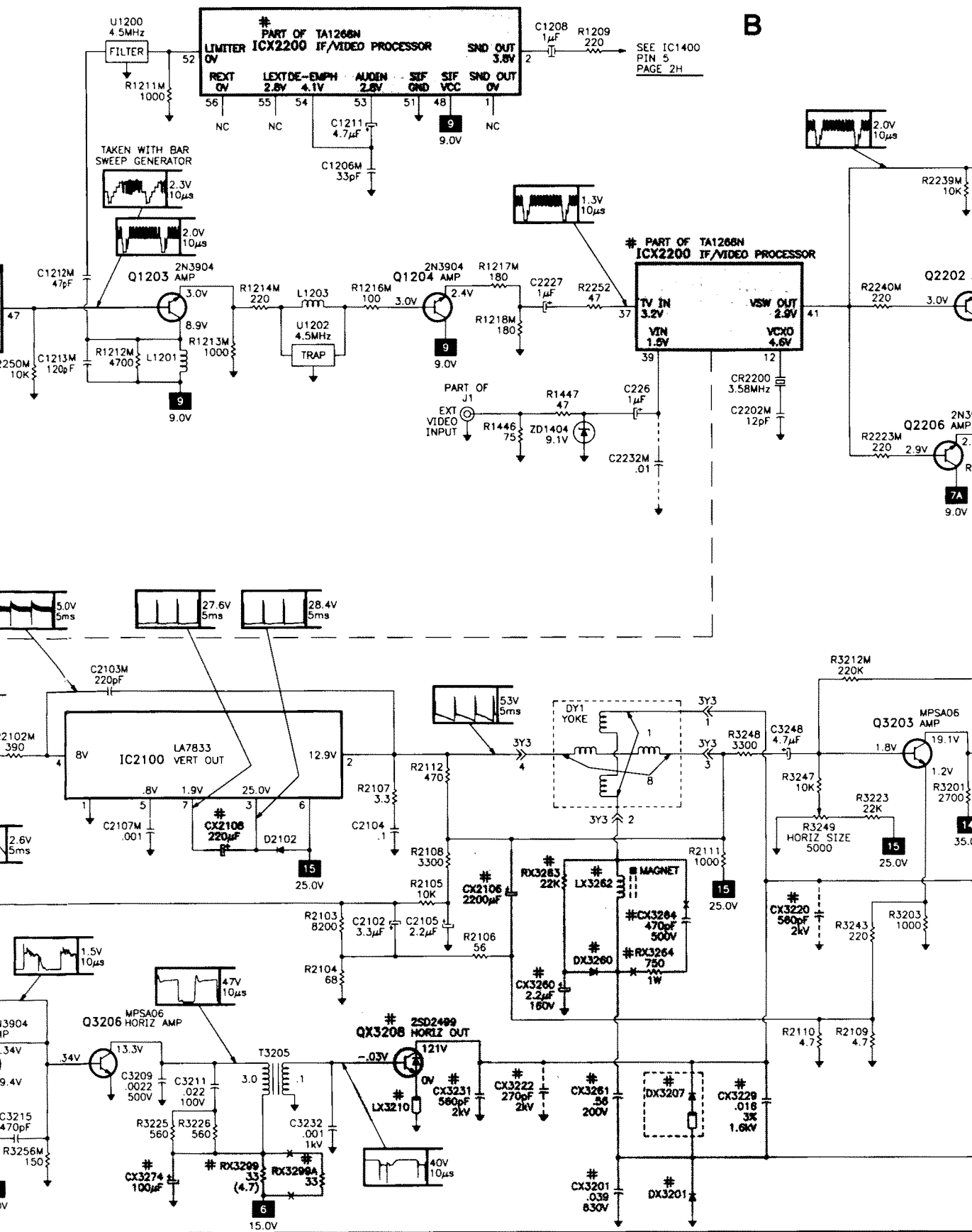
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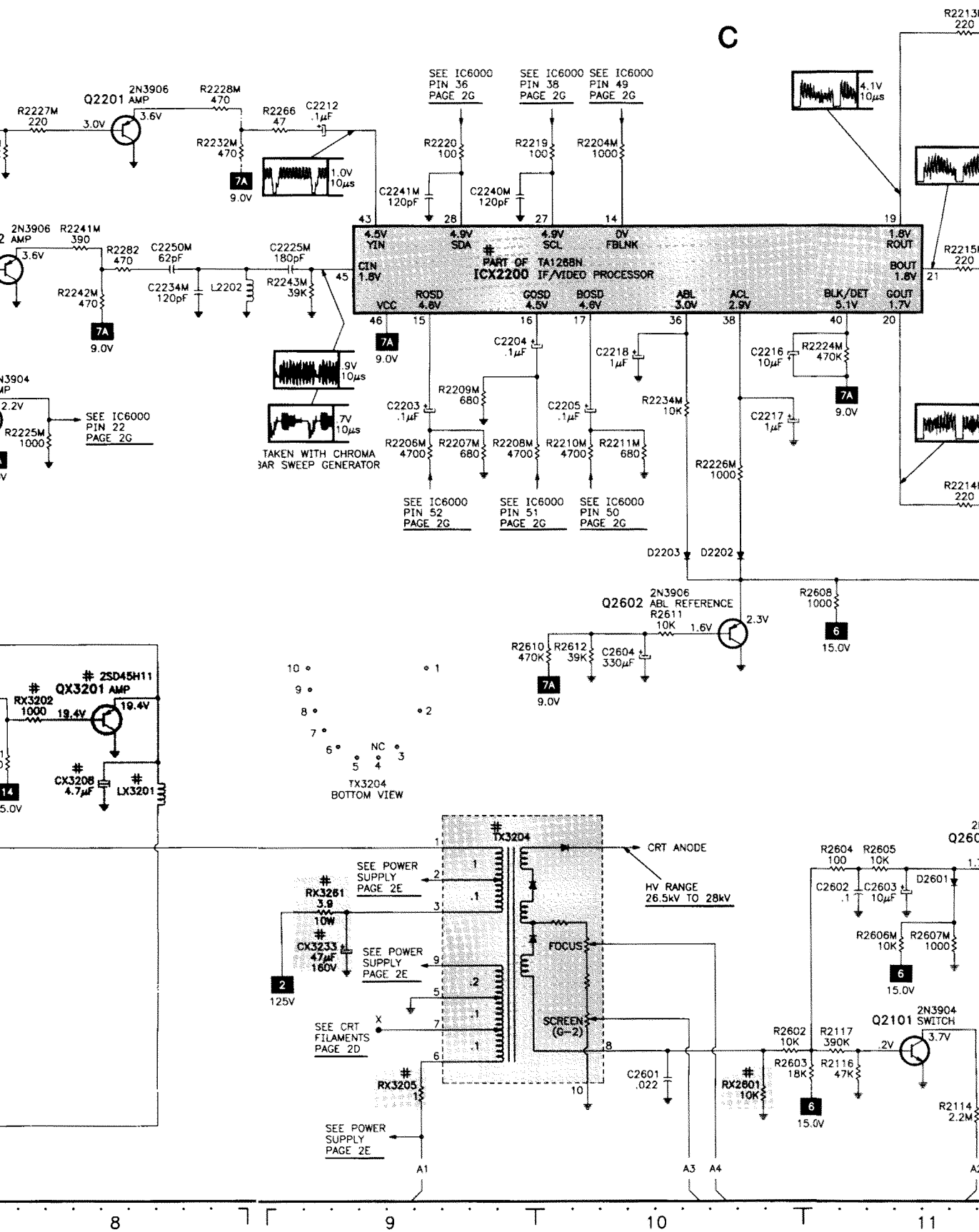


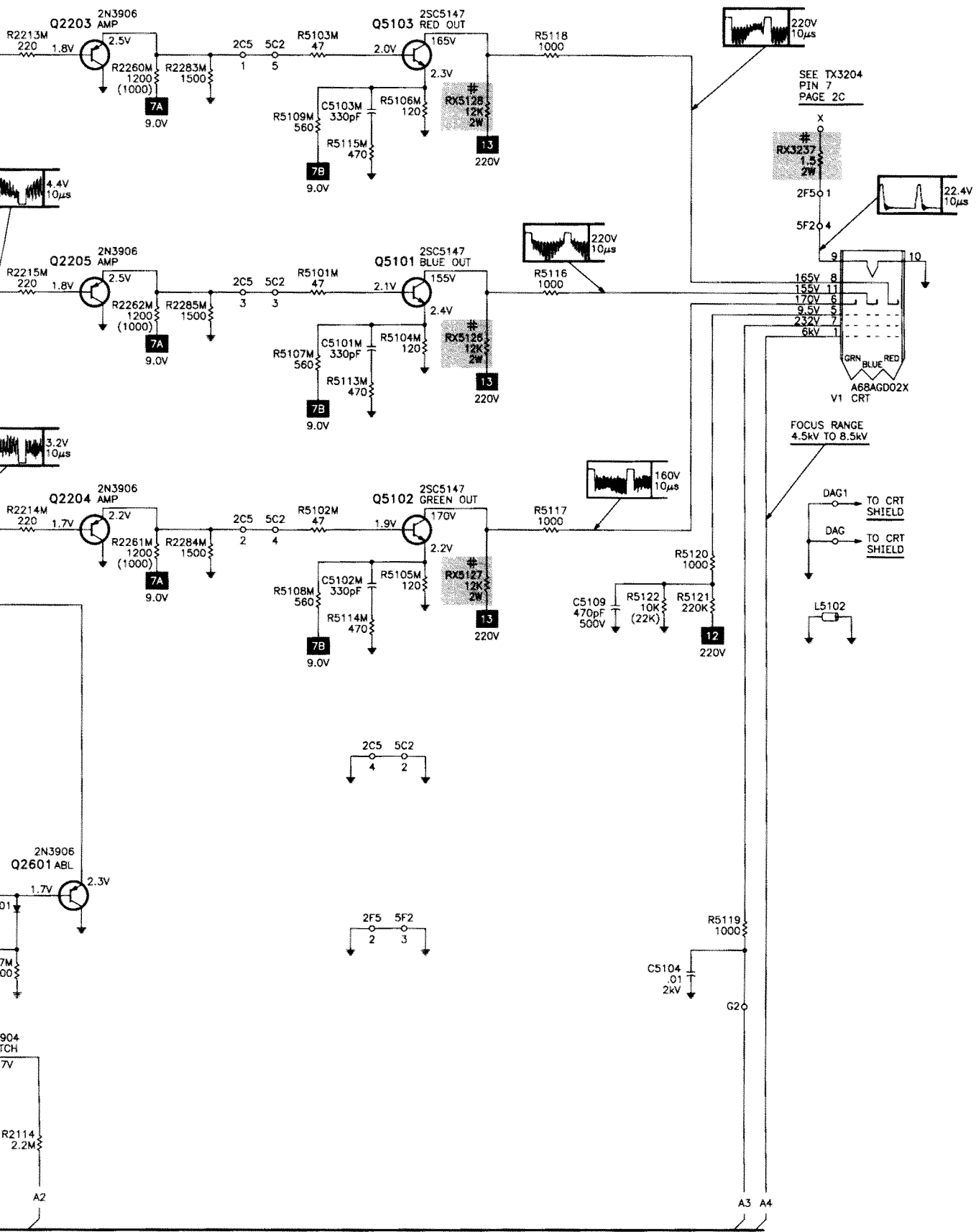
TUNER NOT INCLUDED  
IN THIS COVERAGE

# A









SEE TX3204  
PIN 7  
PAGE 2C

FOCUS RANGE  
4.5kV TO 8.5kV