

SAFETY PRECAUTIONS

SERVICE WARNING

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

SERVICING THE HIGH VOLTAGE AND CRT

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

X-RAY RADIATION AND HIGH VOLTAGE LIMITS

Be aware of the instructions and procedures covering X-ray radiation. In solid-state receivers and monitors, the CRT is the only potential source of X-rays. Keep an accurate high voltage meter available at all times. Check meter calibration periodically. Whenever servicing a receiver, check the high voltage at various brightness levels to be sure it is regulating properly. Keep high voltage at rated value, NO HIGHER. Excessive high voltage may cause X-ray radiation or failure of associated components.

DO NOT depend on protection circuits to keep voltage at rated value. When troubleshooting a receiver with excessive high voltage, avoid close contact with the CRT. DO NOT operate the receiver longer than necessary. To locate the cause of excessive high voltage, use a variable AC transformer to regulate voltage. In present receivers, many electrical and mechanical components have safety related characteristics which are not detectable by visual inspection. Such components are identified by a # on both the schematic and the parts list. For SAFETY, use only equivalent replacement parts when replacing these components.

GENERAL GUIDELINES

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

TEST JIG HOOKUP

Function	Chek-A-Color Adapter No.	PC Board Plug No.	Pin	Color
CRT	B239	HV	1	Red
Yoke	D4137		3	Blue
Yoke Setting	YPI		5	Yellow
Comments	Focus Tap		6	Green

HIGH VOLTAGE SHUTDOWN TEST

Apply 120VAC to the receiver. Press the power button. Momentarily place a 20K ohms resistor across pin 1 and pin 3 of plug X. The receiver should lose raster and sound and remain in that state. If the receiver does not lose raster and sound, the high voltage shutdown circuit requires repair. To resume normal operation, remove AC power, wait 15 seconds, and test the receiver for normal operation.

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

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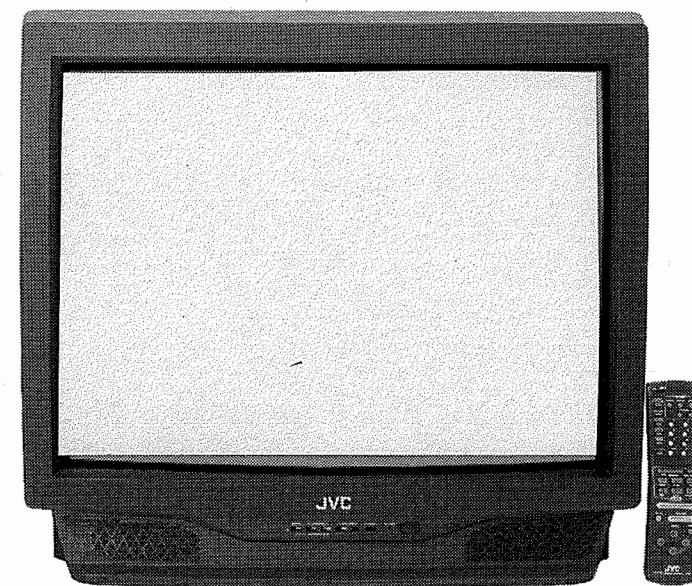


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PHOTOFAC[®] Technical Service Data

JVC

Models AV-27850, AV-27870



Model AV-27850

Essential coverage
for servicing a television receiver...

- **Schematics**
- **Component locations**
- **Parts list**

SET 4009

MODELS AV-27850, AV-27870

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4009

JVC

For Supplier Address,
See PHOTOFAC Annual Index



HOWARD W. SAMS & COMPANY

JULY 1998 SET 4009

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

SCHEMATIC NOTES

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

- * Circuitry not used in some versions.
- Circuitry used in some versions.
- ⊕ Ground
- ⊖ Chassis ground
- △ Common tie point
- Δ Taken from common tie point
- 3 Schematic CIRCUITRACE®: Voltage source tie point.
- A— Cabling: Heavy lines reduce use of multiple lines.

Waveforms and voltages are taken from ground, unless noted otherwise.

Waveforms taken with triggered scope and colorbar signal. Waveform voltage is peak to peak. Timebase is per division. Waveforms shown at 10 divisions.

Supply voltages maintained as seen at input. Voltages measured with digital meter and a 1000μV RF signal, with colorbar pattern, applied to antenna terminal.

Controls adjusted for normal operation.

Capacitors are 50 volts or less, 5% or greater unless noted. Electrolytic capacitors are 50 volts or less, 20% or greater unless noted.

Resistors are 1/2W or less, 5% or greater unless noted. Value in () used in some versions.

Measurements with switching as shown, unless noted. Rated voltage shown on zener diodes.

MISCELLANEOUS ADJUSTMENTS

NOTE: This receiver employs digital customer controls. Unless otherwise indicated all adjustments were performed with the customer controls at center.

B+ CHECK

Tune in a picture. Connect a digital DC voltmeter to cathode of D921. With AC line set to 120VAC, voltage should read 134V ± 2.0V.

HIGH VOLTAGE CHECK

Tune in a picture. Connect a high voltage probe to the CRT anode, low side to ground. High voltage should read 27kV to 29.5kV.

COLOR PURITY / CONVERGENCE

CRT and yoke are bonded. Color purity and convergence adjustments are not recommended.

SERVICE MENU

To enter the service menu, press the display and video status buttons together. The service menu is displayed as shown below. While in the service menu, use the menu up and down buttons to select and use the menu left and right buttons to adjust. To exit the service menu, press the exit button.

SERVICE MENU			
PICTURE	SOUND	THEATER	OTHERS
PIP		LOW LIGHT	HIGH LIGHT
		RF AFC 1	RF AFC 2
		I ² C BUS CTRL	

H POSITION

Tune in a crosshatch pattern. Adjust the horizontal position to center the picture.

BRIGHT / PICTURE / COLOR / TINT

Tune in a picture. Set the customer controls to the center. Adjust bright for best brightness. Adjust picture for best contrast. Adjust color for best color. Adjust tint for best tint.

Sound Menu Chart

Adjustment	Range	Initial Value	On-set Value
ATTENUATOR (1)	000 ~ 063	050	050
BALANCE (1)	000 ~ 063	032	032
NOISE DET (1)	000, 001	001	001
IN LEVEL (1)	000 ~ 063	025	024
FH MONITOR	000, 001	000	000
STEREO VCO	000 ~ 063	023	023
PILOT CAN. (1)	000, 001	000	000
FILTER (1)	000 ~ 063	030	030
LOW SEP.	000 ~ 063	035	029
HI SEP.	000 ~ 063	017	013
5FH MON.	000, 001	000	000
SAP VCO	000 ~ 063	028	029
IN GAIN (1)	000, 001	000	000
FIL. OFFSET (1)	000 ~ 010	000	000

(1) Do not adjust.

STEREO VCO

Tune in a picture. Set FH monitor to 001. Connect a frequency counter to pin 2 of connector MPX. Adjust stereo VCO for 15.73kHz ± .5kHz. Set FH monitor to 000.

SAP VCO

Tune in a picture. Connect a 1M ohms resistor between pins 3 and 4 of connector MPX. Set 5FH mon to 001. Connect a frequency counter to pin 2 of connector MPX. Adjust SAP VCO for 78.67kHz ± .5kHz. Set 5FH mon to 000.

HI SEP. / LOW SEP.

Connect an MTS TV-stereo generator to the antenna input. Select pilot, 300Hz audio frequency, and left modulating signal on the generator. Connect an oscilloscope to pin 2 of connector MPX. Adjust low separation for minimum amplitude of the waveform. Select 8kHz on the generator. Adjust high separation for minimum amplitude of the waveform.

Theater Menu Chart

Adjustment	Range	Initial Value	On-set Value
TINT (1)	-20 ~ +20	±00	±00
COLOR (1)	-20 ~ +20	-02	-02
PICTURE (1)	-30 ~ +20	-15	-15
BRIGHT (1)	-20 ~ +20	±00	±00
DETAIL (1)	-15 ~ +15	-03	-03
G DRIVE (1)	-80 ~ +50	-25	-25
B DRIVE (1)	-80 ~ +50	-72	-72
R CUT (1)	-10 ~ +10	±00	±00
G CUT (1)	-10 ~ +10	±00	±00
B CUT (1)	-10 ~ +10	±00	±00

(1) Do not adjust.

RF AGC

Tune in a picture. Decrease the value of RF AGC until snow appears in the picture. Increase the value of RF AGC until snow disappears from the picture. Check all channels for proper picture and readjust if necessary.

V SIZE / V CENTER

Tune in a crosshatch pattern. Adjust vertical size for a slightly underscanned picture. Adjust vertical center and S421 to center the picture. Adjust vertical size for a slightly overscanned picture.

MISCELLANEOUS ADJUSTMENTS continued

Others Menu Chart

Adjustment	Range	Initial Value	On-set Value
OSD POS. (1)	000 ~ 007	000	000
CCD POS. (1)	000 ~ 015	005	003
EOSEL (1)	000, 001	001	001
F1 - FIELD (1)	000, 001	001	001
F1 - LINE 21 (1)	000 ~ 015	008	008
F2 - LINE 21 (1)	000 ~ 015	008	008
OSD STABI. (1)	000, 001	000	000
LOCK DET. (1)	000, 001	000	000
COL. NOISE	000, 001	000	000
MENU COLOR (1)	-030 ~ 000	-010	-010
MENU PICT. (1)	-030 ~ 000	-012	-012
MENU BRI. (1)	-030 ~ 000	-012	-012
(1) Do not adjust.			

PIP Menu Chart

Adjustment	Range	Initial Value	On-set Value
V POSITION	000 ~ 127	025	025
LOWER POS.	000 ~ 255	123	123
H POSITION	000 ~ 063	009	010
RIGHT POS.	000 ~ 127	093	095
TINT	000 ~ 063	045	034
COLOR SAT	000 ~ 127	050	034
CONTRAST	000 ~ 127	050	062
BRIGHT	000 ~ 031	020	020
FRAME Y (1)	000 ~ 015	008	008
FRAME BY (1)	000 ~ 007	004	004
FRAME RY (1)	000 ~ 007	004	004
H AREA (1)	000 ~ 063	023	020
V AREA (1)	000 ~ 063	041	041
Y/C DELAY (1)	000 ~ 015	004	004
EXT MH SEL (1)	000 ~ 003	000	000
EXT MV SEL (1)	000 ~ 003	000	000
EXT SYNC S (1)	000 ~ 003	003	003
HP (1)	000 ~ 003	000	000
AD CLOCKSEL (1)	000 ~ 003	000	000
KILLER (1)	000, 001	001	001
TEST_ACC_L (1)	000, 001	000	000
ACC_LEVEL (1)	000 ~ 063	021	021
AFCOFF (1)	000, 001	000	000
ADJ (1)	000 ~ 015	005	005
ASPECT H (1)	000 ~ 063	054	054
HT (1)	000 ~ 015	007	007
ASPECT V (1)	000 ~ 255	067	067
TEST_PIP_C (1)	000, 001	000	000
BGPMSEL (1)	000, 001	000	000
BPFSEL (1)	000 ~ 003	000	000
LPFSEL (1)	000 ~ 003	002	002
MODE (1)	000 ~ 003	001	001
BG-START (1)	000 ~ 063	014	014
DOUTSEL (1)	000 ~ 003	000	000
EXT BH SEL (1)	000 ~ 003	003	003
SEL-PD-OUT (1)	000, 001	000	000
(1) Do not adjust.			

PIP RF AGC

Tune in a picture on the PIP window. Turn R123 clockwise to a point where snow appears in the PIP picture. Turn R123 counterclockwise to the point when snow disappears.

PIP Position

Tune in picture on PIP window. Adjust V pos to place the PIP window 1 1/4" from the top of the picture. Adjust lower pos to place the PIP window 1 1/4" from the bottom of the picture. Adjust H pos to place the PIP window 1 1/4" from the left side of the picture. Adjust right pos to place the PIP window 1 1/4" from the right side of the picture.

PIP Tint, Color, Contrast, and Bright

Tune in the same picture on the main picture and the PIP window. Adjust the following menu items to match the PIP picture with the main picture: tint, color sat, contrast, and bright.

Low Light Menu Chart

Adjustment	Range	Initial Value	On-set Value
BRIGHT	000 ~ 127	064	058
RED CUTOFF	000 ~ 255	020	052
GREEN CUTOFF	000 ~ 255	020	027
BLUE CUTOFF	000 ~ 255	020	053

High Light Menu Chart

Adjustment	Range	Initial Value	On-set Value
GREEN DRIVE	0 ~ 255	128	133
BLUE DRIVE	0 ~ 255	128	128

NOTE: While in the Low Light Menu or the High Light Menu adjustments are performed using the following buttons on the remote:

- 1 - Vertically collapses the picture.
- 2 - Restores full picture.
- 3 - Increases red value.
- 4 - Increases green value.
- 5 - Increases blue value.
- 6 - Increases blue value.
- 7 - Decreases red value.
- 8 - Decreases green value.
- 9 - Decreases blue value.

White Balance

Disconnect the antenna. Set picture, bright, red, blue, and green cutoffs to minimum. Set green and blue drives to midrange. Press 1 to collapse the picture. Adjust the screen control for a dim line of one dominant color. Adjust the other two cutoffs for a dim white line. Press 2 for a full picture. Adjust green and blue drives for best white balance. Exit Service menu and check white balance at high and low brightness. Repeat above steps if necessary.

RF AFC1 Menu Chart

Adjustment	Range	Initial Value	On-set Value
RF AFC 1	On, Off	On	On
FINE	-77 ~ +77	±00	±00

IF VCO

Tune in a color bar signal. Connect a DC voltmeter to pin 3 of connector CW. Set RF AFC 1 to off. Set fine to 0. Adjust T131 for 2.5V ± .2V. Set RF AFC to on. Exit service menu and check the picture quality. If the picture is bad, repeat above steps.

(1) Do not adjust.

RF AFC2 Menu Chart

Adjustment	Range	Initial Value	On-set Value
RF AFC 2 (1) FINE (1)	On, Off -77 ~ +77	On ±00	On ±04
(1) Do not adjust.			

I²C Bus CTRL Menu Chart

Adjustment	Range	Initial Value	On-set Value
I ² C BUS (1)	On, Off	On	On
(1) Do not adjust.			

TUNER INFORMATION

MAIN TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
AGC	5.8V	6.6V	4.9V
TU	1.3V	4.5V	5.1V
ENA	.4V	.4V	.4V
CLK	.3V	.3V	.3V
DATA	.3V	.3V	.3V
BM	8.3V	8.2V	8.4V
5V	5.0V	5.0V	5.0V
LOCK	0V	0V	0V
BT	33.0V	33.0V	33.0V
NC	0V	0V	0V
IF1	0V	0V	0V

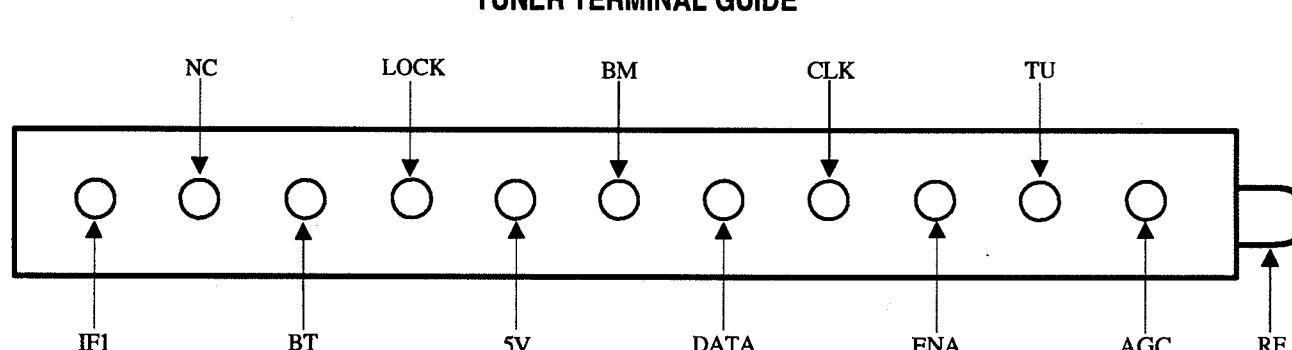
NOTE: VHF Low Band voltages taken on channel 2.
VHF High Band voltages taken on channel 7.
UHF Band voltages taken on channel 14.

SUB TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
AGC	8.0V	8.0V	8.0V
TU	3.2V	3.2V	3.2V
ENA	.4V	.4V	.4V
CLK	.3V	.3V	.3V
DATA	.3V	.3V	.3V
BM	8.3V	8.3V	8.3V
5V	5.0V	5.0V	5.0V
LOCK	0V	0V	0V
BT	33.0V	33.0V	33.0V
NC	0V	0V	0V
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.

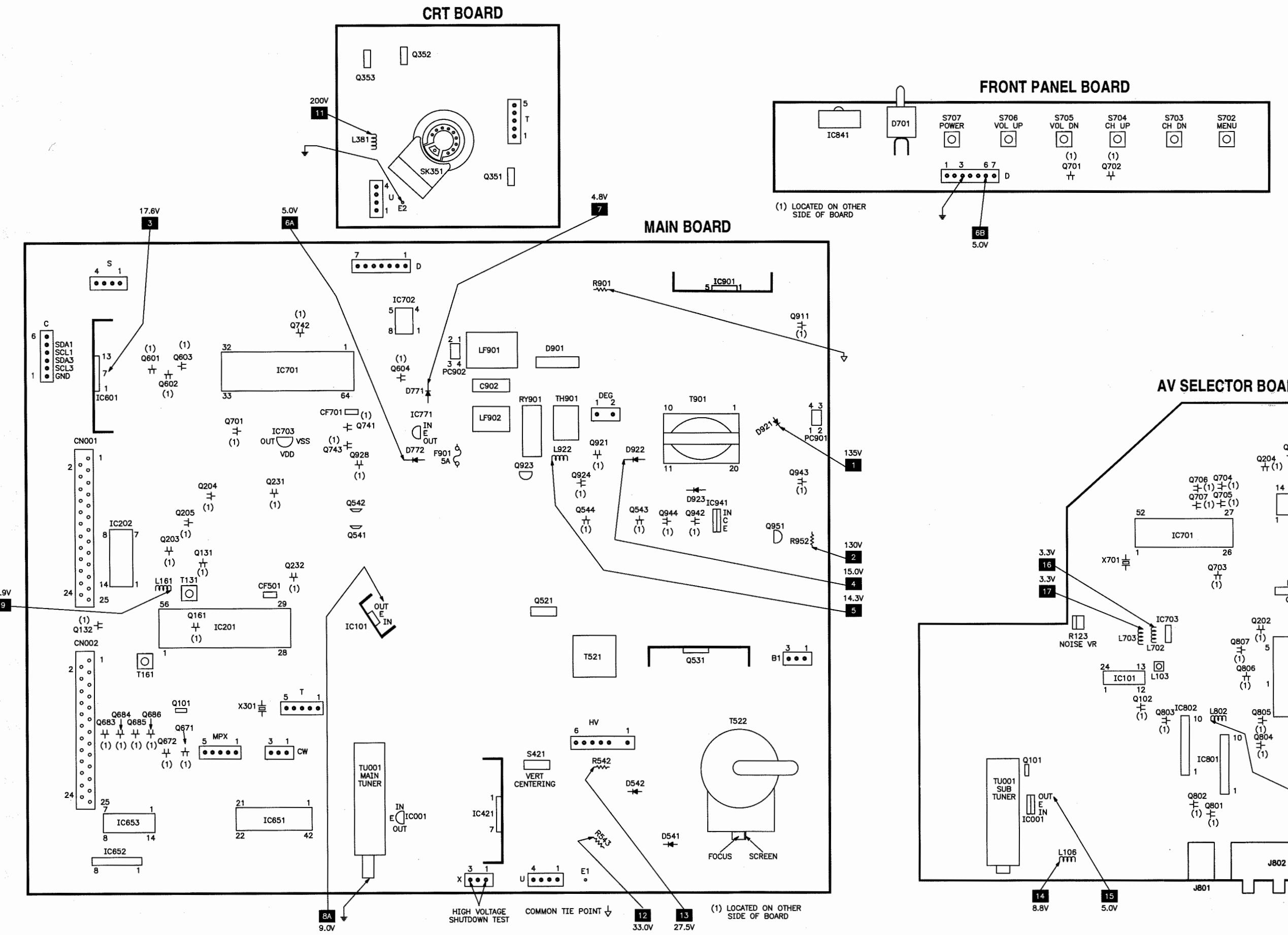
TUNER TERMINAL GUIDE



PLACEMENT CHART

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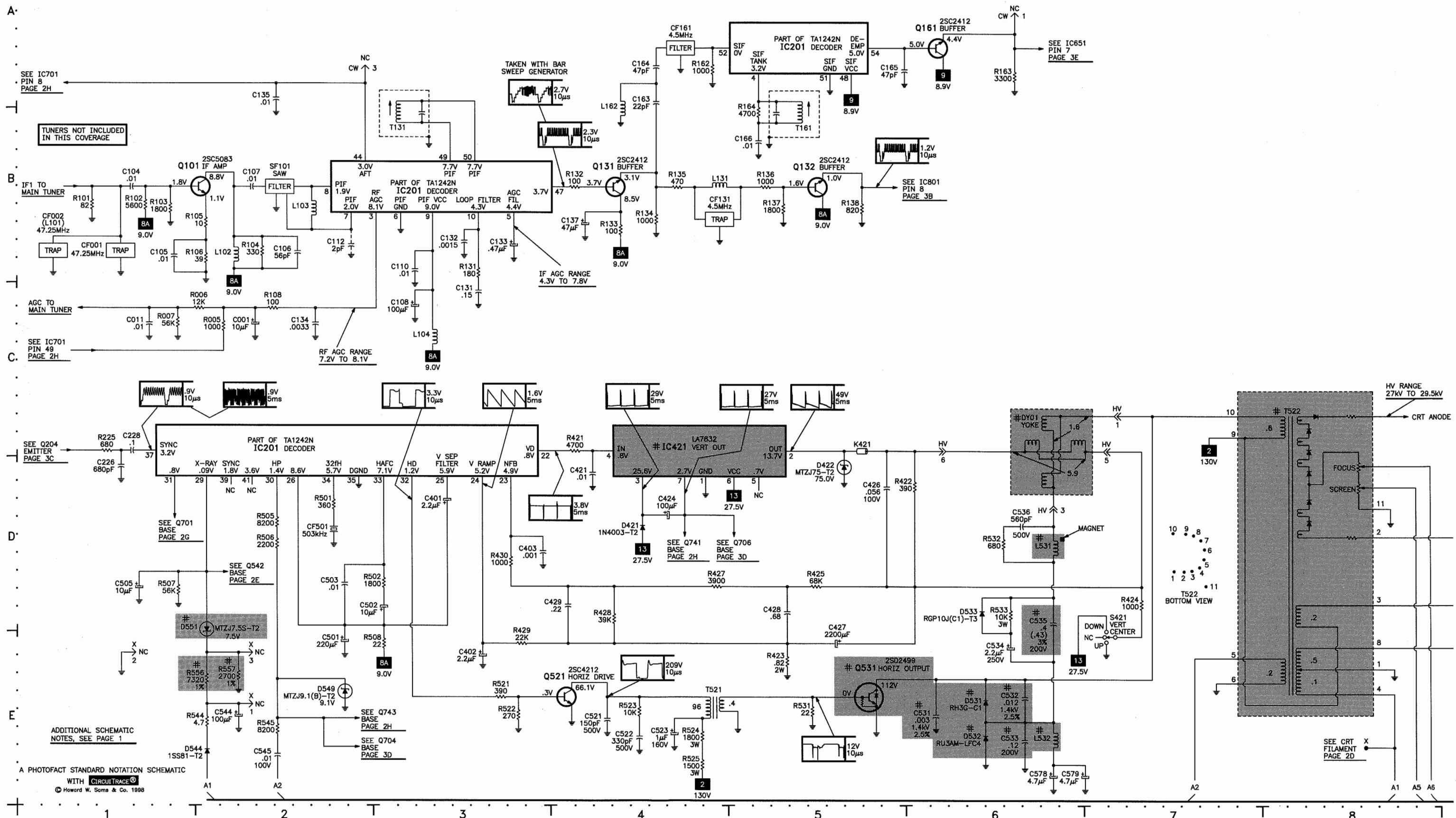
MODELS AV-27850, AV-27870



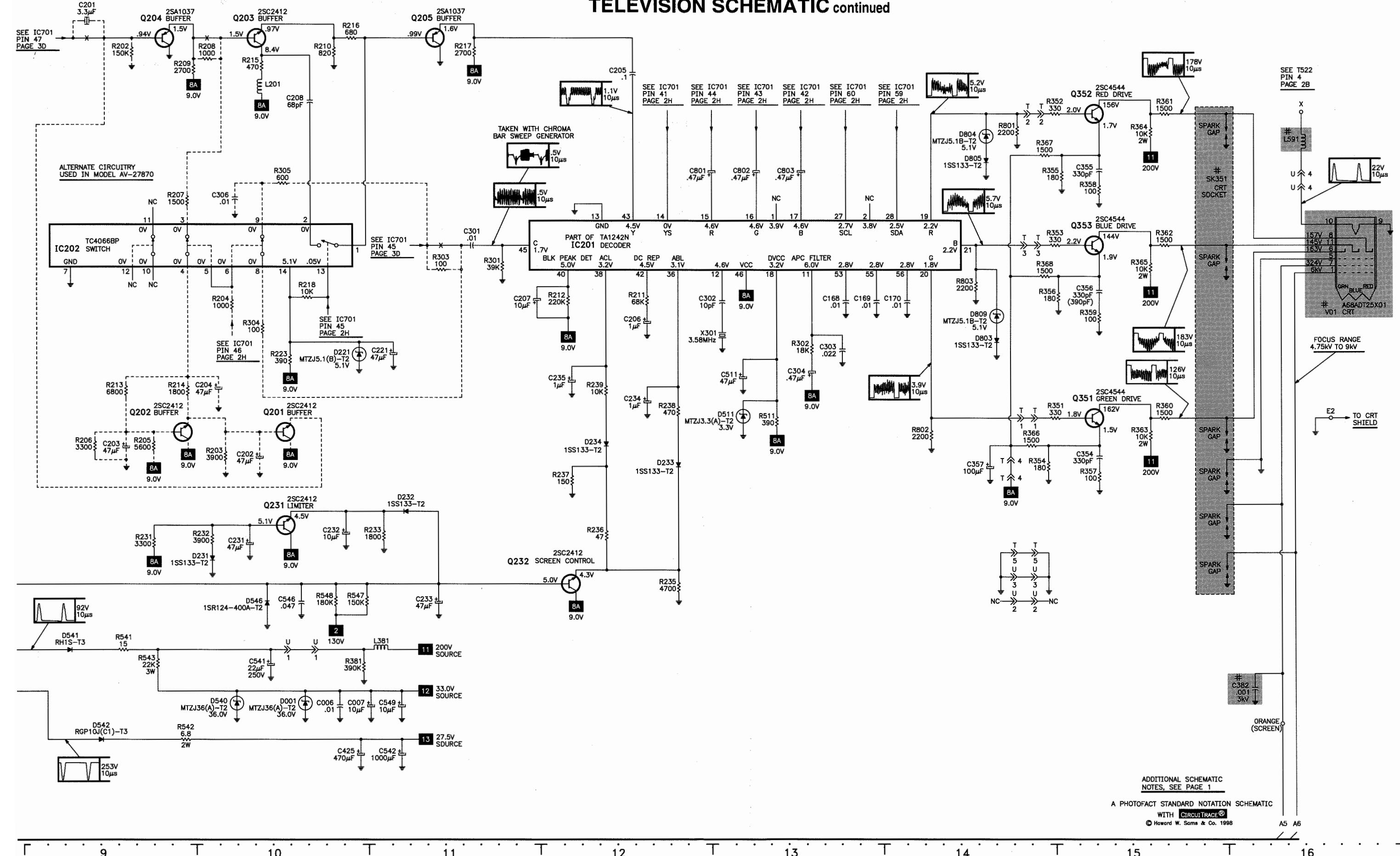
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TELEVISION SCHEMATIC

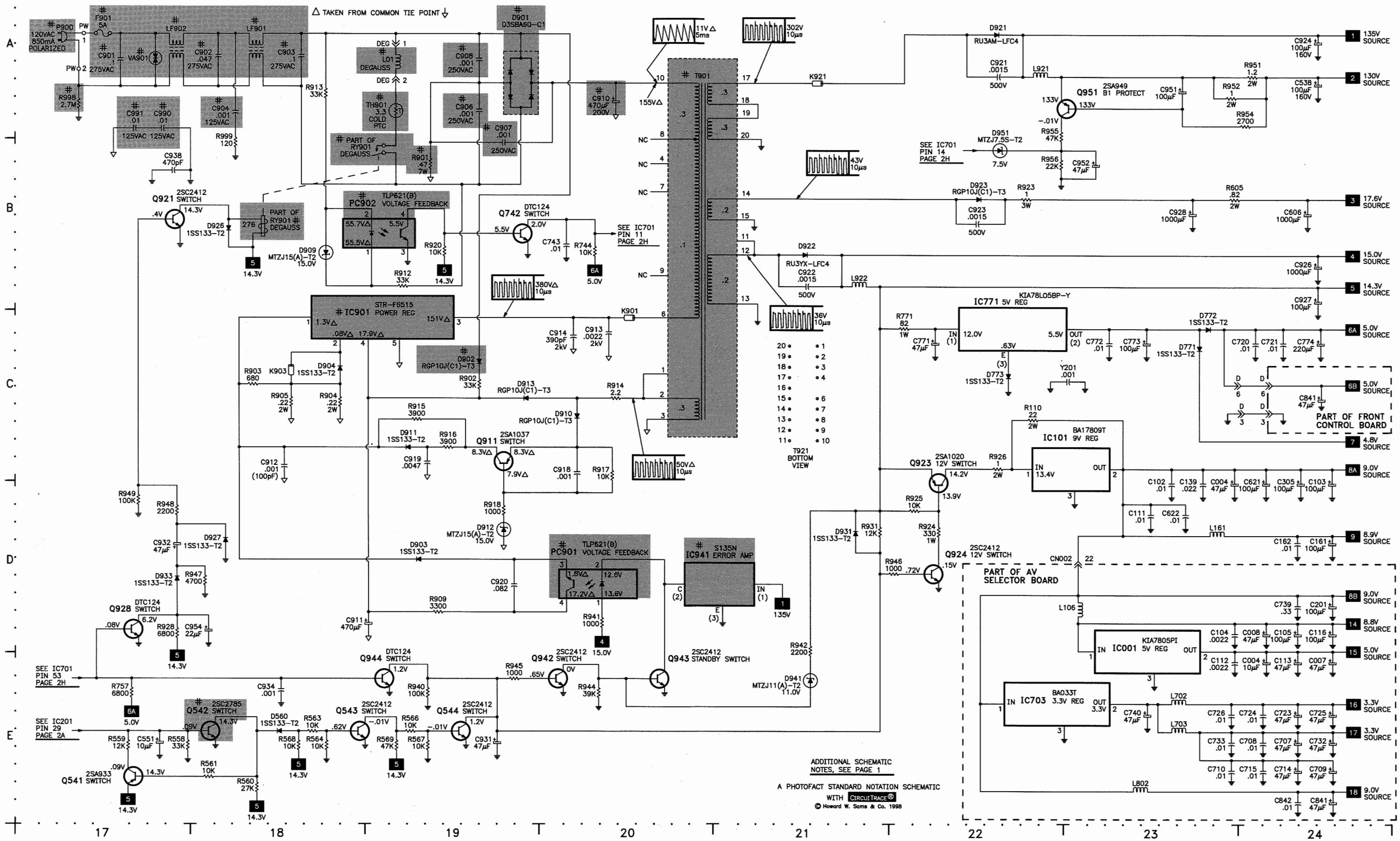
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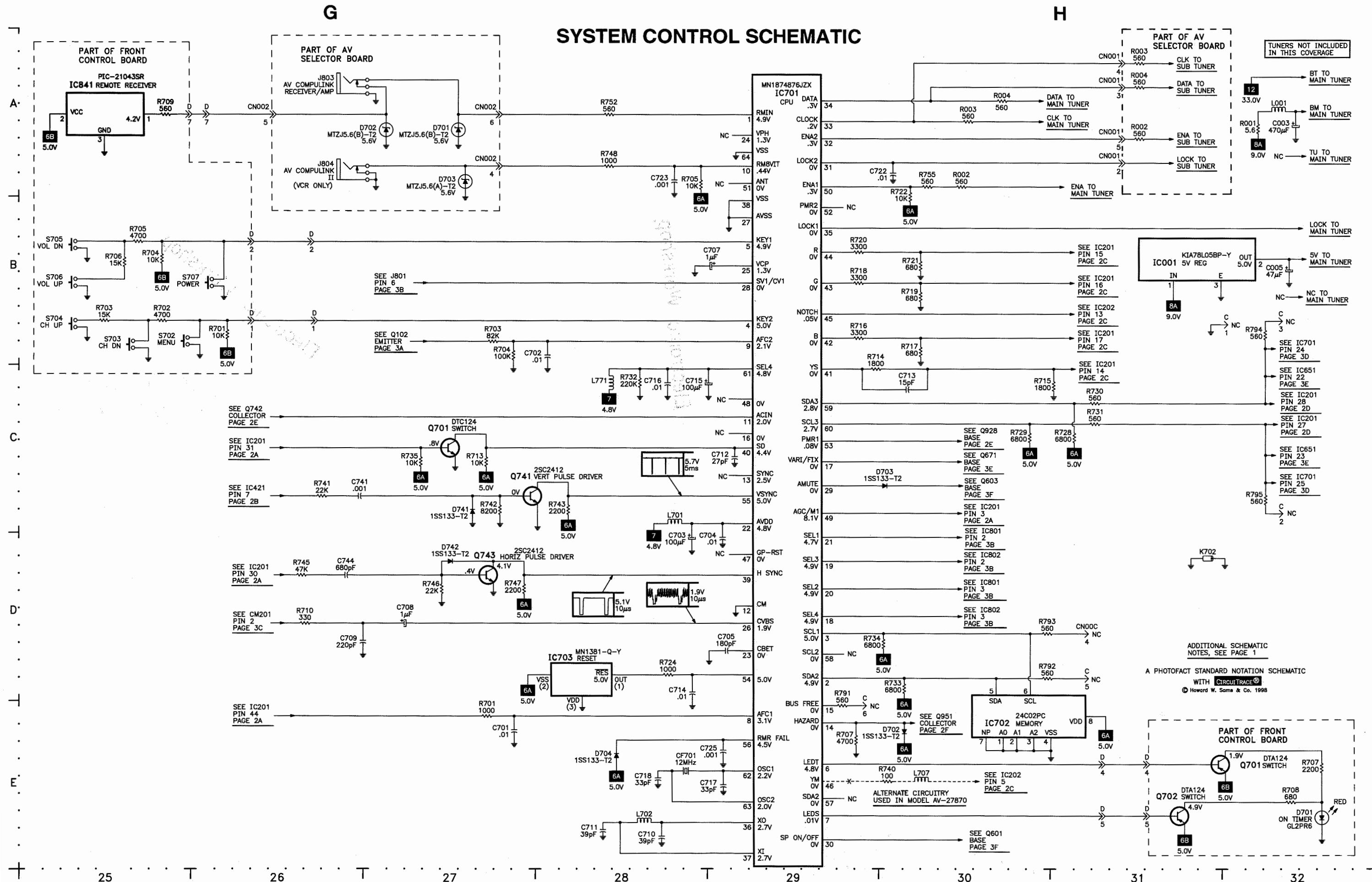
TELEVISION SCHEMATIC continued



POWER SUPPLY SCHEMATIC



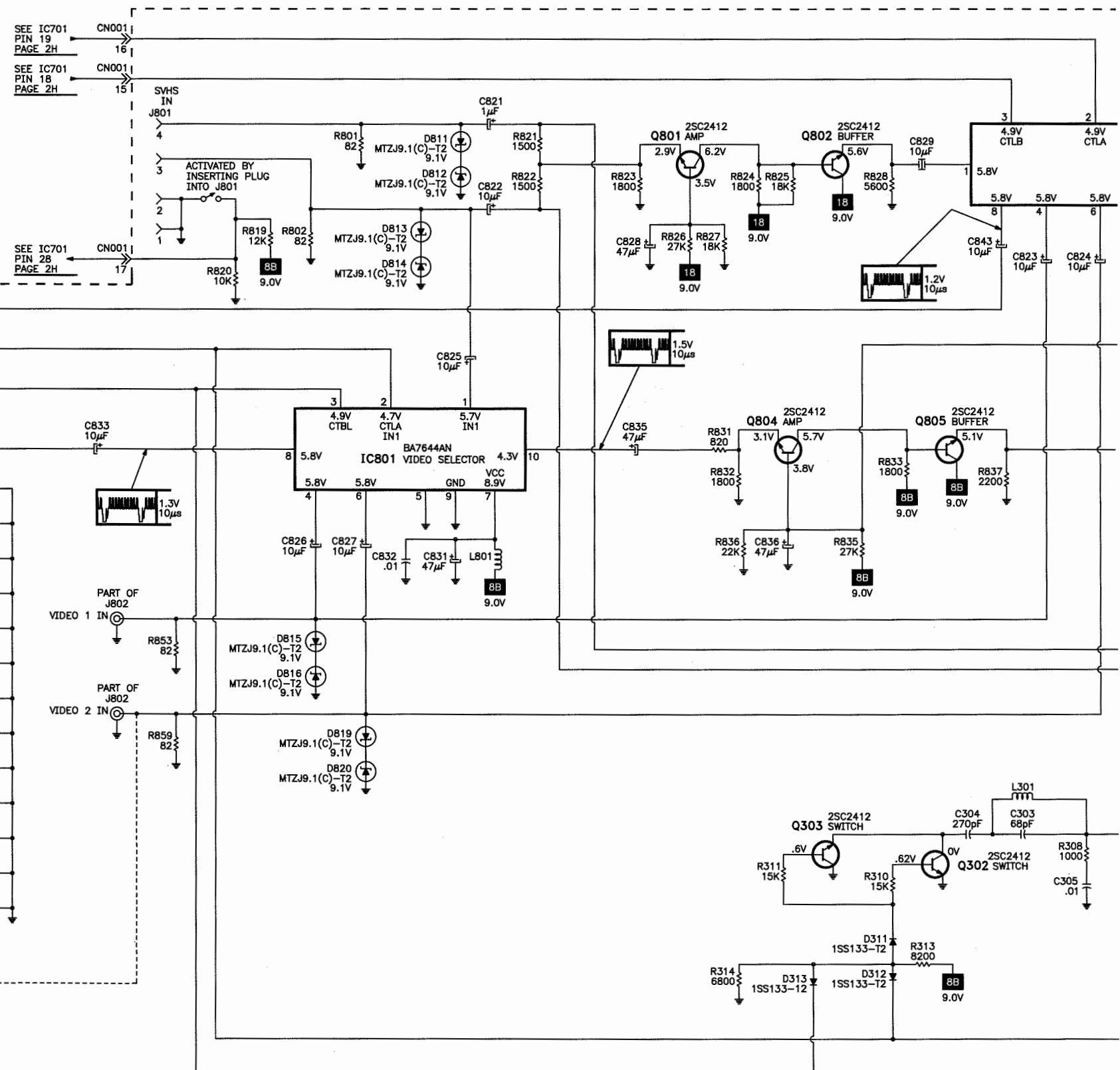
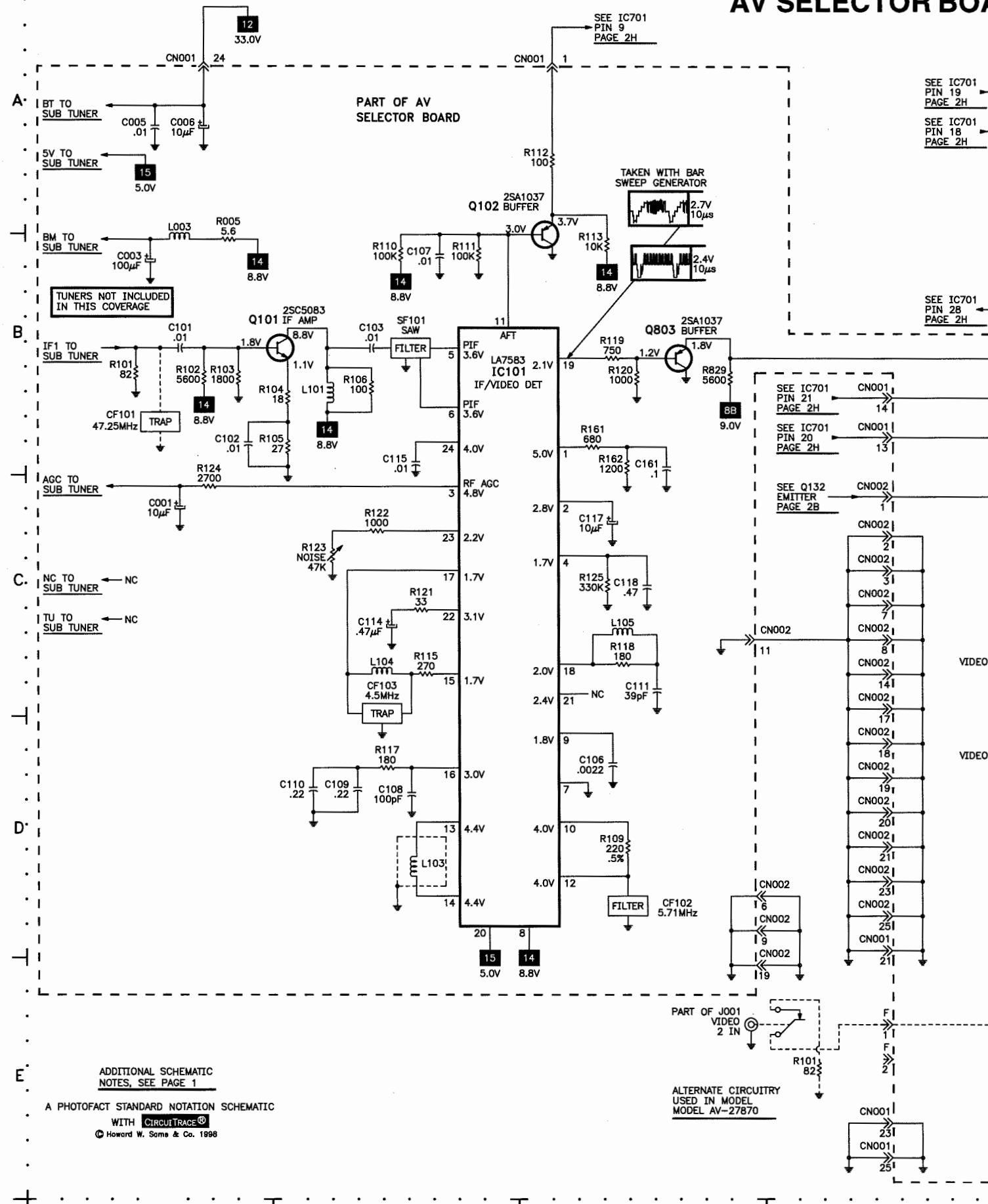
SYSTEM CONTROL SCHEMATIC



A

AV SELECTOR BOARD SCHEMATIC

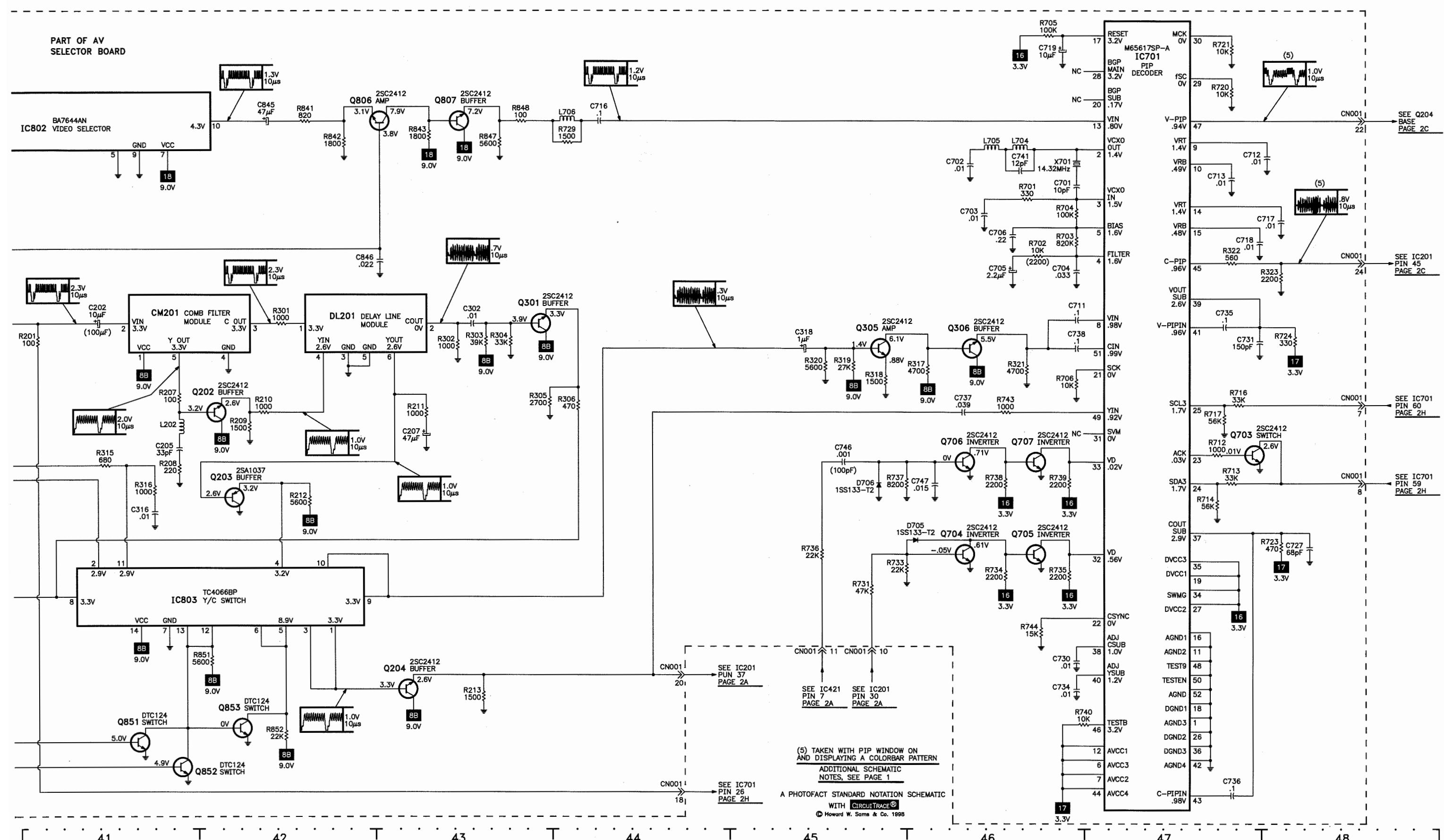
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AV SELECTOR BOARD SCHEMATIC continued

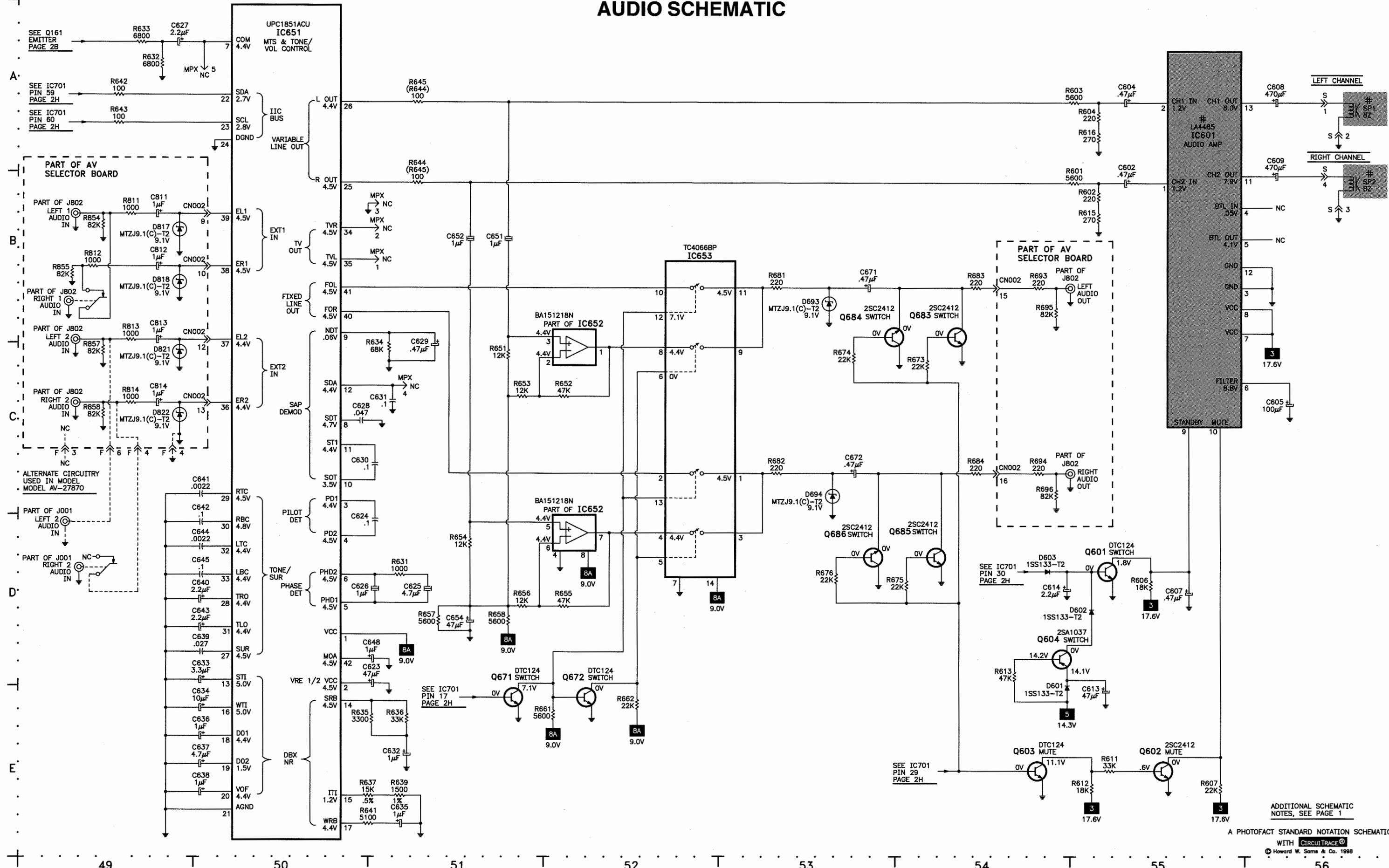
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AUDIO SCHEMATIC

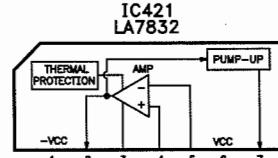
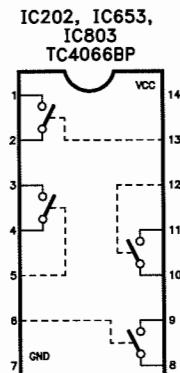
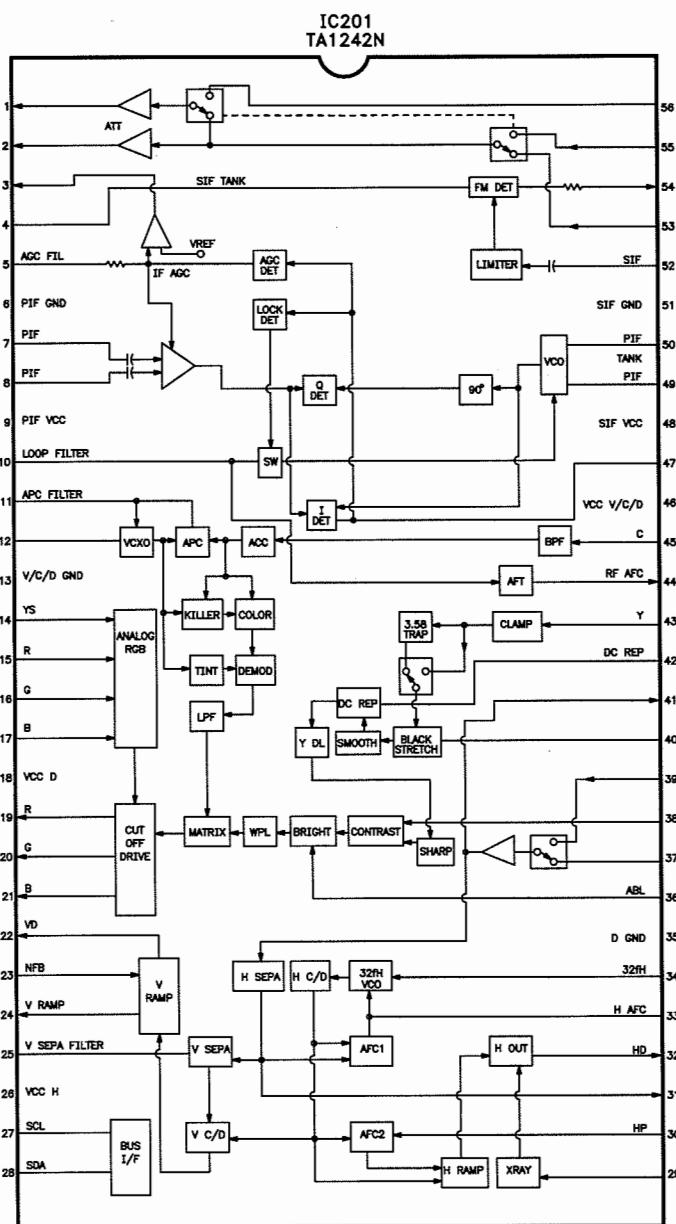
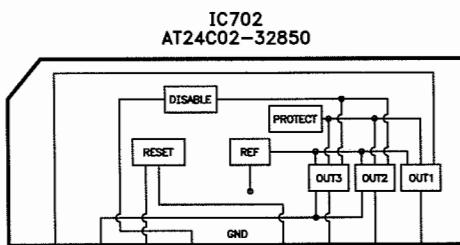
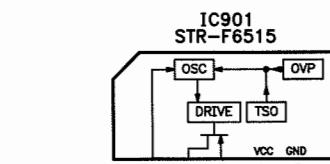
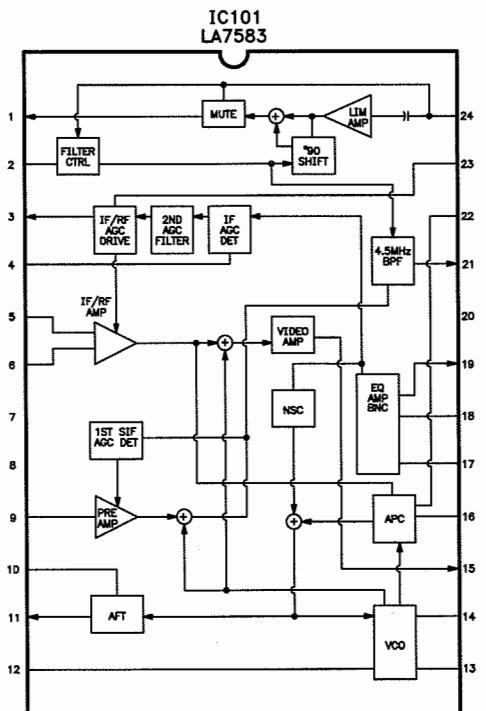
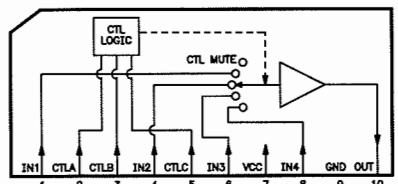
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SCHEMATIC COMPONENT LOCATION GUIDE

C001	C-2	C207	B-11	C609	B-56	C718	E-28	C911	D-18	D705	D-46	IC901	C-19	Q203	A-10	R005	B-33	R215	A-10	R502	D-3	R673	C-54	R738	D-46	R912	B-19
C001	C-33	C207	C-43	C613	E-55	C719	A-46	C912	C-18	D706	D-45	IC941	D-21	Q203	D-42	R005	C-2	R216	A-10	R505	D-2	R674	C-53	R739	D-46	R913	A-18
C003	A-32	C208	A-10	C614	D-54	C720	C-24	C913	C-20	D741	C-27	J001	D-49	Q204	A-9	R006	C-1	R217	A-11	R506	D-2	R675	D-54	R740	E-29	R914	C-20
C004	D-23	C226	D-1	C622	D-23	C722	A-30	C918	C-20	D742	D-27	J001	D-49	Q204	E-43	R007	C-1	R218	B-10	R507	D-1	R676	D-53	R740	E-46	R915	C-19
C004	E-24	C228	D-1	C623	E-50	C723	B-28	C919	C-19	D771	C-23	J001	E-35	Q205	A-11	R101	B-1	R223	C-10	R508	E-3	R681	B-53	R741	C-26	R916	C-19
C005	A-33	C231	D-10	C624	D-51	C723	E-24	C920	D-19	D773	C-22	J802	B-49	Q231	D-10	R101	B-33	R225	D-1	R511	C-13	R682	C-53	R742	C-27	R917	D-20
C005	B-32	C232	D-10	C625	D-51	C724	E-24	C921	A-22	D803	C-14	J802	B-54	Q301	C-43	R102	B-1	R232	D-10	R522	E-3	R684	C-54	R743	C-28	R918	D-19
C006	A-33	C233	D-11	C626	D-51	C725	E-24	C922	B-21	D804	A-14	J802	C-37	Q302	D-40	R102	B-33	R233	D-11	R523	E-4	R693	B-54	R744	B-20	R923	B-22
C006	E-10	C234	C-12	C627	A-49	C725	E-29	C923	B-22	D805	B-14	J802	C-49	Q303	D-39	R103	B-1	R235	D-12	R524	E-4	R694	C-54	R744	D-46	R924	D-22
C007	E-11	C235	C-12	C628	C-50	C726	E-23	C924	A-24	D809	B-14	J802	C-49	Q305	C-45	R103	B-33	R236	D-12	R525	E-4	R695	B-54	R745	D-26	R925	D-22
C007	E-24	C301	B-11	C629	C-51	C727	D-48	C926	B-24	D811	A-38	J802	C-54	Q306	C-46	R104	B-2	R237	C-12	R531	E-5	R696	C-54	R746	D-27	R926	D-22
C008	D-24	C302	B-13	C630	C-51	C730	E-46	C927	C-24	D812	B-38	J802	D-37	Q351	C-15	R104	B-34	R238	C-12	R532	D-6	R701	B-26	R747	D-27	R928	D-17
C011	C-1	C302	C-43	C631	C-51	C731	C-48	C928	B-23	D813	B-38	J803	A-27	Q352	A-15	R105	B-2	R239	C-12	R533	D-6	R701	B-46	R748	A-28	R931	D-21
C101	B-33	C303	C-13	C632	E-51	C732	E-24	C931	E-19	D814	B-38	J804	A-27	Q353	B-15	R105	B-34	R301	B-11	R541	D-9	R701	E-27	R752	A-28	R940	E-19
C102	B-33	C303	D-40	C633	E-49	C733	E-23	C932	D-17	D815	C-37	K421	D-5	Q521	E-3	R106	B-2	R301	C-42	R542	E-9	R702	B-25	R755	B-30	R941	D-20
C102	D-23	C304	C-13	C634	E-49	C734	E-46	C934	E-18	D816	D-37	K702	D-31	Q531	E-5	R106	B-34	R302	C-13	R543	D-9	R702	B-46	R757	E-17	R942	E-21
C103	B-34	C304	D-40	C635	E-51	C735	C-47	C938	B-17	D817	B-49	K901	C-20	Q541	E-17	R108	C-2	R302	C-43	R544	E-2	R703	B-25	R771	C-21	R944	E-20
C103	D-24	C305	D-24	C636	E-49	C736	E-47	C951	A-23	D818	B-49	K903	C-18	Q542	E-18	R109	D-35	R303	B-11	R545	E-2	R703	B-27	R791	E-29	R945	E-19
C104	B-1	C305	D-40	C637	E-49	C737	C-46	C952	B-23	D819	D-37	K921	A-21	Q543	E-18	R110	B-34	R303	C-43	R547	D-11	R703	B-46	R792	D-30	R946	D-21
C104	D-23	C306	B-10	C638	E-49	C738	C-46	C954	D-18	D820	D-37	L001	A-32	Q544	E-19	R110	C-22	R304	C-10	R548	D-10	R704	B-25	R793	D-30	R947	D-18
C105	B-1	C316	D-41	C639	D-49	C739	D-24	C990	B-17	D821	C-49	L003	B-33	Q601	D-55	R111	B-34	R304	C-43	R556	E-2	R704	B-46	R794	B-32	R948	D-17
C105	D-24	C318	C-45	C640	D-49	C740	E-23	C991	B-17	D822	C-49	L01	A-19	Q602	E-55	R112	A-35	R305	B-10	R557	E-2	R704	C-27	R795	C-32	R949	D-17
C106	B-2	C354	C-15	C641	C-49	C741	B-46	CF001	B-1	D901	A-19	L101	B-34	Q603	E-54	R113	B-35	R305	C-43	R558	E-17	R705	A-46	R801	A-14	R951	A-23
C106	D-35	C355	B-15	C642	D-49	C741	C-26	CF002	B-1	D902	C-19	L102	B-2	Q604	D-54	R115	C-34	R306	C-44	R559	E-17	R705	B-25	R801	A-37	R952	A-23
C107	B-2	C356	B-15	C643	D-49	C743	B-20	CF101	B-33	D903	D-19	L103	B-2	Q671	E-51	R117	D-34	R308	D-40	R560	E-18	R705	B-28	R802	B-37	R954	B-23
C107	B-34	C357	C-14	C644	D-49	C744	D-26	CF102	D-35	D904	C-18	L103	D-34	Q672	E-52	R118	C-35	R310	D-40	R561	E-18	R706	B-25	R802	C-14	R955	B-22
C108	C-3	C382	E-16	C645	D-49	C746	C-45	CF103	D-34	D909	B-18	L104	C-3	Q683	C-54	R119	B-35	R311	D-39	R563	E-18	R706	C-46	R803	B-14	R956	B-22
C108	D-34	C401	D-3	C648	D-50	C747	D-46	CF131	B-4	D910	C-20	L104	C-34	Q684	C-53	R120	B-35	R313	E-40	R564	E-18	R707	E-29	R811	B-49	R998	A-17
C109	D-34	C402	E-3	C651	B-51	C771	C-22	CF161	A-4	D911	C-19	L105	C-35	Q685	D-54	R121	C-34	R314	E-39	R566	E-19	R707	E-32	R812	B-49	R999	B-18
C110	C-3	C403	D-3	C652	B-51	C772	C-23	CF501	D-2	D912	D-19	L106	D-23	Q686	D-53	R122	C-34	R315	C-41	R567	E-19	R708	E-32	R813	C-49	RY901	B-18
C110	D-34	C421	D-4	C654	D-51	C773	C-23	CF701	E-28	D913	C-19	L131	B-4	Q701	C-27	R123	C-34	R316	D-41	R568	E-18	R709	A-25	R814	C-49	RY901	B-19
C111	C-35	C424	D-4	C671	B-53	C774	C-24	CM201	C-41	D921	A-22	L161	D-23	Q701	E-												

IC FUNCTIONS

IC801, IC802
BA7644AN

PARTS LIST

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	NTE Part No.	ECG Part No.	TCE Part No.
D001	-	MTZJ36(A)-T2	-	-	-
D221	-	MTZJ5.1(B)-T2	-	-	-
D231 Thru	-				
D234	-	1SS133-T2	NTE177	ECG177	SK9091
D421	-	1N4003-T2	NTE116	ECG116	SK3313
D422	-	MTZJ75-T2	-	-	-
D511	-	MTZJ3.3(A)-T2	-	-	-
# D531	-	RH3G-C1	-	-	-
# D532	-	RU3AM-LFC4	NTE580	ECG580	SK3318A
D533	-	RGP10J(C1)-T3	NTE552	ECG552	SK9000
D540	-	MTZJ36(A)-T2	-	-	-
D541	-	RH1-S-T3	NTE552	ECG552	SK9000
D542	-	RGP10J(C1)-T3	NTE552	ECG552	SK9000
D544	-	1SS81-T2	NTE177	ECG177	SK9091
D546	-	1SR124-400A-T2	-	-	-
D549	-	MTZJ9.1(B)-T2	-	-	-
# D551	-	MTZJ7.5S-T2	-	-	-
D560	-	1SS133-T2	NTE177	ECG177	SK9091
D601, 02, 03	-	1SS133-T2	NTE177	ECG177	SK9091
D693, 94	-	MTZJ9.1(C)-T2	-	-	-
D702, 03, 046	-	1SS133-T2	NTE177	ECG177	SK9091
D741, 42	-	1SS133-T2	NTE177	ECG177	SK9091
D771, 72, 73	-	1SS133-T2	NTE177	ECG177	SK9091
D803	-	1SS133-T2	NTE177	ECG177	SK9091
D804	-	MTZJ5.1(B)-T2	-	-	-
D805	-	1SS133-T2	NTE177	ECG177	SK9091
D809	-	MTZJ5.1(B)-T2	-	-	-
# D901	-	D3SBA60-C1	-	ECG169	-
# D902	-	RGP10J(C1)-T3	NTE552	ECG552	SK9000
D903, 04	-	1SS133-T2	NTE177	ECG177	SK9091
D909	-	MTZJ15(A)-T2	-	-	-
D910	-	RGP10J(C1)-T3	NTE552	ECG552	SK9000
D911	-	1SS133-T2	NTE177	ECG177	SK9091
D912	-	MTZJ15(A)-T2	-	-	-
D913	-	RGP10J(C1)-T3	NTE552	ECG552	SK9000
D921	-	RU3AM-LFC4	NTE580	ECG580	SK3318A
D922	-	RU3YX-LFC4	-	-	-
D923	-	RGP10J(C1)-T3	NTE552	ECG552	SK9000
D926, 27	-	1SS133-T2	NTE177	ECG177	SK9091
D931, 33	-	1SS133-T2	NTE177	ECG177	SK9091
D941	-	MTZJ11(A)-T2	-	-	-
D951	-	MTZJ7.5S-T2	-	-	-
IC001	-	KIA78L05BP-Y	-	-	-
	KIA78S05P				
IC101	-	BA17809T	-	-	-
IC201	-	TA1242N	-	-	-
IC202	-	TC4066BP	NTE4066B	ECG4066B	SK4066B
# IC421	-	LA7832	-	-	-
# IC601	-	LA4485	-	-	-
IC651	-	UPC1851ACU	-	-	-
IC652	-	BA151218N	-	-	-
IC653	-	TC4066BP	NTE4066B	ECG4066B	SK4066B
IC701	-	MN1874876JZX	-	-	-
IC702	-	AT24C02-32850	-	-	-
	24C02PC				
IC703	-	MN1381-Q-Y	-	-	-

For SAFETY use only equivalent replacement part.

PARTS LIST continued**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.
IC771	-	KIA78L05BP-Y	-	-	-
# IC901	-	STR-F6515	-	-	-
# IC941	-	S135N	-	-	-
# PC901, 02	-	TLP621(B)	NTE3098	ECG3098	SK10178
Q101	-	2SC5083(L-P)-T	-	-	-
Q131, 32	-	2SC2412K(QR)-X	-	-	-
Q161	-	2SC2412K(QR)-X	-	-	-
Q201, 02 (1)	-	2SC2412K(QR)-X	-	-	-
Q203	-	2SC2412K(QR)-X	-	-	-
Q204, 05	-	2SA1037K(QR)-X	-	-	-
Q231, 32	-	2SC2412K(QR)-X	-	-	-
Q351, 52, 53	-	2SC4544-C1	NTE376%	ECG376%	SK9362A%
Q521	-	2SC4212-C1	-	-	-
# Q531	-	2SD2499-LB	-	-	-
Q541	-	2SA933S(QR)-T	NTE290A	ECG290A	SK9132
# Q542	-	2SC2785(JH)-T	NTE2361	ECG2361	SK3124A
Q543, 44	-	2SC2412K(QR)-X	-	-	-
Q601	-	DTC124EKA-X	NTE2357	ECG2357	SK10124
Q602	-	2SC2412K(QR)-X	-	-	-
Q603	-	DTC124EKA-X	NTE2357	ECG2357	SK10124
Q604	-	2SA1037K(QR)-X	-	-	-
Q671, 72	-	DTC124EKA-X	NTE2357	ECG2357	SK10124
Q683 Thru	-	-	-	-	-
Q686	-	2SC2412K(QR)-X	-	-	-
Q701	-	DTC124EKA-X	NTE2357	ECG2357	SK10124
Q741	-	2SC2412K(QR)-X	-	-	-
Q742	-	DTC124EKA-X	NTE2357	ECG2357	SK10124
Q743	-	2SC2412K(QR)-X	-	-	-
Q911	-	2SA1037K(QR)-X	-	-	-
Q921	-	2SC2412K(QR)-X	-	-	-
Q923	-	2SA1020(Y)-T	NTE25	ECG25	SK3841
Q924	-	2SC2412K(QR)-X	-	-	-
Q928	-	DTC124EKA-X	NTE2357	ECG2357	SK10124
Q942, 43	-	2SC2412K(QR)-X	-	-	-
Q944	-	DTC124EKA-X	NTE2357	ECG2357	SK10124
Q951	2SA949Y1	2SA949(Y)C1-T	NTE383	ECG383	SK9138

AV SELECTOR BOARD

D311, 12, 13	-	1SS133-T2	NTE177	ECG177	SK9091
D701, 02, 03	-	MTZJ5.6(B)-T2	-	-	-
D705, 06	-	1SS133-T2	NTE177	ECG177	SK9091
D811 Thru	-	-	-	-	-
D822	-	MTZJ9.1(C)-T2	-	-	-
IC001	-	KIA7805PI	NTE1960	ECG1960	-
IC101	-	LA7583	-	-	-
IC701	M65617SP-A	M65617SP	-	-	-
IC703	-	BA033T	-	-	-
IC801, 02	-	BA7644AN	-	-	-
IC803	-	TC4066BP	NTE4066B	ECG4066B	SK4066B
Q101	-	2SC5083(L-P)-T	-	-	-
Q102	-	2SA1037K(QR)-X	-	-	-
Q202	-	2SC2412K(QR)-X	-	-	-
Q203	-	2SA1037K(QR)-X	-	-	-

For SAFETY use only equivalent replacement part.

% Use insulating hardware supplied with replacement.

(1) Used in model AV-27870.

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.
Q204	-	2SC2412K(QR)-X	-	-	-
Q301, 02, 03	-	2SC2412K(QR)-X	-	-	-
Q305, 06	-	2SC2412K(QR)-X	-	-	-
Q703 Thru	-	-	-	-	-
Q707	-	2SC2412K(QR)-X	-	-	-
Q801, 02	-	2SC2412K(QR)-X	-	-	-
Q803	-	2SA1037K(QR)-X	-	-	-
Q804 Thru	-	-	-	-	-
Q807	-	2SC2412K(QR)-X	-	-	-
Q851, 52, 53	-	DTC124EKA-X	NTE2357	ECG2357	SK10124
FRONT CONTROL BOARD					
D701	-	GL2PR6	-	-	-
Q701, 02	-	DTA124EKA-X	-	-	SK9741

Created with pride by the employees
of Howard W. Sams & Company.J. Barker, N. Beck, B. Buchanan,
T. Clensy, G. Farrell, B. Fink,
M. Herkless, J. Kocha, F. Malek,
B. Medaris, R. Raus, B. Skinner

PARTS LIST continued

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) | ▪ PTS Electronics Corporation (PTS) |
| ▪ NTE Electronics, Inc. (NTE) | ▪ Sencore, Inc. |
| ▪ Philips ECG Company (ECG) | ▪ Thomson Consumer Electronics, Inc. (SK, TCE) |

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
C201 (1)	3.3μF 20% 50V NP	QEN61HM-335Z
# C382	.001 +80% -20% 3kV	QCZ0121-102A
C402	2.2μF 10% 16V Tantalum	QEE61CK-225BZ
# C531	.003 2.5% 1.4kV	QFZ0117-3001S
# C532	.012 2.5% 1.4kV	QFZ0117-1202S
# C533	.12 10% 200V	QFM72DK-124M
# C535	.4 3% 200V	-
	.43 3% 200V	QFZ0119-434S
C625	4.7μF 20% 50V NP	QEN61HM-475Z
C626	1μF 20% 50V NP	QEN61HM-105Z
C633	3.3μF 10% 16V Tantalum	QEE61CK-335BZ
C634	10μF 10% 16V Tantalum	QEE61CK-106BZ
C651, 52	1μF 20% 50V NP	QEN61HM-105Z
# C901	.1 20% 275VAC	QFZ9040-104N
# C902	.047 20% 275VAC	QFZ9040-473N
# C903	.1 20% 275VAC	QFZ9040-104N
# C904	.001 125VAC	QCZ9052-102A
# C906, 07, 08	.001 10% 250VAC	QCZ9033-102A
# C910	470μF 20% 200V	QEZ0169-477
C913	.0022 10% 2kV	QCZ0122-222U
C914	390pF 10% 2kV	QCZ0122-391A
# C990, 91	.01 20% 125VAC	QCZ9029-103M

AV SELECTOR BOARD

C829	10μF 20% 50V NP	QEN61HM-106Z
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For SAFETY use only equivalent replacement part.

(1) Used in model AV-27870.

CABINET PARTS

Item	Mfr. Part No.
MODEL AV-27850	
Badge - JVC	CM48006-A03-H
# Cabinet Front	CM12919-A01-MA
# Cabinet Rear	CM12920-C01-MA
Remote Window	CM35983-001-H
# Terminal Board	CM23125-A01-VA
MODEL AV-27870	
Badge - JVC	CM48006-A03-H
# Cabinet Front	CM12919-A02-MA
# Cabinet Rear	CM12920-C01-MA
Remote Window	CM35983-001-H
# Terminal Board	CM23125-A01-VA
# For SAFETY use only equivalent replacement part.	

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
R524	1800 5% 3W	QRG039J-182A	3W218
R525	1500 5% 3W	QRG039J-152A	3W215
R533	10K 5% 3W	QRG039J-103A	3W310
R543	22K 5% 3W	QRG039J-223A	3W322
# R556	7320 1% 1/4W	QRV141F-7321AY	-
# R557	2700 1% 1/4W	QRV141F-2701AY	-
R637	15K .5% 1/10W	NRVA02D-1502NY	-
R639	1500 .5% 1/10W	NRVA02D-1501NY	-
# R901	.47 10% 7W Wirewound	QRF074K-R47	-
R923	1 5% 3W	QRX039J-1R0A	3W1D0
# R998	2.7M 10% 1/2W	QRZ0111-275U	HW527
# TH901	3.3 Cold PTC	CEKP007-002	-
# VA901	Varistor	ERZV10V361CS	-
AV SELECTOR BOARD			
R109	220 .5% 1/10W	NRVA02D-2200NY	
R123	47K Noise	QVPA603-473AZ	-

For SAFETY use only equivalent replacement part.

PARTS LIST continued

COILS & TRANSFORMERS				MISCELLANEOUS			
Item No.	Function/Rating	Mfr. Part No.		Item No.	Description	Mfr. Part No.	Notes
# DY01 (1)	Yoke Horiz 1.3mH Vert 18.3mH	-		CF001, 02	Trap	FTP47.25MF	47.25MHz
K421	Ferrite Bead	QQR0582-001Z		CF131	Trap	CE41505-001	4.5MHz
K702	Ferrite Bead	-		CF161	Filter	SFSH4.5MCB	4.5MHz
K901, 03	Ferrite Bead	CE41433-001Z		CF501	Resonator	CSB503F30-T2	503kHz
K921	Ferrite Bead	CE41433-001Z		CF701	Resonator	FCR12.0M2S	12MHz
L001	100µH	CELP059-101Z		# F901	Fuse	QMF0007-5R0J1	5Amp, 125V, Fast Acting
# L01	Degaussing	CE41329-00CJB		# P900	Line Cord	QMPD070-200-JC	AC, Polarized
L102	.22µH	CELP041-R22		# RY901	Relay	CESK028-001	Degaussing
L103	.68µH	CELP041-R68		S421	Switch	QSL6A13-C01	Vertical Centering
L104	.68µH	CELP059-680Z		SF101	Filter	CE42604-201	SAW
L131	22µH	CELP059-220Z		# SK351	Socket	CE42535-001J1	CRT
L161	68µH	CELP059-680Z		# SP1, 02	Speaker	CEBSS12D-04KJ2	2" X 5", 8 Ohms, 5W
L162	39µH	CELP059-390Z		# TU001 (1)	Main Tuner	CEEM270-A02	UHF/VHF
L201	27µH	CELP059-270Z		# V01	CRT	A68ADT25X01	-
L381	100µH	CELP055-101Z		X301	Crystal	QAX0310-001Z	3.58MHz
# LS31	Horizontal Linearity	CELL004-001		PC Board	SFK-3001A-M2	CRT	
# LS32	-	CELC052-821		PC Board (2)	SFK-1001A-M2	Main	
# LS91	-	CELC901-034J6		PC Board (3)	SFK-1002A-M2	Main	
L701	5.6µH	CELP059-5R6Z		Transmitter (2)	RM-C745-1C	Remote	
L702	10µH	CELP058-100Z		Transmitter (3)	RM-C885-1A	Remote	
L707 (2)	5.6µH	CELP059-5R6Z					
L771	5.6µH	CELP059-5R6Z					
L921	82µH	CELC058-820Z					
L922	22µH	CELC058-220Z					
# LF901	Line Filter	CELF008-001J5					
# LF902	Line Filter	CE42335-001J1					
T131	PIF	CELT001-209J3					
T161	SIF	CELT003-109J3					
T521	Horizontal Drive	CE42034-002					
# T522 (3)	Horizontal Output	QQH0016-001					
# T901	SMT	CETS084-001J8					
AV SELECTOR BOARD				AV SELECTOR BOARD			
L003	15µH	CELP059-150Z		CF101	Trap	-	47.25MHz
L101	.22µH	CELP041-R22		CF102	Filter	FCR5.71M2SF3	5.71MHz
L103	-	CE42452-003		CF103	Trap	CE41505-001	4.5MHz
L104	22µH	CELP055-220Z		CM201	Module	CE42599-001	Comb Filter
L105	10µH	CELP059-100Z		DL201	Module	CE42464-001	Delay Line
L106	5.6µH	CELP059-5R6Z		J801	Jack	QMCC004-C01	SVHS Input
L202	22µH	CELP059-220Z		J802	Jack	QNN0083-001	Assembly
L301	15µH	CELP059-150Z		J803	Jack	QMS3003-C01	AV Compulink Receiver/Amp
L702, 03	5.6µH	CELP059-5R6Z		J804	Jack	QMS3003-C01	AV Compulink II (VCR Only)
L704	2.2µH	CELP055-2R2Z		SF101	Filter	CE42589-201	SAW
L705	1.5µH	CELP055-1R5Z		# TU001 (1)	Sub Tuner	CEEM270-A02	UHF/VHF
L706	33µH	CELP059-330Z		X701	Crystal	CE40405-001	14.32MHz
L801, 02	5.6µH	CELP059-5R6Z		PC Board (2)	SFK-8005A-M2	AV	
# For SAFETY use only equivalent replacement part. (1) Part of CRT. (2) Used in model AV-27870. (3) Focus and screen controls are part of T522.				PC Board (3)	SFK-8003A-M2	AV	
				FRONT CONTROL BOARD			
				IC841	Receiver	PIC-21043SR	Remote
				S702	Switch	QSP1A11-C19Z	Menu
				S703	Switch	QSP1A11-C19Z	Channel Down
				S704	Switch	QSP1A11-C19Z	Channel Up
				S705	Switch	QSP1A11-C19Z	Volume Down
				S706	Switch	QSP1A11-C19Z	Volume Up
				S707	Switch	QSP1A11-C19Z	Power
				PC Board	SFK-4002A-M2	Front Control	
				FRONT AV JACK BOARD			
				J001 (3)	Jack Assembly	QNN0079-001	Assembly
				PC Board (3)	SFK0J001A-M2	Front AV Jack	
# For SAFETY use only equivalent replacement part. (1) Contact TNI Electronics for replacement; order by part number on tuner. (2) Used in model AV-27850 only. (3) Used in model AV-27870 only.							