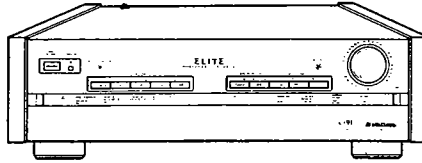


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Service Manual

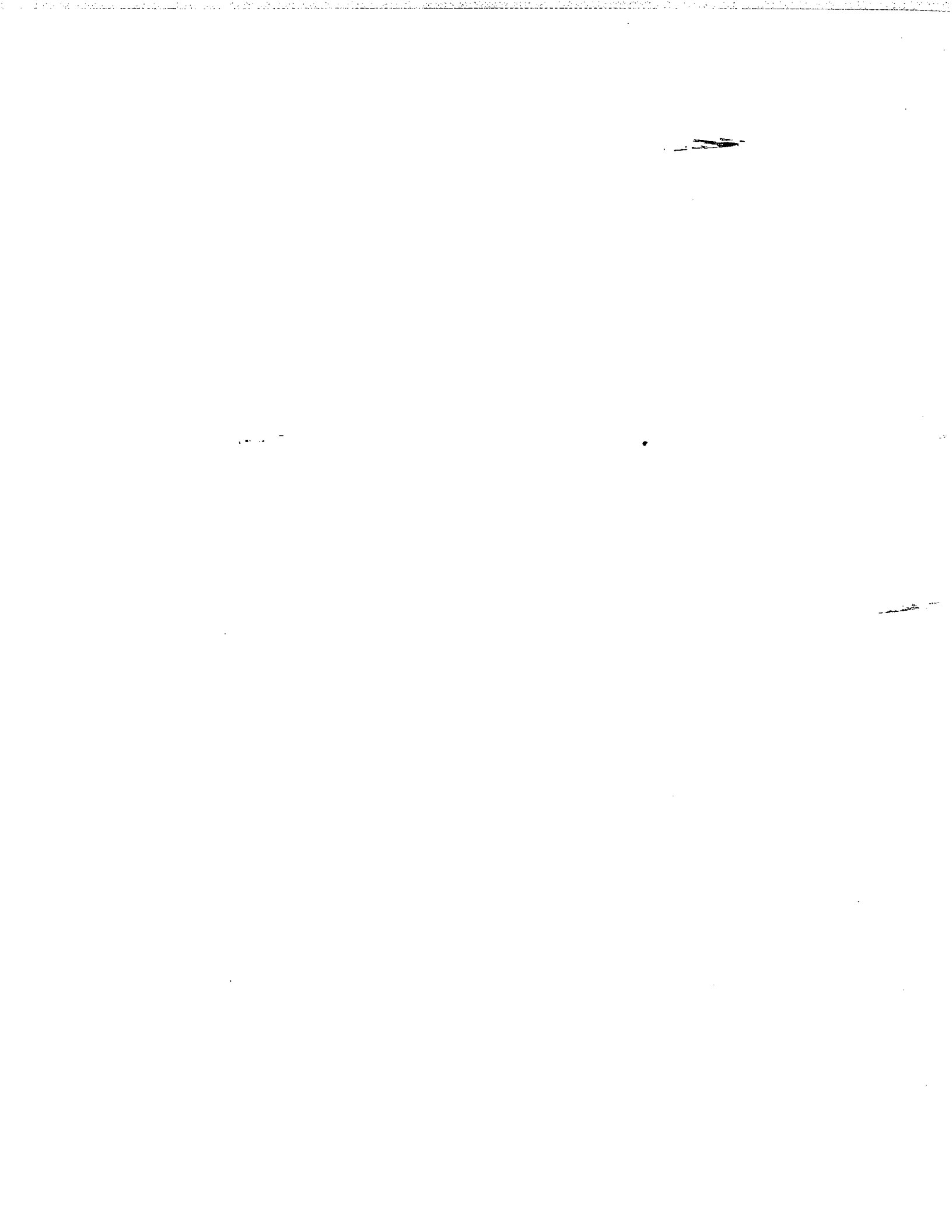


**ORDER NO.
ARZ1636**

STEREO CONTROL AMPLIFIER

C-91

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911
PIONEER ELECTRONIC CORPORATION 1988



AF assembly (AWZ2078)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	C138,C139	CEXA220M50
	C121,C122	CEYANP330M50
	C131,C132	CKCYF103Z50
	C103,C104	CMA151J500
	C101,C102	CMA181J500
	C115,C116	CO5XA122J160

RESISTORS

Mark	Symbol & Description	Part No.
	R135,R136,R145,R146	RDR1/2PM□□□F
	R137,R138,R141,R142	RDR1/2PM□□□J
	R131-R134,R161-R164	RD1/4PMFL680J
	R152	RD1/4PM100J
	R153-R159	RD1/8PM□□□J
	Other resistors	RDR1/4PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 2P (PHONO)	AKB1001

Control assembly (AWZ1055)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC304,IC305	M74LS42P
	IC301	PDE012
	IC302,IC303	PD0012A
	Q301,Q302	2SC2458
	D301-D306	1SS131

COILS

Mark	Symbol & Description	Part No.
	X301 Ceramic resonator	ASS-046
	L301 Inductor (1mH)	ATH-098

CAPACITORS

Mark	Symbol & Description	Part No.
	C305,C306	CCDCH101J50
	C301,C304	CEANL470M16
	C307-C310	CEAS100M25
	C302,C303	CKDYB103K50
	C313	CKDYB103K500
	C311,C312	CKDYF103Z50

RESISTORS

Mark	Symbol & Description	Part No.
	R301 Resistor array	RA4S103J
	R310 Resistor array	RA8S103J
	Other resistors	RD1/8PM□□□J

AF assembly (AWZ2078)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC417,IC418	LC4966
	IC407-IC410	M5201P
	IC405,IC406	M5220P
	IC412,IC413	M74LS42P
	IC403,IC404	NJM5534DD
	IC401,IC411,IC414-IC416	μPD6362C

Mark	Symbol & Description	Part No.
	Q433	RN1201
	Q432	RN2201
	Q431	2SA1115
	Q417-Q420	2SA1145
	Q409-Q412,Q423,Q424,Q436,Q437	2SA992
	Q405-Q408,Q421,Q422,Q429,Q430,Q434,Q435	2SC1845
	Q413-Q416	2SC2705
	Q438-Q441	2SC2878
	Q427,Q428	2SJ74
	Q425,Q426	2SK170
	Q401-Q404	2SK246

Mark	Symbol & Description	Part No.
	D409-Q412	AEL-398
	D422,D423 Zener diode	RD15EB
	D417 Zener diode	RD8.2EB
	D413,D416	S5566
	D419-D421	1S1555
	D401-D408	11DF2FD

RELAYS

Mark	Symbol & Description	Part No.
	RY401-RY409 Relay	ASR1018

CAPACITORS

Mark	Symbol & Description	Part No.
	C427,C428 (1μF/200V)	ACE-217
	C405-C408,C425,C426	ACE1014
	(220pF/100V)	
	C423,C424,C569-C572	ACE1023
	(47pF/100V)	
	C431,C432 (0.027μF/100V)	ACE1031
	C401-C404 (470μF/50V)	ACH1052
	C417-C420 (330/50V)	ACH1089
	C457,C458,C493-C497,C499,C500	CEAS100M25
	C567,C568	CEAS470M16
	C413-C416	CEXA100M50
	C409-C412	CEXA331M50

Mark	Symbol & Description	Part No.
	C421,C422,C429,C430	CEYANP220M50
	C433-C436,C441,C442,C459-C464	CEYA100M50
	C445-C452	CEYA2R2M50
	C453-C456	CEYA3R3M50
	C437,C438	CEYA4R7M50

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	C443,C444	CFTXA823J50
	C498	CKDYB102K50
	C501,C502	CKDYB103K50
	C481,C482	CKDYB331K50
	C439,C440	CMA101J500

RESISTORS

Mark	Symbol & Description	Part No.
	R497 Resistor array	RA8S103J
	R502 Resistor array	RA8S103J
	R465,R466	RD1/2PM822J
	R469-R496,R498,R499,R503,R504,R535-R542,R573-R580	RD1/8PM□□□J
	R553,R554	RS1LMF221J
	Other resistors	RDR1/4PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 4P (TAPE1, AUDIO ADAP, VCR1)	AKB-115
	Terminal 6P	AKB-117
	Terminal 6P	AKB1005
	Terminal 6P	AKB1066

Video assembly (AWZ2046)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC708	LC7570
	IC709	PD0012A
	IC707	TC4011BP
	IC701-IC706	TC4066BP
	IC710	TC4069UBP

Mark	Symbol & Description	Part No.
	Q716	RN1201
	Q721,Q722	RN1203
	Q787,Q788	RN2203
	Q714,Q715,Q718,Q720,Q726,Q729-Q736,Q747,Q749,Q751,Q752,Q766,Q781,Q783,Q785	2SA1115
	Q704	2SA1145
	Q739,Q745	2SA1346
	Q708,Q742	2SA985A
	Q741	2SC2275
	Q717,Q719,Q723-Q725,Q737,Q743,Q748,Q750,Q753-Q765,Q767-Q774,Q776-Q779,Q786	2SC2603

Mark	Symbol & Description	Part No.
	Q702	2SC2705
	Q713,Q744,Q780,Q782,Q784	2SC2878
	Q728,Q738,Q740,Q746	2SC3400
	Q706,Q710,Q712	2SD836A
	Q701,Q703,Q705,Q707,Q709,Q711	2SK246

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	D713 Zener diode	RD13EB
	D714 Zener diode	RD13ESB3
	D721-D723 Zener diode	RD18EB
	D753 Zener diode	RD2.7ESB
	D709,D710 Zener diode	RD20ESB2

Mark	Symbol & Description	Part No.
	D729,D730 Zener diode	RD4.3ESB1
	D750 Zener diode	RD5.6ESB2
	D743 Zener diode	RD6.2ESB2
	D712 Zener diode	RD6.8ESB2
	D711 Zener diode	
	D724-D726,D731-D733,D735-D742,D744,D746,D751,D752	1SS252
	D715-D718	10E2FD
	D701-D708,D747	S5566

COILS

Mark	Symbol & Description	Part No.
	L701-L704 Inductor (100μH)	ATH-050
	L712 Inductor (5.6μH)	ATH-065
	L708 Inductor (15μH)	ATH-075
	L705,L711 Inductor (10μH)	ATH-078
	L714 Inductor (47μH)	ATH-082
	L716,L717 Inductor (1mH)	ATH-098
	L710 Inductor (33μH)	ATH-100
	L706,L707,L713 Inductor (56μH)	ATH-104
	DL701 Delay cable	ATL-034

CAPACITORS

Mark	Symbol & Description	Part No.
	C717 (47000μF/5.5V)	ACH1070
	C745	CCCH121J50
	C740,C742	CCCH330J50
	C764	CCCH470J50
	C763	CCCH680J50
	C749,C787,C794	CCCSL101J50
	C739,C785	CCCSL221J50
	C743,C793	CCCSL270J50
	C747,C759,C768,C771	CCCSL330J50
	C766	CCCSL390J50

Mark	Symbol & Description	Part No.
	C781	CEAS010M50
	C718,C719,C723,C744,C754,C792,C796	CEAS100M25
	C722	CEAS100M50
	C708,C710,C724,C725,C738,C751,C760,C783,C784	CEAS101M10
	C748,C750,C769,C772,C776,C777	CEAS101M16
	C703-C706,C712	CEXA101M25
	C729,C732,C733,D736,C773-C775	CEAS102M10
	C791	CEAS102M6
	C713	CEAS101M25
	C711	CEAS102M25

5. SCHEMATIC DIAGRAM

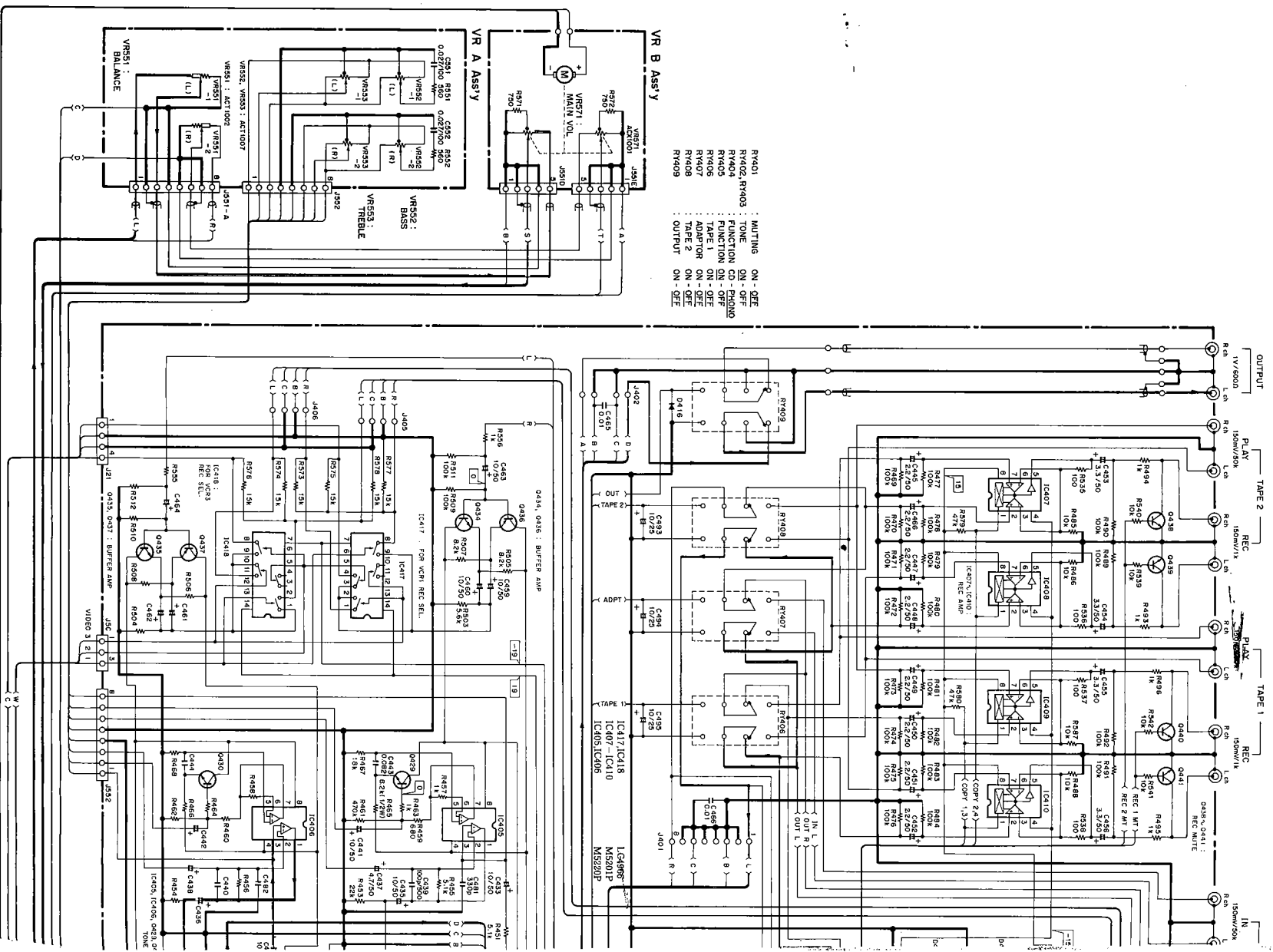
- RESISTORS:**
Indicated in Ω, 1/4W, and 1/8W, ±5% tolerance unless otherwise noted. K, M, ML, (F), ±1%, (G), ±2%, (K), ±10%, (M), ±20% tolerance
- CAPACITORS:**
Indicated in capacity (μF)/voltage (V) unless otherwise noted. p, pf, indication without voltage is 50V except electrolytic capacitor.
- VOLTAGE, CURRENT:**
V: Signal voltage at W + W, 8Ω output (1 KH)
V: DC voltage (V) at no input signal value in () is DC voltage at rated power.
- OTHERS:**
→: Signal route.
↻: Adjusting point.
⚠: mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
X: marked capacitors and resistors have parts numbers.
The underlined indicates the switch position.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCH
S1: Power switch ON - OFF

- S341: V. D. P.
- S342: VIDEO 1
- S343: VIDEO 2
- S344: VIDEO 3
- S345: VAUX
- S346: CD
- S347: PHONO
- S348: TUNER
- S349: TAPE 1
- S350: TAPE 2
- S351: RESEL
- S352: AUDIO ADAPTOR
- S353: VIDEO ADAPTOR
- S354: ENHANCER
- S355: HIGH CUT
- S356: SUBSONIC FILTER
- S357: MODE
- S358: DUBBING
- S359: PHONO SELECTOR
- S360: MUTE
- S361: VIDEO FUNCTION
- S362: STAND-BY
- S391: TONE

The underlined indicates the switch position.



Mark	Symbol & Description	Part No.
	C752,C753	CEAS220M16
	C756	CEAS221M10
	C728,C731,C735	CEAS221M16
	C761	CEAS331M16
	C714,C801	CEAS332M25
	C780	CEAS4R7M50
	C737,C741,C788,C789	CEAS470M10
	C758,C770	CEAS470M16
	C727,C730,C734,C778	CEAS470M25
	C709,C726,C757	CEAS471M10
	C701,C702	CEAS471M35
	C707	CEHAQ101M10
	C715,C716	CEHAQ101M25
	C746,C762	CKCYF102Z50
	C755,C765,C767,C782,C797	CKCYF103Z50
	C720,C721	CKCYF473Z50

Mark	Symbol & Description	Part No.
	R750 Resistor array	RA7S103J
	R795,R800,R835,R883,R887, R891	RD1/2PM□□□J
	R779,R781,R789,R791,R901, R903	RD1/4PM□□□J
	R867	FEA1/4PL680J
△	R912-R914	FEA1/4PS□□□J
△	R904	RS1LMF4R7J
△	Other resistors	RD1/8PM□□□J

Mark	Symbol & Description	Part No.
	Terminal 3P (VIDEO1, VIDEO3)	AKB-134
	Terminal 3P (V ADAPTOR)	AKB1067
	Terminal 1P (MON.)	AKB1068
	Mini Jack (REMOTE CONTROL)	AKN-207
	5P DIN socket (RF:MOD)	AKP-081

Mark	Symbol & Description	Part No.
	IC601-IC606	CX-894
	IC608,IC609	TC4053BP
	IC607	TC4066BP
	O601,O602,O605,O608,O609, O610	2SA1048
	O619	2SA965
	O613,O615,O617	2SC2235
	O603,O604,O607,O608,O611, O612,O620	2SC2458
	O614,O616,O618	2SK246

Mark	Symbol & Description	Part No.
	D602,D604,D606 Zener diode	RD13ESB2
	D607 Zener diode	RD5.1ESB1
	D608-D619	1SS252
	D601,D603,D605	11E2
	D620	RD6.8ESB2

Mark	Symbol & Description	Part No.
	C619,C620,C625,C626,C631, C632	CCCSL330J50
	C622,C628,C634	CEAS101M10
	C601,C603,C605,C607,C609, C611,C613,C615,C617,C624, C630,C636,C642	CEAS101M16
	C621,C627,C633	CEAS102M10
	C637-C640	CEAS330M25
	C623,C629,C635	CEAS331M16
	C602,C604,C606,C608,C610, C612,C614,C616,C618	CEAS470M16
	C641	CEAS470M25
	C643,C644	CKDYX473M25

Mark	Symbol & Description	Part No.
	R670 Resistor array	RA6S104J
	R609,R610,R615,R616,R623, R624,R629,R630,R637,R638, R643,R644	RD1/2PM□□□J
	R649	RD1/4PM222J
	R650	RS1LMF4R7J
△	Other resistors	RD1/8PM□□□J

Mark	Symbol & Description	Part No.
	4P Mini DIN socket (VCR1, VCR3, TV/AUX IN, MONITOR OUT)	AKP1016

Mark	Symbol & Description	Part No.
	D349,D351,D353,D355,D357, D368-D372	AEL-451
	D341-D348,D359-D366, D373-D381	AEL1004
	D350,D352,D354,D356,D358	AEL1005

Mark	Symbol & Description	Part No.
	S341-S362 Tact switch (MUTE, VIDEO ADAP- TOR, TAPE1, V/AUX, V.D.P., VIDEO1, CD, TAPE2, ENHANCER, MODE, VIDEO FUNCTION, DUBING, HI CUT, REC SEL, PHONO, VIDEO2, VIDEO3, TUNER, AUDIO ADAPTOR, SUB- SONIC FILTER, PHONO SELECTOR, STAND BY)	ASSG-711

Mark	Symbol & Description	Part No.
	R342,R343 Resistor array	RA4S391J
	R346 Resistor array	RA5S391J
	Other resistors	RD1/8PM□□□J

Mark	Symbol & Description	Part No.
	S391 Tact switch (TONE)	ASG-711

Mark	Symbol & Description	Part No.
	C551,C552 Polyester capacitor	COMXA273J100

Mark	Symbol & Description	Part No.
	VR551 Variable resistor (50K x 2)	ACT1002
	VR552,VR553 Variable resistor (10K x 2)	ACT1007
	R551,R552	RDRI/4PM561J

Mark	Symbol & Description	Part No.
	VR571 Variable resistor (15K x 2)	ACX1017
	R571,R572	RDRI/4PM751J

Mark	Symbol & Description	Part No.
	C798-C800	CKCYF473Z50

Mark	Symbol & Description	Part No.
	R911	RD1/8PM750J

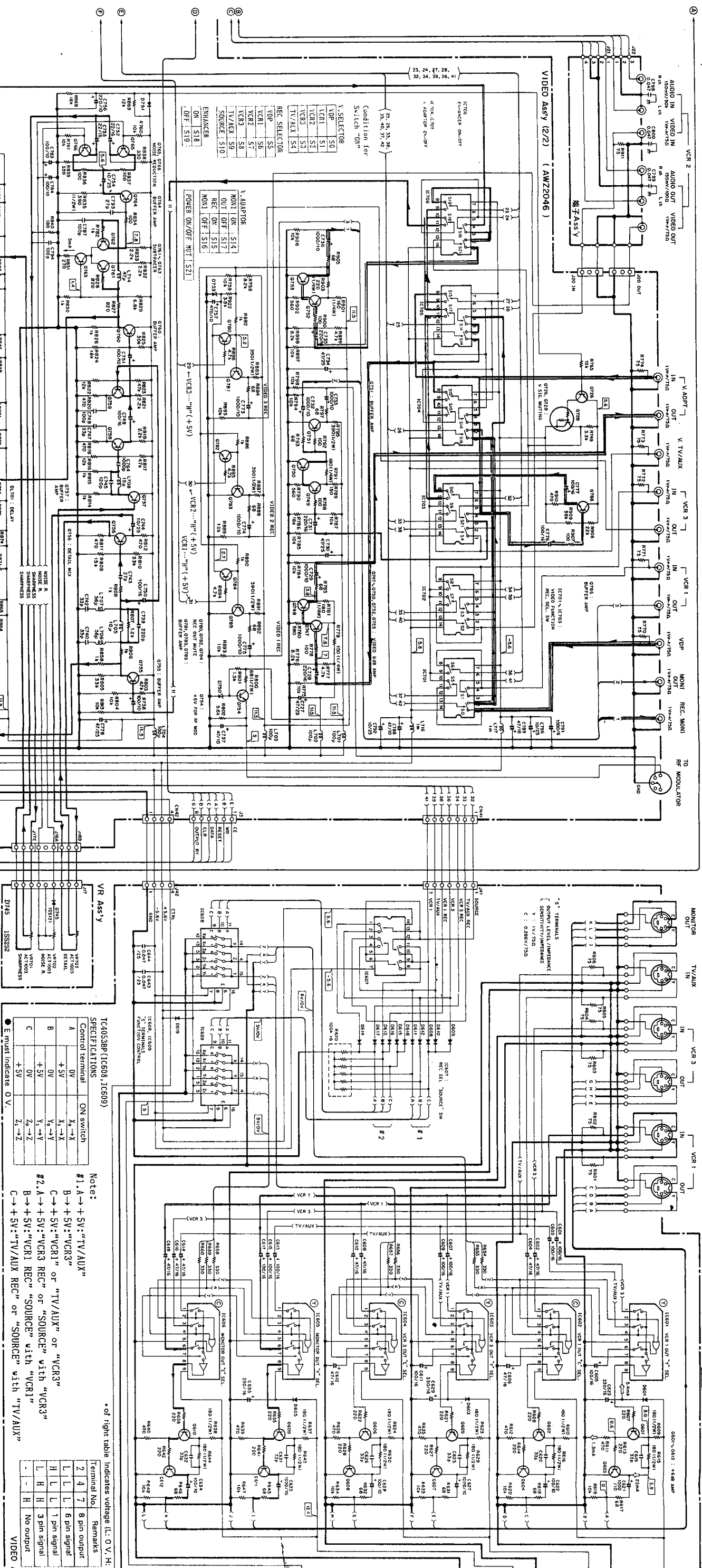
Mark	Symbol & Description	Part No.
	Terminal 1P (VIDEO2 OUT, VIDEO2 IN)	AKB1004

Mark	Symbol & Description	Part No.
	D745	1SS252

Mark	Symbol & Description	Part No.
	VR701-VR703 Variable resistor (1K)	ACT1003

Mark	Symbol & Description	Part No.
	L715 Line filter	ATF-163

IC501 - IC606	CX-894	25A1048	D80
IC608, IC609	TC4053BP	25A985	D80
IC507	TC4068BP	D80	D80
DB19	DB19	25C2235	D80
DB13, DB15, DB17	DB13, DB15, DB17	25C2458	D80
DB03, DB04, DB07, DB08, DB11, DB12, DB22	DB03, DB04, DB07, DB08, DB11, DB12, DB22	25C2458	D80
DB14, DB16, DB18	DB14, DB16, DB18	25C2458	D80



TC4053BP (IC608, IC609)

SPECIFICATIONS

Control terminal	ON switch
A	K ₁ -X
B	+5V
C	OV
	V ₁ -Y
	Z ₁ -Z

Note: #1, A → +5V: "TV/AUX" or "TV/AUX" or "VCR3"
 B → +5V: "VCR1" or "TV/AUX" or "VCR3"
 C → +5V: "VCR1" or "SOURCE" with "VCR3"
 #2, A → +5V: "VCR3 REC" or "SOURCE" with "VCR3"
 B → +5V: "VCR1 REC" or "SOURCE" with "VCR1"
 C → +5V: "TV/AUX REC" or "SOURCE" with "TV/AUX"

* of right table indicates voltage (L: 0 V, H: 5 V).

Terminal No.	Remarks
2, 4, 7	B pin output
L, L, L	B pin signal
H, L, L	1 pin signal
L, H, H	3 pin signal
-	No output

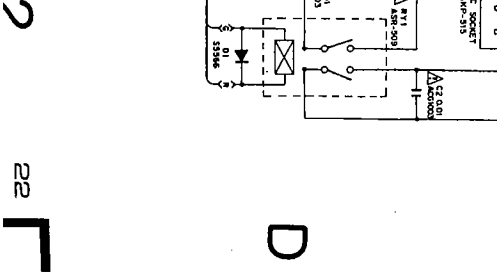
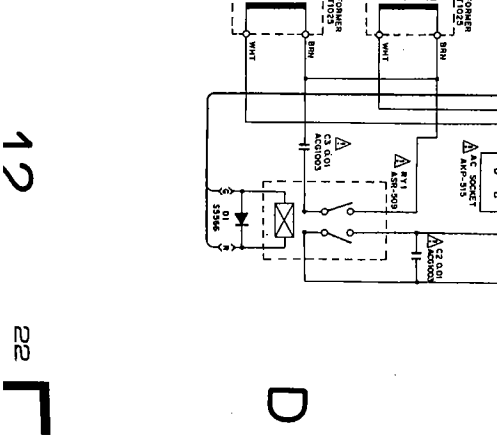
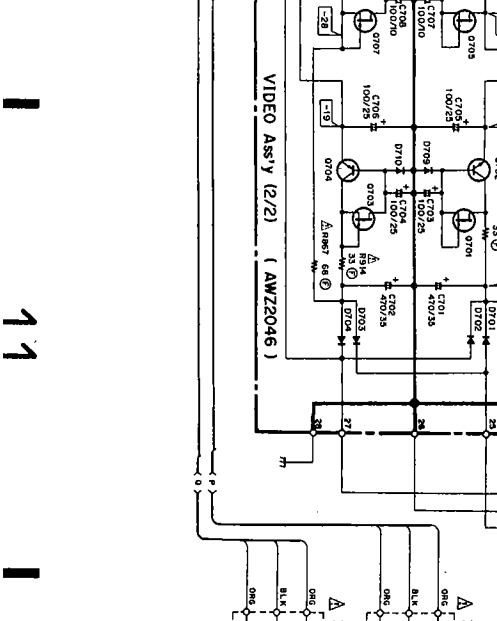
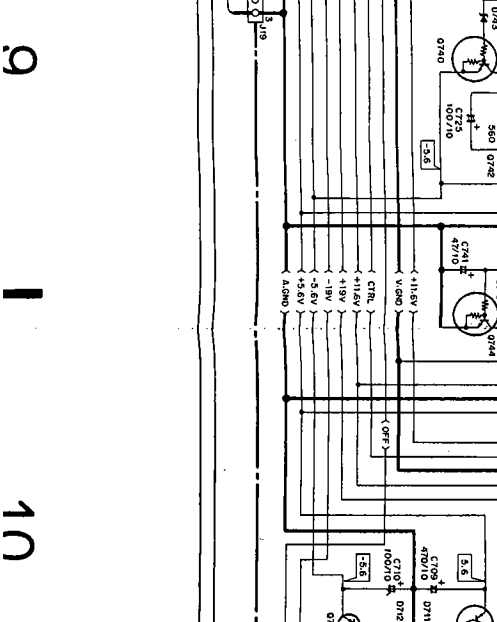
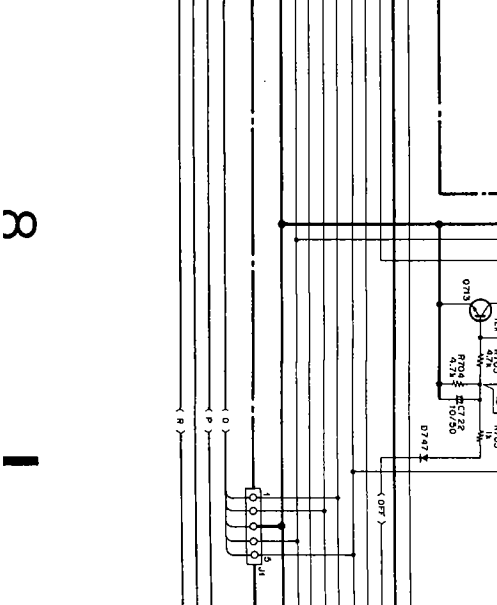
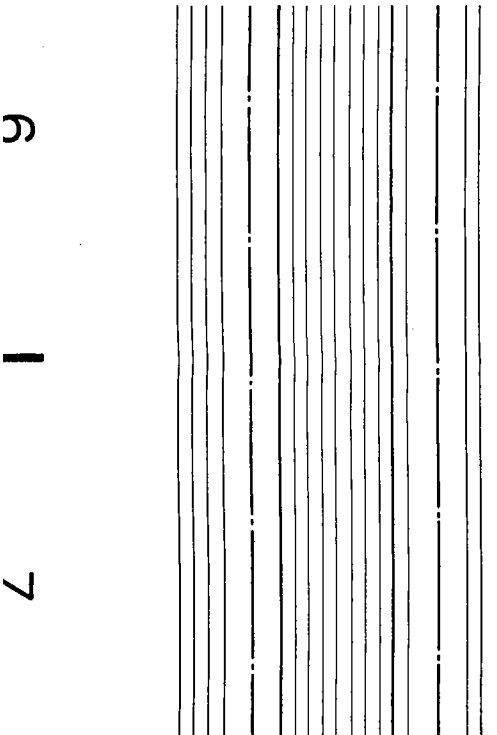
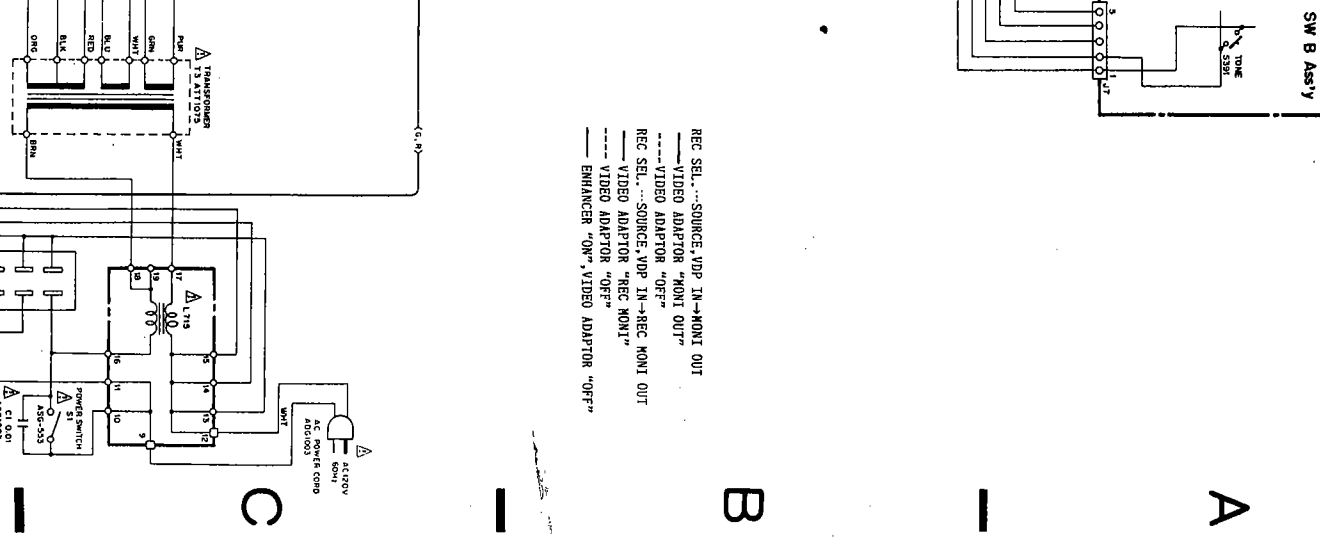
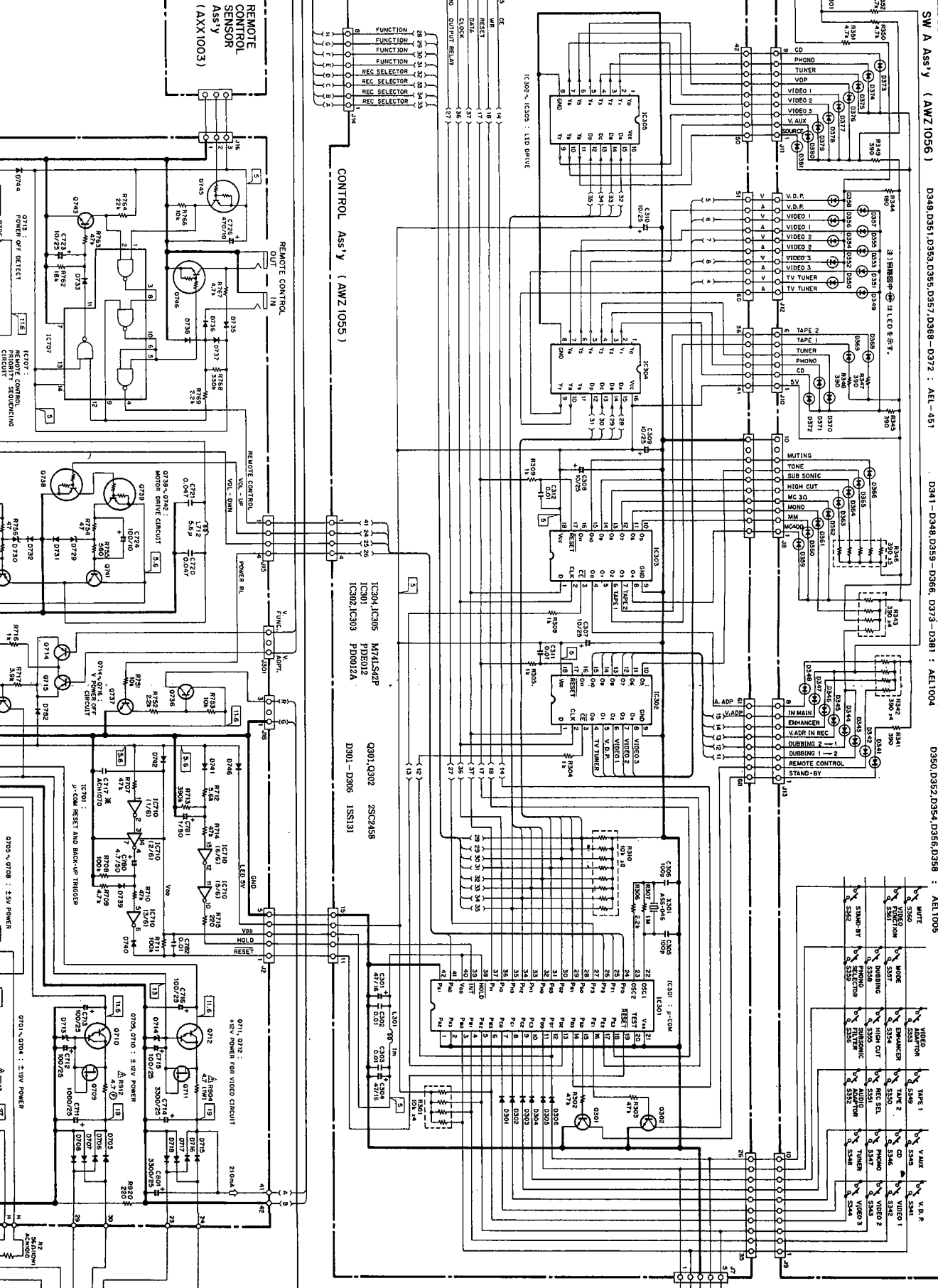
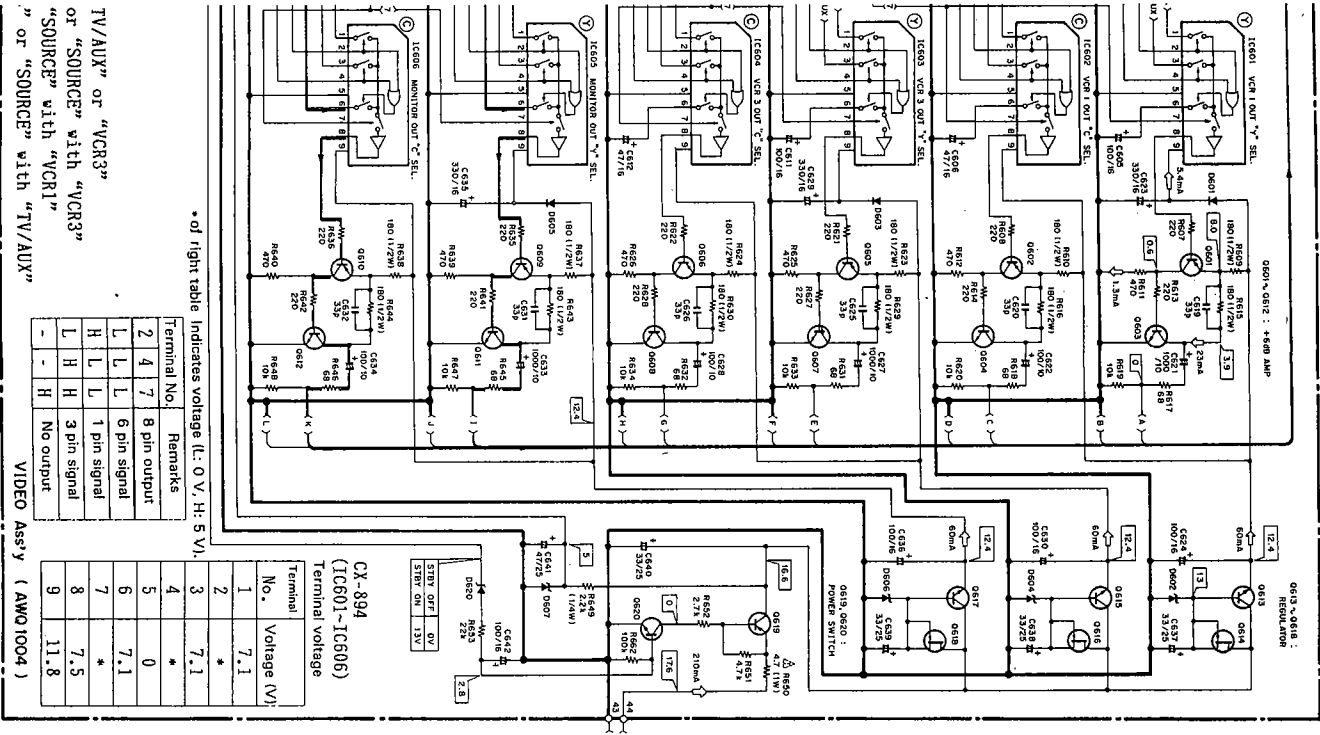
IC708	LC7570	0716	RM1201	0704	Z5A1145	0702	0713, 0744, 0780, 0782, 0784	Z5C2878	D713	RD13E8	D729, D730	RD4, 3E581
IC709	PG0012A	0721, 0722	RM1203	0738, 0745	Z5A1346	0713, 0744, 0780, 0782, 0784	Z5C2878	D713	RD13E8	D729, D730	RD4, 3E581	
IC707	TC4011BP	0787, 0788	RM2203	0708, 0742	Z5A985A	0728, 0738, 0740, 0746	Z5C3400	D714 - D715	RD18E8	D725	RD5, 2E582	
IC701 - IC706	TC4068BP	0714, 0715, 0718, 0720, 0726, 0729 - 0738, 0747, 0749, 0751, 0752, 0756, 0781	Z5A1115	0741	Z5C2275	0706, 0710, 0712	Z5C3854	D716 - D717	RD2, 7E58	D712	RD6, 2E582	
IC710	TC4068BP	0753, 0756, 0781	Z5A1115	0741	Z5C2803	0701, 0703, 0705, 0707, 0709	Z5C248	D718 - D719	RD0, 5E82	D711	RD6, 8E582	

01-IC806 CX-894
 08-IC809 TC4058BP
 07 TC4058BP
 0801,0802,0805,0806,0809, 25A1048
 0819 25A985
 0813,0815,0817 25C235
 0803,0804,0807,0808,0811, 25C248
 0812,0820 25C248
 0814,0816,0818 25X248

0819,0818 :
 0801-0812 : 4.50 AMP
 0819,0818 :
 0801-0812 : 4.50 AMP

0349,0351,0353,0355,0357,0368-0372 : AEL-451
 0341-0348,0350-0366,0373-0381 : AEL1004
 0350,0352,0354,0356,0358 : AEL1005

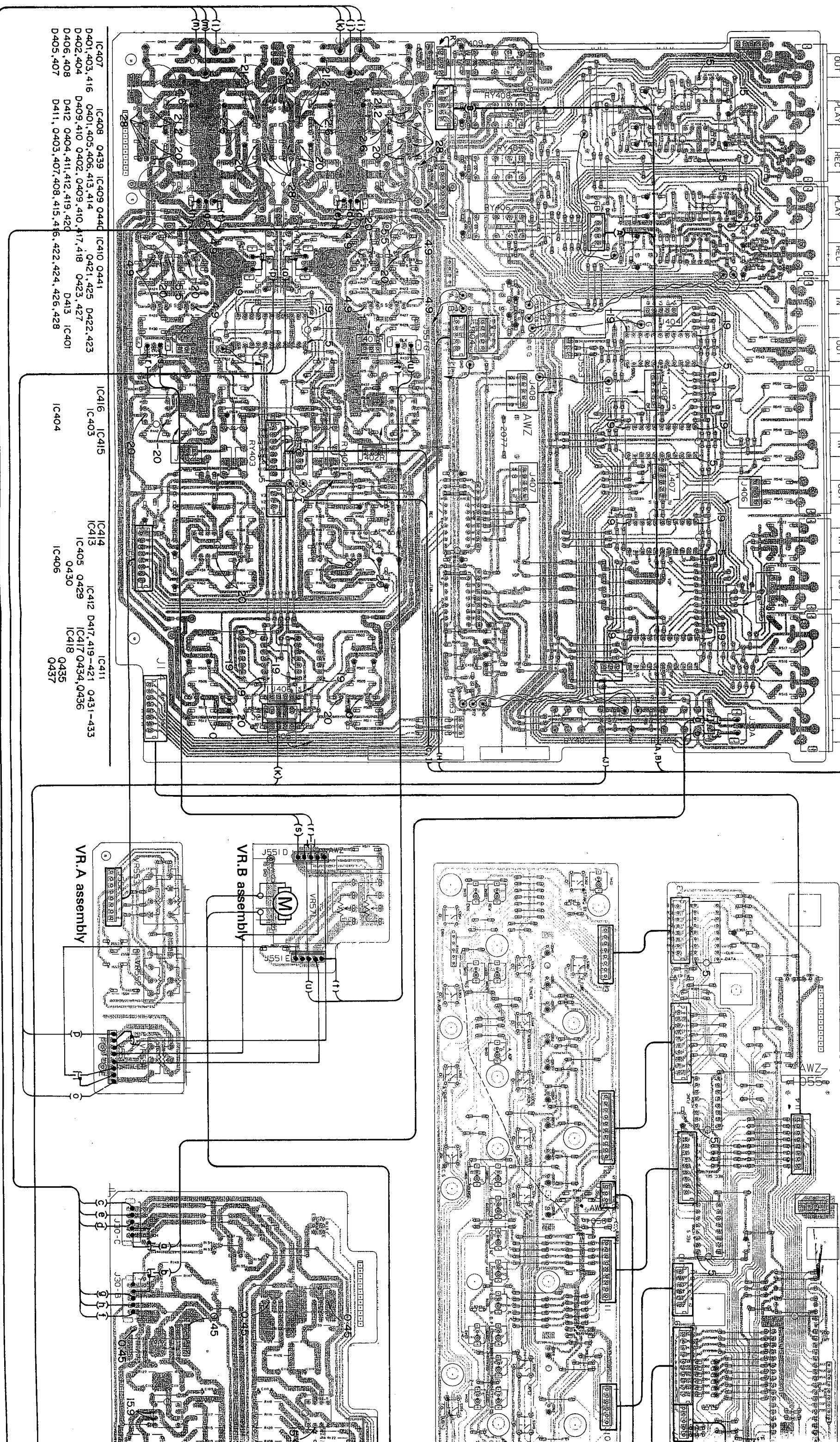
REC SEL...SOURCE, VPP IN-MONIT OUT
 VIDEO ADAPTOR "MONI OUT"
 VIDEO ADAPTOR "OFF"
 REC SEL...SOURCE, VPP IN-MONIT OUT
 VIDEO ADAPTOR "REC MONI"
 VIDEO ADAPTOR "OFF"
 ENHANCER "ON", VIDEO ADAPTOR "OFF"



6. P.C. BOARDS CONNECTION DIAGRAM

AF assembly (AWZ2078)

Control assembly (AWZ1055)



- IC407 D401, 403, 416
- IC408 D409, 410, 417, 418
- IC409 D412, 419, 420, 421, 418
- IC410 D413, 427
- IC411 D411, 403, 407, 408, 415, 416, 422, 424, 426, 428
- IC412 D417, 419-421, 431-433
- IC413 IC417, 434, 436
- IC414 IC418, 435, 437
- IC415 IC405, 429
- IC416 IC406
- IC403 IC404
- IC404 IC404

23 1 2 3 4 5 6 7

(A)(B)(C)(H)(I)

4 | 5 | 6 | 7 | 8 | 9 | 10

