

E:fact[®] Technical Service Data

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RCA

Models

F25209BCTX1
F25209WTTX1
F25211BCTX1

Chassis

CTC185AA3
CTC185AA3
CTC185AA3

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

△ Taken from common tie point

3 Schematic 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 keyed rainbow generator. 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.

PARTS LIST

COILS & TRANSFORMERS

Item No.	Function/Rating	Mfr. Part No.
FB3101	Ferrite Bead	226467
FB3901	Ferrite Bead	226467
FB4110, 11	Ferrite Bead	215546
FB4401	Ferrite Bead	227410
FB4501	Ferrite Bead	215547
L2301	15 μ H	197613
L2302	VCO	215502
L2303	FM Tank	233056
L2305	10 μ H	175409
L2701, 02, 03	8.2 μ H	149170
L2705	10 μ H	175409
# L4000	Yoke Horiz 1.2mH Vert 9.8mH	-
# L4001	Line Filter	190507
L4102	200 μ H	231464
L4201	Degaussing	214679
L4201 (2)	Degaussing	221042
L4401	2.2 μ H	190480
# L4402	Horizontal Linearity	193335
L5001	180 μ H	231467
L7101	-	215507
L7102	-	236641
L7103	-	223929
L7104, 05	-	236642
L7106	-	237456
L7107	-	233057
L7108	-	233074
L7109	3.9 μ H	200559
L7110	-	233075
L7111	-	233076
L7112	-	231441
L7113	-	233077
L7114	-	231441
L7115	-	233078
L7116	-	237461
L7117	-	237460
L7118	-	237461
L7301	-	231443
L7302	-	231444
L7303	-	233079
L7304	-	233080
L7305	-	236643
L7306	-	231448
# T4301	Horizontal Driver	215541
# T4401 (1)	Horizontal Output	242212

For SAFETY use only equivalent replacement part.

(1) Focus and screen controls are part of T4401.

(2) Used in models F25209BCTX1 and F25209WTTX1.

PARTS LIST continued

MISCELLANEOUS

Item No.	Description	Mfr. Part No.	Notes
CF1201	Filter	195702	4.5MHz
CF2301	Trap	181125	4.5MHz
# F4001	Fuse	175425	5A, 125V, Fast Acting
IR3402	Receiver	237682	Remote
# K4201	Relay	190490	Degaussing
# KS5001	Socket	233120	CRT
# P-HORIZ	Connector	242206	-
P-VERT	Connector	242205	-
# PW4001	Line Cord	215576	AC, Polarized
SF2301	Filter	217318	SAW
SP1902	Speaker	233442	2 1/4" X 3 1/2", 32 Ohms
SW3410	Switch	215500	Channel Up
SW3411	Switch	215500	Power
SW3420	Switch	215500	Channel Down
SW3421	Switch	215500	Volume Up
SW3430	Switch	215500	Menu
SW3431	Switch	215500	Volume Down
# V5000	CRT	A63ADT157	A63ADT15X07
Y2801	Crystal	161235	3.58MHz
Y3101	Crystal	217322	8MHz
Y4101	Resonator	227064	507kHz
Y7401	Crystal	230708	4MHz
	Transmitter	240959	Remote (CRK10A2)
	Transmitter (1)	241036	Remote (CRK74BA3)

For SAFETY use only equivalent replacement part.

(1) Used in model F25211BCTX1.

PARTS LIST continued

CONTROLS & RESISTORS

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
# R1907	4.7 5% 1/4W	200197	QW4D7
# R1908	33 5% 2W	196014	2W033
R2302, 03	120K 2% 1/10W	207834	-
R2304, 17	1000 2% 1/10W	197638	-
R2702	7500 2% 1/4W	175761	QW275
R2801	30K 2% 1/10W	200176	-
R2804	27K 2% 1/4W	175326	QW327
# R3108	10 5% 1/4W	241259	QW010
R3111, 12	220 2% 1/4W	175324	QW122
R3202	120K 5% 1/10W	-	-
	120K 2% 1/10W	207834	-
# R4001	2.7 10% 15W Wirewound	190487	-
# R4002	1000 5% 10W Wirewound	231504	10W210
# R4004	1.8M 10% 1/2W	220333	HW518
# R4103	.12 5% 2W Wirewound	242202	-
# R4105	2 5% 1/4W	181419	QW2D0
# R4106	8.2 5% 1W	235378	1W8D2
R4111	100K 1% 1/10W	215221	-
# R4114	10K 5% 3W	189989	3W310
# R4119	10 5% 1/4W	241259	QW010
# R4121	1000 5% 1/2W	175350	HW210
# R4122	2200 5% 1/4W	175042	QW222
R4136	143K 1% 1/4W	184980	-
R4137	2870 1% 1/10W	231505	-
	2800 1% 1/10W	-	-
R4142	30K 2% 1/10W	200176	-
# R4146	430 5% 1W	242207	1W143
# R4147	220 5% 3W	231461	3W122
# R4305	3600 5% 3W	181235	3W236
# R4401	15K 5% 1W	190557	1W315
# R4402	91 5% 1/2W	227249	HW091
# R4403	820 5% 1W	175349	1W182
# R4507	1.5 5% 1W	178619	1W1D5
# R4511	1 10% 2W	215577	2W1D0
# R4517	13 5% 1W	231508	1W013
# R4701	10 10% 1/2W	241261	HW010
# R4703	1.8 5% 3W Wirewound	231515	3W1D8
# R4704	82K 10% 1/2W	239116	HW382
# R4705	27K 10% 1/2W	238958	HW327
R4706	1130 1% 1/4W	233070	-
# R4708	3000 5% 1W	200446	1W230
# R4710	3 5% 2W Wirewound	223898	-
# R4901	100 5% 1/4W	198667	QW110
# R4902	28K 1% 1/4W	195731	-
# R4903	32.4K 1% 1/4W	210066	-
R4906	1500 2% 1/10W	197628	-
# R5001, 02, 03	20K 2% 2W	233034	2W320
# R5004, 05, 06	2200 10% 1/10W	502222	-
# R5010	2200 10% 1/10W	502222	-
R5012	270 2% 1/4W	178282	QW127
R5014, 16	300 2% 1/4W	175354	QW130
# R5018	2200 10% 1/2W	502222	HW222

For SAFETY use only equivalent replacement part.

PARTS LIST continued

CONTROLS & RESISTORS continued

Item No.	Function/Rating	Mfr. Part No.	NTE Part No.
R5019	6200 2% 1/4W	179316	QW262
	7500 2% 1/4W	175761	QW275
R5020	820 2% 1/4W	175043	QW182
	680 2% 1/4W	175312	QW168
	510 2% 1/4W	240937	QW151
	910 2% 1/4W	203097	QW191
# R5021	1200 5% 1W	179782	1W212
# R7139, 40	1.8M 10% 1/2W	220333	HW518
RN4501	Network	215499	-
# RT4201	5.5 Cold PTC	207768	-

For SAFETY use only equivalent replacement part.

PARTS LIST continued

CAPACITORS & ELECTROLYTICS

Item No.	Rating	Mfr. Part No.
C2303	120pF 5% 50V NPO	194902
C2803	15pF 5% 50V NPO	200538
C2805	120pF 5% 50V NPO	194902
C3101, 02	100pF 5% 50V NPO	193340
C3108	150pF 5% 50V NPO	214032
C3114, 15	27pF 5% 50V NPO	197604
C3121	100pF 5% 50V NPO	193340
C3316	200pF 5% 50V NPO	218986
# C4001	.22 20% 125VAC	231451
	.22 20% 250VAC	-
# C4003, 04	680pF 20% 1kV	190538
# C4007	680μF 20% 200V	190560
C4108	120pF 5% 50V NPO	194902
C4120, 24	680pF 20% 1kV	190538
C4134, 35	220pF 5% 50V NPO	205551
C4303	470pF 5% 50V NPO	214732
C4310	15pF 1% 250V NPO	223899
C4311	47pF 5% 50V NPO	210689
C4401	470pF 5% 50V NPO	195918
# C4402	.0143 2% 1.6kV	235375
# C4403	.45 5% 250V	203739
# C4404	2.2μF 20% 200V	196050
# C4405	.0047 10% 250V	190534
# C4406	470pF 5% 2kV	227068
C4702, 04, 06	680pF 20% 1kV	190538
C4710	.01 20% 1kV	137583
C4712	680pF 20% 1kV	190538
# C4904	.22 +80%-20% 25V	217298
C5001	.001pF 10% 3kV	120696
C5005	390pF 5% 50V N750	220630
C5006	330pF 5% 50V N750	147667
C5007	470pF 5% 50V N750	233025
# C7101	330pF 20% 125VAC	235376
C7102	4pF +0pF -.25pF 50V NPO	214757
C7103	22pF 5% 50V NPO	194903
C7105	.75pF ±.25pF 50V NPO	214758
C7108	27pF 5% 50V N750	214760
C7110	1.5pF ±.1pF 50V NPO	223146
# C7114	100pF 20% 125V	235377
	100pF 20% 120V	-
C7117	2pF ±.25pF 50V NPO	194905
C7118	22pF 5% 50V NPO	194903
# C7120	330pF 20% 125VAC	235376
C7124	27pF 5% 50V NPO	197604
C7127	120pF 5% 50V NPO	194902
# C7129	330pF 20% 125VAC	235376
C7136	180pF 2% 50V NPO	241265
C7137	330pF 5% 50V NPO	205227
C7139	20pF 2% 50V N220	214761
C7140	6pF ±.25pF 50V NPO	227250
	2pF 50V NPO	-
# C7146, 47	330pF 20% 125VAC	235376

For SAFETY use only equivalent replacement part.

PARTS LIST continued

CAPACITORS & ELECTROLYTICS continued

Item No.	Rating	Mfr. Part No.
C7149	22pF 5% 50V NPO	194903
C7150	150pF 5% 50V NPO	214032
C7151	20pF 5% 50V NPO	220150
C7152	43pF 5% 50V NPO	214029
C7153	39pF 5% 50V NPO	202905
C7301, 02	1.5pF \pm .1pF 50V NPO	223146
C7304	2pF \pm .25pF 50V NPO	194905
C7305	75pF 5% 50V NPO	192061
C7307	20pF 5% 50V NPO	220150
C7308	5pF \pm .25pF 50V N750	231457
C7309	10pF 50V N750	231458
C7310	8pF \pm .5pF 50V N750	214766
C7311, 12	5pF \pm .25pF 50V N750	231457
C7316	8pF \pm .5pF 50V NPO	194909
C7320	180pF 2% 50V NPO	241265
C7322	24pF 2% 50V NPO	231459
C7323	6pF \pm .25pF 50V NPO	227250
C7326	82pF 2% 50V NPO	231460
C7405	33pF 5% 50V NPO	194911
C7410	39pF 5% 50V NPO	202905

PARTS LIST continued

CABINET PARTS

Item	Mfr. Part No.
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Model F25209BCTX1

# Mask and Back Assembly	MK2167
# IR Window	218815

Model F25209WTTX1

# Mask and Back Assembly	MK2168
# IR Window	218815

Model F25211BCTX1

# Mask and Back Assembly	MK1967
# IR Window	218815

For SAFETY use only equivalent replacement part.

SEMICONDUCTORS

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.	NTE Part No.	TCE Part No.
CR2301	-	227051	-	-	-
CR2702	-	164717	ECG519	NTE519	SK3100
CR3102, 10	-	232709	-	-	-
CR3111	-	239195	-	-	-
CR4001 Thru					
CR4004	-	147015	ECG125	NTE125	SK5010A
CR4102	-	227066	-	-	-
CR4103	-	233082	-	-	-
CR4104	-	233083	-	-	-
CR4105	-	164589	ECG558	NTE558	SK3998
CR4106	-	207878	-	-	-
CR4108	-	215489	-	-	-
CR4109	-	155276	ECG116	NTE116	SK3311
CR4110	-	233084	-	-	-
CR4111	-	225702	-	-	-
CR4112, 13	-	207878	-	-	-
CR4115	-	215488	-	NTE136	-
CR4116	-	227362	-	-	-
CR4201, 02	-	164717	ECG519	NTE519	SK3100
CR4303	-	176296	ECG125	NTE125	SK5010A
# CR4401	-	140971	ECG552	NTE552	SK9000
CR4501	-	155276	ECG116	NTE116	SK3311
CR4701	-	241304	-	-	-
CR4702	-	176296	ECG125	NTE125	SK5010A
# CR4703	-	155276	ECG116	NTE116	SK3311
CR4704	-	207878	-	-	-
CR4705	-	227066	-	-	-
CR4706	-	220637	-	-	-
# CR4901	-	157301	ECG177	NTE177	SK9091
# CR4902	-	159429	ECG5019T1	NTE5019T1	SK9970

For SAFETY use only equivalent replacement part.

(%) Use Insulating hardware supplied with replacement.

SEMICONDUCTORS continued

(Select the replacement that gives the best results.)

Item No.	Type No.	Mfr. Part No.	ECG Part No.	NTE Part No.	TCE Part No.
Q3302	-	223704	-	-	-
Q3303, 05	-	215496	-	-	-
Q3901	-	229220	-	-	-
Q4102, 03, 04	-	215495	-	-	-
Q4106	-	229220	-	-	-
Q4108	-	215496	-	-	-
Q4113	-	146851	ECG287	NTE287	SK3433
Q4115	-	215496	-	-	-
Q4116	-	229220	-	-	-
Q4301	-	146851	ECG287	NTE287	SK3433
Q4302	-	215495	-	-	-
# Q4401	-	242224	-	-	-
# Q4901	-	147665	ECG159	NTE159	SK3466
Q5001, 02, 03	2SC2482	231533	ECG399	NTE399	SK9352
Q5004	-	219025	ECG159	NTE159	SK3466
Q7101, 02	-	226973	-	-	-
Q7402	-	215496	-	-	-
Q7403	-	231534	-	-	-
Q7404	-	215496	-	-	-
# U1001	-	241266	-	-	-
U1902	TDA7235	231531	-	-	-
U3101	-	233180	-	-	-
U3201	24C02	233181	-	-	-
U4102	-	162394	-	NTE966	-
U4103	-	231525	-	-	-
U4104	-	231526	-	-	-
U4501	TDA8172	215531	ECG1788	NTE1788	SK9875
U7401	-	231529	-	-	-

For SAFETY use only equivalent replacement part.

(%) Use Insulating hardware supplied with replacement.

A

B

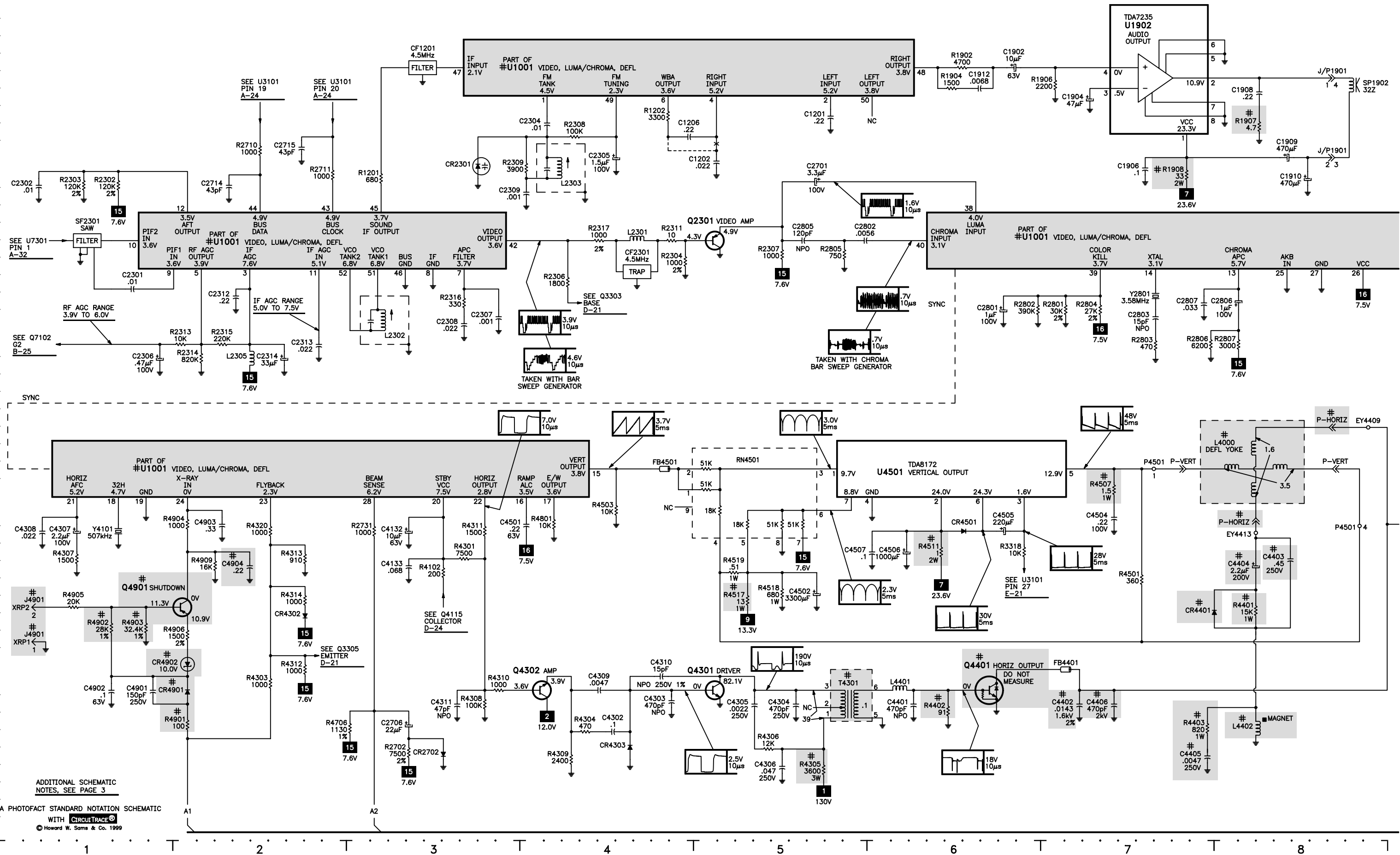
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B

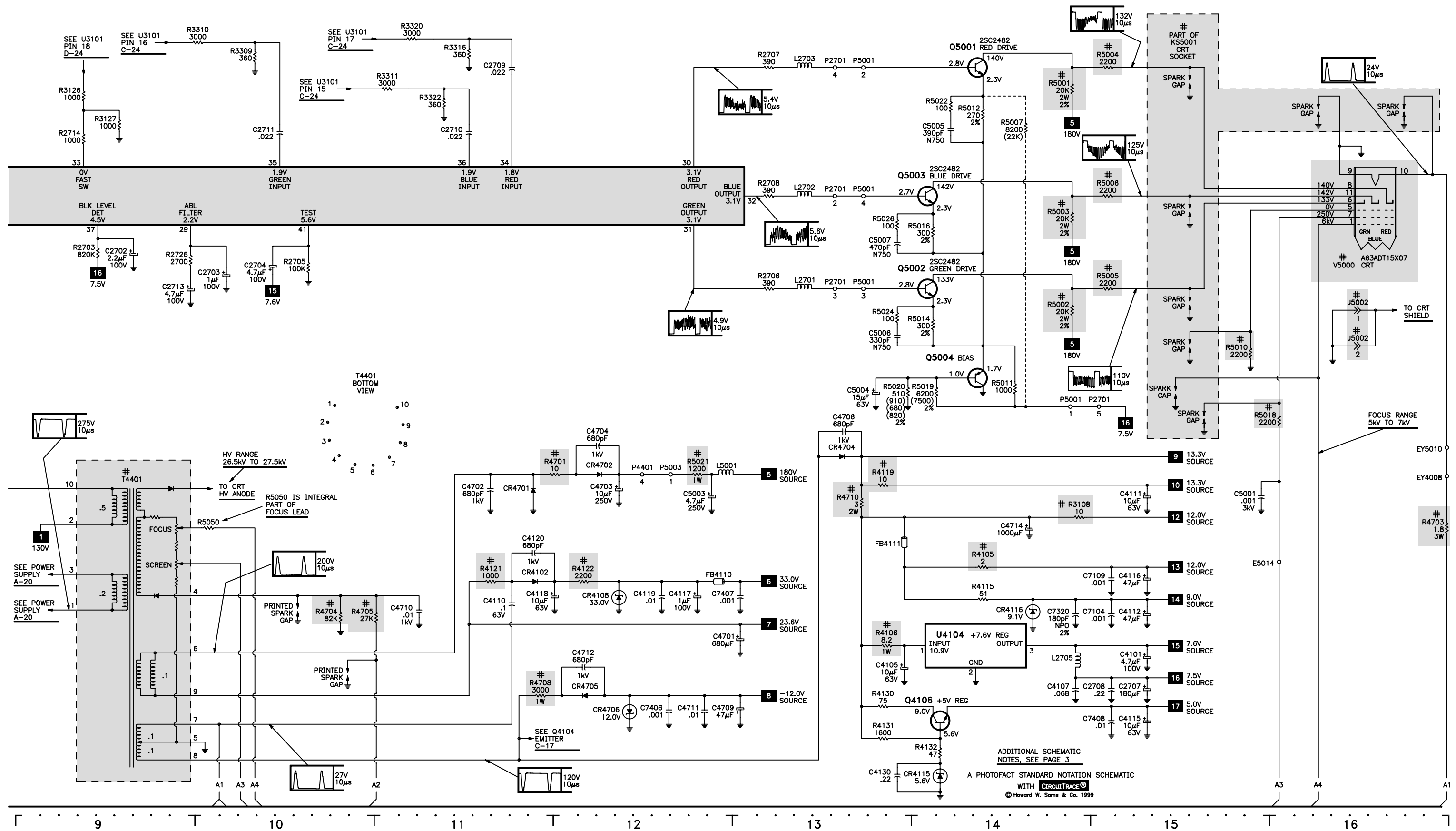
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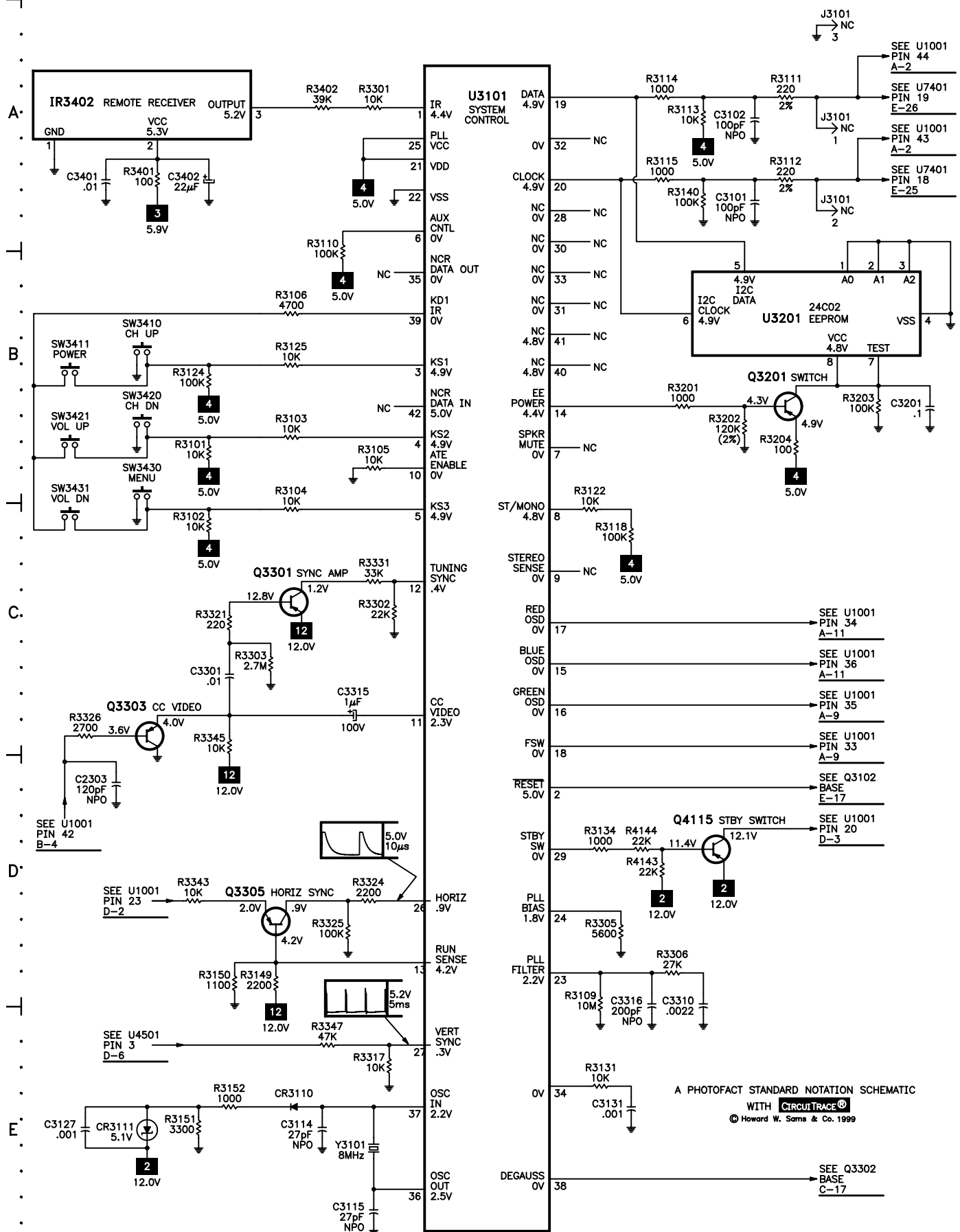
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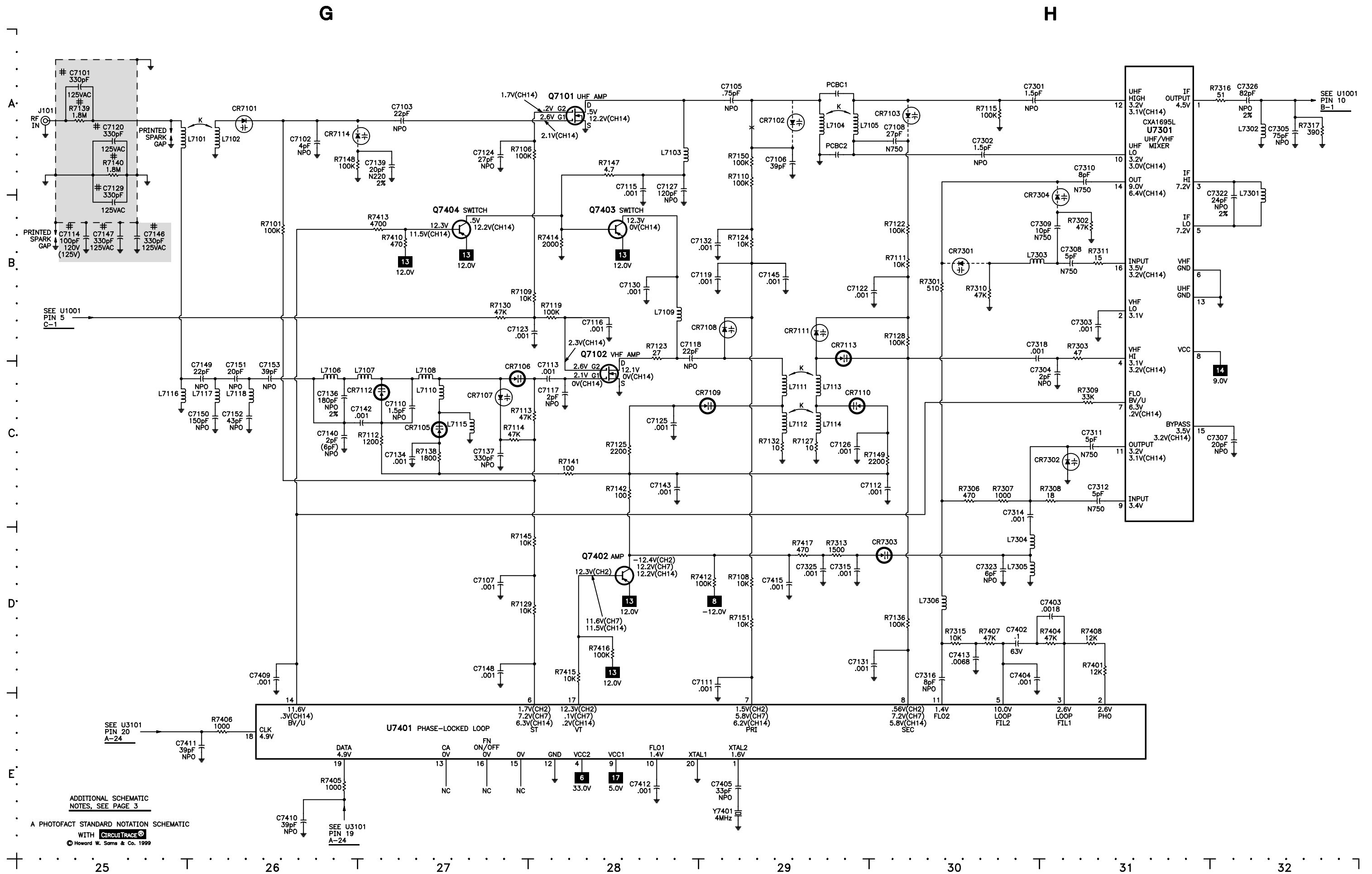
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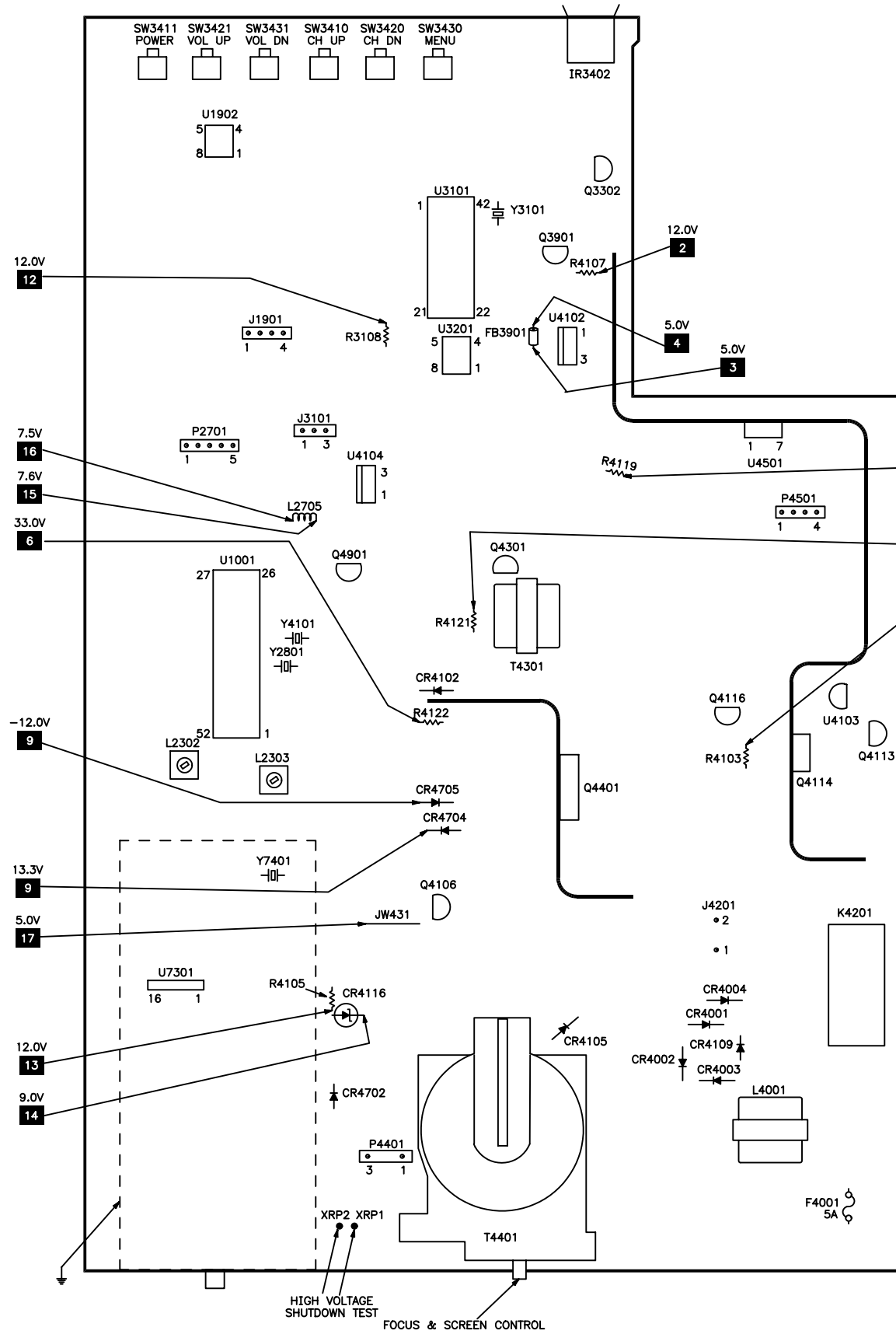
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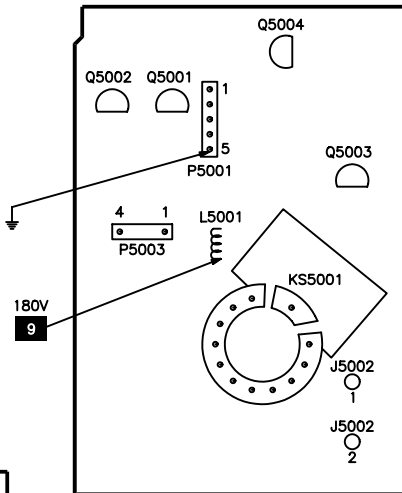




MAIN BOARD (TOP VIEW)



CRT BOARD



MAIN BOARD (BOTTOM VIEW)

