

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 ground 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 board wiring for pinched wires or wires contacting any high wattage resistors. Check that all control knobs, shields, covers, grounds, and mounting hardware have been replaced. Be sure to replace all insulators and restore proper lead dress.

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

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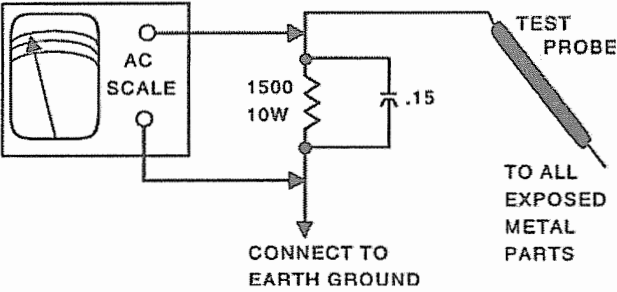
SAFETY CHECKS — FIRE AND SHOCK HAZARD

Cold Leakage Checks for Receivers with Isolated Ground

Unplug the AC cord, connect a jumper across the plug prongs, and turn the power switch on (if applicable). Use an ohmmeter to measure the resistance between the jumped AC plug and any exposed metal cabinet parts such as antenna screw heads, control shafts, or handle brackets. Exposed metal parts with a return path should measure between 1M ohms and 5.2M ohms. Parts without a return path must measure infinity.

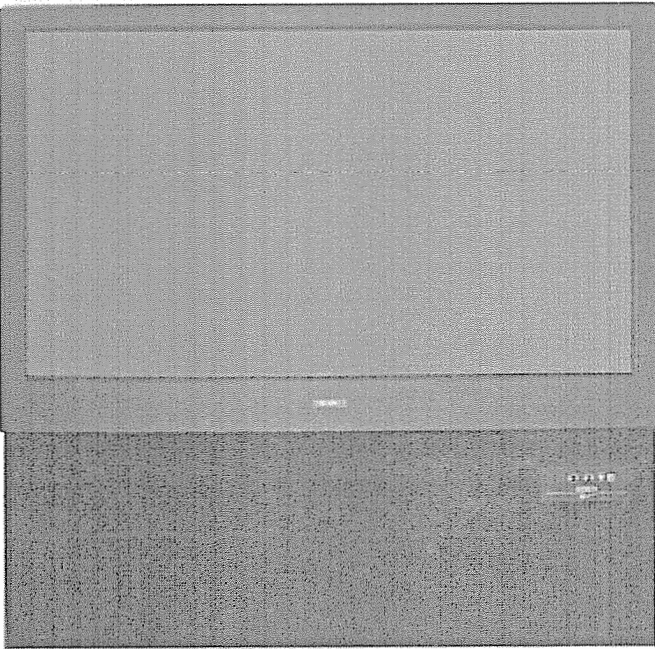
Hot Leakage Current Check

Plug the AC cord directly into an AC outlet. DO NOT use an isolation transformer. Use a 1500 ohms, 10W resistor in parallel with a .15µF capacitor to connect between any exposed metal parts on the receiver and a good earth ground. (See figure below.) Use an AC voltmeter with at least 5000 ohms per volt sensitivity to measure the voltage across the resistor. Check all exposed metal parts and measure voltage at each point. Voltage measurements should not exceed .75VAC, 500µA. Any value exceeding this limit constitutes a potential shock hazard and must be corrected. If the AC plug is not polarized, reverse the AC plug and repeat exposed metal part voltage measurement at each point.



PHOTOFACT® Technical Service Data
HD
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Model 46PP9302/17 (Chassis DPTV330)



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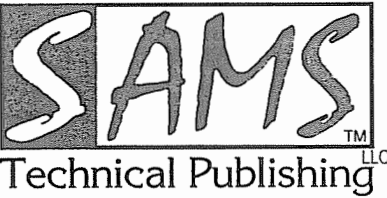
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Representative Model
Essential coverage
for servicing a television receiver...

- Schematics
- Component locations
- Parts list

Coverage includes these additional models and chassis:

Models	Chassis
46PP9302H17	DPTV330F
46PP930201	DPTV330
46PP930217F	DPTV330F
46PP930284	DPTV330
46PP930284F	DPTV330F
46PP930299	DPTV330F



SEPTEMBER 2006 SET 5182

SET 5182

MODEL 46PP9302/17 (CHASSIS DPTV330)

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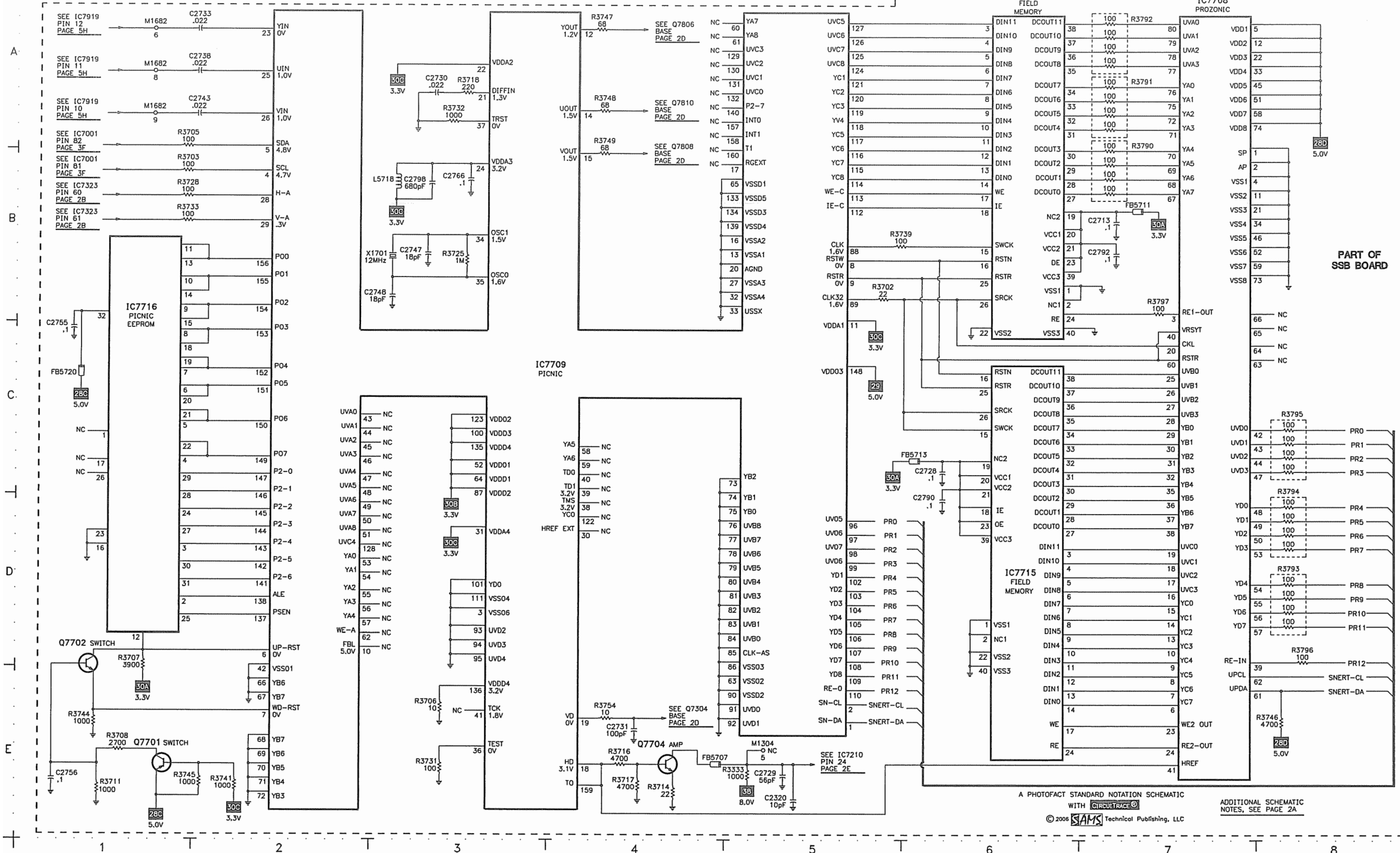
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SCHEMATIC COMPONENT LOCATION GUIDE																																			
AC01	A73	C2019	D141	C2059	C85	C2203	B69	C2230	B26	C2326	E30	C2414	B111	C2553	E107	C2670	C96	C2738	A1	C2811	D34	C2893	C99	D6001	D73	D6319	E24	FB5201	D71	IC7045	B151	J1024	D112	L5718	B3
C2000	A74	C2020	B59	C2059	E149	C2203	C69	C2235	D144	C2327	B83	C2415	C111	C2554	B107	C2673	E108	C2740	D38	C2812	B88	C2894	C98	D6001	D83	D6320	A83	FB5204	D74	IC7045	D151	J1024	D18	L5721	C37
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C2000	D9	C2020	D154	C2061	A150	C2204	B67	C2248	D27	C2328	C74	C2416	D28	C2562	C106	C2677	C108	C2743	A1	C2812	E34	C2901	D38	D6002	D83	D6331	D31	FB5243	D76	IC7101	D83	J1025	C153	L5803	D46
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C2001	A96	C2021	E154	C2063	A157	C2204	D143	C2260	A26	C2329	B91	C2418	C11	C2564	D107	C2679	B107	C2748	B3	C2813	C95	C2902	C38	D6003	D93	D6643	D37	FB5302	B78	IC7103	D93	J1026	B153	L5805	C45
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SCHEMATIC COMPONENT LOCATION GUIDE continued

Q7413	B21	Q7901	D47	R3020	C112	R3054	B157	R3103	C154	R3201	A66	R3218	E143	R3302	C79	R3337	D57	R3420	C29	R3507	C31	R3632	C34	R3711	E1	R3801	B19	R3823	E46	R3855	C23	R3932	C43	ZD6003	E156
Q7413	C34	Q7902	C43	R3021	A159	R3054	E148	R3104	B153	R3201	B138	R3219	E143	R3303	B79	R3339	E32	R3421	C30	R3510	A30	R3633	B37	R3711	E118	R3801	B28	R3824	A19	R3856	A53	R3933	C48	ZD6004	D156
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Q7433	C34	Q7906	A52	R3022	B159	R3056	D60	R3108	A19	R3202	A71	R3220	E69	R3304	D35	R3343	B78	R3424	C33	R3515	A31	R3636	D36	R3713	D115	R3802	B48	R3825	B19	R3857	B24	R3937	E46	ZD6008	E153
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Q7675	E109	R3004	B157	R3028	A159	R3064	B148	R3129	E155	R3206	C69	R3225	E74	R3313	D35	R3359	A83	R3441	B11	R3526	E108	R3654	D107	R3721	B37	R3807	C124	R3832	A23	R3868	A51	RM6005	A57	ZD6025	B157
Q7678	E111	R3005	B157	R3028	B62	R3064	D62	R3130	D158	R3206	D144	R3226	B138	R3314	C146	R3360	A83	R3441	C35	R3527	C32	R3655	E107	R3722	B118	R3807	C31	R3832	B132	R3870	B132	RY1305	A79	ZD6026	C157
Q7678	E111	R3005	D154	R3028	C112	R3065	B148	R3131	D158	R3206	D69	R3226	B68	R3314	C75	R3360	D105	R3442	D29	R3527	E108	R3656	E107	R3722	C39	R3807	D45	R3832	D43	R3871	B133	RY1305	C76	ZD6027	C157
Q7700	A38	R3005	E144	R3029	A137	R3065	D58	R3138	D93	R3206	D75	R3226	C68	R3314	D35	R3361	A82	R3443	C34	R3528	C31	R3657	B109	R3723	A118	R3808	C20	R3833	A23	R3872	B132	S1001	B57	ZD6034	D9
Q7701	A39	R3006	C157	R3029	B159	R3066	B149	R3139	D94	R3207	D144	R3226	E68	R3314	D58	R3362	A83	R3444	D31	R3529	C32	R3658	B109	R3723	C39	R3808	D45	R3833	D131	R3890	C97	S1002	B57	ZD6036	C45
Q7701	B114	R3006	D153	R3029	B62	R3066	D62	R3140	D93	R3207	D75	R3227	B138	R3315	B75	R3363	A84	R3445	E29	R3529	E110	R3666	A110	R3724	A119	R3809	C44	R3833	E43	R3900	D47	S1003	B57	ZD6240	E75
Q7701	E1	R3006	D62	R3029	C112	R3067	D62	R3142	B93	R3208	A67	R3227	B67	R3315	C146	R3365	C79	R3446	C35	R3530	B32	R3667	A110	R3724	C39	R3809	C93	R3834	A23	R3901	D38	S1004	B57	ZD6303	D58
Q7702	E1	R3007	D156	R3030	A138	R3068	B14	R3144	D18	R3208	C67	R3227	C67	R3315	D58	R3368	E25	R3446	E16	R3530	E110	R3668	A109	R3725	B3	R3809	D33	R3834	C41	R3901	D46	S1006	C57	ZD6313	D58
Q7704	C115	R3007	E154	R3030	B62	R3068	D148	R3145	D17	R3208	D67	R3227	E67	R3316	B75	R3370	A17	R3447	C34	R3531	A33	R3669	A110	R3725	C39	R3810	B86	R3834	D131	R3902	B38	S1007	C57	ZD6652	C95
Q7704	E4	R3008	A57	R3030	E156	R3068	D62	R3146	D18	R3208	E74	R3228	C142	R3316	C146	R3371	A17	R3448	D31	R3531	B107	R3670	A111	R3725	D118	R3810	D33	R3835	C42	R3902	C48	SCR1702D115		ZD6657	E109
Q7705	C114	R3008	B157	R3031	A138	R3069	B13	R3147	C150	R3209	A67	R3229	C142	R3316	D57	R3372	A17	R3449	C34	R3532	A33	R3671	A110	R3726	C40	R3811	C41	R3836	A24	R3903	C37	SF1200	C13	ZD6804	B48
Q7706	C115	R3008	D61	R3031	C62	R3069	D148	R3148	A150	R3209	C67	R3230	C142	R3317	B146	R3373	E106	R3450	A27	R3532	C105	R3684	B107	R3726	D116	R3811	D19	R3836	D131	R3903	D48	SF1407	A15	ZD6812	B51
Q7707	C116	R3009	A75	R3032	A139	R3069	D62	R3149	D150	R3209	D67	R3231	C142	R3317	C75	R3374	E105	R3451	A27	R3533	C105	R3685	B107	R3727	C37	R3811	D33	R3836	D42	R3904	D47	SF1408	A11	ZD6813	D42
Q7708	D116	R3009	C156	R3032	A63	R3070	B13	R3150	B25	R3209	D76	R3232	C142	R3317	D25	R3376	C11	R3452	A27	R3540	B32	R3686	B107	R3728	B1	R3812	B126	R3837	E42	R3905	D47	SF1410	B15	ZD6814	C50
Q7710	B38	R3009	D60	R3033	A139	R3070	D148	R3150	D151	R3210	B71	R3233	C142	R3318	C76	R3377	C11	R3453	A28	R3540	C105	R3687	B107	R3730	C114	R3812	B41	R3838	A24	R3906	D53	SG1001	A73	ZD6816	A51
Q7710	C117	R3009	E153	R3033	B150	R3070	D90	R3151	B25	R3210	C71	R3234	E139	R3319	C76	R3378	D17	R3454	B29	R3541	B34	R3688	E107	R3730	C38	R3812	D19	R3838	C43	R3907	D53	SG1002	A73	ZD6819	B52
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Q7711	C116	R3010	B13	R3034	A141	R3071	D149	R3152	E150	R3210	E144	R3236	D144	R3320	E29	R3384	B11	R3456	B15	R3546	B110	R3690	E107	R3731	D115	R3813	B126	R3839	C43	R3909	D48	SG1005	A73	ZD6824	C50
Q7720	C37	R3010	B57	R3034	C62	R3071	D90	R3153	B151	R3210	E76	R3237	D144	R3321	D35	R3385	A16	R3456	B29	R3550	A106	R3691	E107												

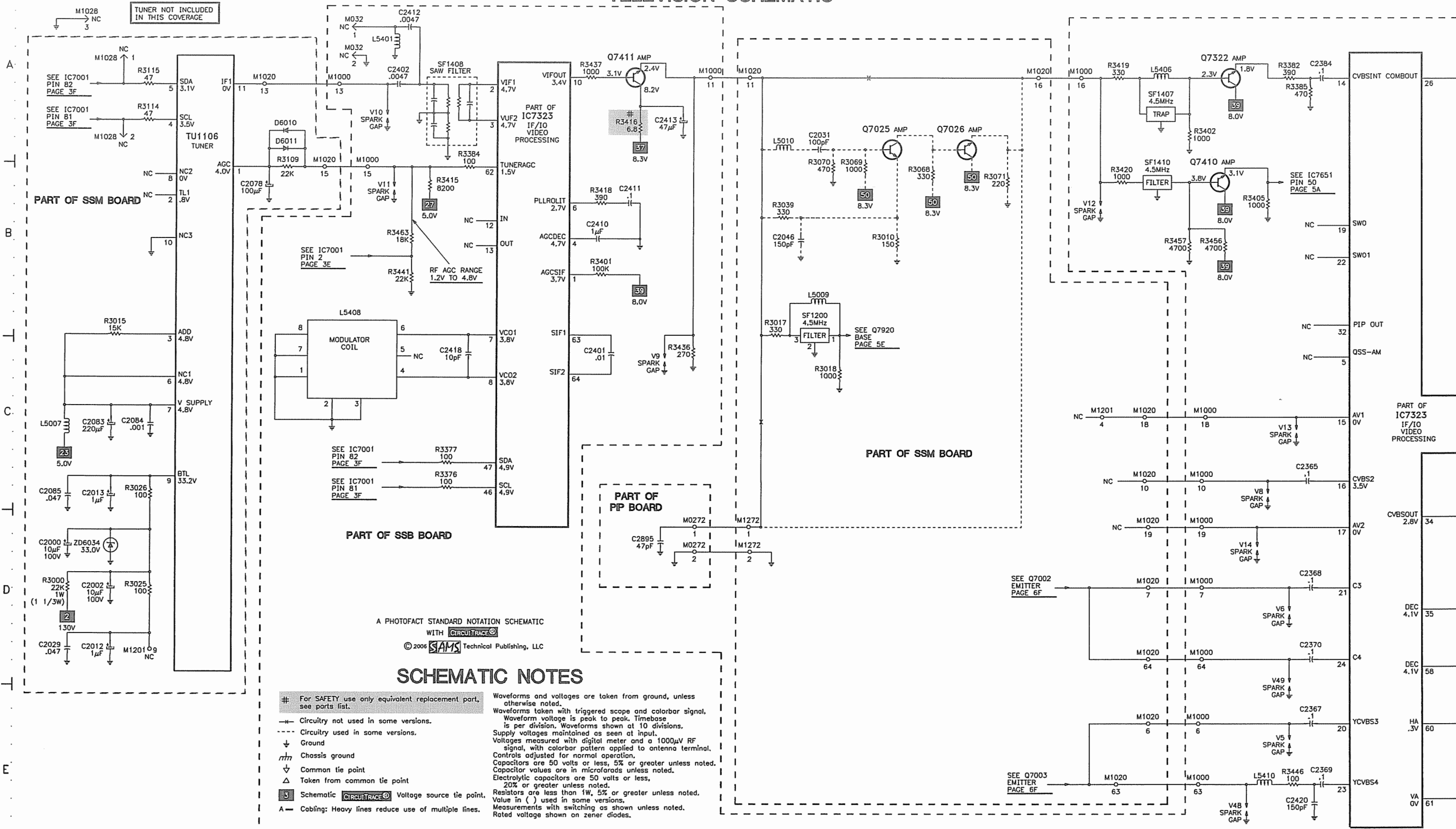
FEATURES SCHEMATIC

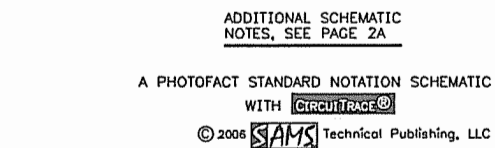


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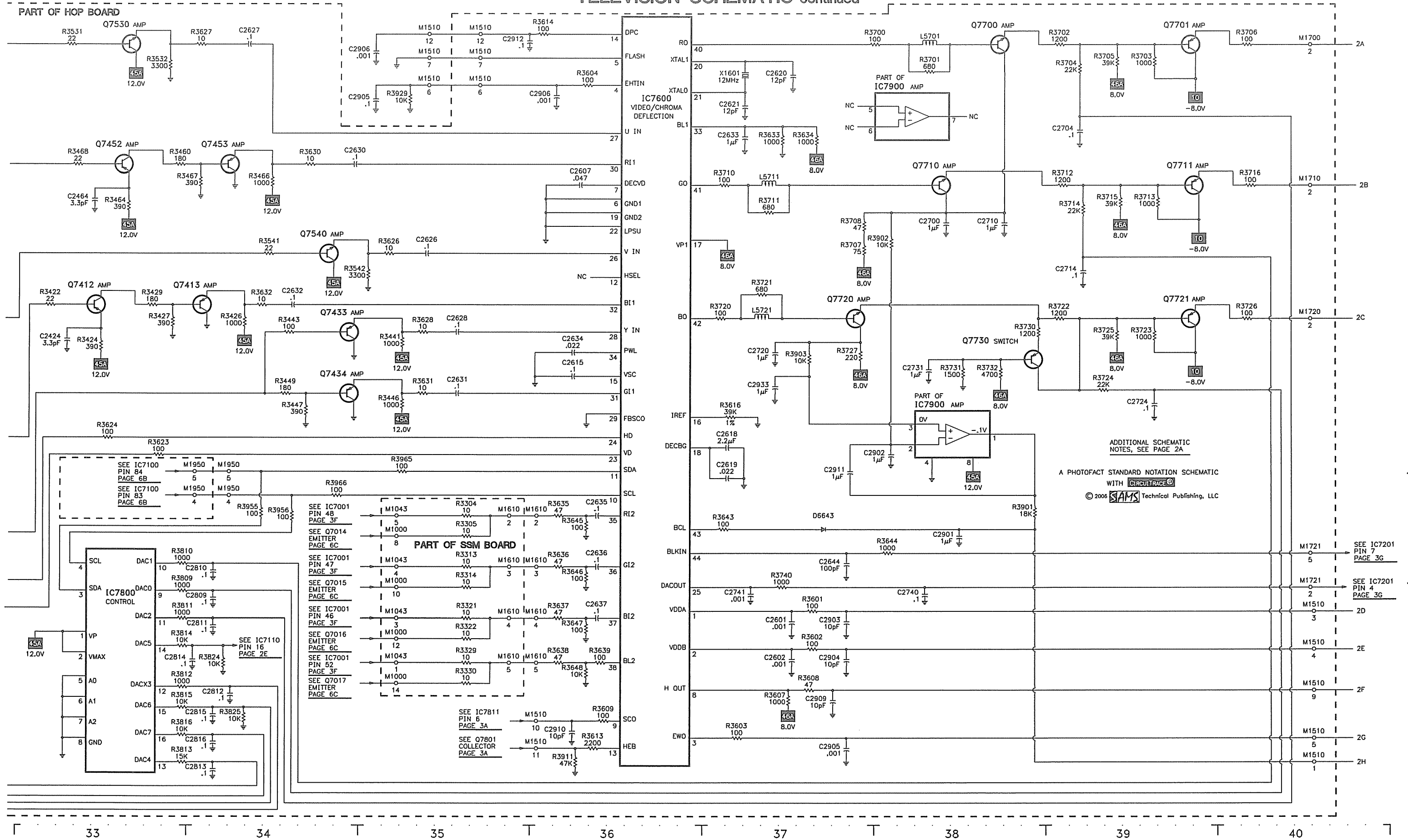
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TELEVISION SCHEMATIC





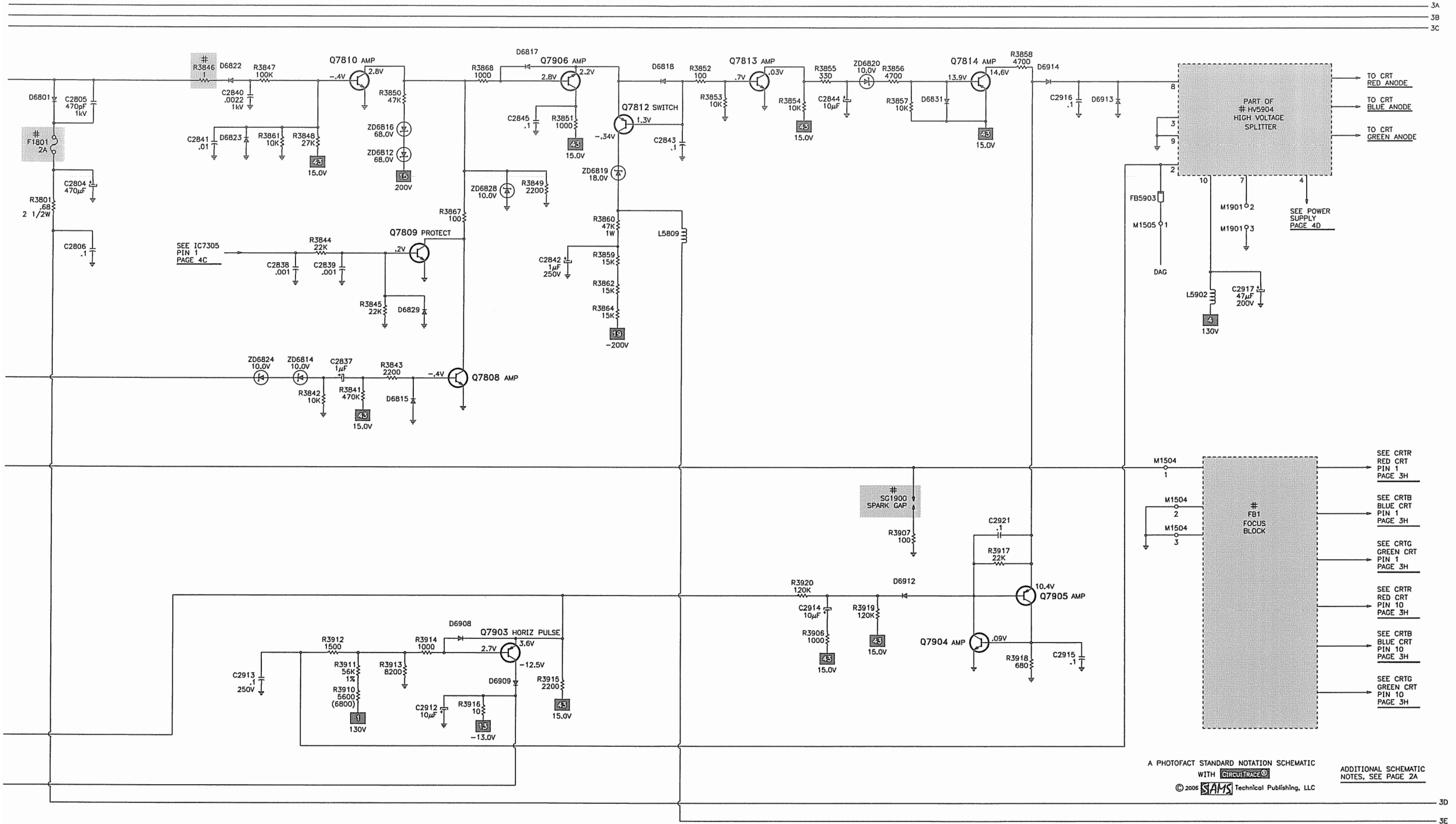
TELEVISION SCHEMATIC continued



7



DEFLECTION SCHEMATIC continued



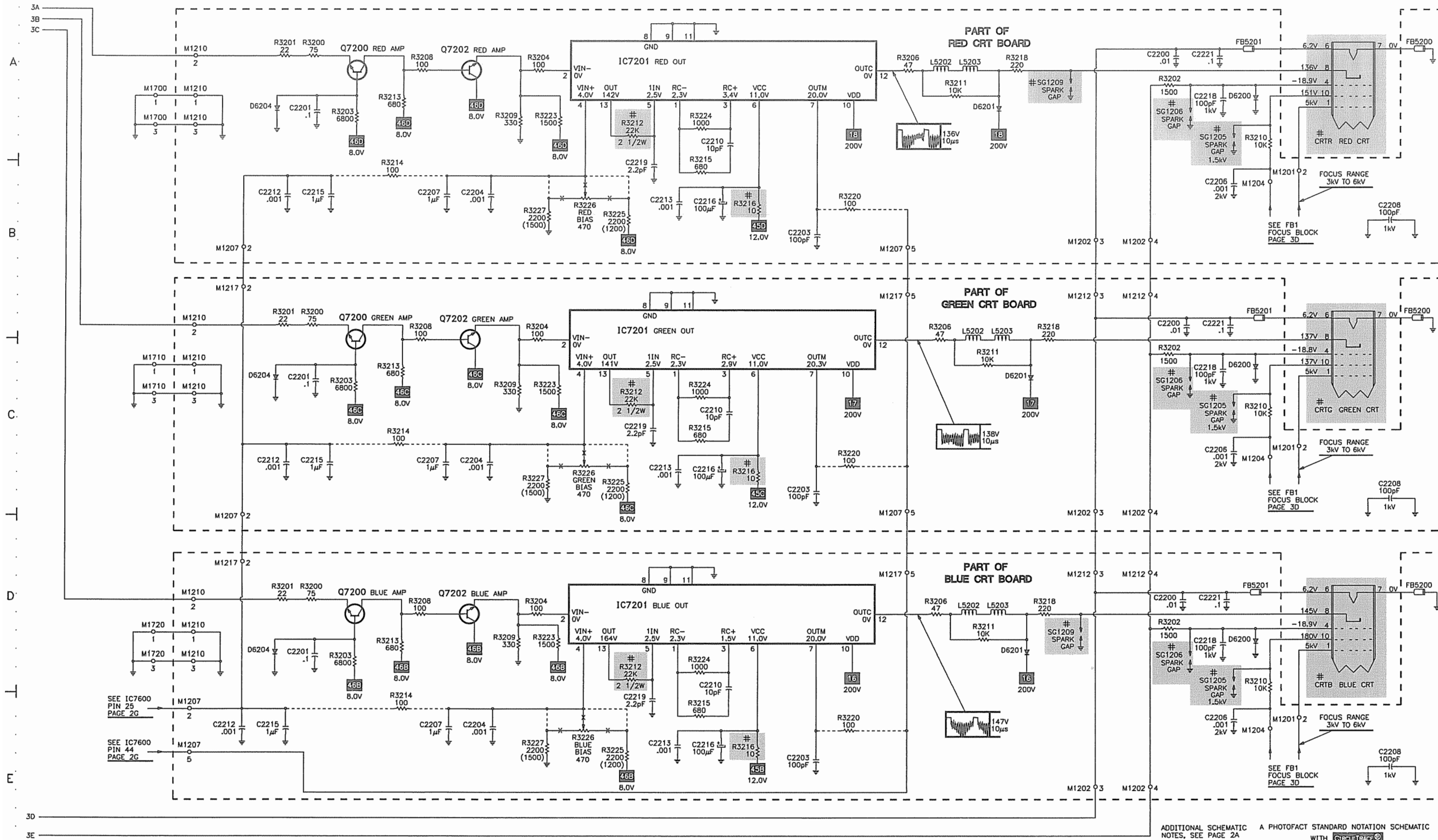
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ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2A

E



CRT SCHEMATIC



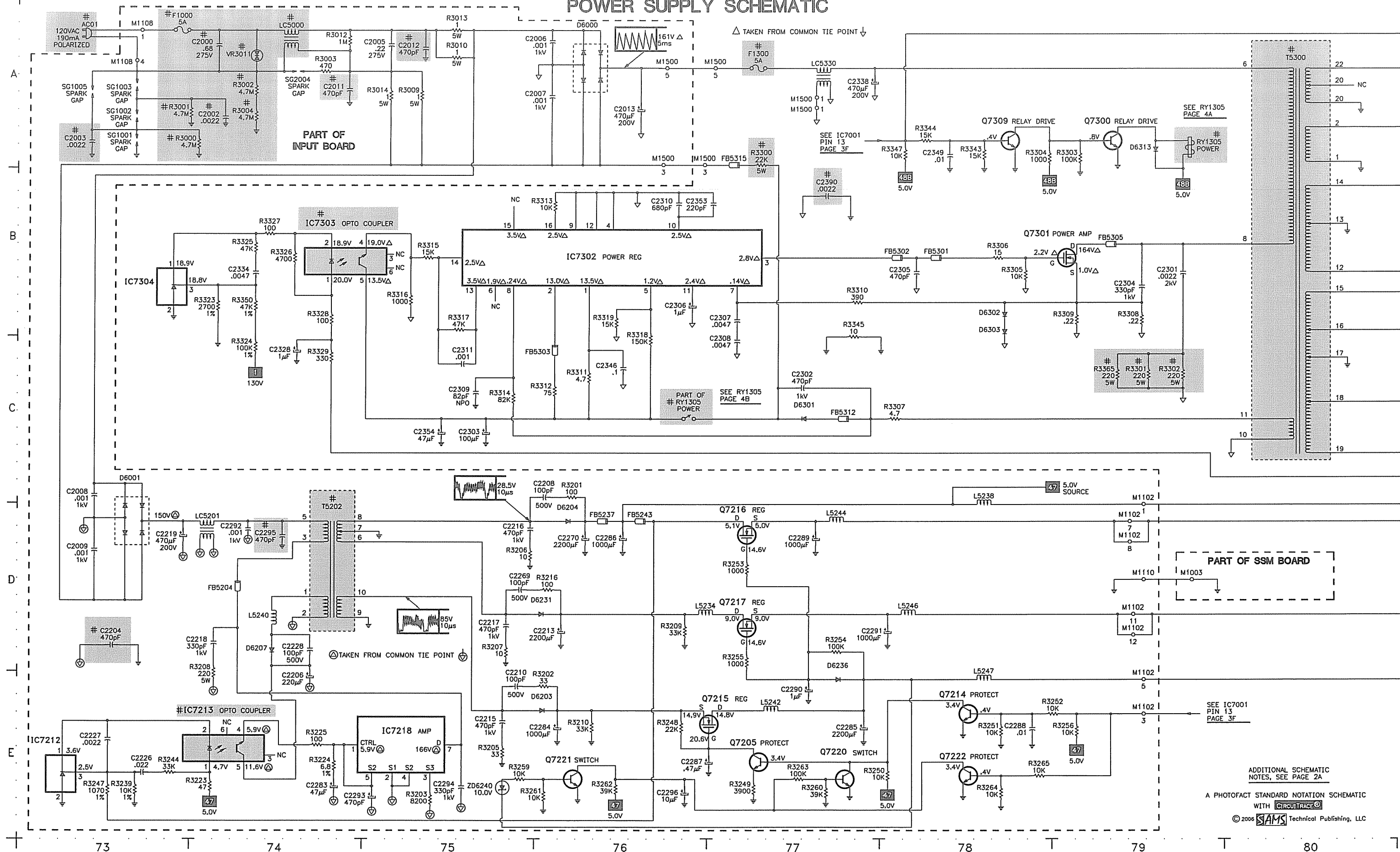
PHILIPS
MODEL 46PP9302/17 (CHASSIS DPTV330)

ADDITIONAL SCHEMATIC NOTES, SEE PAGE 2A


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POWER SUPPLY SCHEMATIC

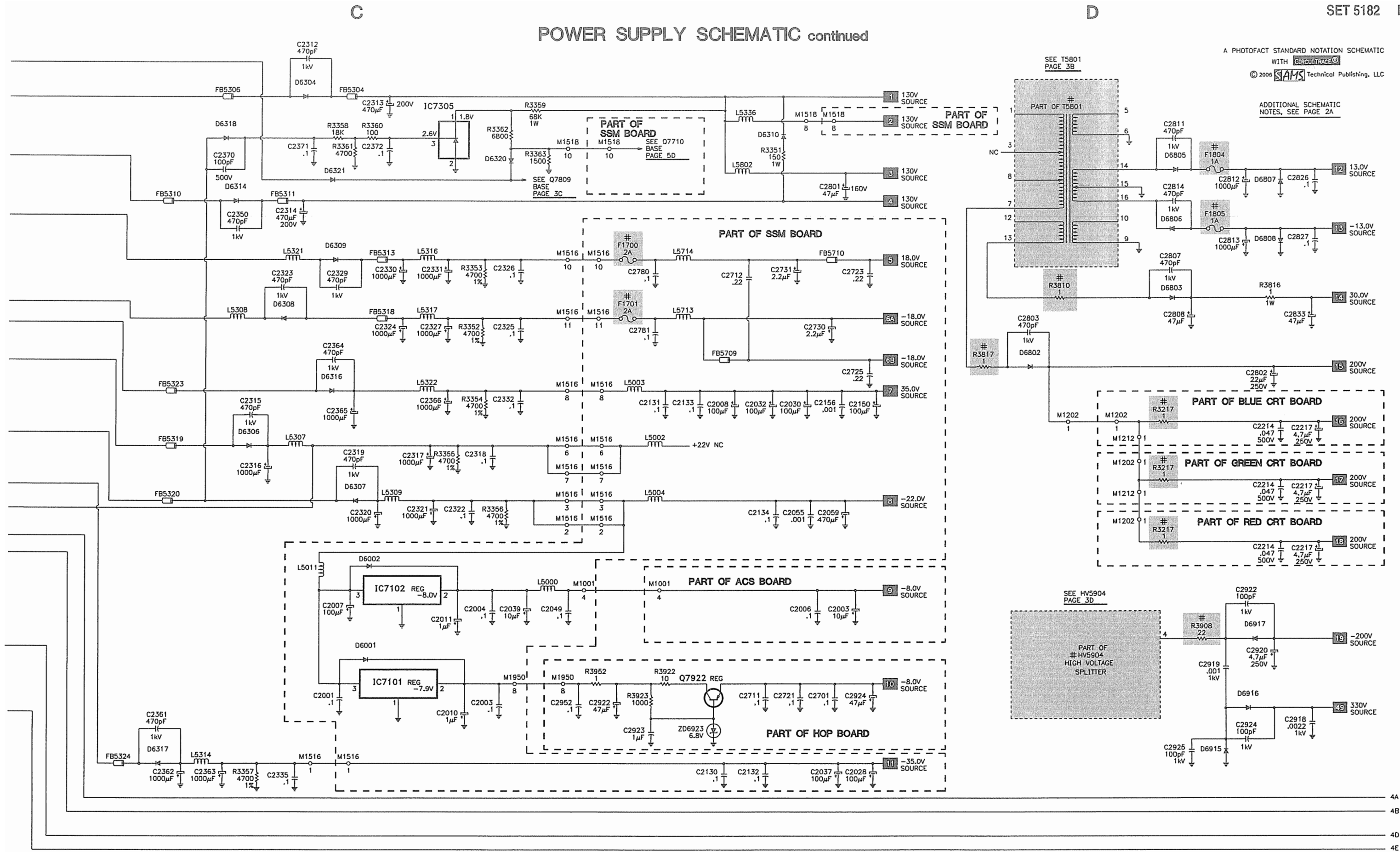


ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2A

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POWER SUPPLY SCHEMATIC continued

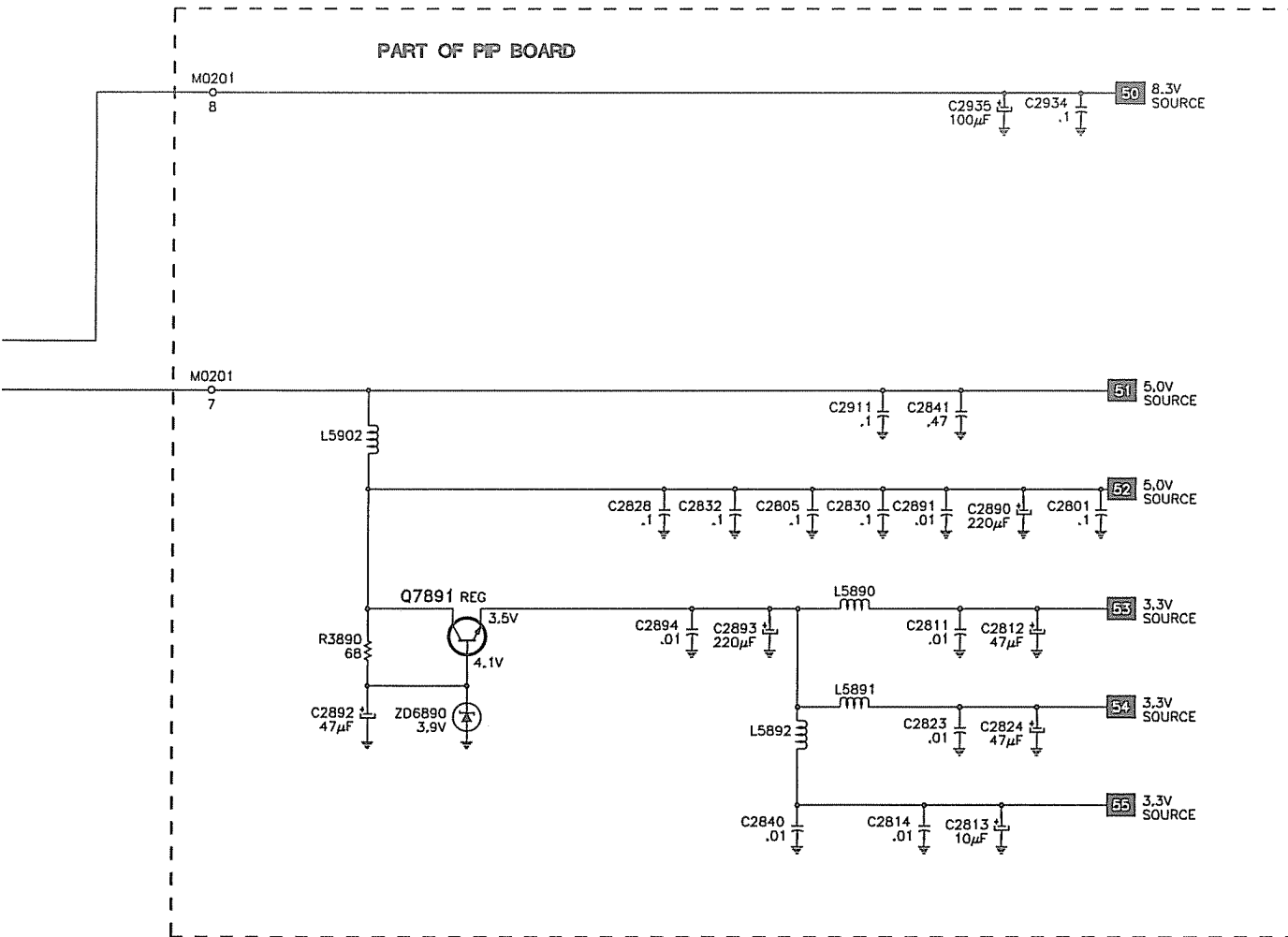


F




G

POWER SUPPLY SCHEMATIC continued

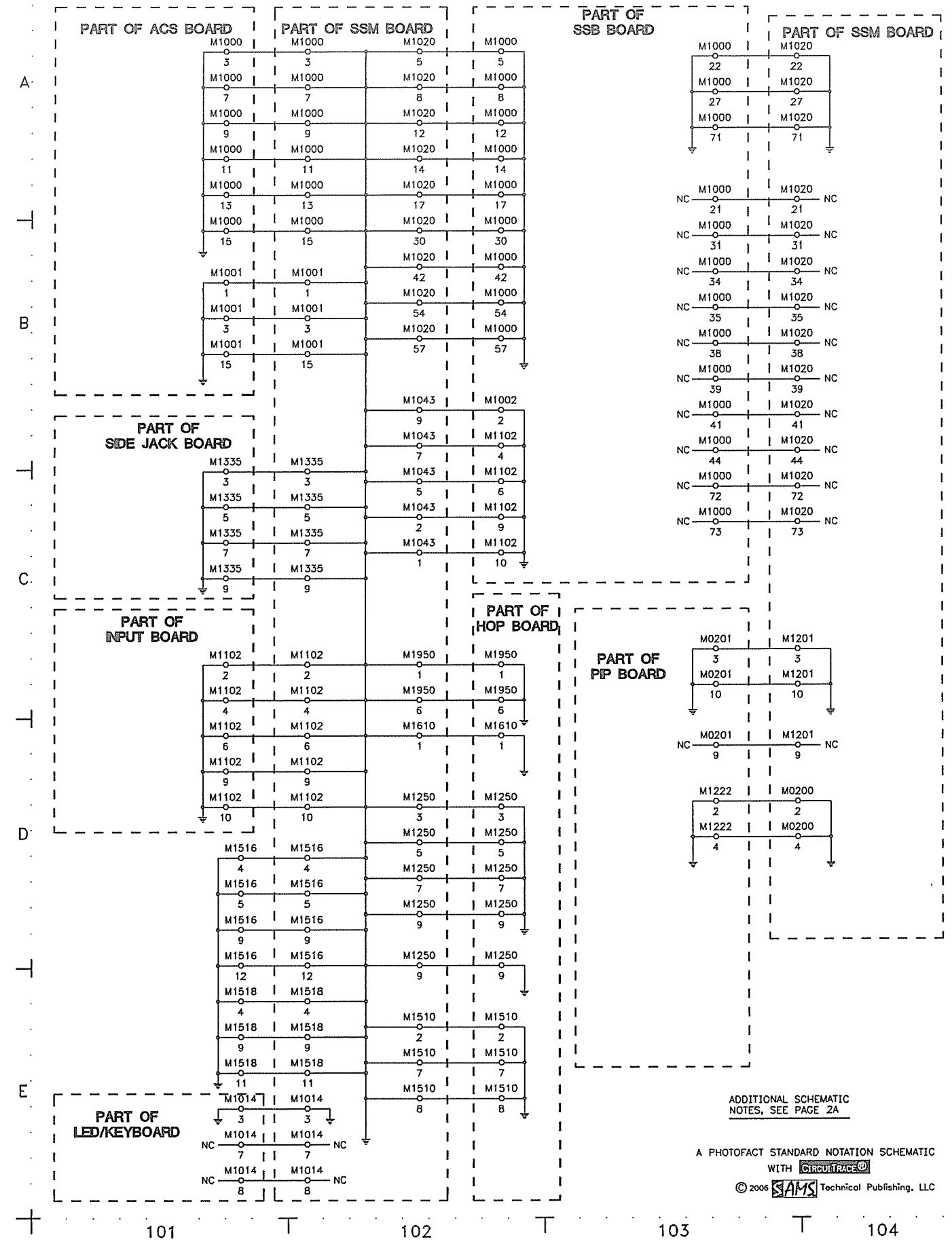


ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2A

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H BOARD GROUND SCHEMATIC



ADDITIONAL SCHEMATIC
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VIDEO SWITCHING/PIP SCHEMATIC

A

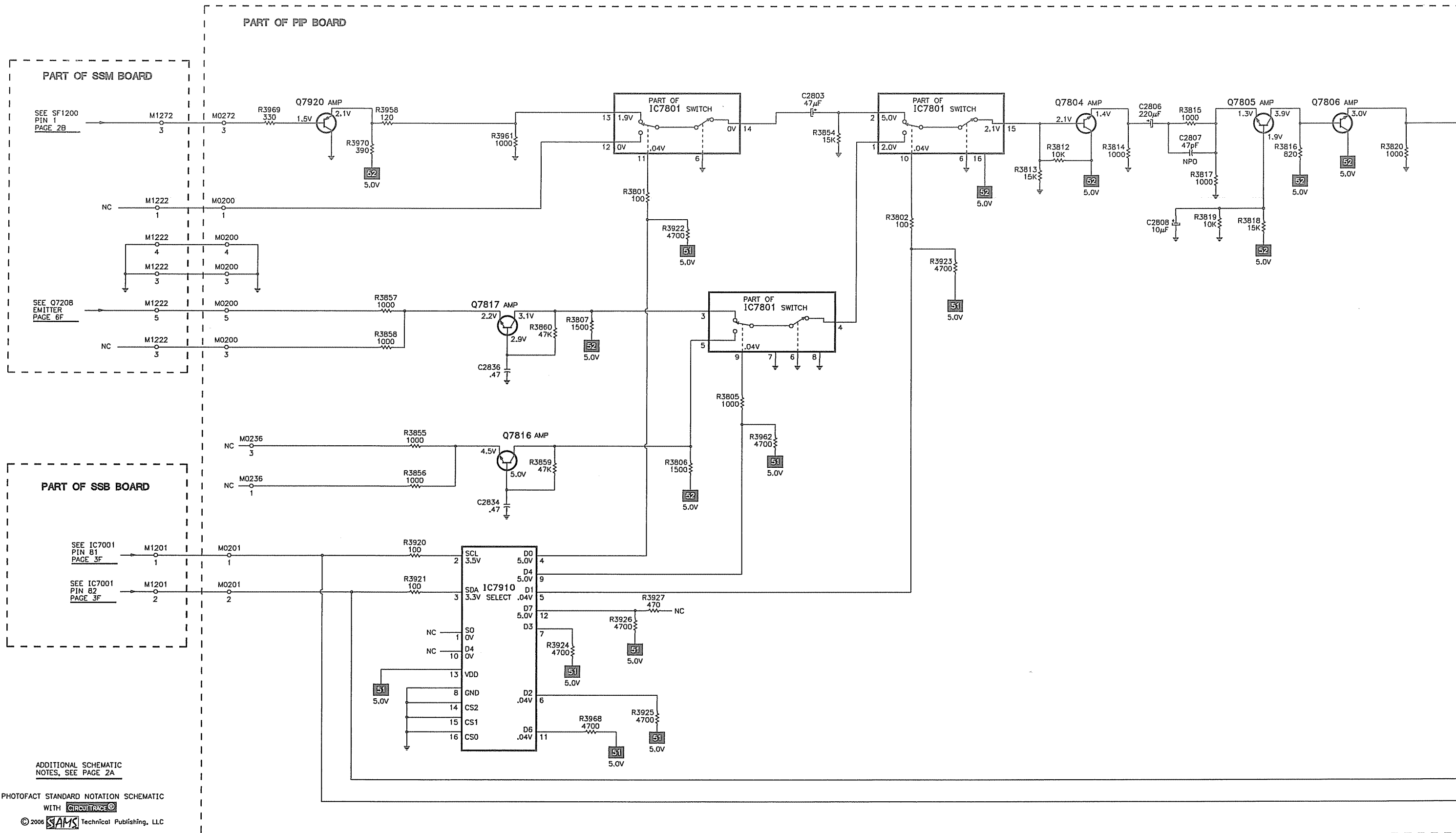
B

C

D

E

F



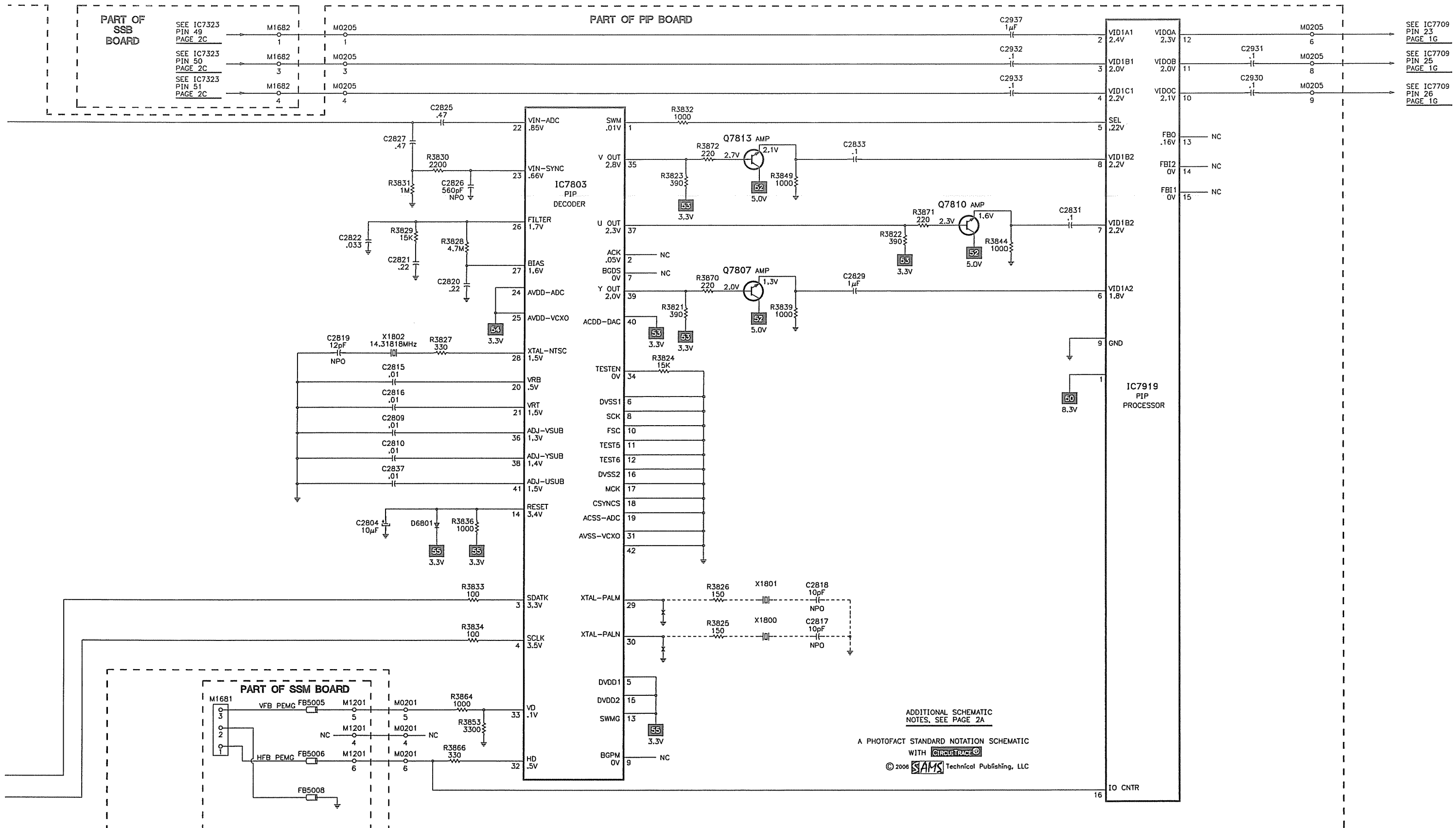
ADDITIONAL SCHEMATIC
NOTES, SEE PAGE 2A

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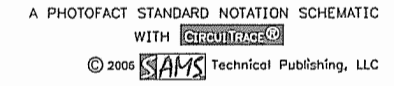
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PIP SCHEMATIC continued

H

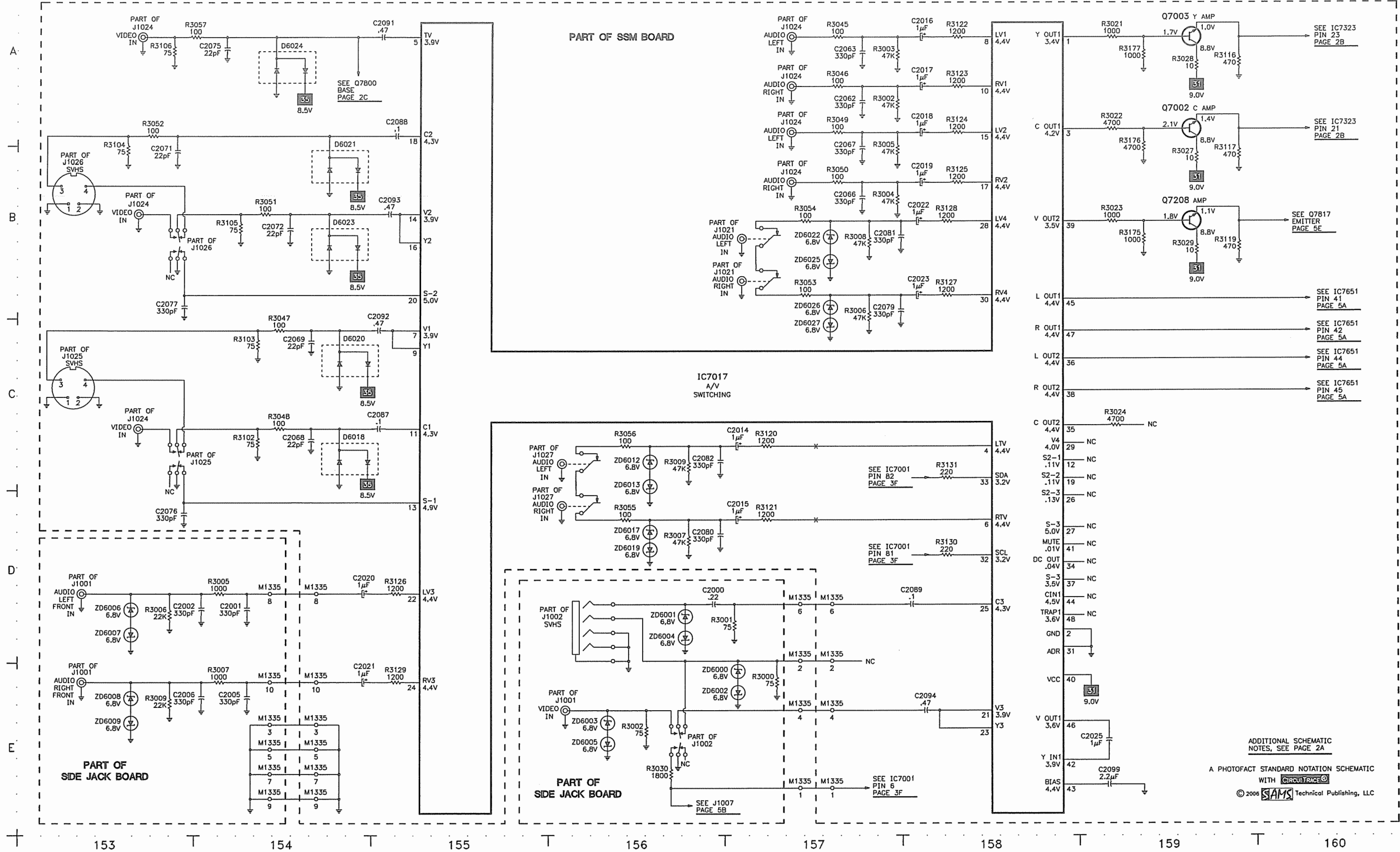


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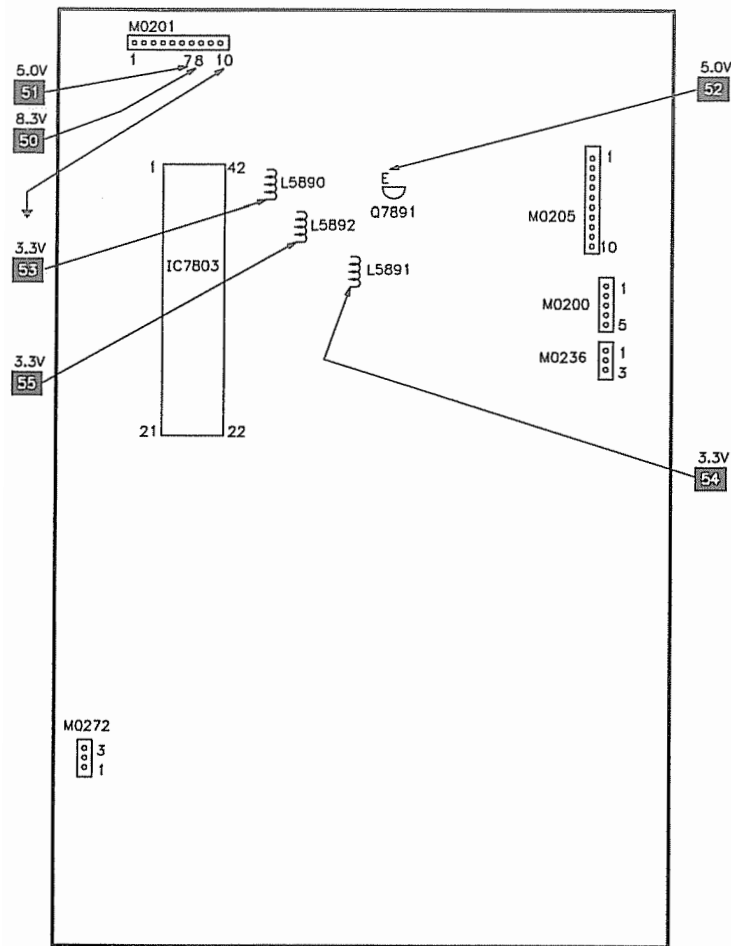


A/V SWITCHING SCHEMATIC

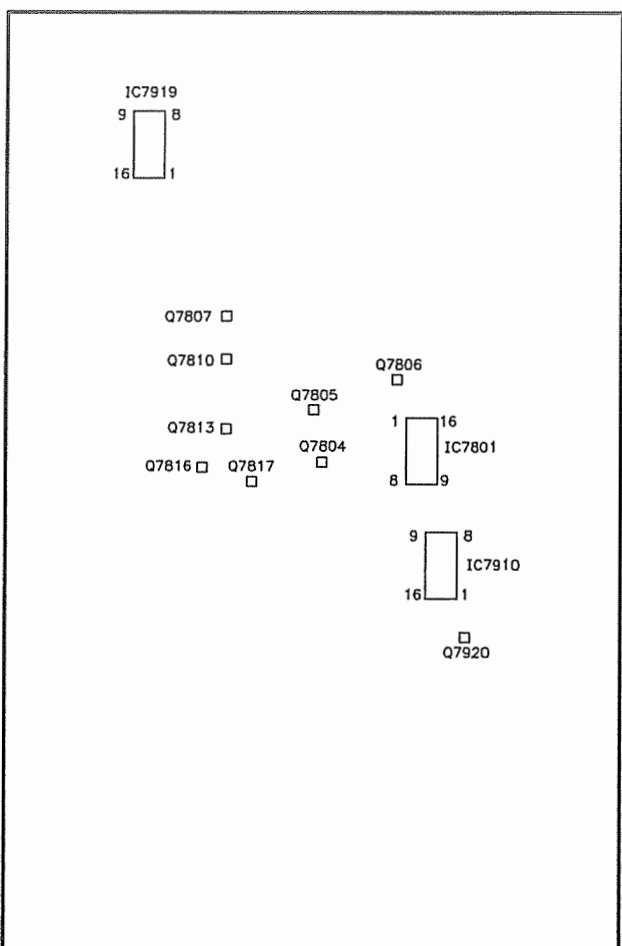


PLACEMENT CHART

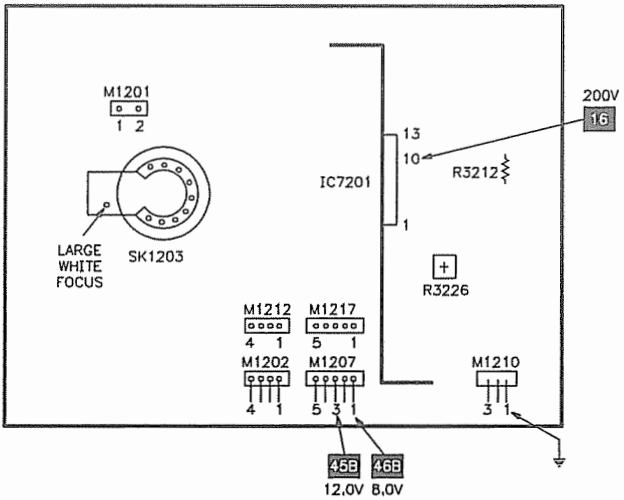
PIP BOARD - TOP VIEW



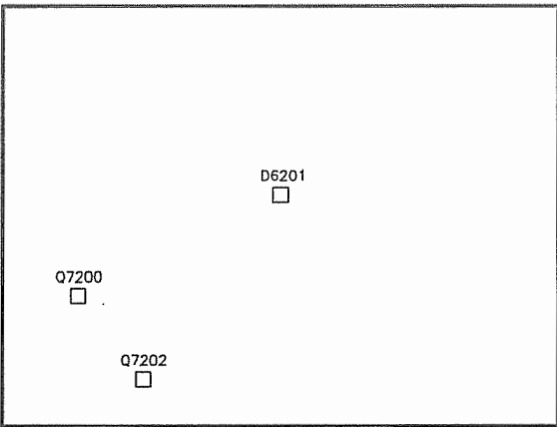
PIP BOARD - BOTTOM VIEW



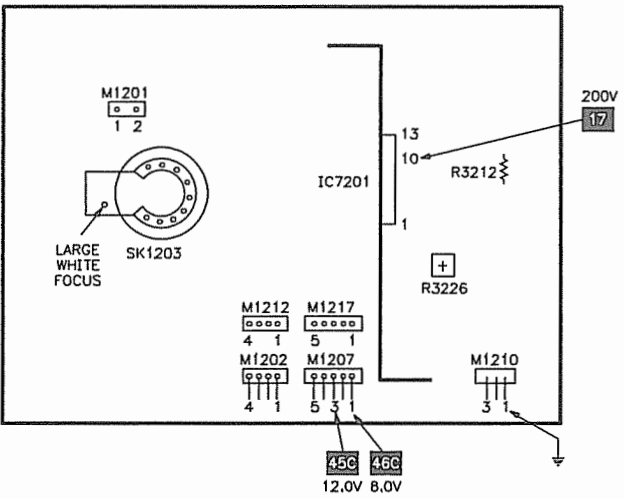
BLUE CRT BOARD - TOP VIEW



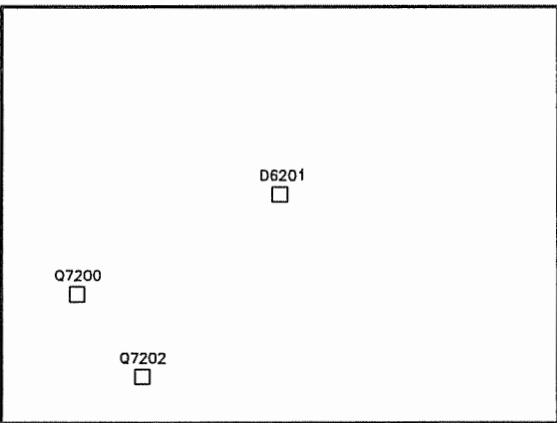
BLUE CRT BOARD - BOTTOM VIEW



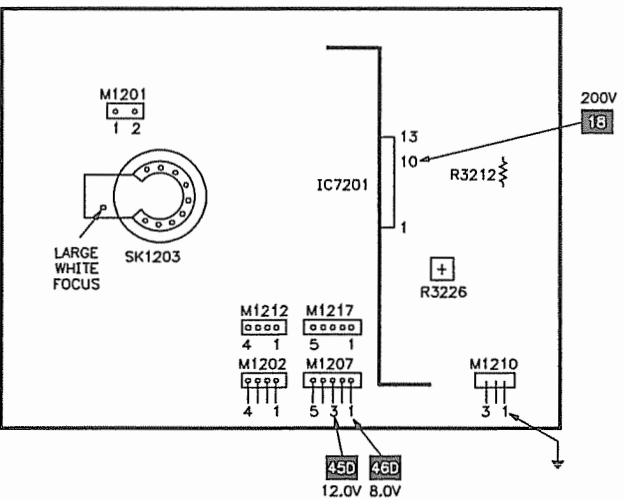
GREEN CRT BOARD - TOP VIEW



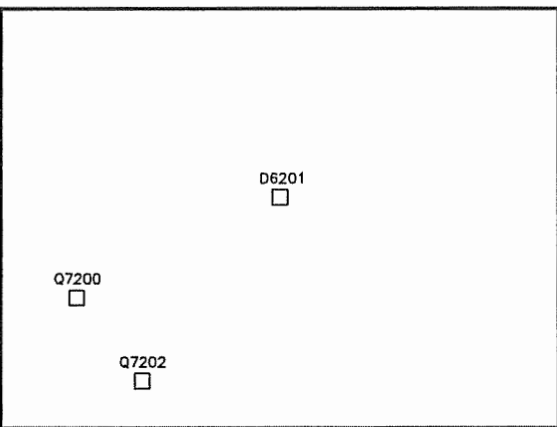
GREEN CRT BOARD - BOTTOM VIEW



RED CRT BOARD - TOP VIEW

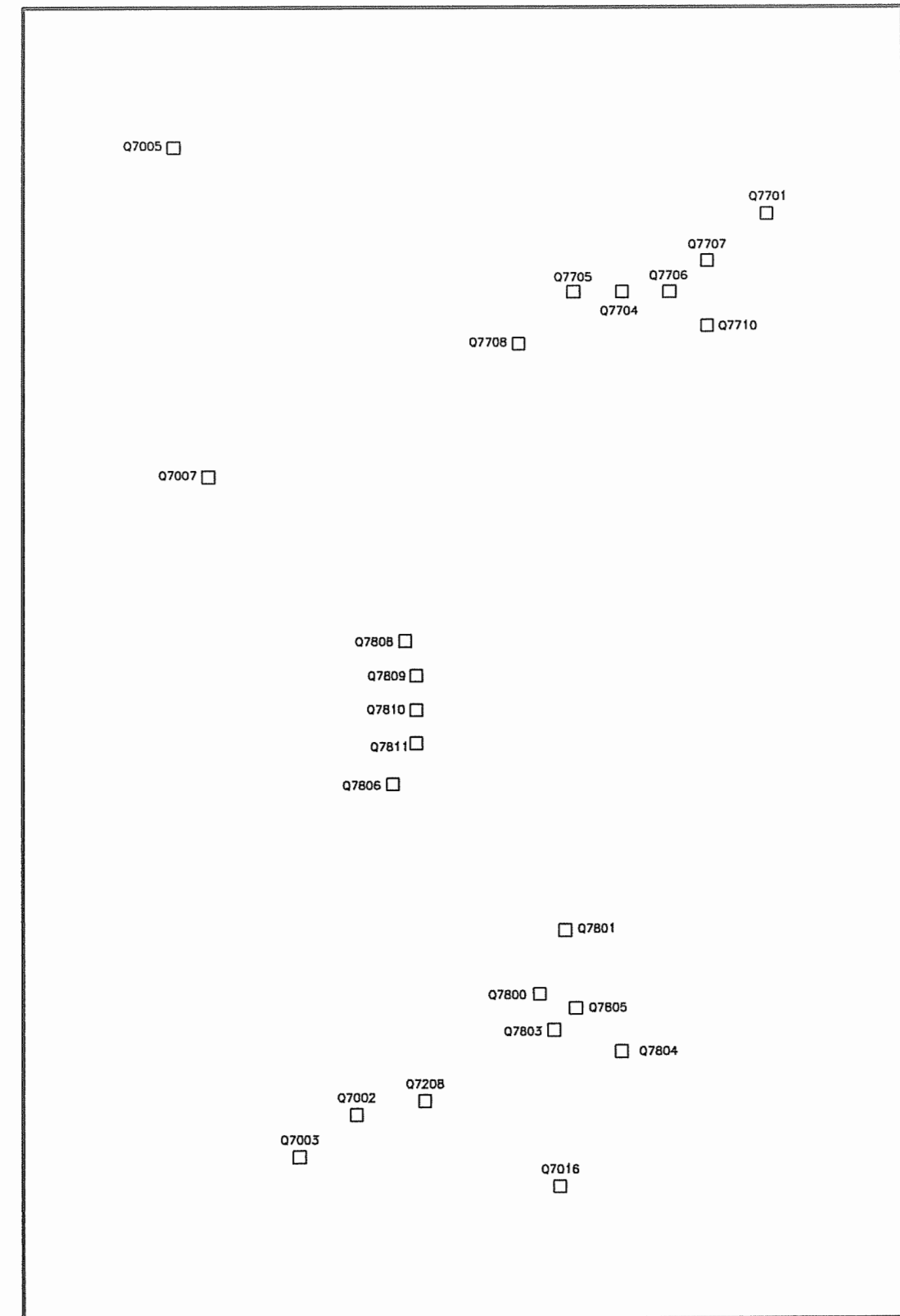


RED CRT BOARD - BOTTOM VIEW

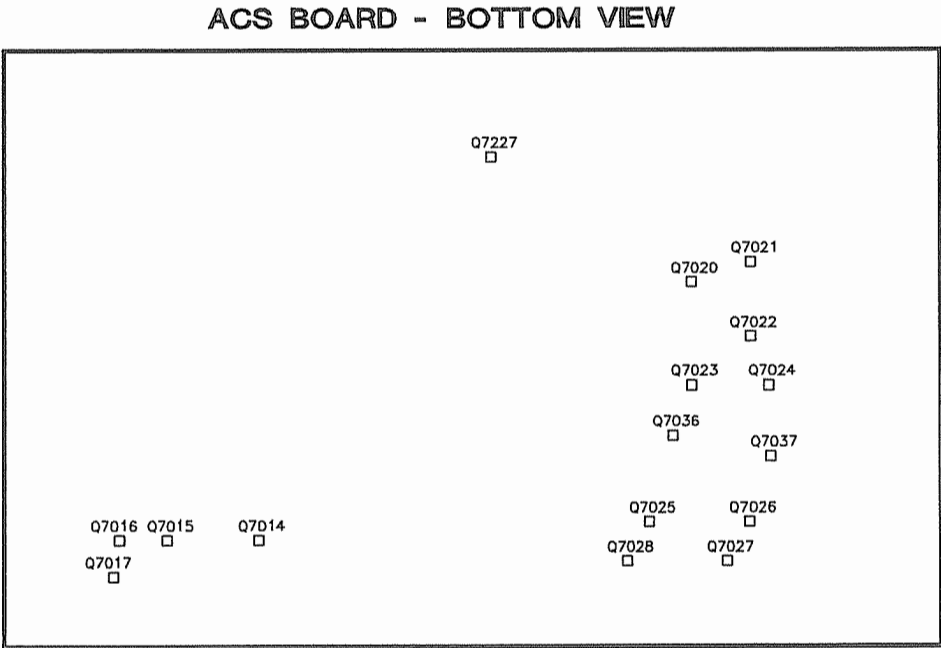
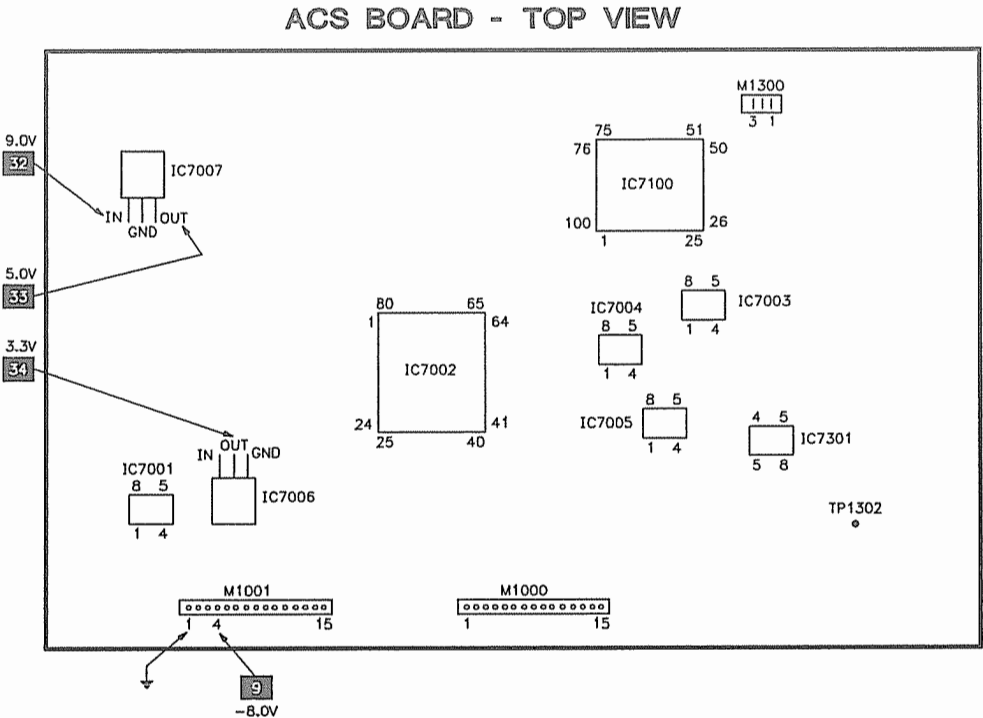
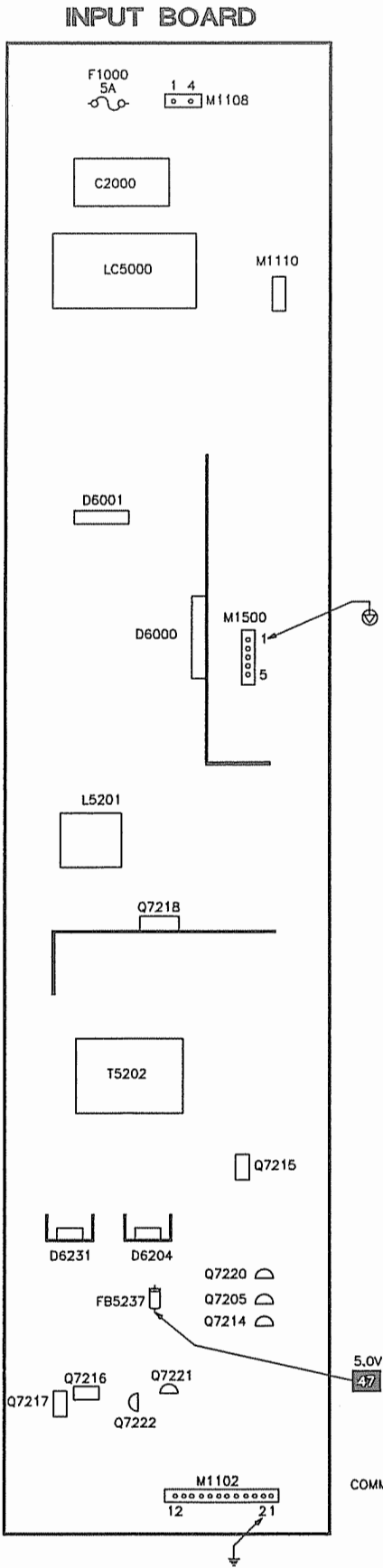
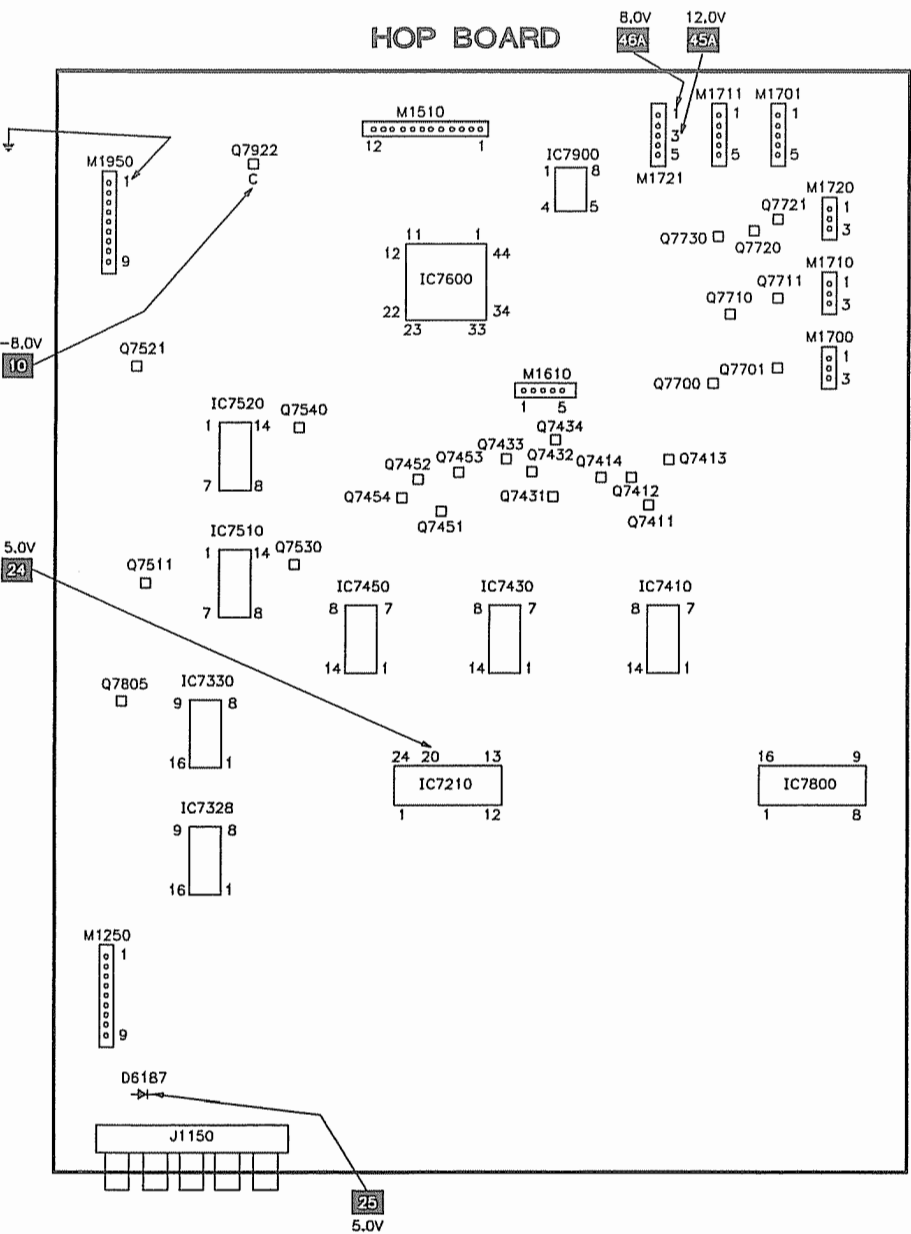


PHILIPS

MODEL 46PP302/17 (CHASSIS DPTV330)

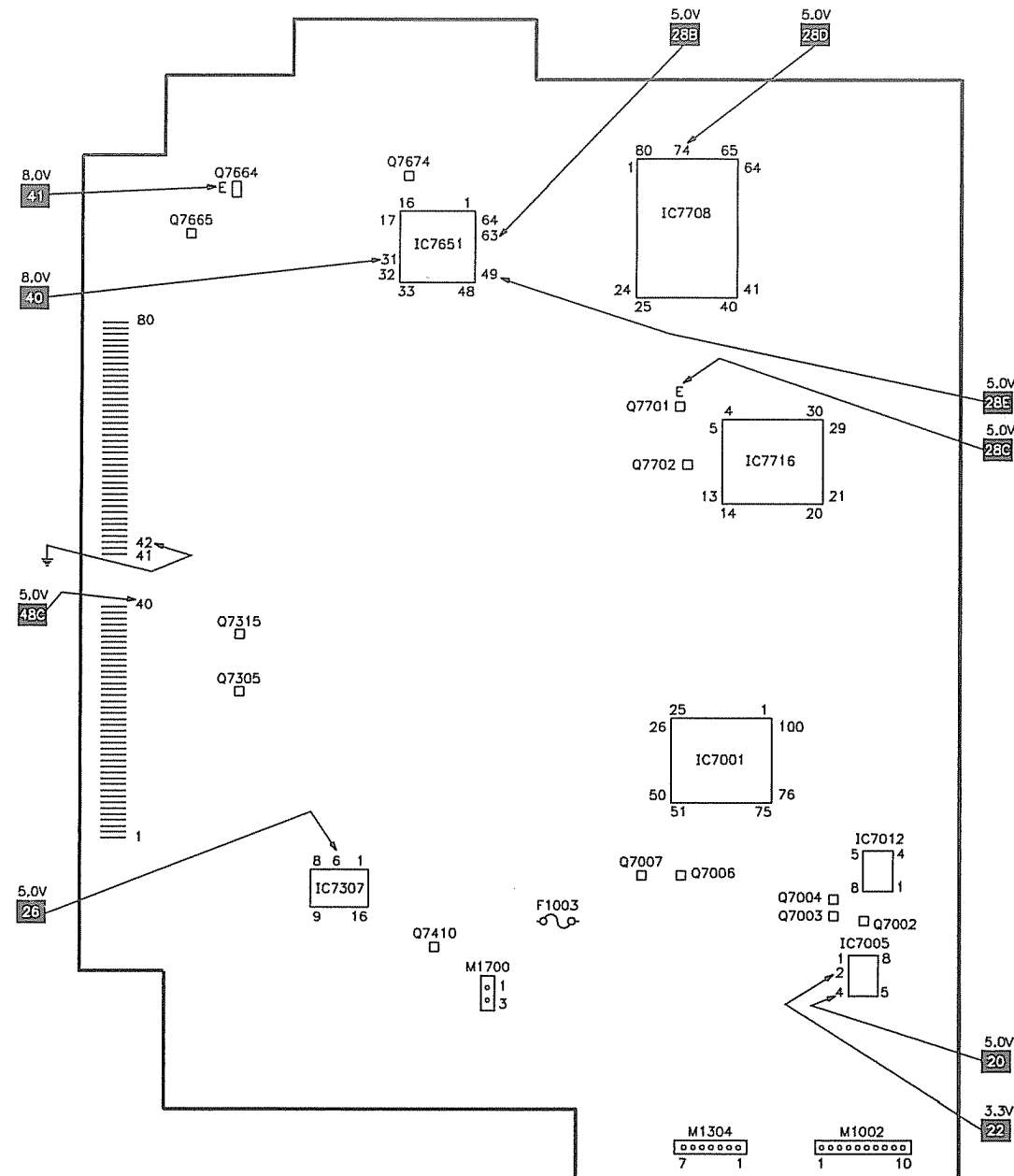


PLACEMENT CHART continued

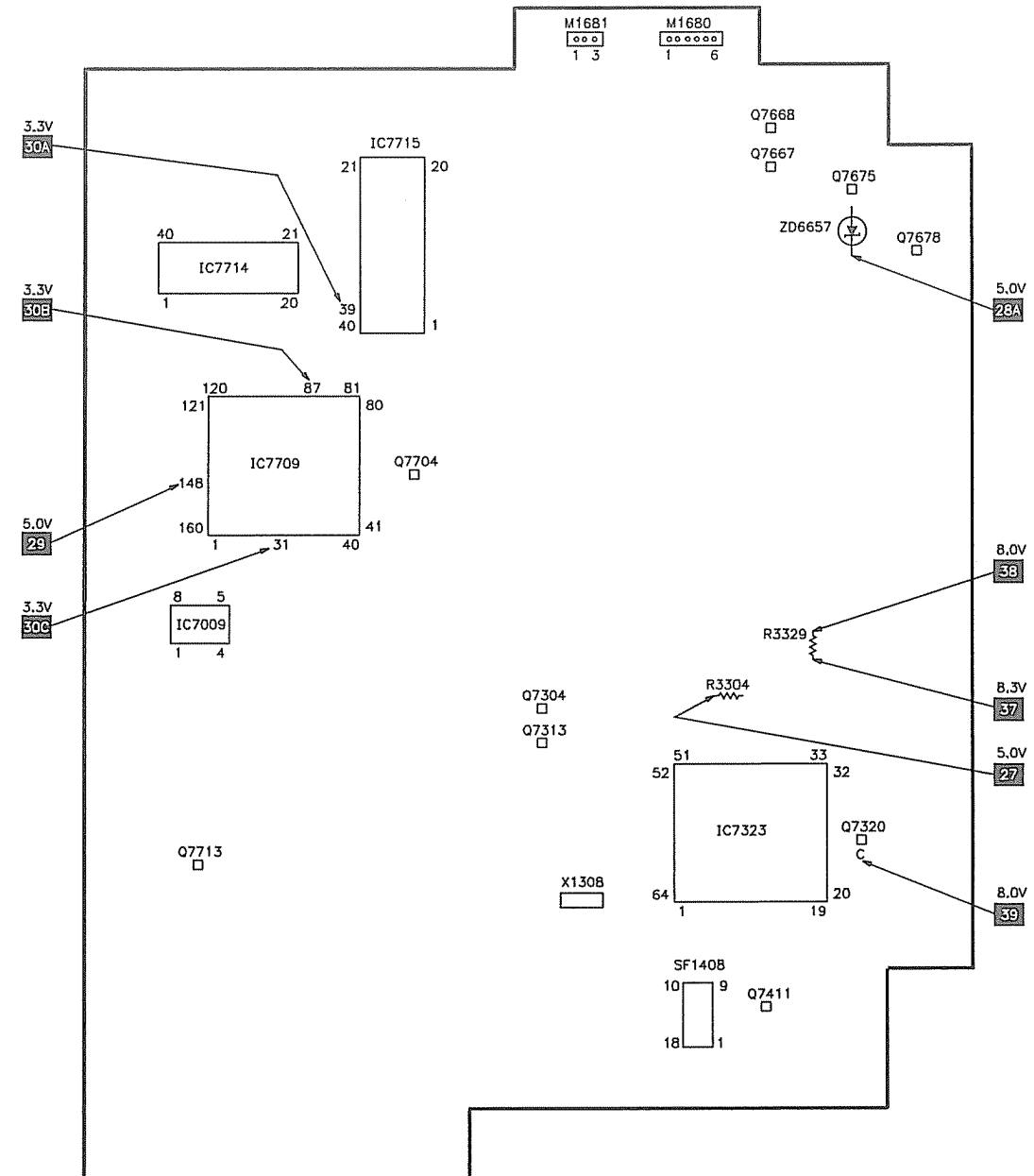


PLACEMENT CHART continued

SSB BOARD - TOP VIEW

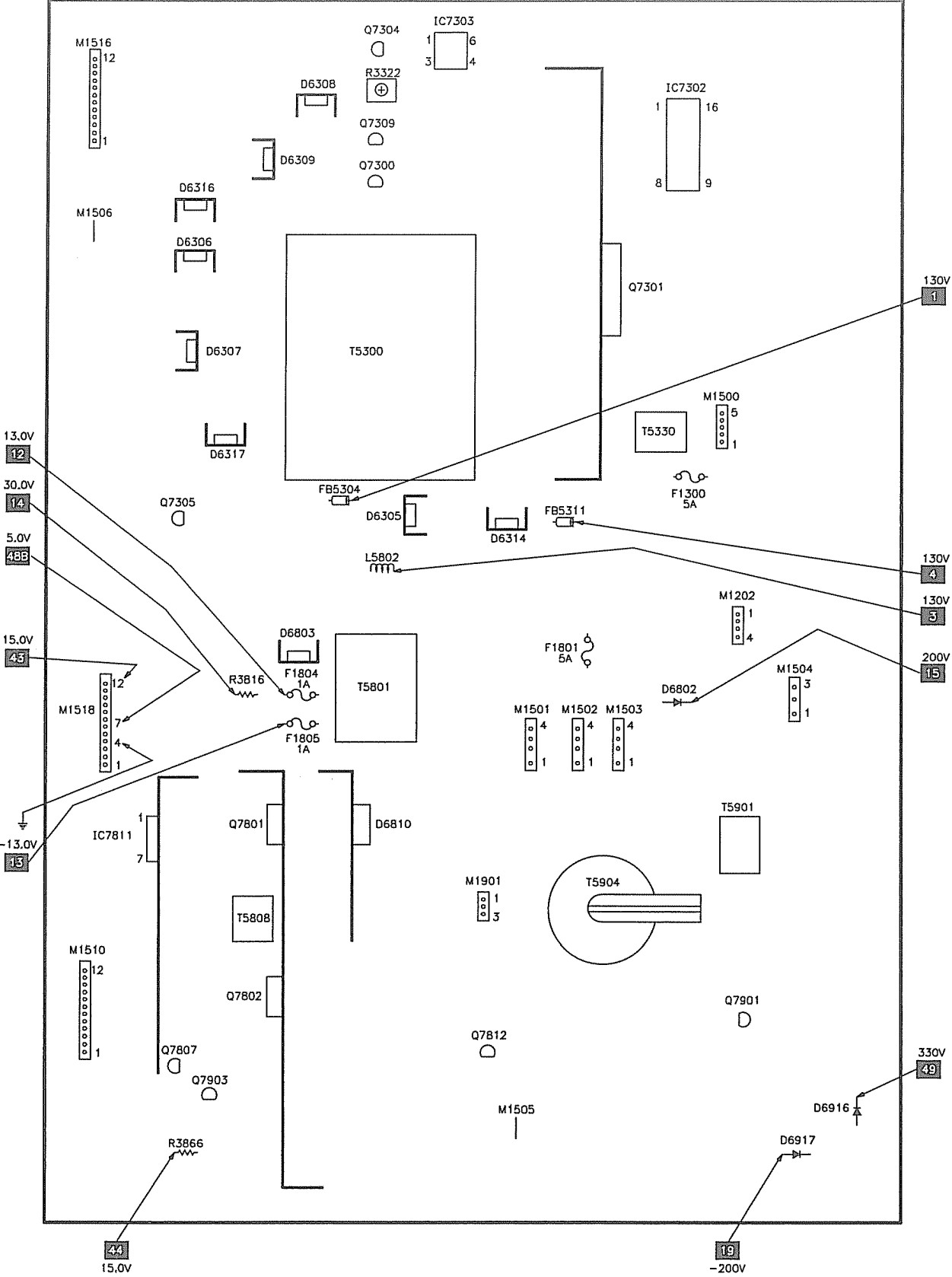


SSB BOARD - BOTTOM VIEW

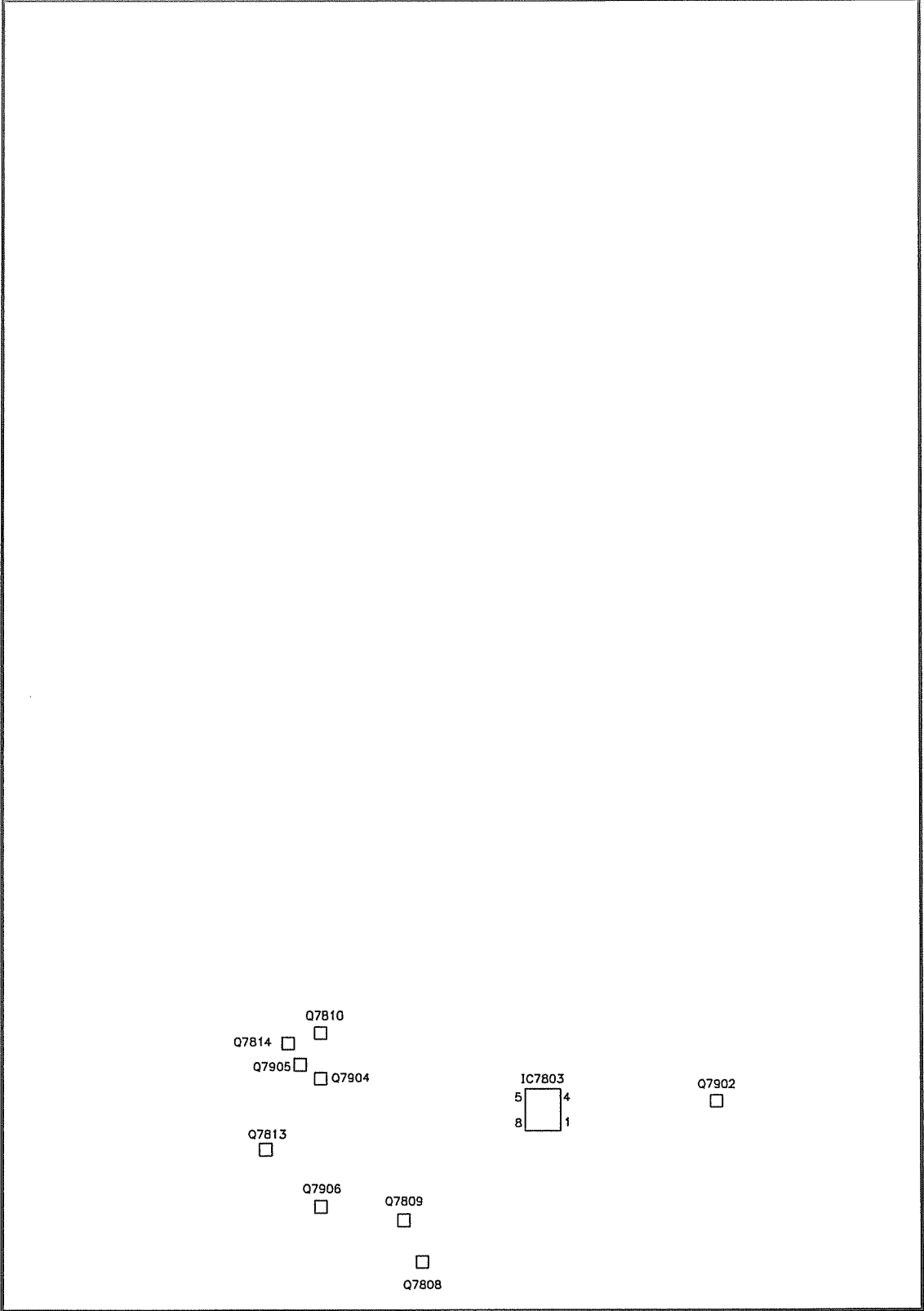


PLACEMENT CHART continued

LSB BOARD - TOP VIEW



LSB BOARD - BOTTOM VIEW

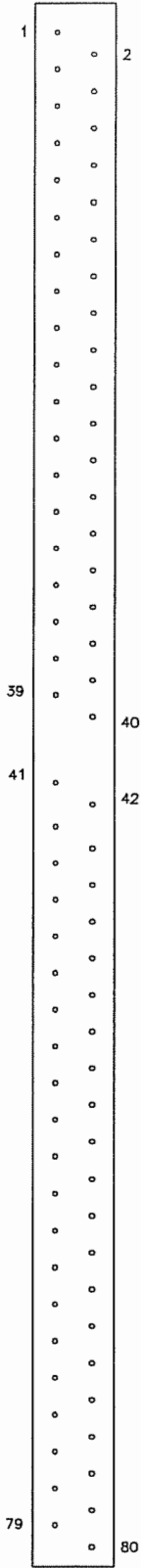


M1020 CONNECTOR INFORMATION

M1020 VOLTAGE CHART (BOTTOM VIEW)

PIN	VOLTAGE		PIN	VOLTAGE
1	5.6V		41	8.3V
2	1.3V		42	0V
3	6.0V		43	8.4V
4	1.9V		44	0V
5	0V		45	5.0V
6	1.0V		46	3.2V
7	1.4V		47	3.2V
8	0V		48	5.0V
9	2.8V		49	5.0V
10	0V		50	.3V
11	2.4V		51	0V
12	0V		52	4.4V
13	0V		53	4.4V
14	0V		54	0V
15	1.7V		55	0V
16	2.4V		56	0V
17	0V		57	0V
18	0V		58	4.4V
19	0V		59	0V
20	0V		60	4.4V
21	0V		61	0V
22	0V		62	1.3V
23	1.5V		63	1.0V
24	1.4V		64	1.4V
25	1.2V		65	0V
26	1.4V		66	0V
27	0V		67	.2V
28	.05V		68	.2V
29	.09V		69	0V
30	0V		70	0V
31	0V		71	0V
32	.19V		72	NC
33	.1V		73	NC
34	0V		74	0V
35	0V		75	3.4V
36	.5V		76	3.4V
37	.09V		77	.8V
38	0V		78	3.1V
39	0V		79	3.3V
40	5.0V		80	.3V

M1020 TERMINAL GUIDE (BOTTOM VIEW)



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

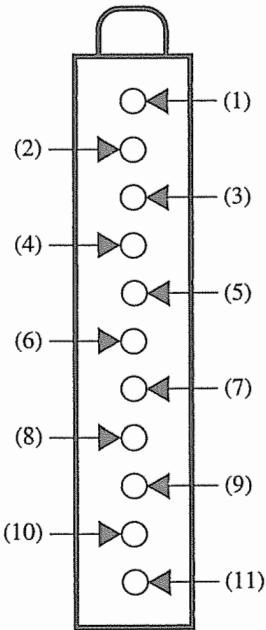
TUNER INFORMATION

TUNER VOLTAGE CHART

Pin	VHF Low Band	VHF High Band	UHF Band
(1) AGC	4.0V	4.0V	3.9V
(2) TL1	.8V	4.6V	5.1V
(3) ADD	4.8V	4.2V	4.8V
(4) SCL	3.5V	3.3V	3.2V
(5) SDA	3.1V	3.1V	3.1V
(6) NC1	4.8V	4.8V	4.8V
(7) V SUPPLY	4.8V	4.8V	4.8V
(8) NC2	0V	0V	0V
(9) BTL	33.2V	33.3V	33.4V
(10) NC3	0V	0V	0V
(11) 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



MISCELLANEOUS ADJUSTMENTS

Measurements should be performed under the following conditions: Video: color bar signal and Audio: 3kHz left, 1kHz right.

SERVICE DEFAULT MODE (SDM)

The Service Default Mode (SDM) is a technical aid for the service technician. The SDM establishes fixed, repeatable settings of customer controls, which allow for consistent measurements. The SDM places the set in the following pre-defined conditions: tuning frequency set to channel 3; volume level set to 25% of the maximum volume level; other picture and sound settings set to 50%. The following functions are turned off while in SDM: timer and sleep timer. The following functions are disabled during SDM and enabled after leaving SDM: parental lock; blue mute; hospitality mode; and No IdentTimer, normally the set is automatically switched off when no video signal (IDENT) is received for 15 minutes. Remaining other controls will operate normally.

Entering Service Default Mode (SDM)

To enter the Service Default Mode (SDM), press the following button sequence on the remote: 0, 6, 2, 5, 9, 6, and menu buttons. Do not allow the display to time out between entries while keying the sequence. Upon entry into SDM, the letters SDM will be displayed at the upper right corner of the screen.

Service Default Mode (SDM) Screen Display

SDM							
HRS: 0279	SWID: 2US1-TTR-2-2.045						
ERR:	0	0	0	0	0	0	0

Service Default Mode (SDM) Functions

The menu button on the remote switches between the Service Default Mode (SDM) and the normal user menus, with the SDM still active in the background. The status button on the remote is used to toggle the OSD, except SDM, on and off to prevent the OSD from interfering with measurements and oscilloscope waveforms. To access the Service Alignment Mode (SAM) while in SDM, press volume + and volume – buttons on the set simultaneously for at least 4 seconds.

Exiting Service Default Mode (SDM)

To exit the Service Default Mode (SDM), press the power button. To save the error codes, unplug the AC power without turning off the set. When the power is turned back on, the SDM will still be active.

SERVICE ALIGNMENT MODE (SAM)

The Service Alignment Mode (SAM) is used to align the set, adjust the option settings, and to display or clear the error code buffer values.

Entering Service Alignment Mode (SAM)

To enter the Service Alignment Mode (SAM), press the following button sequence on the remote: 0, 6, 2, 5, 9, 6, and status. Do not allow the display to time out between entries while keying the sequence. It is also possible to enter SAM by pressing volume + and volume - buttons on the set simultaneously for at least 4 seconds when the set is in SDM.

Service Alignment Mode (SAM) Menu Functions

Menu items may be selected using the cursor up or down buttons. Selected item will be highlighted. Pressing the cursor up or down buttons on the remote will display the next or previous menu items, when applicable. With the cursor left or right buttons, it is possible to: activate or deactivate the selected menu item; change the value of the selected menu item; and activate the selected submenu.

Pressing the menu button on the remote switches between SAM and the normal user menus, with SAM active in the background. Pressing the menu button in a submenu will return the screen to the previous menu.

Exiting Service Alignment Mode (SAM)

To exit the Service Alignment Mode (SAM), press the power button. To save the error codes, unplug the AC power without turning off the set. When the power is turned back on, the SAM will still be active.

Service Alignment Mode (SAM) Screen Display

SAM							
HRS: 0279	SWID: 2US1-TTR-2-2.045						
ERR:	0	0	0	0	0	0	0
OPT:	254	122	247	173	40	0	0

CLEAR ERRORS	>
OPTIONS	>
TUNER	>
SMART SETTINGS	>
GDE SAM	>

Clear Errors

Select CLEAR ERRORS while in SAM to clear error code buffer. The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, the error code will appear at the left side and all other errors shift one position to the right. The error code buffer will be cleared in the following cases: when activating CLEAR ERRORS in SAM menu; when exiting SDM or SAM with the standby command on the remote; or upon automatic reset when content has not changed for 50 consecutive hours. By leaving SDM or SAM via the power switch, the error buffer will not be reset.

To erase the contents of the error buffer, select the CLEAR ERRORS menu item and press the cursor left or right button. The contents of the error buffer are then cleared.

In case of non-intermittent faults, clear the error buffer before starting the repair. If possible check the entire content of the error buffers. In some situations an error code is only the result of another error code. A fault in the protection detection circuitry can also lead to a protection.

Options

Select OPTIONS while in SAM. Values for 2US1.

Item	Value
SBNP	1
CVI	1
C169	1
E149	1
SMCK	1
AV3	1
CBFL	1
IPIX	0
OB1	254
IPMU	0
VDBY	1
PLST	1
SOSD	1
PIPC	1
PIPT	0
PIPF	1
VS LC	0
OB2	122
SURF	1
CCAP	1
TIME	1
AAVL	1
FUNN	0
SPKC	1
VCBK	1
VBNR	1
OB3	247
BNUM	1
TMWIN	0
AOUT	1
INCF	0
APC	1
PAGC	1
WSCR	0
INIT TIMEOUT	1
OB4	173
I AM ALIVE MSG	0
ACS	0
MCS	1
AV5	0
WDT	1
-	0
-	0
-	0
OB5	40
OB6	0
OB7	0
OB8	0

Tuner

Select TUNER while in SAM.

Item	Range	On Unit
IF-PLL OFFSET	0 ~ 127	87
AGC	0 ~ 63	22
AFA	0, 1 (Read Only)	1
AFB	0, 1 (Ready Only)	1

Smart Settings

Select SMART SETTINGS while in SAM.

PERSONAL Item	Range	On Unit
MOVIE BGT	0 ~ 99	50
MOVIE COL	0 ~ 99	50
MOVIE PIC	0 ~ 99	50
MOVIE SHP	0 ~ 99	84
MOVIE TINT	0 ~ 99	0
MOVIE 2FH SHP	0 ~ 99	84
SPORT BGT	0 ~ 99	50
SPORT COL	0 ~ 99	59
SPORT PIC	0 ~ 99	54
SPORT SHP	0 ~ 99	70
SPORT TINT	0 ~ 99	0
SPORT 2FH SHP	0 ~ 99	70
WEAK BGT	0 ~ 99	50
WEAK COL	0 ~ 99	40
WEAK PIC	0 ~ 99	40
WEAK SHP	0 ~ 99	28
WEAK TINT	0 ~ 99	0
WEAK 2FH SHP	0 ~ 99	28
MULTI BGT	0 ~ 99	50
MULTI COL	0 ~ 99	40
MULTI PIC	0 ~ 99	40
MULTI SHP	0 ~ 99	70
MULTI TINT	0 ~ 99	0
MULTI 2FH SHP	0 ~ 99	70

MISCELLANEOUS ADJUSTMENTS continued

GDE SAM	
Select GED SAM while in SAM.	
SWID: GDE 1.02	GDE SAM
ERR:	INPUT 480P
DISPLAY MODE	480P
SERV BLANK	OFF
GEOMETRY	>
PICTURE	>
WHITE TONE	>
CLAMP PULSE	NORMAL
CONV PROC	ENABLED

In this menu, the DISPLAY MODE can be selected. If the input signal is NTSC, the selection should be 480p. The selection SERV BLANK causes the bottom half of the screen to blank. This selection is useful when adjusting the Yoke rotation. The CONV PROC selection allows for the disabling of the Convergence drive.

Default settings should be entered when the SSB board has been changed. When the CRTs have been changed, the display should be centered using the centering rings on the CRT. The center point can be found by placing a string from corner to corner or by using the center point on the convergence template. In the 4x3 aspect ratio sets, there are three geometry settings, and in the 16x9 aspect ratio sets, there are two geometry settings. Make sure the set is in the mode that is being adjusted and that the correct signal is applied.

GDE SAM Defaults Table

GDE SAM Register Name	Default Value 480p	Default Value 1080i	Default Value 1080i, Comp
SERV BLANK	OFF	OFF	OFF
GEOMETRY			
WIDE BLANK	7	7	7
HOR SHIFT	23	21	21
HOR. PARALLEL	8	8	8
EW. WIDTH	29	42	42
EW. PARA	36	36	31
EW. TRAP	31	31	31
HOR. BOW	7	7	7
VER. SLOPE	40	36	38
VER. AMPL	38	37	11
S CORR	31	31	31
VER. SHIFT	31	31	31
FAST BLANK	0	0	0
PICTURE			
BRIGHTNESS	31	31	31
PICTURE	31	31	31
COLOR	31	31	31
TINT	31	31	31
SHARPNESS	31	31	31
SUB-BRIGHT	31	31	31

GDE SAM Register Name	Default Value 480p	Default Value 1080i	Default Value 1080i, Comp
WHITE TONE			
NORMAL CUTOFF RED	35	35	35
NORMAL CUTOFF GREEN	34	34	34
NORMAL CUTOFF BLUE	31	31	31
NORMAL DRIVE RED	20	20	20
NORMAL DRIVE GREEN	43	43	43
NORMAL DRIVE BLUE	31	31	31
COOL CUTOFF RED	0	0	0
COOL CUTOFF GREEN	0	0	0
COOL CUTOFF BLUE	0	0	0
COOL DRIVE RED	-7	-7	-7
COOL DRIVE GREEN	-6	-6	-6
COOL DRIVE BLUE	0	0	0
WARM CUTOFF RED	0	0	0
WARM CUTOFF GREEN	0	0	0
WARM CUTOFF BLUE	0	0	0
WARM DRIVE RED	+7	+7	+7
WARM DRIVE GREEN	+4	+4	+4
WARM DRIVE BLUE	-6	-6	-6
CLAMP PULSE	NORMAL	HDTV	HDTV
CONV PROC	ENABLED	ENABLED	ENABLED

CONVERGENCE AND GEOMETRY

The set should be allowed to warm up for at least 20 minutes before any adjustments are made. This set incorporates a digital convergence system using 208 adjustment points. The convergence processor is located on the ACS (Automatic Convergence System) board. The convergence drive circuits are located on the SSP (Small Signal Panel) board. Data for the convergence settings are stored in the EEPROM located on the ACS board. Data for geometry is stored in the EEPROM located on the SSB (Small Signal Board) board. If the CRTs, the LSP (Large Signal Panel) board, or the SSB board are changed, a complete geometry and convergence alignment will be necessary. If the ACS board, the SSP, or CRTs are changed, a complete convergence alignment will be necessary. To obtain the correct geometry during convergence, a template must be used.

Sets with 4x3 aspect ratio have three convergence and geometry settings. Sets with 16x9 aspect ratio sets have two convergence and geometry settings. Sets with 4x3 aspect ratio have a 480p mode and a 1080i full screen mode. There are geometry and convergence settings for each mode.

There are two chassis versions: basic and core. The core version has an Automatic Convergence System called Intellisense. The Intellisense system makes minor changes in the convergence to compensate for changes in the magnetic field from one location to another. In the convergence procedure, both versions have the setup for the Intellisense sensors. If TEST SENSORS is selected in the basic version a message will appear on the screen indicating that the sensors are not working. In the basic version, the results of the sensor test are not applicable.

When performing convergence or geometry alignments, correct signal must be applied to the set. This is necessary to provide the correct horizontal and vertical sync to the convergence circuits. Failure to do so will result in an out of convergence picture. An NTSC signal should be used when adjusting the 480p mode. A 1080i signal should be applied to the set when using the HD mode. The HD should have a horizontal frequency of

33.75kHz and a vertical frequency of 60Hz. There are two geometry and convergence alignments in the HD mode for the 4x3 aspect ratio set. The two modes are a full screen mode 4x3 and a 16x9 compressed mode. Select these in the customer menu.

This adjustment procedure is divided into the following sections: Screen Centering; Geometry; Convergence; and Grey Scale Alignment.

If the ACS board has been replaced, the following adjustments should be performed in the following order: Geometry; Convergence; and Grey Scale.

If the LSB board has been changed, the following adjustments should be performed in the following order: Screen Centering; Geometry; and Convergence.

If the CRTs have been changed, the following adjustments should be performed in the following order: Screen Centering; Geometry; Convergence; and Grey Scale.

If the SSM board has been changed, the Convergence should be performed.

Geometry Alignment

The Geometry alignment data is stored in the NVM located on the ACS module. Whenever the ACS board or the LSB board has been changed, a geometry alignment will be needed. The geometry alignment is performed in the SAM GDE alignment mode. To enter the SAM mode, press 0, 6, 2, 5, 9, 6, and status buttons on the remote. Be sure the set is in the mode in which you wish to align before entering the SAM mode. Use the AV button on the remote to select the input with a signal applied after entering the SAM mode. The following will appear on screen after entering the SAM mode. Press the cursor down button on the remote to view SMART SETTINGS and GDE SAM.

		SAM							
HRS: 0279	SWID: 2US1-TTR-2-2.045								
ERR:	0	0	0	0	0	0	0	0	0
OPT:	254	122	247	173	40	0	0	0	0

CLEAR ERRORS	>
OPTIONS	>
TUNER	>
SMART SETTINGS	>
GDE SAM	>

Select GED SAM while in SAM.	
SWID: GDE 1.02	GDE SAM
ERR:	INPUT 480P
DISPLAY MODE	480P
SERV BLANK	OFF
GEOMETRY	>
PICTURE	>
WHITE TONE	>
CLAMP PULSE	NORMAL
CONV PROC	ENABLED

If the CRTs have been replaced, screen centering adjustment will be necessary. Apply a crosshatch pattern to the set. Select CONV PROC in the menu. This will disable the convergence drive. Select GEOMETRY in the menu and enter the following default values for the mode being adjusted. Other mode values can be entered by selecting a different DISPLAY MODE in the menu. Most times, no additional adjustment will be necessary.

Geometry Default Values

Item	Default Value Mode 1 480p	Default Value Mode 2 1080i	Default Value Mode 3 1080i, Comp
Wide Blank	7	7	7
Hor. Shift	24	21	21
Hor. Parallel	8	8	8
EW Width	31	44	44
EW Para	45	45	45
EW Trap	31	31	31
Hor. Bow	7	7	7
Ver Slope	40	33	33
Vertical Ampl	40	40	12
S Corr	31	31	31
Vert Shift	31	31	31
Fast Blank	0	1	1

To exit the Service Alignment Mode (SAM), press the menu button to return to the main SAM menu. Then turn the set off.

CONVERGENCE

Enter the Convergence Alignment mode, by pressing 0, 6, 2, 5, 9, 7, and index buttons on the remote. Listed below is a map of the convergence menus. Be sure that a signal is applied to the set for the mode being adjusted. Be sure that the set is in the mode you wish to adjust before entering the Convergence Alignment mode.

Display Convergence Menu Flow Diagram

Use the cursor up or down button to highlight the selection. Press the cursor right button to make the selection. In the second menu, MANUAL CONVERGENCE Without VIDEO means the screen behind the adjustment grid will be blank. MANUAL CONVERGENCE With VIDEO displays the applied video behind the adjustment grid. RESTORE FACTORY loads the values from the last saved convergence alignment. RESTORE DEFAULT loads values from the ROM on the ACS Microprocessor. If the ACS board has been changed, there may not be data in the NVM for RESTORE FACTORY. The RESTORE DEFAULT settings will then be loaded. Loading default values will overwrite all of the Convergence modes.

Internally generated grid will be displayed in the convergence mode. Shaded area is the screen area. Horizontal lines A and M are displayed on the top and bottom edge of the visible screen area. Lines 1 and 15 are also displayed on the left and right edge of the visible screen area. Vertical line 0 is adjustable, but not visible.

Green Geometry

The green geometry must first be done when performing a complete convergence alignment. A screen template is needed to obtain the correct geometry. Failure to use the screen template or misalignment of the convergence will result in reduced life of the convergence amplifiers.

Place the screen template on the screen. Select GREEN in selection menu. The cursor will appear in the center of the screen.

When the ACS board has been replaced and default settings have been loaded, the following procedure should be used to adjust the convergence. Or use the cursor up or down and right or left buttons to navigate to the area to be adjusted. Press the menu button to adjust then use the cursor buttons to move the green cross onto the screen template. The adjustment of the cross has two step sizes, large and small. Use the menu button to toggle between the two. After a point has been adjusted, press index button to return to navigate. When default settings have been loaded, the leftmost line that is not visible should be adjusted first. Adjust the vertical line 0 while observing line 1 to make line 1 parallel with the left edge of the screen. The adjustment should be made in small steps. Do not adjust any one point more than a quarter of the distance of one grid. After the left most line is adjusted, start at the center left of the screen and work to the right, aligning the horizontal line. When adjusting the horizontal lines, best results are obtained when working from left to right. After the center line is adjusted, go to the next line down until all of the lines have been adjusted. Work from the center up to adjust the horizontal lines. Using the same method, work from center out to adjust the vertical lines. A minimum of three passes will be necessary to complete the alignment. Press the index button to return to the selection menu.

When the green geometry is complete store the data. Remove the screen template from the screen and select red to green in the selection menu. Use the same method that was used to adjust the green grid to the screen template, adjust the red grid onto the green grid.

When the red to green is complete, select the blue to green and use the same alignment method. Each time data is stored the Intellisense circuit will recalculate the position of the four sensors in the set.

Repeat the adjustment for each of the remaining modes as necessary.

GRAY SCALE

- Place the input to the RGB (Aux 5) or YPb Pr (Aux 4) mode. Connect a computer or computer monitor generator to the Aux 5 input or a component generator to Aux 4.
- Preset G2 controls counterclockwise.
- Turn green G2 clockwise to make the menu visible.
- Enter SAM mode by entering 0, 6, 2, 5, 9, 6, and index buttons on the remote. Select the GDE SAM mode and select WHITE TONE.
- Set the brightness, picture, and sharpness to their center position. Select a black raster pattern on the computer or computer monitor generator.
- Place a scope set to measure DC on each cathode to determine the dominant, lowest, color.
- Adjust the SUB BRIGHTNESS control to set the black level equal to 180V on the scope.
- Move the probe to the remaining cathodes and adjust the corresponding cutoff registers to make the black part of the waveform at 180V.
- Set the corresponding G2 control to just make cutoff for the black part of the waveform for that CRT.
- Remove the scope.
- Apply a grayscale pattern to the set.

- Adjust the drive controls to achieve proper white balance.
- Press the menu button to return to the SAM menu. Exit the Service mode by turning the set off.

WHITE TONE

Name	On Unit Value
Normal Cutoff Red	3F
Normal Green Cutoff	3F
Normal Blue Cutoff	3F
Normal Red Drive	3F
Normal Green Drive	3F
Normal Blue Drive	3F
Cool Cutoff Red	0
Cool Cutoff Green	0
Cool Cutoff Blue	0
Cool Drive Red	-7
Cool Drive Green	-6
Cool Drive Blue	0
Warm Cutoff Red	0
Warm Cutoff Green	0
Warm Cutoff Blue	0
Warm Drive Red	+7
Warm Drive Green	+4
Warm Drive Blue	-6

ELECTRICAL FOCUS

Before starting the following adjustment procedures set the picture, sharpness, brightness, and tint controls to midrange and the color control to minimum.

- Remove the back cover of the set and the light shield, turn the set on and apply an NTSC crosshatch pattern signal into the antenna terminal. The crosshatch pattern will appear clearer if the front of the screen is covered with a dark cloth.
- Cover two of the CRT output lenses with cardboard pieces, or other non-conductive opaque material, to observe the magnified reflection of the other CRT on the back side of the viewing screen.
- Adjust the CRT's focus control, located on the focus block, for the sharpest raster image.
- Confirm correct focus by viewing the screen from the front of the set.
- Repeat steps 2 through 4 to adjust the focus of the remaining CRT's.

OPTICAL FOCUS

Before starting the following adjustment procedures set the picture, sharpness, brightness, and tint controls to midrange and the customer color control to minimum.

- Remove back cover of the set and the light shield, turn the set on and apply an NTSC crosshatch pattern signal into the antenna terminal. The crosshatch pattern will appear clearer if the front of the screen is covered with a dark cloth.
- Cover two of the CRT output lenses with cardboard pieces, or other non-conductive opaque material, and observe the magnified reflection of the other CRT on the back side of the viewing screen.
- Loosen the lens retaining wing nuts on the CRT focus assembly.
- Move the wing nut in the slot of the uncovered lens to locate the optimum optical focus, viewing the picture from the back side of the screen, re-tighten the wing nut.
- Confirm correct focus by viewing the screen from the front of the set.
- Repeat steps 2 through 5 to adjust the focus of the remaining CRT's.

CUSTOMER SERVICE MODE (CSM)

All HDRPTV sets are equipped with the Customer Service Mode (CSM). CSM is a special service mode that can be activated and deactivated by the customer, by request of the service technician/dealer in order to identify the status of the set. This CSM is a read only mode, and modifications in this mode are not possible.

Entering Customer Service Mode (CSM)

To enter the Customer Service Mode (CSM) press the mute button on the remote and any button on the keyboard (channel up, channel down, volume up, volume down) on the set simultaneously for at least 4 seconds. When CSM is entered, CSM may flash or may stay constant in the upper right corner. Once the CSM is activated picture and sound settings are set to nominal levels and modes that interfere with the behavior of the set are switched off (sleep timer, auto standby, etc.).

Changing System Preset Setting

Press the menu button on the remote. Select the INSTALL sub menu. Select the MANUAL STORE sub menu. Select and change the SYSTEM setting until picture and sound are correct. Select the STORE menu item.

Exiting Customer Service Mode (CSM)

To exit the Customer Service Mode (CSM) press any button on the remote except channel up or channel down buttons. Switch off the set by pressing the power button on the remote or the set. Exiting CSM resets the set back to its initial values.

Customer Service Mode (CSM) Screen Display

Upon entry into the Customer Service Mode (CSM) the following screen will appear.

	CSM
1	HRS: 0279 SWID: 2US1-TTR-2-2.045
	ERR: 0 0 0 0 0 0 0
2	CODES: 0 0 0 0 0 0 0
3	OPT: 254 122 247 173 40 0 0 0
4	
5	NO SIGNAL
6	
7	
8	NOT PREFERED
9	
10	SOURCE: 96
11	SOUND: MONO
12	VOLUME: 0
13	BALANCE: 1
14	TINT: 50
15	COLOR: 41
16	BRIGHTNESS 50
17	PICTURE 41

The Customer Service Mode (CSM) shows the following information:

Line 1 HRS: nnnn and SWID: 2US1-TTR-2-2.045. HRS: indicates the accumulated total of operational hours in hexadecimal format, standby hours are not counted as operating hours. SWID: indicates software

identification of the main microcontroller. 2US1-TTR-2-2.045. US1 indicates the software type and the supported languages, US is NAFTA region, 1 is the main software language version number and 2.045 is the subversion number.

Line 2 CODES: is the error code buffer and displays the last 7 errors.

Line 3 OPT: option bits control software and hardware functionality. An option byte or option number represents 8 of those bits. Each option number is displayed as a number between 0 and 255. The set may not work correctly when an incorrect option code is set.

Line 4: SYSTEM : AUTO. Indicates which color and sound system is installed for this preset: NTSC, PAL, or SECAM.

Line 5: NO SIGNAL. Indicates that the set is not receiving an ident signal on the selected source. This may be caused by: absent or bad antenna signal or antenna not connected; no preset channel is stored at this program number; or the tuner is faulty. If the tuner is the problem line 2: CODES will contain number 13 or 16; check the tuner and replace or repair if necessary.

Line 6: TIMER ON. Indicates that the on/off timer is running. The following may be caused by the activation of the sleep timer: the set may turn on from standby or may switch to a different channel without using either the remote or the set. To switch off the activation timer: select TIMER in the FEATURE menu; select ACTIVATE in the TIMER menu. Set to OFF with the left or right cursor button.

Line 7: CHANNEL BLOCKED. Indicates that all channels are locked except the selected channel. The following may be generated due to locked channels: set cannot be switched on from standby with the set buttons; or channel up and channel down buttons on the set do not function. Use remote to disable the LOCK feature: select FEATURE menu; select LOCK; and set to OFF.

Line 8: NOT PREFERED. Indicates that at least one channel is deleted as a preferred channel, by default, all channels are skipped. SKIPPED will always be displayed in CSM unless all the channels are not skipped. To add a channel as a selected channel to the list of preferred channels: select INSTALL menu; CHANNEL EDIT; ADD/DELETE; and set to ADD with the left or right cursor buttons.

Line 9: HOTELMODE ON. The Hotel mode has been activated.

Line 10: SOURCE. Indicates which SOURCE is installed for this preset: AV1; AV2; SVHS2; or channel number (8).

Line 11: SOUND. Indicates which sound mode is installed for this preset: Mono; Stereo; SAP; NICAM; L1; L2; Virtual; or Digital.

Line 12: VOLUME. Value indicates level at CSM entry.

Line 13: BALANCE. Value indicates level at CSM entry.

Line 14: TINT. Value indicates level at CSM entry.

Line 15: COLOR. Value indicates level at CSM entry.

Line 16: BRIGHTNESS. Value indicates level at CSM entry.

Line 17: PICTURE. Value indicates level at CSM entry.

PARTS LIST

Item No.	Type No.	Mfr. Part No.	NTE Part No.
D6301	BYV95C	9335 001 80133	NTE569
D6302, 03	1N5062	9330 764 50133	NTE506
D6304	BY229X-600	9340 380 20127	-
D6306 Thru			
D6309	BY229X-600	9340 380 20127	-
D6310	BYD33D	9337 234 00133	NTE552
D6313	1N4148	9330 839 90133	NTE519
D6314, 16, 17	BY229X-600	9340 380 20127	-
D6318	BYV95C	9335 001 80133	NTE569
D6320, 21	1N4148	9330 839 90133	NTE519
D6801	BY229X-220	9340 380 00127	-
D6802	BYV95C	9335 001 80133	NTE569
D6803	BY229X-220	9340 380 00127	-
D6805, 06	BYV27-200	9335 526 80133	NTE588
D6807, 08	BAS316	3198 010 10630	NTE633
D6809	BYD33J	9337 234 20133	NTE580
D6810	BYM357DX	9340 560 29127	-
D6811	BYV27-200	9335 526 80133	NTE588
D6815, 17, 18	BAS316	3198 010 10630	NTE633
D6821	BAS316	3198 010 10630	NTE633
D6822	BYV95C	9335 001 80133	NTE569
D6823	BAS316	3198 010 10630	NTE633
D6827	BYV27-200	9335 526 80133	NTE588
D6829, 30, 31	BAS316	3198 010 10630	NTE633
D6901, 04, 08	BAS316	3198 010 10630	NTE633
D6909	1N4148	3198 010 10010	NTE519
D6910	BAT85	9336 247 60133	NTE585
D6912, 13, 14	BAS316	3198 010 10630	NTE633
D6915, 16	BYV27-600	9340 418 70133	-
D6917	BYV27-400	9340 366 90133	-
D6919	BAT254	9340 393 00115	NTE585
IC7302	MC44603AP	9322 108 36682	-
# IC7303	CQY80NG	9338 941 50682	-
IC7304, 05	TL431BCLP	9322 115 98676	NTE999
IC7803	LM393D	9339 849 10668	NTE943SM
IC7811	TDA8177	9322 066 43687	-
Q7300	BC547B	3198 020 40030	NTE123AP
Q7301	STW13NB60	9322 121 46687	-
Q7309	BC547B	3198 020 40030	NTE123AP
Q7801	BU2520AF	9340 153 80127	NTE2354
Q7802	2SK2232	9322 135 90687	-
Q7807	BSN304	9340 235 30126	-
Q7808, 09, 10	BC847B	3198 010 42030	NTE2646
Q7812	BF423	9332 593 60126	NTE288
Q7813	BC847B	3198 010 42030	NTE2646
Q7814	BC857B	3198 010 42150	NTE2409
Q7901	BF487	9337 626 60112	-
Q7902	BC847B	3198 010 42030	NTE2646
Q7903	BC327-25	3198 020 43430	NTE298
Q7904	BC847B	3198 010 42030	NTE2646
Q7905	BC857B	3198 010 42150	NTE2409

Item No.	Type No.	Mfr. Part No.	NTE Part No.
Q7906	BC847B	3198 010 42030	NTE2646
ZD6804	BZX79-C4V7	3198 010 24780	NTE5009A
ZD6812	BZX79-C68	3198 010 26890	NTE5045A
ZD6813, 14	BZX284-C10	9340 386 80115	-
ZD6816	BZX79-C68	3198 010 26890	NTE5045A
ZD6819	BZX79-C18	3198 010 21890	NTE5027A
ZD6820, 24, 25	BZX284-C10	9340 386 80115	-
ZD6826	BZX79-C18	3198 010 21890	NTE5027A
ZD6828	BZX284-C10	9340 386 80115	-
ZD6832	BZX284-C15	9340 387 20115	-
ZD6902	BZX79-C18	3198 010 21890	NTE5027A
ZD6903	BZX79-C4V7	3198 010 24780	NTE5009A
ZD6905	BZX79-C3V9	3198 010 23980	-
ZD6906	BZX79-C8V2	3198 010 28280	NTE5016A
ACS BOARD			
D6000, 01, 06	BAS216	9340 255 30115	NTE631
D6308 Thru			
D6315	BAS216	9340 255 30115	NTE631
IC7000	M24128-MN6	9322 117 46668	-
IC7002	STV2050A	9322 169 57671	-
IC7003, 04, 05	LM833D	9322 068 82668	NTE891SM
IC7006	LD1117DT33C	9322 119 88668	-
IC7007	L78M05CDT	9322 104 47668	-
IC7100	SAA5677/HL/M1	9352 692 99557	-
IC7301	TPS3707-33D	9322 173 08668	-
Q7014 Thru			
Q7017	BC847B	3198 010 42030	NTE2646
Q7020	BC847B	3198 010 42030	NTE2646
Q7021	BC857B	3198 010 42150	NTE2409
Q7022, 23	BC847B	3198 010 42030	NTE2646
Q7024, 25	BC857B	3198 010 42150	NTE2409
Q7026, 27	BC847B	3198 010 42030	NTE2646
Q7028	BC857B	3198 010 42150	NTE2409
Q7036, 37	BC847B	3198 010 42030	NTE2646
Q7227	BF570	9338 144 20215	-
CRT BOARD (BLUE, GREEN, RED)			
D6200	BYD33M	9337 410 30133	NTE506
D6201	BAS21	9335 020 40215	NTE592
D6204	BAS316	3198 010 10630	NTE633
IC7201	TDA6120Q/N2	9352 626 34112	-
Q7200, 02	BF570	9338 144 20215	-
HOP BOARD			
D6151, 52	BAS316	3198 010 10630	NTE633
D6161, 62	BAS316	3198 010 10630	NTE633
D6171, 72	BAS316	3198 010 10630	NTE633
D6181, 82	BAS316	3198 010 10630	NTE633
D6186, 87	BAS316	3198 010 10630	NTE633
D6331	BAS316	3198 010 10630	NTE633

Item No.	Type No.	Mfr. Part No.	NTE Part No.
D6495	BAS316	3198 010 10630	NTE633
D6643	BAS316	3198 010 10630	NTE633
D6963	S1D	9322 128 69685	NTE125
IC7110	BA7657F	9322 115 62668	-
IC7210	BA7657F	9322 115 62668	-
IC7328	74HC4538D	9337 149 10653	-
IC7330	74HC157D	9337 137 40653	-
IC7410, 30, 50	MC1496D	9339 656 40668	-
IC7510, 20	MC1496D	9339 656 40668	-
IC7600	TDA9332H/N2	9352 625 21557	-
IC7800	TDA8444T/N4	9350 897 50118	-
IC7900	LM393D	9339 849 10668	NTE943SM
Q7411	BF570	9338 144 20215	-
Q7412, 13, 14	BF550	9334 509 00215	NTE2408
Q7431	BF570	9338 144 20215	-
Q7432, 33, 34	BF550	9334 509 00215	NTE2408
Q7451	BF570	9338 144 20215	-
Q7452, 53, 54	BF550	9334 509 00215	NTE2408
Q7511, 21	BF570	9338 144 20215	-
Q7530, 40	BF570	9338 144 20215	-
Q7700	BF570	9338 144 20215	-
Q7701	BF550	9334 509 00215	NTE2408
Q7710	BF570	9338 144 20215	-
Q7711	BF550	9334 509 00215	NTE2408
Q7720	BF570	9338 144 20215	-
Q7721, 30	BF550	9334 509 00215	NTE2408
Q7805	BC847B	9335 895 90215	NTE2646
Q7922	BC807-25	9336 285 70215	NTE2407
ZD6923	BZM55-C6V8	3198 386 40115	-
INPUT BOARD			
D6000, 01	GBU4JL-7002	9322 132 55667	-
D6203	BY229X-200	9340 380 00127	-
D6204	PBYR10100X	9340 555 24127	-
D6207	BYD33D	9337 234 00133	NTE552
D6231	PBYR10100X	9340 555 24127	-
D6236	1N4148	3198 010 10010	NTE519
IC7212	TL431BCLP	9322 115 98676	NTE999
# IC7213	CQY80NG	9338 941 50682	-
IC7218	TOP246Y	9322 166 44687	-
Q7205, 14	BC547B	3198 020 40030	NTE123AP
Q7215	IRF9Z24N	9322 134 76687	-
Q7216, 17	2SK2232	9322 135 90687	-
Q7220, 21, 22	BC547B	3198 020 40030	NTE123AP
ZD6240	BZX79-F10	3198 010 31090	-
LED / KEYBOARD			
# D6002	TLDR5400	9322 110 34682	-
ZD6009, 11	BZX284-C6V8	9340 386 40115	-
ZD6013 Thru			
ZD6016	BZX284-C6V8	9340 386 40115	-

PARTS LIST continued

Item No.	Type No.	Mfr. Part No.	NTE Part No.
PIP BOARD			
D6801	BAT85	9336 247 60133	NTE585
IC7801	HEF4053BT	9333 729 60653	NTE4053BT
IC7803	M65669SP	9322 146 60682	-
IC7910	M62320FP	9322 127 15682	-
IC7919	TDA8601T/C1	9351 538 90518	-
Q7804 Thru			
Q7807	BC847BW	3198 010 42030	NTE2646
Q7810, 13	BC847BW	3198 010 42030	NTE2646
Q7816, 17	BC847BW	3198 010 42030	NTE2646
Q7891	BC337-25	3198 020 43530	-
Q7920	BC857B	3198 010 42150	-
ZD6890	BZX384-C3V9	3198 020 53980	-
SIDE JACK BOARD			
ZD6000 Thru			
ZD6013	BZM55-C6V8	3198 020 56880	-
SSB BOARD			
D6003	BAS316	3198 010 10630	NTE633
D6304	BAS316	3198 010 10630	NTE633
D6312, 14, 15	BAS316	3198 010 10630	NTE633
D6316, 19	BAS316	3198 010 10630	NTE633
D6654, 58	BAS316	3198 010 10630	NTE633
IC7001	SAA5677/HL/M1	9352 692 99557	-
IC7005, 09	LD1117D33	9322 116 74668	-
IC7012	M24C32-WMN6	9322 124 74668	-
IC7307	TDA9181T	9352 630 99118	-
IC7323	TDA9321H/N2	9352 625 24518	-
IC7651	MSP3451G-FH-B8-V3	9322 183 41702	-
IC7708	SAA4990H/V2	9352 067 50557	-
IC7709	SAA4978H/V204	9352 688 09557	-
IC7714, 15	MSM54V12222B-25JS	9322 183 81668	-
IC7716	M87C257-90C1	9322 130 45668	-
Q7002	BC857B	3198 010 42150	NTE2409
Q7003, 04	BC847BW	3198 010 42310	NTE2646
Q7006, 07	PMBT2369	3198 010 43360	NTE2406
Q7013	PDTC144EU	3198 010 44330	-
Q7303	BC857BW	3198 010 42320	-
Q7304	PDTC144EU	3198 010 44330	-
Q7305, 20, 22	BC847BW	3198 010 42310	NTE2646
Q7375	BC847BW	3198 010 42310	NTE2646
Q7410	BC847BW	3198 010 42310	NTE2646
Q7411	BC847B	3198 010 42030	NTE2646
Q7413	BFS20	9330 921 11215	NTE2406
Q7664, 65	BC847BPN	9340 425 30115	-
Q7668	BC857BW	3198 010 42320	-
Q7674	BC847CW	9340 217 80115	-
Q7675, 78	BC847BS	9340 425 20115	NTE2408
Q7701	BC857BW	3198 010 42320	-
Q7702	BC847BW	3198 010 42310	NTE2646

Item No.	Type No.	Mfr. Part No.	NTE Part No.
Q7704	PMBT2369	3198 010 43360	NTE2406
ZD6303	-	9322 150 18685	-
ZD6313	BZM55-C22	3198 020 52290	-
ZD6652	BZX384-C10	3198 020 51090	-
ZD6657	PDZ-2.7B	9340 548 43115	-
SSM BOARD			
D6001, 02, 03	S1D	9322 128 69685	NTE125
D6004	BYD33D	9337 234 00133	NTE552
D6005	S1D	9322 128 69685	NTE125
D6009, 10, 11	BAS216	9340 255 30115	NTE631
	BAS316	3198 010 10630	NTE633
D6014, 18	BAV99	9332 153 70215	NTE632
D6020, 21	BAV99	9332 153 70215	NTE632
D6023, 24	BAV99	9332 153 70215	NTE632
D6028, 29	BAV99	9332 153 70215	NTE632
D6052, 53	BAS216	9340 255 30115	NTE631
D6702	S1D	9322 128 69685	NTE125
IC7017	CXA2089S	9322 162 27682	-
IC7044, 45	STK392-120	9322 123 44682	-
IC7101	L7912CV	9337 107 20682	NTE967
IC7102	L7908CV	9322 069 79682	NTE965
IC7103, 05	L7912CV	9337 107 20682	NTE967
IC7106	LM317T	9337 220 80682	NTE956
IC7403	TDA1308T/N1	9350 721 10115	-
IC7700	TDA7490	9322 147 50667	-
Q7002, 03	BC847B	3198 010 42030	NTE2646
Q7005, 07	BC817-25	3198 010 43230	NTE2406
Q7016	BC847B	3198 010 42030	NTE2646
Q7025, 26	BC847B	3198 010 42030	NTE2646
Q7208	BC847B	3198 010 42030	NTE2646
Q7701, 04, 05	BC847B	3198 010 42030	NTE2646
Q7706	BC857B	3198 010 42150	NTE2409
Q7707	BC847B	3198 010 42030	NTE2646
Q7708	BC857B	3198 010 42150	NTE2409
Q7710	BC847B	3198 010 42030	NTE2646
Q7011	BC847B	3198 010 42030	NTE2646
Q7800	BC847B	3198 010 42030	NTE2646
Q7801	BC857B	3198 010 42150	NTE2409
Q7802	BC847B	3198 010 42030	NTE2646
Q7803	BC857B	3198 010 42150	NTE2409
Q7804	BC847B	3198 010 42030	NTE2646
Q7805	BC857B	3198 010 42150	NTE2409
Q7806, 08	BC847B	3198 010 42030	NTE2646
Q7809	BC857B	3198 010 42150	NTE2409
Q7810	BC847B	3198 010 42030	NTE2646
Q7811	BC857B	3198 010 42150	NTE2409
SCR1702	BT169B	9338 268 50126	NTE5404
ZD6012, 13	BZX284-C6V8	9340 386 40115	-
ZD6017, 19	BZX284-C6V8	9340 386 40115	-
ZD6022	BZX284-C6V8	9340 386 40115	-

Item No.	Type No.	Mfr. Part No.	NTE Part No.
ZD6025, 26, 27	BZX284-C6V8	9340 386 40115	-
ZD6034	BZX284-C33	9340 388 00115	-
ZD6036	-	3198 020 54780	-
Item No.	Function/Rating	Mfr. Part No.	Notes
# AC01	Line Cord	2422 070 98164	AC, Polarized
C2301	.0022 10% 2kV	2020 558 90559	-
C2302	470pF 10% 1kV	3198 019 64710	-
C2304	330pF 10% 1kV	2020 558 90554	-
C2309	82pF 5% 50V NPO	3198 019 08290	-
C2312, 15	470pF 10% 1kV	3198 019 64710	-
C2319, 23, 29	470pF 10% 1kV	3198 019 64710	-
C2350	470pF 10% 1kV	3198 019 64710	-
C2361	470pF 10% 1kV	3198 019 64710	-
C2364	470pF 10% 1kV	3198 019 64710	-
# C2390	.0022 20% 50V	2020 554 90173	-
C2803, 05, 07	470pF 10% 1kV	2020 558 90555	-
C2811, 14	470pF 10% 1kV	2020 558 90555	-
C2817	560pF 10% 2kV	2020 558 90484	-
C2818	.0082 5% 2kV	2222 375 90173	-
C2840	.0022 10% 1kV	3198 019 52220	-
C2847	470pF 10% 1kV	2020 558 90555	-
C2902	.0022 10% 1kV	3198 019 52220	-
C2908	220pF 10% 2kV	2020 558 90478	-
C2918	.0022 10% 1kV	3198 019 52220	-
C2919	.001 10% 1kV	3198 019 61020	-
C2922, 24, 25	100pF 10% 1kV	3198 019 51010	-
# CRTB	CRT	9322 173 23682	Blue, P16LTG00BMB(U)
# CRTG	CRT	9322 173 21682	Green,
P16LTG00HHA(U)			
# CRTR	CRT	9322 173 22682	Red, P16LTG00RFA(U)
# F1300	Fuse	2422 093 00035	5Amp, 250V
# F1801	Fuse	2422 086 10783	2Amp, 250V
# F1804, 05	Fuse	2422 086 10779	1Amp, 250V
# FB1 (3)(4)(5)	Focus Block	2422 549 45198	15kV
# FB1 (6)(7)(8)(9)	Focus Block	2422 549 45511	15kV
FB5301 Thru			
FB5306	Ferrite Bead	3198 018 90020	-
FB5310 Thru			
FB5313	Ferrite Bead	3198 018 90020	-
FB5315	Ferrite Bead	3198 018 90020	-
FB5318, 19	Ferrite Bead	3198 018 90020	-
FB5320, 23, 24	Ferrite Bead	3198 018 90020	-
FB5810	Ferrite Bead	3198 018 90020	-
FB5811	Ferrite Bead	3198 018 90010	-
FB5903	Ferrite Bead	3198 018 90020	-
# HV5904	High Voltage Splitter	3122 268 32865	-
# L1 (1)(2)	Red Yoke	2422 549 45209	-
# L2 (1)(2)	Green Yoke	2422 549 45208	-
# L3 (1)(2)	Blue Yoke	2422 549 45209	-
L5307	10μH	2422 535 95363	-

PARTS LIST continued

Item No.	Function/Rating	Mfr. Part No.	Notes
L5308	1μH	2422 535 95387	-
L5309	10μH	2422 535 95363	-
L5314, 16, 17	10μH	2422 535 95363	-
L5321	1μH	2422 535 95387	-
L5322	10μH	2422 535 95363	-
L5336	10μH	2422 535 95363	-
L5802	47μH	2422 535 95282	-
L5803	2.2μH	2422 535 91014	-
L5804	5.1μH	2422 549 45206	-
L5805	90μH	2422 536 00272	-
L5807	1.5μH	2422 535 95723	-
L5809	47μH	3198 018 24790	-
L5902	47μH	2422 535 95282	-
LC5330	Line Choke	2422 549 44041	-
# R3300	22K 5% 5W	2322 257 41223	-
# R3301, 02	220 5% 5W	2322 251 41221	-
R3323	2700 1% 3/5W	2312 915 12702	-
R3324	100K 1% 3/5W	2312 915 11004	-
R3350	47K 1% 3/5W	2312 915 14703	-
R3352 Thru			
R3357	4700 1% 3/5W	2312 915 14702	-
# R3365	220 5% 5W	2322 251 41221	-
R3804, 05, 06	220 1% 3/5W	2312 915 12201	-
# R3810	1 5% 1/3W	2322 205 33108	-
R3813, 14	1870 1% 1/8W	2322 734 61872	-
# R3817, 22	1 5% 1/3W	2322 205 33108	-
# R3839, 40	4700 5% 5W	2322 257 41472	-
# R3846	1 5% 1/3W	2322 205 33108	-
# R3908	22 5% 1/3W	2322 205 33229	-
R3911	56K 1% 3/5W	2312 915 15603	-
# RY1305	Relay	2422 132 07314	Power
# SG1900	Spark Gap	2422 549 43675	-
SP1, 2	Speaker	2422 264 00455	8 Ohms, 15W
# T5300	SMT	2422 531 02507	-
# T5801	Horizontal Output	2422 531 02512	-
T5808	Horizontal Drive	2422 531 02515	-
T5901	DAF	2422 531 02434	-
	Coupler (3)(4)(5)(8)(9)	3135 011 04281	Green
	Coupler (6)(7)	3135 011 04282	Green
	Coupler (3)(4)(5)	3135 011 03634	Blue or Red
	Coupler (6)(7)(8)(9)	3135 011 03635	Blue or Red
	Diaphragm	3135 013 01061	Coupler
	Lens	3135 037 50711	Delta, 250
	Lens	3135 034 00721	C Element, Clear
	Lens	3135 034 00731	C Element, Green
	Lens (3)(4)(5)	3135 014 08461	Fresnel
	Lens (6)(7)(8)(9)	3135 033 20181	Fresnel
	Mirror	3135 037 51181	Assembly, Mylar
	PC Board (3)(4)(5)	3135 037 10171	LSB
	PC Board (6)(7)(8)(9)	3135 037 10991	LSB
	Screen	3135 033 20061	Lenticular

Item No.	Function/Rating	Mfr. Part No.	Notes
	Screen	3135 034 01321	Protector
	Transmitter (3)(4)(5)	3128 147 13501	Remote, RC2018/01IRT
	Transmitter (6)(7)(8)(9)	3128 147 14611	Remote, RC2061/01
ACS BOARD			
FB5006	Ferrite Bead	3198 018 90060	-
L5200	100μH	2422 535 94279	-
R3034	1000 1% 1/8W	2322 734 61002	-
R3240	24K 1% 1/8W	2322 734 62403	-
X1200	Resonator	2422 543 01095	12MHz
	PC Board (3)(4)(5)	3135 037 10246	ACS
	PC Board (6)(7)(8)(9)	3135 037 11381	ACS
CRT BOARD (BLUE, GREEN, RED)			
C2206	.001 10% 2kV	2020 558 90487	-
C2208, 18	100pF 10% 1kV	2020 558 90522	-
FB5200, 01	Ferrite Bead	3198 018 90020	-
L5202, 03	470μH	3198 018 34770	-
# R3212	22K 5% 2 1/2W	2322 195 63223	-
# R3216	10 5% 1/8W	2322 750 61009	-
# R3217	1 5% 1/3W	2322 205 33108	-
R3226	470 Bias	-	Blue, Green, or Red
# SG1205	Spark Gap	2422 549 43675	1.5kV
# SG1206, 09	Spark Gap	2422 549 43073	-
# SK1203	Socket	2422 500 80037	CRT, Blue, Green, or Red
	PC Board	3135 037 10081	CRT, Blue, Green, or Red
HOP BOARD			
J1150	Jack	2422 026 05298	Assembly
J1180	Jack	2422 026 05297	Assembly
L5410	-	3198 018 36870	-
L5411	1.5μH	3198 018 31580	-
L5430	-	3198 018 36870	-
L5431	1.5μH	3198 018 31580	-
L5450	-	3198 018 36870	-
L5451	1.5μH	3198 018 31580	-
L5701, 11, 21	-	3198 018 38270	-
R3419, 39, 59	430 1% 1/8W	2322 734 64301	-
R3616	39K 1% 1/10W	2120 108 92633	-
R3804	3000 1% 1/8W	2322 734 63002	-
X1601	Crystal	2422 543 01095	12MHz
	PC Board	3135 037 10071	HOP
INPUT BOARD			
# C2000	.68 20% 275V	2222 336 29149	-
# C2002, 03	.0022 20% 50V	2020 554 90173	-
C2006 Thru			
C2009	.001 10% 1kV	2020 558 90557	-
# C2011, 12	470pF 10% 50V	2020 554 90169	-
# C2204	470pF 10% 50V	2020 554 90169	-
C2215, 16, 17	470pF 10% 1kV	3198 019 64710	-

Item No.	Function/Rating	Mfr. Part No.	Notes
C2218	330pF 10% 1kV	2020 558 90519	-
C2292	.001 10% 1kV	2020 558 90557	-
C2294	330pF 10% 1kV	2020 558 90519	-
# C2295	470pF 10% 50V	2020 554 90169	-
# F1000	Fuse	2422 093 00035	5Amp, 250V
FB5204	Ferrite Bead	3198 018 90020	-
FB5237	Ferrite Bead	3198 018 90020	-
FB5243	Ferrite Bead	3198 018 90020	-
L5234	10μH	2422 535 95363	-
L5238	10μH	2422 535 95363	-
L5240, 42, 44	10μH	2422 535 95363	-
L5246, 47	10μH	2422 535 95363	-
# LC5000	Line Choke	2422 549 44591	-
LC5201	Line Choke	2422 549 44101	-
# R3000, 01, 02	4.7M 5% 1/2W	2322 242 13475	-
# R3004	4.7M 5% 1/2W	2322 242 13475	-
R3009, 10	1 10% 5W	2322 251 41108	-
R3013, 14	1 10% 5W	2322 251 41108	-
R3208	220 5% 5W	2322 251 41221	-
R3224	6.8 1% 3/5W	2322 156 26808	-
R3239	10K 1% 3/5W	2322 156 21003	-
R3247	1070 1% 3/5W	2322 156 21073	-
SG2004	Spark Gap	2422 549 42349	-
# T5202	Power	2422 531 02496	-
# VR3011	Varistor	2322 595 90021	-
	PC Board	3135 037 10591	Input
LED / KEYBOARD			
R3010	1500 1% 1/8W	2322 734 61502	-
R3011	750 1% 1/8W	2322 734 87501	-
R3012	2000 1% 1/8W	2322 734 62002	-
R3013	270 1% 1/8W	2322 734 62701	-
R3015	2700 1% 1/8W	2322 734 62702	-
R3017	3900 1% 1/8W	2322 734 63902	-
RM6005	Receiver	9322 152 44687	Remote, TSOP1736
S1001	Switch	2422 128 02742	Volume -
S1002	Switch	2422 128 02742	Volume +
S1003	Switch	2422 128 02742	Channel +
S1004	Switch	2422 128 02742	Channel -
S1006	Switch	2422 128 02742	Standby
S1007	Switch	2422 128 02742	Source/Select
	PC Board	3135 037 10551	Keyboard
PIP BOARD			
C2807	47pF 5% 50V NPO	3198 016 04790	-
C2817, 18	10pF 5% 50V NPO	3198 016 01090	-
C2819	12pF 5% 50V NPO	3198 016 01290	-
C2826	560pF 5% 50V NPO	3198 016 05610	-
L5890, 91, 92	10μH	3198 018 21090	-
L5902	4.7μH	3198 018 24780	-
X1800	-	-	-

PARTS LIST continued							
Item No.	Function/Rating	Mfr. Part No.	Notes	Item No.	Function/Rating	Mfr. Part No.	Notes
X1801	-	-	-	SF1410	Filter	2422 549 44534	4.5MHz
X1802	Crystal	2422 543 00904	14.31818MHz	X1001	Resonator	2422 543 89018	12MHz
	PC Board	3139 137 22971	PIP	X1318	Crystal	2422 543 00861	3.58MHz
SIDE JACK BOARD				X1651	Crystal	2422 543 89019	18.432MHz
J1001	Jack	2422 026 04756	Assembly	X1701	Resonator	2422 543 89018	12MHz
J1002	Jack	2422 026 04926	SVHS		PC Board (3)(4)(5)	3104 328 16308	SSB
J1007	Jack	2422 026 04747	Headphone		PC Board (6)(7)(8)(9)	3104 328 25631	SSB
	PC Board	3135 037 10581	Side Jack	SSM BOARD			
SSB BOARD				C2105, 07, 09	150pF 5% 50V NPO	20202 552 94291	-
C2652	47pF 5% 50V NPO	3198 016 34790	-	C2111, 13, 15	150pF 5% 50V NPO	20202 552 94291	-
C2667, 68	3.3pF 8% 50V NPO	3198 016 33380	-	# F1700, 01	Fuse	2422 086 10783	2Amp, 250V
# F1003	Fuse	2422 086 11092	500mAmp, 50V	FB5005, 06, 08	Ferrite Bead	3198 018 90080	-
FB3900 Thru				FB5709, 10	Ferrite Bead	3198 018 90020	-
FB3911	Ferrite Bead	3198 018 90040	-	FB5711, 12	Ferrite Bead	3198 018 90060	-
FB5407	Ferrite Bead	2422 535 95427	-	FB5715, 16	Ferrite Bead	3198 018 90020	-
FB5408	-	2422 549 44875	-	J1021	Jack	2422 026 05293	Assembly
FB5409	Ferrite Bead	2422 535 95427	-	J1024	Jack	2422 026 05064	Assembly
FB5651, 52, 53	Ferrite Bead	2422 549 43769	-	J1025	Jack	2422 026 04926	SVHS
FB5654	Ferrite Bead	3198 018 90060	-	J1026	Jack	2422 026 04926	SVHS
FB5664, 65	Ferrite Bead	3198 018 90060	-	J1027	Jack	2422 026 05294	Assembly
FB5701	Ferrite Bead	3198 018 90080	-	L5000 Thru			
FB5702	Ferrite Bead	2422 535 95427	-	L5004	10µH	2422 535 95363	-
FB5703	Ferrite Bead	3198 018 90060	-	L5007	5.6µH	3198 018 15680	-
FB5705	Ferrite Bead	2422 535 95427	-	L5009, 10	15µH	3198 018 31590	-
FB5707	Ferrite Bead	3198 018 90040	-	L5011	10µH	2422 535 95363	-
FB5711, 13	Ferrite Bead	3198 018 90040	-	L5701, 02	68µH	2422 536 00385	-
FB5720	Ferrite Bead	3198 018 90040	-	L5713, 14	10µH	2422 535 95363	-
FB5798, 99	Ferrite Bead	3198 018 90060	-	R3033, 34	22K 1% 1/8W	2322 734 62203	-
FB5900 Thru				R3138	2700 1% 1/8W	2322 734 62702	-
FB5904	Ferrite Bead	3198 018 90060	-	R3139	430 1% 1/8W	2322 734 64301	-
L5301	6.8µH	3198 018 36880	-	R3161 Thru			
L5401	-	3198 018 33970	-	R3166	100 5% 3W	2120 105 93449	-
L5406	15µH	3198 018 31590	-	SF1200	Filter	2422 549 43302	4.5MHz
L5408	Modulator Coil	2422 549 44875	-	TU1106 (3)(4)(5)	Tuner	2422 542 90113	-
L5410	1µH	3198 018 51080	-	TU1106 (6)(7)(8)(9)	Tuner	2422 542 90108	-
L5656	6.8µH	3198 018 36880	-		PC Board (3)(4)(5)	3135 037 10811	SSM
L5706	5.6µH	3198 018 35680	-		PC Board (6)(7)	3135 037 11211	SSM
L5718	-	3198 018 33370	-		PC Board (8)(9)	3135 037 11221	SSM
R3018	24K 1% 1/16W	2120 108 93909	-	# For SAFETY use only equivalent replacement part.			
# R3070, 71	1.5 5% 1/8W	2322 750 61508	-	(1) Includes convergence yoke.			
# R3300, 04	3.9 5% 1/8W	2322 750 63908	-	(2) If deflection yokes are gray - Red and Blue are Part No. 22422 549 45209 and Green is Part No. 2422 549 45208. If deflection yokes are black - Red, Blue, and Green are Part No. 2422 549 45509 and C2850 .51 5% 250V capacitor is used.			
# R3329	6.8 5% 1/8W	2322 750 66808	-	(3) Used in model 46PP9302/17.			
# R3400	4.7 5% 1/8W	2322 750 64708	-	(4) Used in model 46PP930201.			
# R3416	6.8 5% 1/8W	2322 750 66808	-	(5) Used in model 46PP930284.			
# R3464	3.9 5% 1/8W	2322 750 63908	-	(6) Used in model 46PP930284F.			
# R3644	4.7 5% 1/8W	2322 750 64708	-	(7) Used in model 46PP930299.			
R3790 Thru				(8) Used in model 46PP930217F.			
R3795	100 X 4 Network	3198 031 11010	-	(9) Used in model 46PP9302H17.			
SF1407	Filter	2422 549 44043	4.5MHz				
SF1408	Filter	2422 549 44377	SAW				

Important Parts Information

- Parts not listed in the parts list are commonly available at your local electronics parts retailer.
- 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

Participating Vendors

Information on test equipment and replacement parts is listed in these pages for the following participating vendors.

- NTE Electronics, Inc. (NTE)
- Sencore, Inc.