CD Stereo Radio Recorder AZ8904

/00/02/05

Service
Service
Service

For repair information of cassette mechanism
see Service Manual of Recorders tape deck RDR-6

Service Manual

COMPACT disc DIGITAL AUDIO

CONTENTS:

(SF) Varo!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

(S) Varning!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad.
Betrakta ej strålen.

CLASS 1
LASER PRODUCT

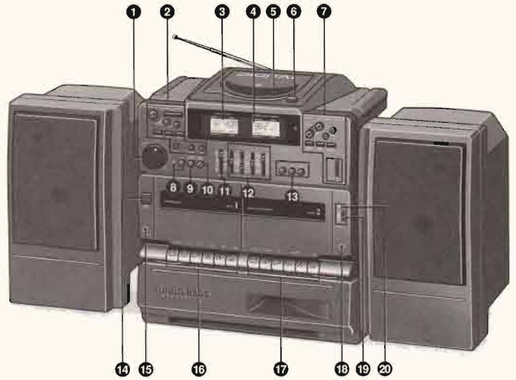
Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

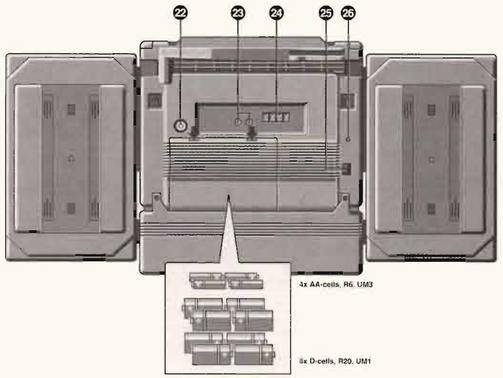
"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification
4822 725 22964
Printed in The Netherlands

PHILIPS

CONNECTIONS AND CONTROLS





1	Volume control	3600		Tape selector	1580B
2	CD control			Tuner selector	1580C
3	CD display	1401	14	Power switch	1302
4	Tuner/Clock display	1402	15	Headphone	1303
5	CD player		16	Tape control A	
6	CD eject		17	Tape control B	
7	Tuner control		18	Mic	1585
8	TBGB indicator/selector	6582/1583	19	Auto reverse mode	
9	HS dubbing selector	1581	20	Auto reverse indicator	6604,6605
10	Ferro/Chrome selector	1582	22	Socket aerial	1586
11	Balance	3580A	23	CD output	1304,1305
12	Graphic equalizer	3580B,3580C	24	Speaker socket	1306
		3580D,3580E	25	AC mains socket	1301
13	CD selector	1580A	26	Not applicable	

SPECIFICATIONS

GENERAL

Mains voltage	: 120V - 220V - 240V
Mains selection/setting	: Serviceable Set at 220V for -/00/02 Set at 240V for -/05
Mains frequency	: 50Hz - 60Hz
Battery	: 12V (R20 x 8)
Memory backup battery	: 6V (R6 x 4)
Power consumption	: 60W max.
Dimension centre unit	: 330 x 375 x 210mm

TUNER : FM SECTION

Tuning range	: 87.5MHz - 108MHz
IF frequency	: 10.7MHz
Aerial input	: Telescopic antenna for /02 75Ω coaxial socket
Sensitivity at 26dB S/N	: <6µV
Selectivity at 600kHz bandwidth	: >20dB
IF rejection	: >50dB
Image rejection	: >20dB

TUNER : AM SECTION

Tuning range	SW	: 5.9MHz - 18.05MHz
	MW	: 522kHz - 1611kHz
	LW	: 148kHz - 284kHz
IF frequency		: 450kHz
Sensitivity at 26dB S/N	SW	: <400µV
	MW	: <3.0mV/M
	LW	: <6.0mV/M
Selectivity at 18kHz bandwidth	SW	: >16dB
	MW	: >16dB
	LW	: >20dB
IF rejection		: >30dB
Image rejection	SW	: >6dB
	MW	: >28dB
	LW	: >30dB

AMPLIFIER

Output power at 10% distortion	L/R	: 2 x 4.7W -1dB (Mains) 2 x 3.5W -1dB (Battery)
	Turbo bass	: 8W -1dB
Speaker impedance		: 2 x 4Ω with piezzo 1 X 8Ω Turbo bass
Frequency response within -3dB		: 250Hz ~ 8kHz
Equalizer control		: -6dB to +6dB
Headphone output		: 13mV at 32Ω
Output sensitivity	CD	: 800mV at 4.7kΩ
Input sensitivity	Mic	: 800mV at 10kΩ

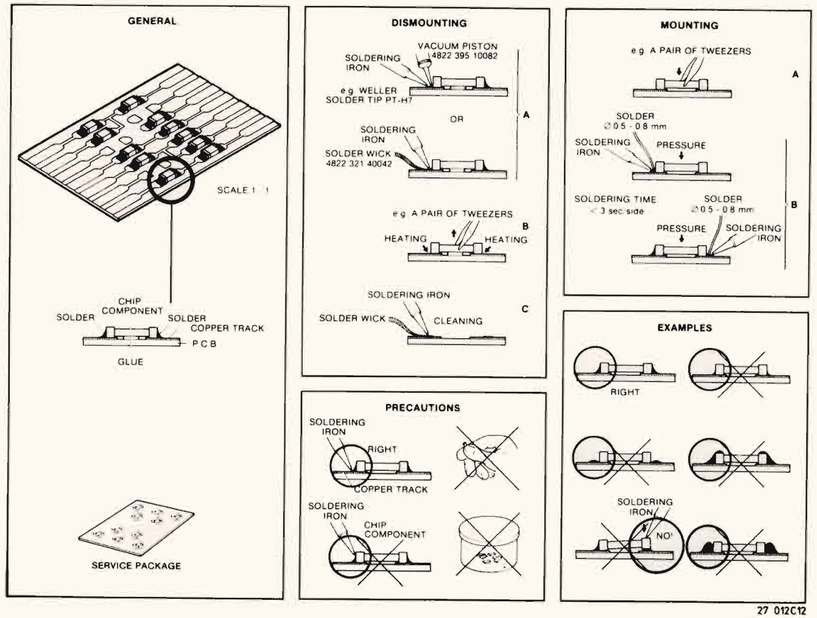
CASSETTE RECORDER

Number of track		: 2 x 2 stereo
Tape speed		: 4.76 cm/sec ± 2% 2 x 4.76 cm/sec
Wow and flutter		: 0.35%
Fast-wind time C60		: 130 sec
Bias system	FM/Dubbing	: 57kHz ± 15kHz
	AM	: DC bias
Recording playback frequency response within -8dB		: 250Hz - 6.3kHz (FM/NS Dubbing) 250Hz - 5kHz (HS Dubbing) 250Hz - 2kHz (AM)
Signal to noise ratio	FM Rec	: 40dB
	AM Rec	: 22dB
	Dubbing	: 37dB

COMPACT DISC

Frequency response	: 20Hz - 20kHz +2dB/-4dB
Signal/Hiss ratio	: 80dB
Distortion at 1kHz	: 0.5%
Channel difference at 1kHz	: 2dB
Channel crosstalk at 1kHz	: 50dB
De-emphasis	: 0 or 15/50 µS (Switched by subcode on the disc)

HANDLING CHIP COMPONENTS

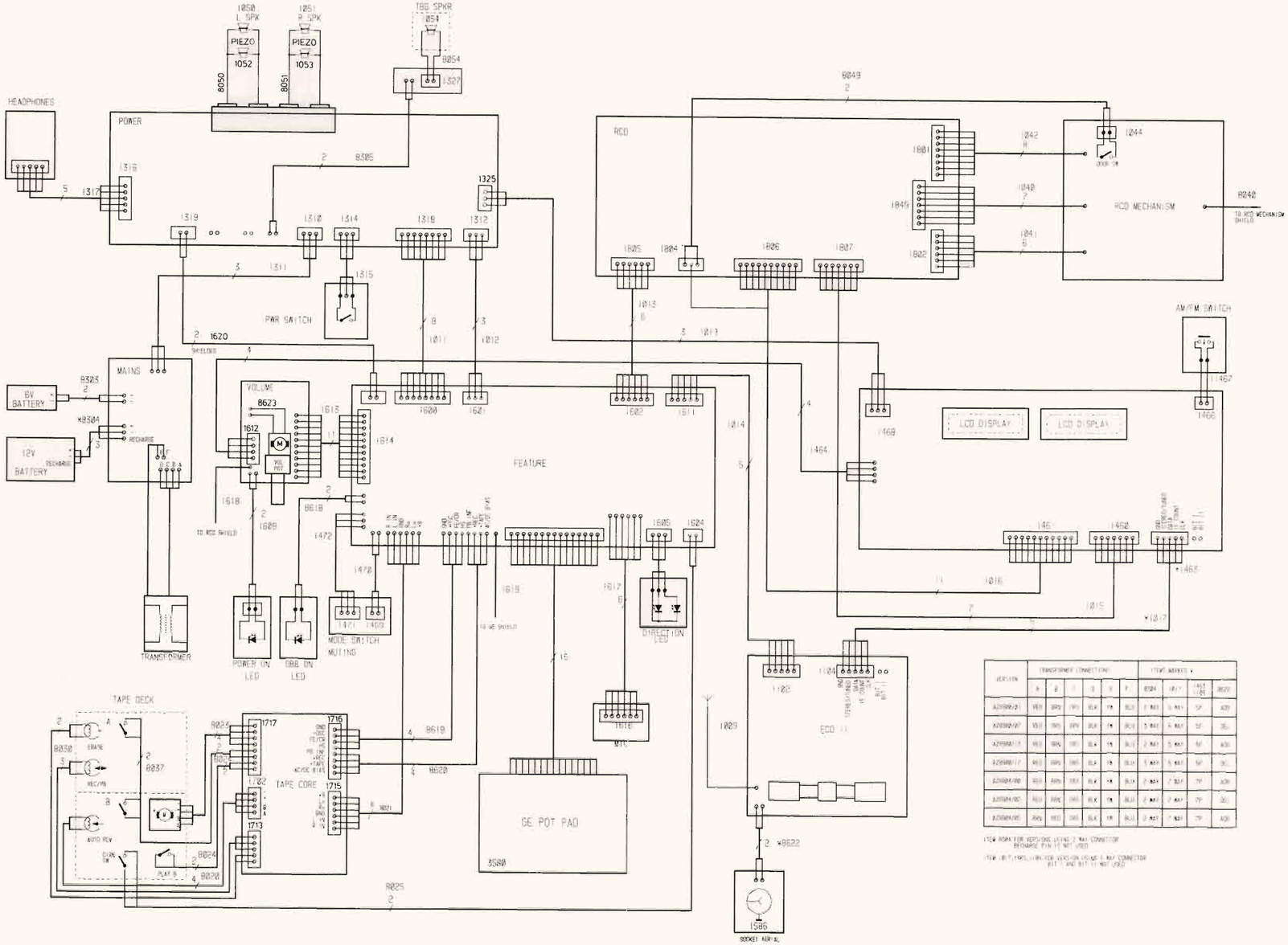


Carbon film 0.2 W CR16	70°C	5%	
Carbon film 0.33 W CR25	70°C	5%	
Carbon film 0.5 W CR37	70°C	5%	
Standard film 0.5 W SFR16T	70°C	5%	
Standard film 0.4 W SFR25	70°C	5%	
Metal film 0.6 W MRS25	70°C	5%	
Safety resistor			
Plate ceramic Tuning < 120 pF Others		2% −20/+80%	
Tubular ceramic			
Polystyrene film / foil		1%	
Polyestor Film / foil		10%	
Mylar		10%	
Electrolytic			

Ⓒ Chip component

*a = 2.5 V
b = 4 V
c = 6.3 V
d = 10 V
e = 16 V
f = 25 V
g = 40 V
h = 63 V
j = 100 V
l = 125 V
m = 150 V
n = 160 V
q = 200 V
r = 250 V
s = 300 V
t = 350 V
u = 400 V
v = 500 V
w = 630 V
x = 1000 V
A = 1.6 V
B = 6 V
C = 12 V
D = 15 V
E = 20 V
F = 35 V
G = 50 V
H = 75 V
I = 80 V

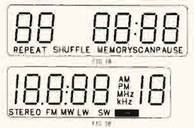
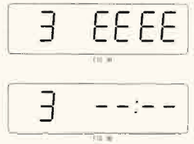
26338



SERVICE TEST PROGRAMME

Following can be tested with **testprogramme 1**:

* Displays (CD + Tuner)
* Sledge motor
* Focus servo
* Track servo

Operating sequence	Display shows	Remarks	In case of problems check
Insert any disc in CD-compartment and shut CD-door. To start testprogramme 1 set mode switch to "radio" or "tape" first. Hold switches "display" and "clear" depressed while setting mode switch to "CD" → now **step 1** of the test programme is reached.		During step 1 – 3 "mute" is active.	connection Display
Press "play" to get to **step 2** Press "next" Press "previous"		From step 2 onwards tuner display is switched off. Sledge will be moved outside as long as "next" will be hold depressed (display shows fig.2b) and moved inside as long as "previous" will be hold depressed (display shows fig.2c).	Sledge motor and driver circuit for sledge motor
Press "play" to get to **step 3**		Laser is now switched on and objective will be focussed (while focussing display shows fig.3a). As soon as focus is o.k. display shows fig.3b and disc motor is switched on. Sledge servo and tracking servo are switched off → "tracking offset" can be adjusted.	Focus servo circuit
Press "play" to get to **step 4** Press "next" Press "previous"		Track servo loop is active → **normal "play" mode.** "Mute" will be switched off after pressing "next" or "previous". By pressing "next" or "previous" track servo will jump in steps of either 16 tracks forward or backward.	
Press "stop" to get back in normal CD-mode		By pressing "stop" Service Testprogramme can be interrupted during each step.	

With testprogramme 2 **FREQUENCY of CLOCK OSCILLATOR** can be tested respectively adjusted.

Attention: Disc door (door switch) must be open during testprogramme 2 to avoid overloading of the µP.

Operating sequence	Display shows	Remarks
To start **testprogramme 2** set mode switch to "radio" or "tape" first. Hold switches "clear" , "store" and "display" depressed while setting mode switch to "CD". Now **step 1** has been reached. Release switches "clear" , "store" and "display". Press "play".		CD display shows fig.5 as long as "clear", "store" and "display" will be hold depressed. Tuner display shows time. After releasing "clear", "store" and "display" display shows fig.6 Display will shows Fig 7
Press "play" again to get to **step 2**.		Both displays are switched off. Frequency of clock oscillator can now be checked or adjusted: * measure on ⟨1⟩ (pin 36 of µP) * adjust frequency to 32 Hz ± 10 ppm (or period of 31,25 ms ± 10 ppm) with 2706
Press "play" to get to step 1 of testprogramme 1 or press "stop" to get in normal CD mode.		By pressing "stop" Service Test Programme can be interrupted during each step.

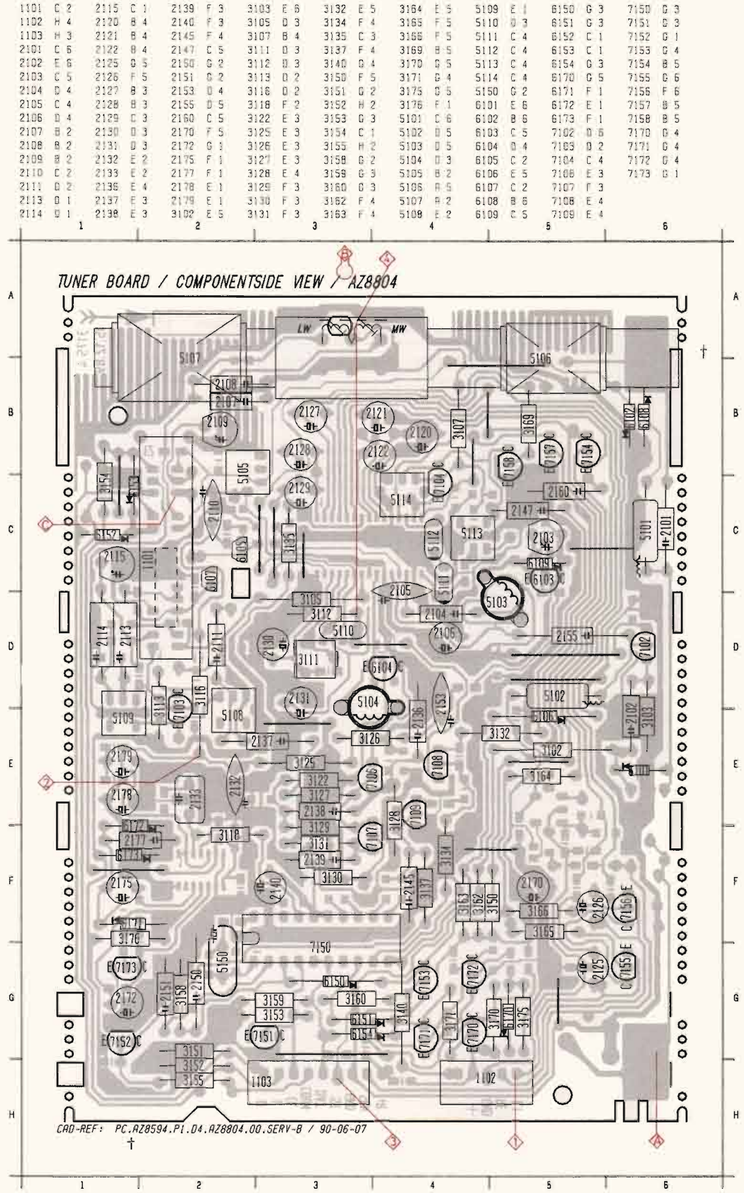
Loading SERVICE FREQUENCIES for TUNER mode

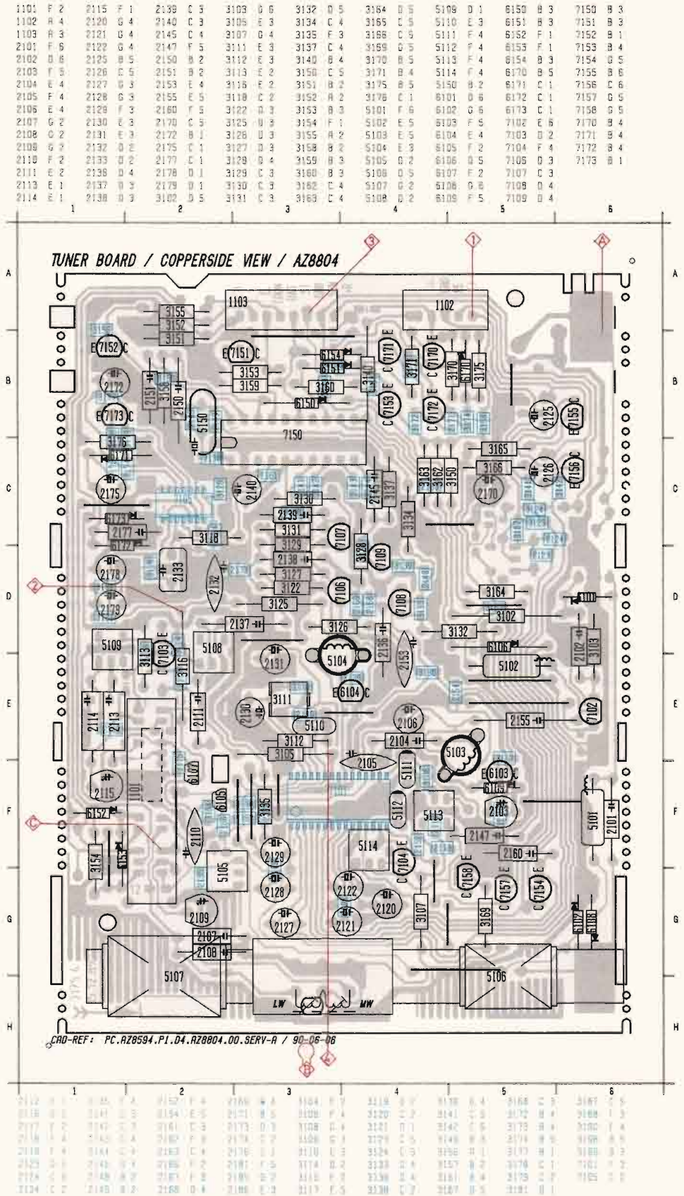
Reset µP by disconnecting all supplies. Wait about 15 seconds to enable discharging of all elcos. Then give supply to the set again.

Following frequencies have now been loaded in the EEROM of the µP:

Band	P1	P2	P3	P4	P5	P6	Unit
FM	87,5	108	93,7	91,8	98	104,9	MHz
MW	522	1611	549	1494	567	558	kHz
LW	148	284	198	252	153	261	kHz
SW	5,90	18,05	6,20	17,00	9,55	5,95	MHz

Band	P1	P2	P3	P4	P5	P6	Unit
FM	87,5	108	93,7	91,8	98	104,9	MHz
MW (9KHz grid)	522	1611	549	1494	567	558	kHz
MW (10KHz grid)	520	1710	550	1500	570	1610	kHz





SK...	FREQUENCY	I/P	DISPLAY	ADJUST	O/P	SCOPE/METER
Varicap alignment						
FM 87.5-108MHz			108MHz 87.5MHz	5104 check	2	9.0V ± 0.1V 2.1V ± 0.3V
SW 5.9-18.05MHz			18.05MHz 5.9MHz	5108 check		9.0V ± 0.1V 2.1V ± 0.3V
LW 148-284kHz			284kHz 148kHz	5109 check		9.0V ± 0.1V 2.1V ± 0.3V
MW 522-1611kHz			1611kHz 522kHz	2115 check		8.3V ± 0.1V 2.1V ± 0.3V
IF alignment						
FM	108MHz △f=500kHz (50Hz)	A	108MHz	check	4	Symm + Linear
MW	549kHz $ △f=10kHz (50Hz)	C	549kHz	5114 5113	1	Symmetrical
RF alignment						
FM	108MHz # 87.5MHz #	A	108MHz 87.5MHz	2103 5103	1	max.
SW	6.2MHz *		6.2MHz	5105		
MW	549kHz * 1494kHz *	B	549kHz 1494kHz	5106 2109		
LW	160kHz *		160kHz	5107		
Stereo decoder						
FM	98MHz carrier	A	98MHz	3111	3	76 ± 0.3KHz

$ Via 100nF
* Mod 1kHz 30% AM
# Mod 1kHz △f = 22.5kHz

Repeat

7101

1	:	1.0V
2	:	-
3	:	-
4	:	-
5	:	1.5V
6	:	1.5V
7	:	5.4V
8	:	3.6V
9	:	1.6V
10	:	0.8V
11	:	0V
12	:	-
13	:	1.3V
14	:	0V
15	:	1.3V
16	:	0.8V
17	:	0V
18	:	0.35V
19	:	1.25V
20	:	1.25V
21	:	1.25V
22	:	1.25V
23	:	1.25V
24	:	1.25V
25	:	-
26	:	3V
27	:	1.4V
28	:	1.7V
29	:	1.0V
30	:	0V

7105

1	:	-
2	:	-
3	:	-
4	:	0V
5	:	-
6	:	0V
7	:	0V
8	:	-
9	:	0V
10	:	3.6V
11	:	5.9V
12	:	2.4V
13	:	-
14	:	10.7V

7102

e	:	0.5V
b	:	1.25V
c	:	5.9V

7106

e	:	0.5V
b	:	1.2V
c	:	2.9V

7107

e	:	3.6V
b	:	2.9V
c	:	1.1V

7170

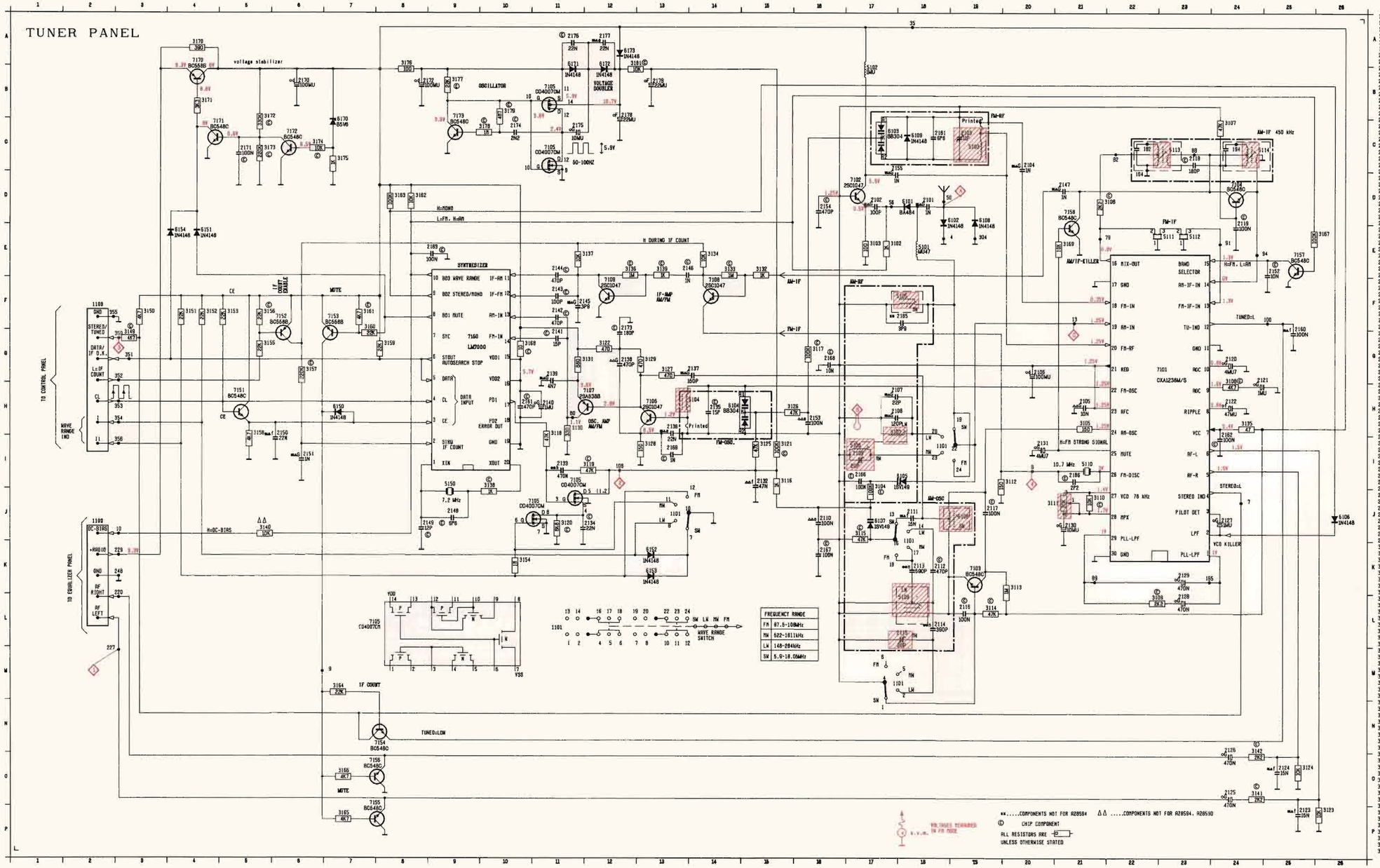
e	:	9.3V
b	:	8.6V
c	:	6.0V

7171

e	:	0V
b	:	0.6V
c	:	8.0V

7172

e	:	0V
b	:	0.5V
c	:	0.6V



7312

e : 4.7V
b : 4.0V
c : 1.2V

7301

e : 5.3V
b : 5.8V
c : 6.5V

7310

e : 11.9V
b : 11.3V
c : 9.3V

7311

e : 0V
b : 0.6V
c : 11.3V

7315

e : 8.5V
b : 9.1V
c : 11.3V

7316

e : 11.7V
b : 11.3V
c : 8.5V

7331

e : 12V
b : 11.3V
c : 11.9V

7333

e : 0.7V
b : 1.4V
c : 0.7V

7334

e : 0V
b : 0.7V
c : 0.1V

7335

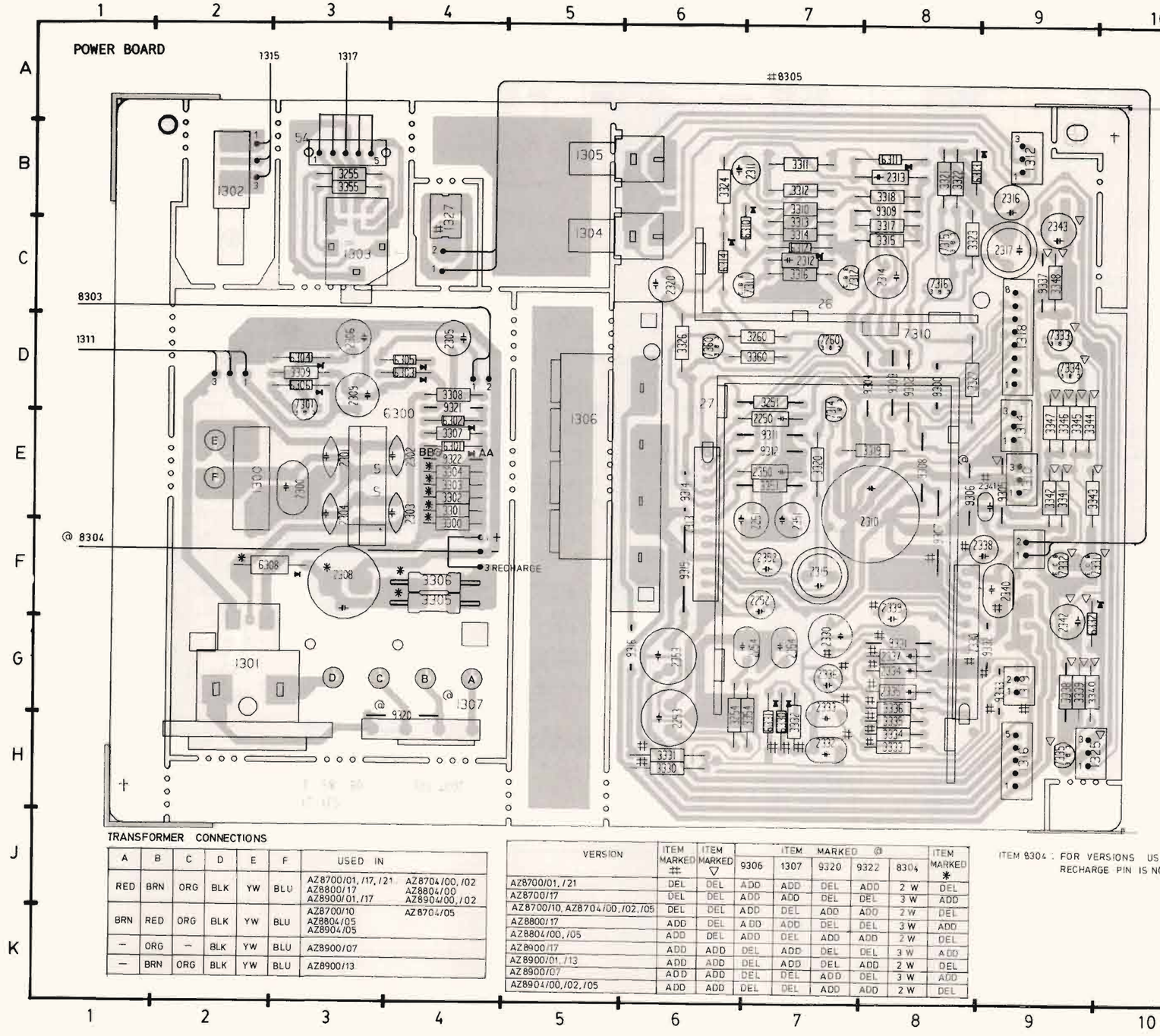
e : 5.6V
b : 6.2V
c : 11.9V

7332

e : 12V
b : 11.3V
c : 11.9V

7313/7330

1 : 1.3V
2 : 0V
3 : 11.8V
4 : 0V
5 : 0V
6 : 1.3V
7 : 6.1V
8 : 11V
9 : 0V
10 : 11.9V
11 : 11V
12 : 6.1V



TRANSFORMER CONNECTIONS

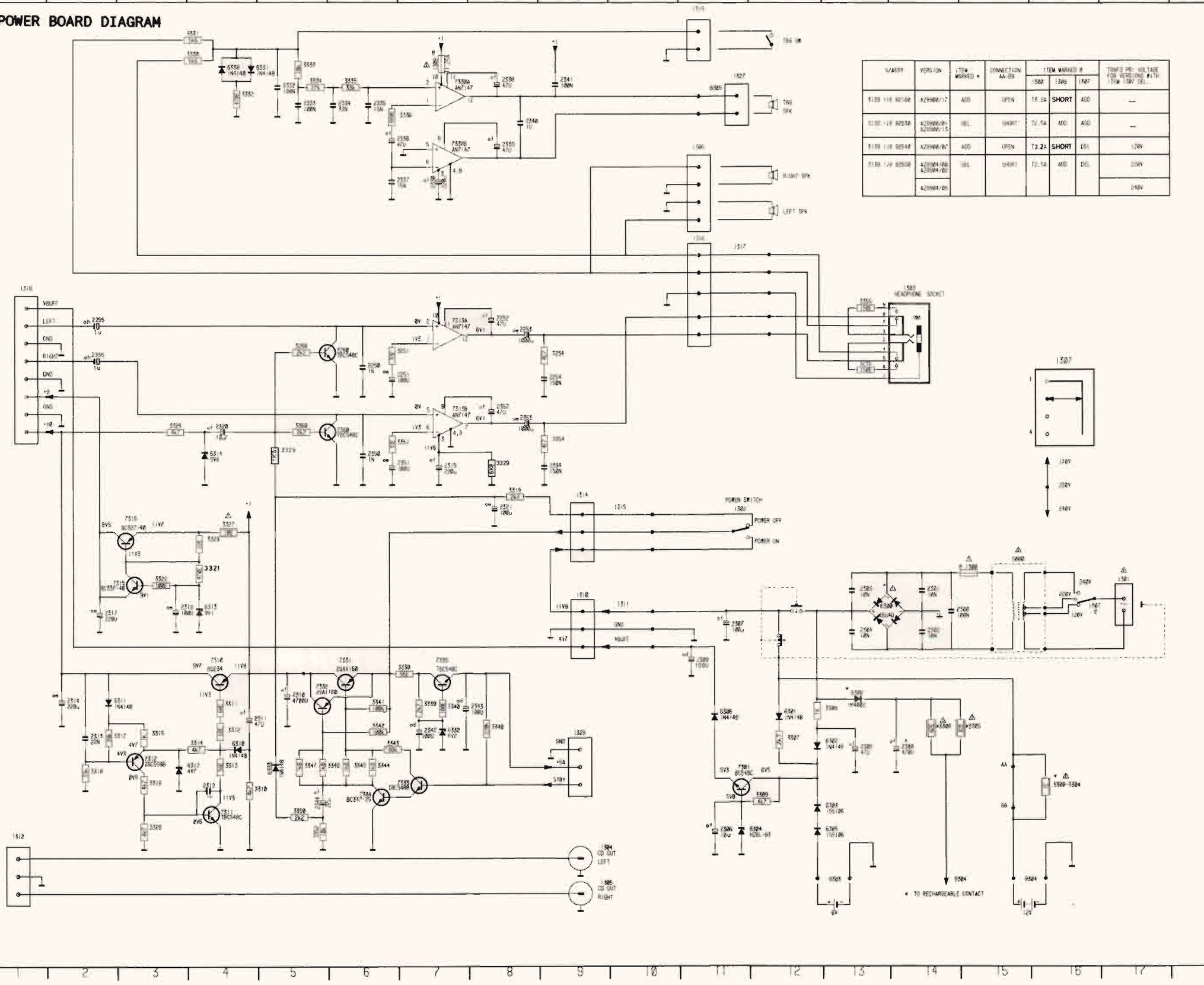
A	B	C	D	E	F	USED IN	
RED	BRN	ORG	BLK	YW	BLU	AZ8700/01, /17, /21 AZ8800/17 AZ8900/01, /17	AZ8704/00, /02 AZ8804/00 AZ8904/00, /02
BRN	RED	ORG	BLK	YW	BLU	AZ8700/10 AZ8804/05 AZ8904/05	AZ8704/05
—	ORG	—	BLK	YW	BLU	AZ8900/07	
—	BRN	ORG	BLK	YW	BLU	AZ8900/13	

VERSION	ITEM MARKED #	ITEM MARKED ▽	ITEM MARKED @ 9306	1307	9320	9322	8304	ITEM MARKED *
AZ8700/01, /21	DEL	DEL	ADD	ADD	DEL	ADD	2 W	DEL
AZ8700/17	DEL	DEL	ADD	ADD	DEL	DEL	3 W	ADD
AZ8700/10, AZ8704/00, /02, /05	DEL	DEL	ADD	DEL	ADD	ADD	2 W	DEL
AZ8800/17	ADD	DEL	ADD	ADD	DEL	DEL	3 W	ADD
AZ8804/00, /05	ADD	DEL	ADD	DEL	ADD	ADD	2 W	DEL
AZ8900/17	ADD	ADD	DEL	ADD	DEL	DEL	3 W	ADD
AZ8900/01, /13	ADD	ADD	DEL	ADD	DEL	ADD	2 W	DEL
AZ8900/07	ADD	ADD	DEL	DEL	ADD	DEL	3 W	ADD
AZ8904/00, /02, /05	ADD	ADD	DEL	DEL	ADD	ADD	2 W	DEL

ITEM 8304 : FOR VERSIONS USING 2 WAY WIRES RECHARGE PIN IS NOT USED.

0026	C7	2343	G9	6302	E4
0027	D6	2350	E7	6303	D4
0054	B3	2351	F7	6304	D3
1300	E2	2352	F7	6305	D4
1301	G2	2353	G6	6306	D3
1302	B2	2354	G7	6308	F2
1303	C3	3251	D7	6310	C7
1304	C5	3254	H6	6311	B8
1305	B5	3255	B3	6312	C7
1306	E5	3260	D7	6313	B8
1307	G4	3301	E4	6314	C6
1310	E9	3302	E4	6330	H7
1311	D1	3304	E4	6331	H7
1312	B9	3305	F4	6332	G9
1314	E9	3306	F4	7260	D7
1315	A2	3307	E4	7301	D3
1316	H9	3308	D4	7310	D8
1317	A3	3309	D3	7311	C7
1318	D9	3310	B7	7312	C7
1319	G9	3311	B7	7313	F6
1325	H9	3312	B7	7314	D7
1327	C4	3313	C7	7315	C8
2250	E7	3314	C7	7316	C8
2251	F7	3315	C8	7330	G8
2252	F7	3316	C7	7331	F9
2253	H6	3317	C8	7332	F9
2254	G7	3318	B8	7333	D9
2300	E3	3319	E8	7334	D9
2301	E3	3320	E7	7335	H9
2302	E4	3321	B8	7360	D6
2303	E4	3322	B8	8303	C1
2304	E3	3323	C8	8304	F1
2305	D4	3324	B6	8305	A7
2306	D3	3326	D6	9300	D8
2308	F3	3327	D8	9302	D8
2309	D3	3330	H6	9303	D8
2310	F8	3331	H6	9304	D8
2311	B7	3332	H7	9305	E9
2312	C7	3333	H8	9306	E8
2313	B8	3334	H8	9307	F8
2314	C8	3335	H8	9308	E8
2315	F7	3338	G9	9309	B8
2316	B9	3339	G9	9311	E7
2317	C9	3340	G9	9312	E7
2320	C6	3341	E9	9314	E6
2330	G7	3342	E9	9315	F6
2332	H7	3343	E9	9316	G6
2333	G7	3344	E9	9320	H4
2334	G8	3345	E9	9321	D4
2335	G8	3346	E9	9322	E4
2336	G8	3347	E9	9331	G8
2336	G7	3348	C9	9332	G9
2337	G8	3351	E7	9333	G9
2338	F9	3354	H7	9337	C9
2339	F8	3355	B3		
2340	F9	3360	D7		
2341	E9	6300	E4		
2343	C9	6301	E4		

POWER BOARD DIAGRAM



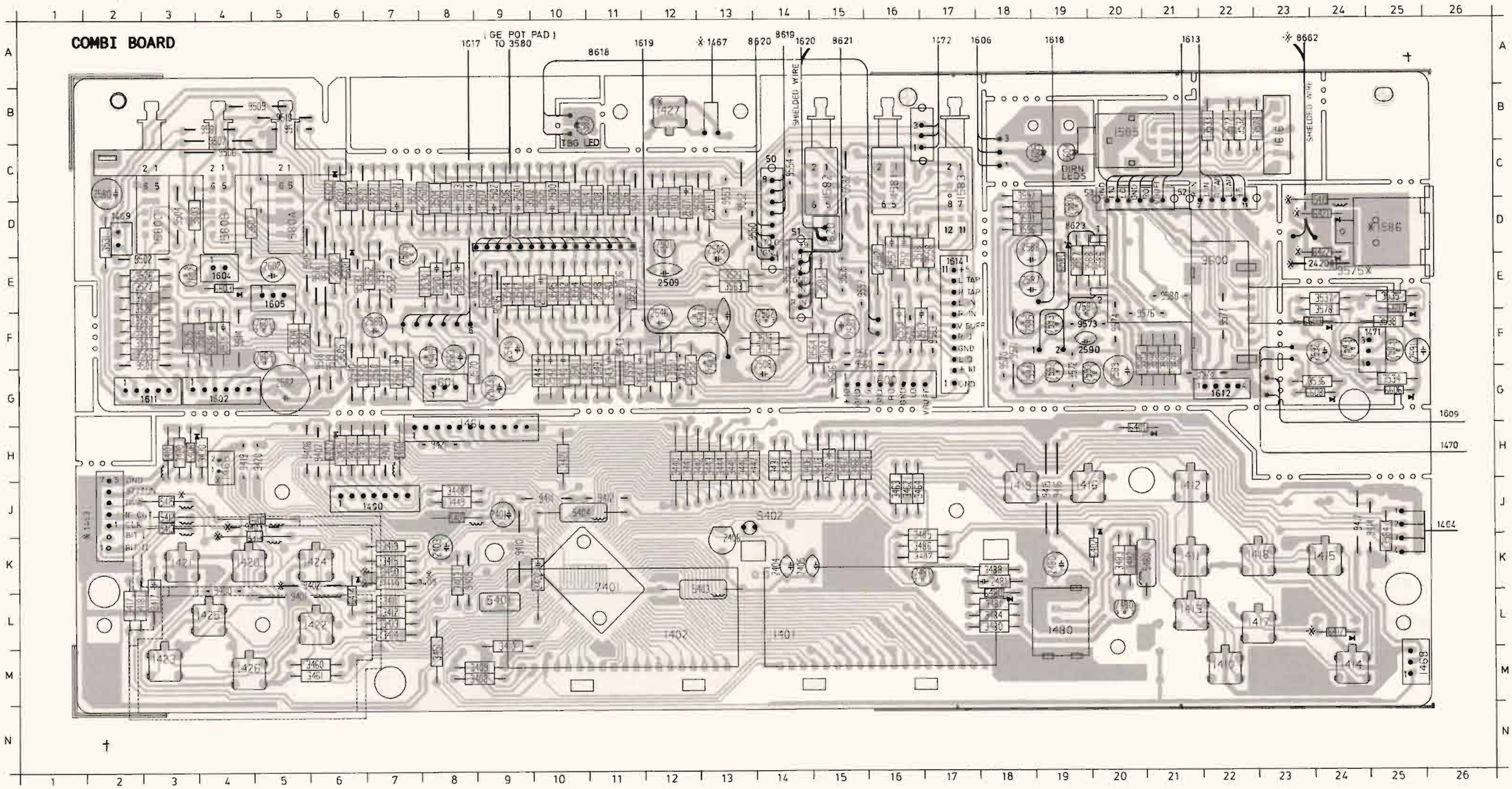
S/ASSY	VERSION	ITEM MARKED *	CONNECTION AA-BB	ITEM MARKED ⚠			TRAFO PRI VOLTAGE FOR VERSIONS WITH ITEM 1307 DEL
				1300	1306	1307	
3139 118 82160	AZ9000/17	ADD	OPEN	T3.2A	SHORT	ADD	—
3139 118 82530	AZ9000/01 AZ9000/13	DEL	SHORT	T2.5A	ADD	ADD	—
3139 118 80540	AZ9000/07	ADD	OPEN	T3.2A	SHORT	DEL	120V
3139 118 82550	AZ9004/00 AZ9004/02	DEL	SHORT	T2.5A	ADD	DEL	220V
	AZ9004/05						240V

1300	J15
1301	J17
1302	H11
1303	E14
1304	N9
1305	N9
1306	C11
1307	J16
1310	J9
1311	J10
1312	N1
1314	H9
1315	H10
1317	D11
1318	E1
1319	A11
1327	B11
2250	F5
2251	F6
2252	E7
2253	E8
2254	F8
2300	J14
2301	J14
2303	K14
2303	J13
2304	K13
2305	L13
2306	M11
2306	M11
2307	J11
2308	L14
2309	K11
2310	K5
2311	L4
2313	M4
2313	K2
2314	K2
2315	H7
2316	J2
2317	J2
2320	G4
2330	C7
2332	B5
2333	B5
2334	B6
2335	B6
2336	C7
2337	C7
2338	B8
2339	C8
2340	B8
2341	B9
2342	L7
2344	M5
2350	G5
2351	G6
2352	F7
2353	G8
2354	G8
3251	F6
3254	F8
3255	F13
3260	F4
3300	M16
3301	M16
3302	M16
3303	M16
3304	M16
3305	L15
3306	L14
3307	L12
3308	L13
3309	M12
3310	M4
3311	L4
3312	L4
3313	L4
3314	L4
3315	L3
3317	K2
3318	M3
3318	M2
3319	H8
3320	G7
3321	J4
3322	J2
3323	H4
3324	G3
3326	G4
3327	H4
3328	M3
3330	A4
3331	A4
3332	B4
3333	B5
3334	B5
3335	B6
3336	B7
3350	M5
3351	G6
3352	M5
3354	G8
3355	E13
3360	G4
6300	J13
6301	L12
6302	L13
6303	M13
6304	M12
6305	M13
6306	L11
6308	K13
6310	L4
6311	K2
6312	L4
6313	J4
6314	G4
6330	B4
6331	B5
6333	M5
7260	F5
7301	M11
7310	K4
7311	M4
7312	L3
7313A	E7
7313B	F7
7313C	B7
7313D	C7
7314	H7
7315	J2
7316	H3
7318	H3
7330A	B7
7330B	C7
7360	G5
8303	N13
8304	N16
8305	B11
3329	G 8
2255	E 2
2355	F 2

0050	C14	1424	K6	1581	C16	1620	A14	2508	F14	2560	E8	3410	L8	3441	H12	3482	K20	3514	C10
0051	D14	1425	L4	1582	C15	2401	J9	2509	E12	2561	G7	3411	L7	3442	H12	3483	K20	3515	F14
0052	C21	1426	M4	1583	C16	2402	K10	2512	E16	2563	F8	3412	L7	3443	H13	3484	L18	3516	C11
0053	C20	1427	B12	1585	B20	2403	K8	2513	F16	2565	F4	3413	L7	3444	H13	3485	K16	3518	D16
1401	L14	1460	J7	1586	D25	2404	K14	2520	E8	2580	C2	3414	L7	3445	H13	3486	K16	3520	C6
1402	L12	1461	G8	1600	G16	2405	K14	2521	C7	2581	F15	3415	K7	3446	H13	3487	K16	3521	C7
1410	M22	1463	J1	1601	G8	2406	K13	2523	G9	2582	G5	3416	K7	3447	H13	3488	K18	3522	C7
1411	K21	1464	J26	1602	G4	2408	H15	2525	F4	2583	F5	3417	L2	3448	J8	3500	E10	3523	E13
1412	J21	1466	H4	1604	E4	2417	L3	2540	G10	2587	E19	3418	L2	3449	J8	3501	C10	3524	F15
1413	L21	1467	A13	1605	E5	2420	E24	2541	E10	2588	D19	3419	K7	3450	K7	3502	C9	3525	F3
1414	M24	1468	M25	1606	A18	2480	K19	2542	G10	2589	G20	3420	H3	3451	M8	3503	C8	3526	E2
1415	K24	1469	D2	1609	G26	2481	K18	2543	G11	2590	F19	3421	H10	3460	M6	3504	C8	3527	E2
1416	J19	1470	H26	1611	G2	2500	C10	2544	G10	2591	F25	3422	H7	3461	M6	3505	C10	3528	E2
1417	L23	1471	F25	1612	G22	2501	C9	2545	E9	2592	F24	3423	H6	3462	J16	3506	C9	3529	E2
1418	K23	1472	A17	1613	A21	2502	C9	2546	F12	2602	E5	3424	H6	3463	J16	3507	C9	3530	E8
1419	J18	1480	L19	1614	E17	2503	C8	2547	G11	3256	E2	3425	H6	3465	H15	3508	C11	3531	D2
1420	K4	1570	F18	1616	C23	2504	C8	2548	F9	3403	K8	3430	H4	3466	H15	3510	C12	3532	B22
1421	K3	1580A	D5	1617	A8	2505	C8	2549	F13	3406	H16	3431	H14	3467	H15	3511	D13	3533	B22
1422	L6	1580B	D4	1618	A19	2506	L13	2552	E16	3408	M8	3432	H14	3480	L18	3512	C12	3534	G25
1423	M3	1580C	D3	1619	A11	2507	D12	2553	F16	3409	M8	3440	H12	3481	L18	3513	F14	3535	E25

3536	G24	3560	G7	3587	E19	5403	K12	6581	E19	7543	F24	9402	K5	9504	D3	9531	E7	9561	F15
3537	E24	3561	G7	3588	E20	5404	J10	6582	B10	7545	F8	9403	J4	9505	E15	9532	E7	9562	F16
3538	F25	3562	E7	3590	D18	5405	J8	6601	E6	7580	D19	9405	K8	9506	C4	9533	E8	9563	F17
3540	E11	3563	E13	3591	D18	5406	H7	6602	C6	7590	G19	9406	H5	9507	B4	9534	E8	9571	F18
3541	G10	3564	F14	3592	F21	5410	H3	6603	E4	7591	F19	9407	H6	9509	B5	9535	E9	9572	G19
3542	E10	3565	F14	3593	F21	5411	J4	6604	C19	7592	G19	9408	H7	9510	B5	9536	E11	9573	F19
3543	G11	3566	F2	3594	F21	5412	J3	6605	C19	7593	F19	9409	K8	9511	B5	9541	G7	9574	F20
3544	E9	3567	F2	3595	F21	5413	J3	6606	G25	7594	G19	9410	K9	9514	F4	9542	G10	9575	E24
3545	E10	3568	F2	3596	D18	5414	K4	6607	E25	7595	F19	9411	J10	9515	E5	9543	F11	9576	F21
3546	E9	3569	F2	3597	D18	5419	D24	6608	G24	7601	F5	9412	J11	9516	E6	9544	G12	9577	F22
3547	E9	3570	G8	3600	E22	5480	K21	6609	F24	7602	E3	9413	H15	9517	E6	9545	G12	9578	G22
3548	E11	3572	B22	3601	C6	6401	H20	7401	K11	7604	F5	9414	J25	9518	F6	9546	G15	9580	E21
3550	G12	3573	B23	3602	E6	6402	K20	7418	K16	8618	A11	9415	J19	9519	F6	9546	G6	9581	B4
3551	G12	3578	F24	3603	D3	6406	H3	7480	L20	8619	A14	9416	J19	9521	C6	9550	D13	9582	C15
3552	G11	3580	A8	3604	F5	6407	H6	7501	D12	8620	A14	9417	J24	9522	C7	9552	D13		
3553	G12	3581	E15	3605	F6	6412	L24	7502	F14	8621	A15	9419	H4	9523	C10	9553	D13		
3554	E10	3582	E16	3606	F5	6414	L6	7503	F25	8623	D19	9420	H5	9524	D11	9554	C14		
3555	E11	3583	L6	3607	D4	6421	D24	7505	D7	8662	A23	9421	H8	9525	D12	9555	E14		
3556	C11	3584	K25	5401	L9	6422	D24	7541	F13	9400	K4	9501	F2	9526	D13	9557	E15		
3558	E17	3586	E20	5402	J14	6480	L18	7542	F13	9401	L5	9502	D2	9530	E6	9560	F15		

COMBI BOARD



SUB - ASSY NO.	VERSIONS	ITEM MARKED WITH -X-						
		6412	1463	1427 1467 9402 1466 3450 9405	3416 5414 9403 5415	1586 8622	2420 6421 5419 6422	9575
3139 118 82470	AZ8900/01. /13	DEL	5P	ADD	DEL	ADD	DEL	ADD
3139 118 82050	AZ8900/07. /17	ADD	5P	ADD	DEL	DEL	DEL	DEL
3139 118 82490	AZ8904/00. /05	DEL	7P	DEL	ADD	ADD	ADD	DEL
3139 118 82500	AZ8904/02	DEL	7P	DEL	ADD	DEL	DEL	DEL

NOTE :

ITEM 1463 : FOR VERSIONS USING 5P CONNECTOR.
BIT I AND BIT II ARE NOT USED.

7501	7502	7505
e : 0V	e : 0.9V	e : 0.1V
b : 0.6V	b : 1.5V	b : 0.7V
c : 1.5V	c : 7.1V	c : 5.3V

7541	7542	7545
e : 0V	e : 0.9V	e : 0.1V
b : 0.6V	b : 1.5V	b : 0.7V
c : 1.5V	c : 7.3V	c : 5.3V

7580
e : 5.5V
b : 6.2V
c : 8.3V

7542 (DUBBING)	7545 (TAPE PLAY)
e : 0.9V	e : 0.1V
b : 1.5V	b : 0.7V
c : 7.3V	c : 5.3V

	VOLUME UP	VOLUME DOWN
7590	e : 0.7V	4.6V
	b : 0V	5.2V
	c : 7.2V	7.2V
7591	e : 4.6V	0.7V
	b : 5.2V	0V
	c : 7.2V	7.2V
7592	e : 0.7V	4.6V
	b : 0V	5.2V
	c : 0V	0V
7593	e : 4.6V	0.7V
	b : 5.2V	0V
	c : 0V	0V
7594	e : 0V	0V
	b : 0.7V	0.2V
	c : 0V	5.2V

COMBI BOARD DIAGRAM I

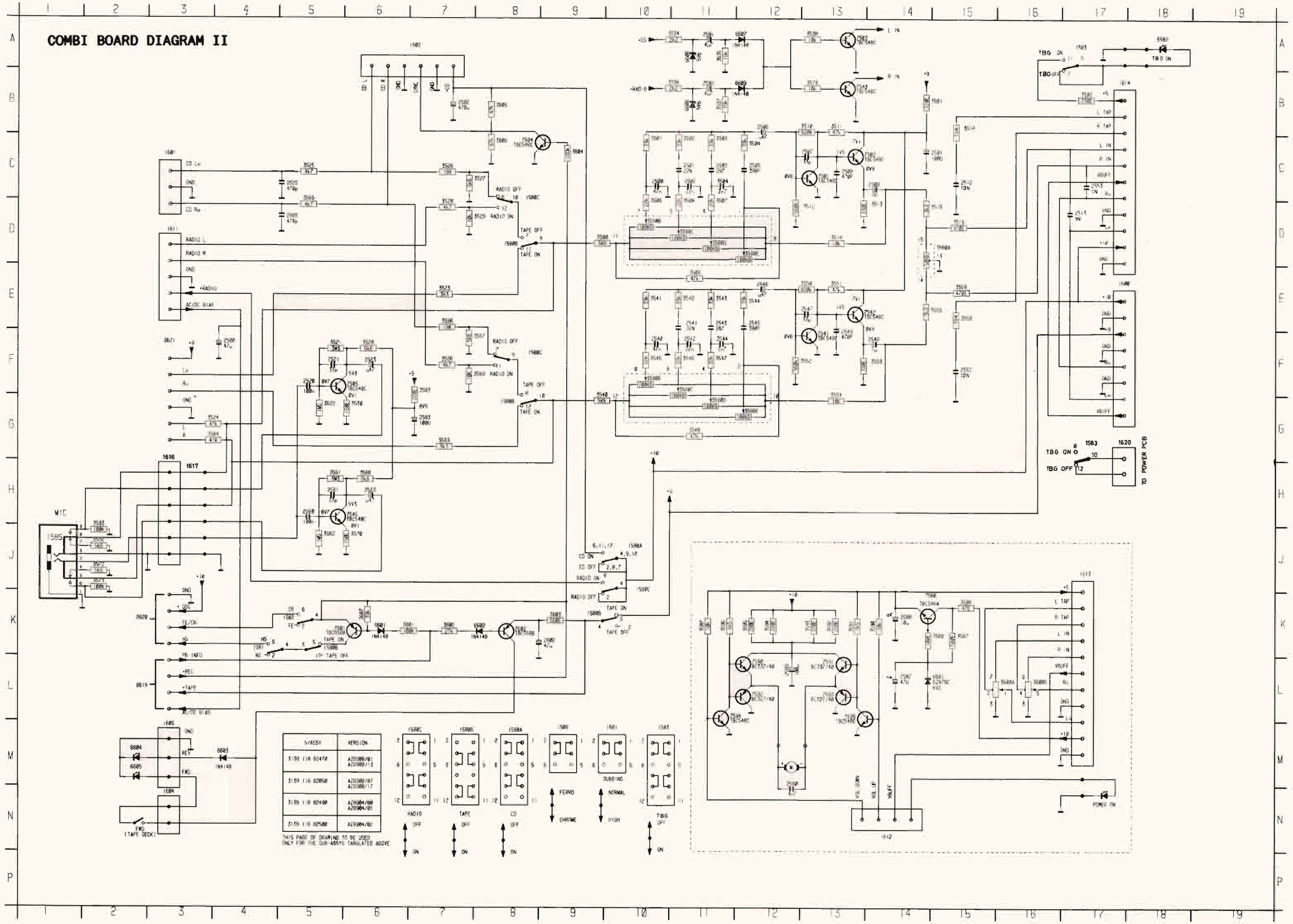
CONTROL PANEL

THIS PAGE OF DRAWING TO BE USED ONLY FOR THE SUB ASSYS TABULATED BELOW .

S/ASSY	VERSION	ITEMS MARKED @	ITEMS MARKED X	ITEMS MARKED #
5139 115 67450	A28700/01 A28700/10	ADD	DEL	DEL
5139 115 82050	A28700/17	ADD	DEL	ADD
5139 115 82450	A28700/21	ADD	DEL	ADD
5139 115 82170	A28800/17	ADD	DEL	ADD
5139 115 82470	A28800/01 A28800/15	DEL	ADD	DEL
5139 115 82050	A28900/07 A28900/17	DEL	ADD	ADD

1401	A7	3423	M4
1402	A11	3424	M4
1410	K5	3425	M4
1411	K5	3430	M10
1412	K6	3431	H12
1413	K5	3432	H12
1414	K5	3440	F6
1415	K5	3441	F6
1458	G2	3442	F7
1416	K6	3443	F7
1417	L5	3444	F7
1418	L5	3445	F8
1419	L6	3446	G8
1420	K14	3447	G8
1421	K14	3448	M4
1422	K14	3449	M4
1423	K14	3450	E14
1424	K14	3451	F12
1425	L14	3460	J14
1426	L14	3461	J14
1427	L16	3462	J5
1480	P2	3463	J5
1461	D2	3464	J6
1463	E17	3465	J4
1464	H1	3466	J5
1465	H1	3467	J5
1466	K15	3480	L7
1467	L16	3481	M7
1480	L5	3482	L6
2401	E14	3483	L5
2402	E13	3484	M7
2403	G12	3485	L8
2404	E4	3485	J10
2405	E4	3486	M10
2406	E4	3486	L8
2408	J5	3487	M8
2417	E16	3488	M7
2480	M4	5401	G12
2481	M7	5402	E5
3403	G11	5403	F4
3406	H5	5404	H6
3408	C12	5405	G12
3409	C12	5406	G8
3410	D12	5480	L4
3411	J11	6401	H3
3412	J11	6403	J3
3413	J11	6406	M9
3414	H12	6407	M9
3415	J9	6412	K6
3417	E15	6414	K12
3418	F15	6480	L7
3419	F15	7401	D9
3420	F15	7480	L6
3421	M4	7481	M8
3422	M3		

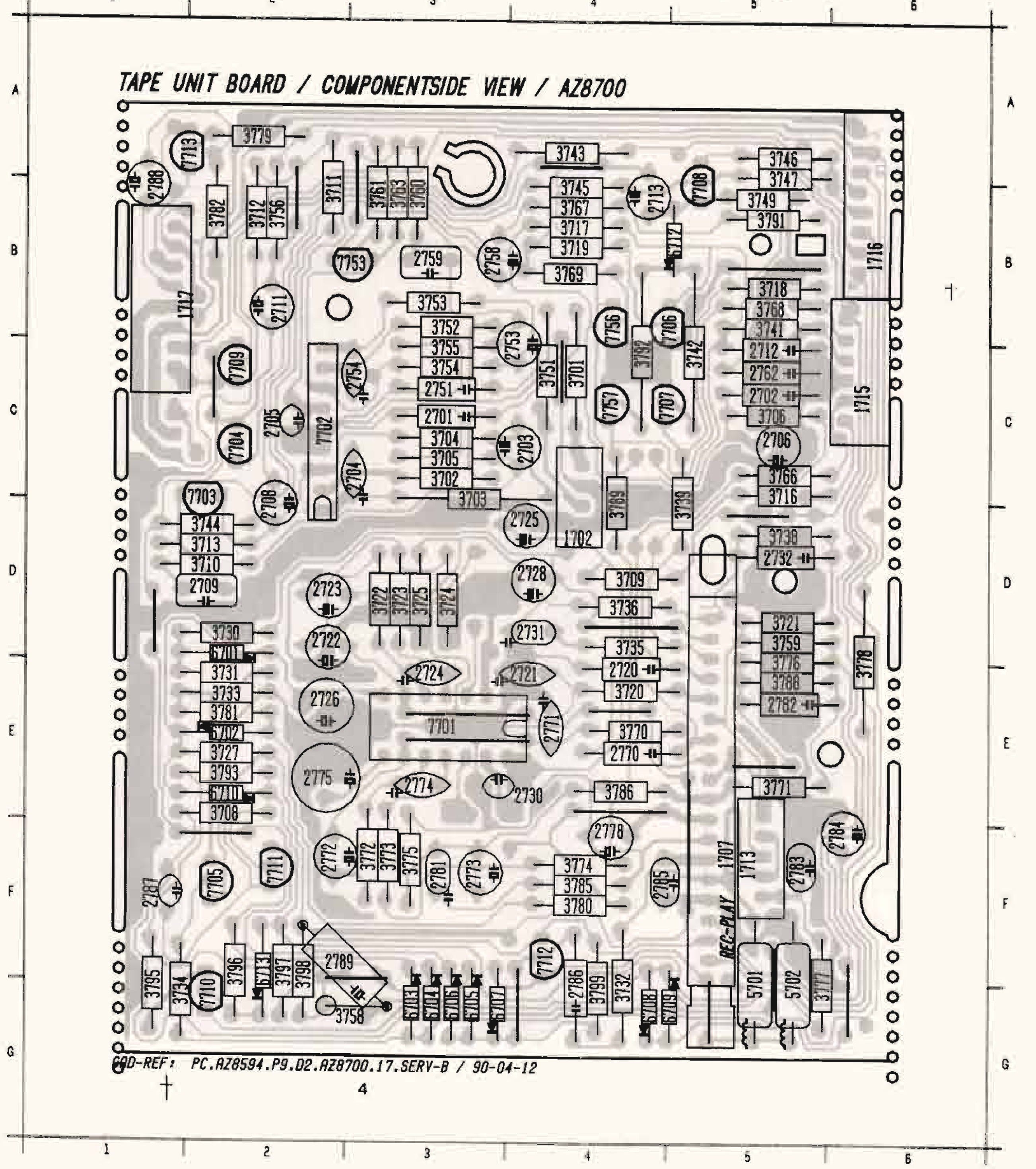
COMBI BOARD DIAGRAM II



1580A	M8	3547	F11
1580B	M7	3548	G11
1580C	M7	3550	E13
1581	M10	3551	E13
1582	M9	3552	F13
1583	M10	3553	F14
1585	J1	3554	F13
1600	E17	3555	E15
1601	C3	3556	E15
1602	A7	3558	E15
1604	N3	3560	H6
1605	M3	3561	H5
1611	D3	3562	J5
1613	K17	3563	G7
1614	B17	3564	G3
1616	H3	3565	D5
1617	H3	3566	E7
2230	F6	3567	F8
2500	C10	3568	F7
2501	C11	3569	F8
2502	C11	3570	J6
2503	C11	3572	J2
2504	C11	3573	J2
2505	C12	3578	B13
2506	B12	3580	D10
2507	C13	3580	F10
2508	C14	3580A	D15
2509	C13	3581	B15
2513	D17	3582	B17
2515	C15	3583	F7
2520	F5	3585	J16
2521	F5	3586	K15
2525	C5	3587	K15
2540	F10	3588	K14
2541	E11	3590	K14
2542	F11	3591	K13
2543	E11	3592	K13
2544	F11	3592	B11
2546	E12	3593	K13
2547	E13	3594	K12
2548	E14	3595	K12
2549	F13	3596	K11
2552	F15	3597	K11
2553	C17	3600A	M16
2560	H5	3600B	M16
2561	H5	3601	K6
2563	H6	3602	K7
2565	D5	3603	K8
2581	C15	3604	C9
2582	B7	3605	B8
2583	G7	3606	C8
2585	C15	6581	L14
2587	L14	6582	A18
2588	K14	6601	K6
2589	L12	6602	K8
2590	M12	6603	M4
2591	A11	6604	M2
3500	D9	6605	M1
3501	C10	6606	A11
3502	C11	6607	A12
3503	C11	6608	B11
3504	C12	6609	B12
3505	D10	7501	C13
3506	D11	7502	C14
3507	D11	7503	A13
3508	E11	7505	F6
3510	B13	7541	F13
3511	B13	7542	E14
3512	D13	7543	B13
3513	D14	7545	H6
3514	D13	7580	K14
3515	D15	7590	L12
3516	D15	7591	L13
3518	B15	7592	L12
3520	F6	7593	L13
3521	F5	7594	L11
3522	G5	7595	L13
3523	E7	7601	K5
3524	G3	7602	K8
3525	C5	7604	C8
3526	C7	8619	L2
3527	C8	8620	K2
3528	D7	8621	F3
3529	D6	1620	G17
3530	G6		
3532	J2		
3533	J2		
3534	A11		
3535	A11		
3536	B11		
3537	B11		
3538	A13		
3540	F9		
3541	E10		
3542	E11		
3543	E11		
3544	E12		
3544	E12		
3545	F10		
3546	F11		

1702	D 4	2721	E 4	2772	F 2	3705	C 3	3727	E 2	3751	C 4	3773	F 3	3796	F 2	7701	E 3
1707	F 5	2722	D 2	2773	F 3	3706	C 5	3730	D 2	3752	B 3	3774	F 4	3797	F 2	7702	C 2
1713	F 5	2723	D 2	2774	E 3	3708	E 2	3731	E 2	3753	B 3	3775	F 3	3798	F 2	7703	C 2
1715	C 6	2724	E 3	2775	E 2	3709	D 4	3732	G 4	3754	C 3	3776	D 5	3799	G 4	7704	C 2
1716	B 6	2725	D 4	2778	F 4	3710	D 2	3733	E 2	3755	C 3	3777	F 5	5701	F 5	7705	F 2
1717	B 2	2726	E 2	2781	F 3	3711	B 2	3734	G 1	3756	B 2	3778	D 6	5702	F 5	7706	B 4
2701	C 3	2728	D 4	2782	E 5	3712	B 2	3735	D 4	3758	G 3	3779	A 2	6701	D 2	7707	C 4
2702	C 5	2730	E 4	2783	F 5	3713	D 2	3736	D 4	3759	D 5	3780	F 4	6702	E 2	7708	B 5
2703	C 4	2731	D 4	2784	F 6	3716	C 5	3738	D 5	3760	B 3	3781	E 2	6703	G 3	7709	C 2
2704	C 3	2732	D 5	2785	F 4	3717	B 4	3739	D 5	3761	B 3	3782	B 2	6704	G 3	7710	G 2
2705	C 2	2751	C 3	2786	F 4	3718	B 5	3741	B 5	3763	B 3	3785	F 4	6705	G 3	7711	F 2
2706	C 5	2753	C 4	2787	F 1	3719	B 4	3742	C 5	3766	C 5	3786	E 4	6706	G 3	7712	F 4
2708	D 2	2754	C 3	2788	B 1	3720	E 4	3743	A 4	3767	B 4	3788	E 5	6707	G 3	7713	A 2
2709	D 2	2758	B 3	2789	F 2	3721	D 5	3744	D 2	3768	B 5	3789	D 4	6708	G 4	7753	B 3
2711	B 2	2759	B 3	3701	C 4	3722	D 3	3745	B 4	3769	B 4	3791	B 5	6709	G 5	7756	B 4
2712	C 5	2762	C 5	3702	C 3	3723	D 3	3746	A 5	3770	E 4	3792	C 4	6710	E 2	7757	C 4
2713	B 4	2770	E 4	3703	C 3	3724	D 3	3747	A 5	3771	E 5	3793	E 2	6712	B 5		
2720	E 4	2771	E 4	3704	C 3	3725	D 3	3749	B 5	3772	F 3	3795	G 1	6713	F 2		

TAPE UNIT BOARD / COMPONENTSIDE VIEW / AZ8700

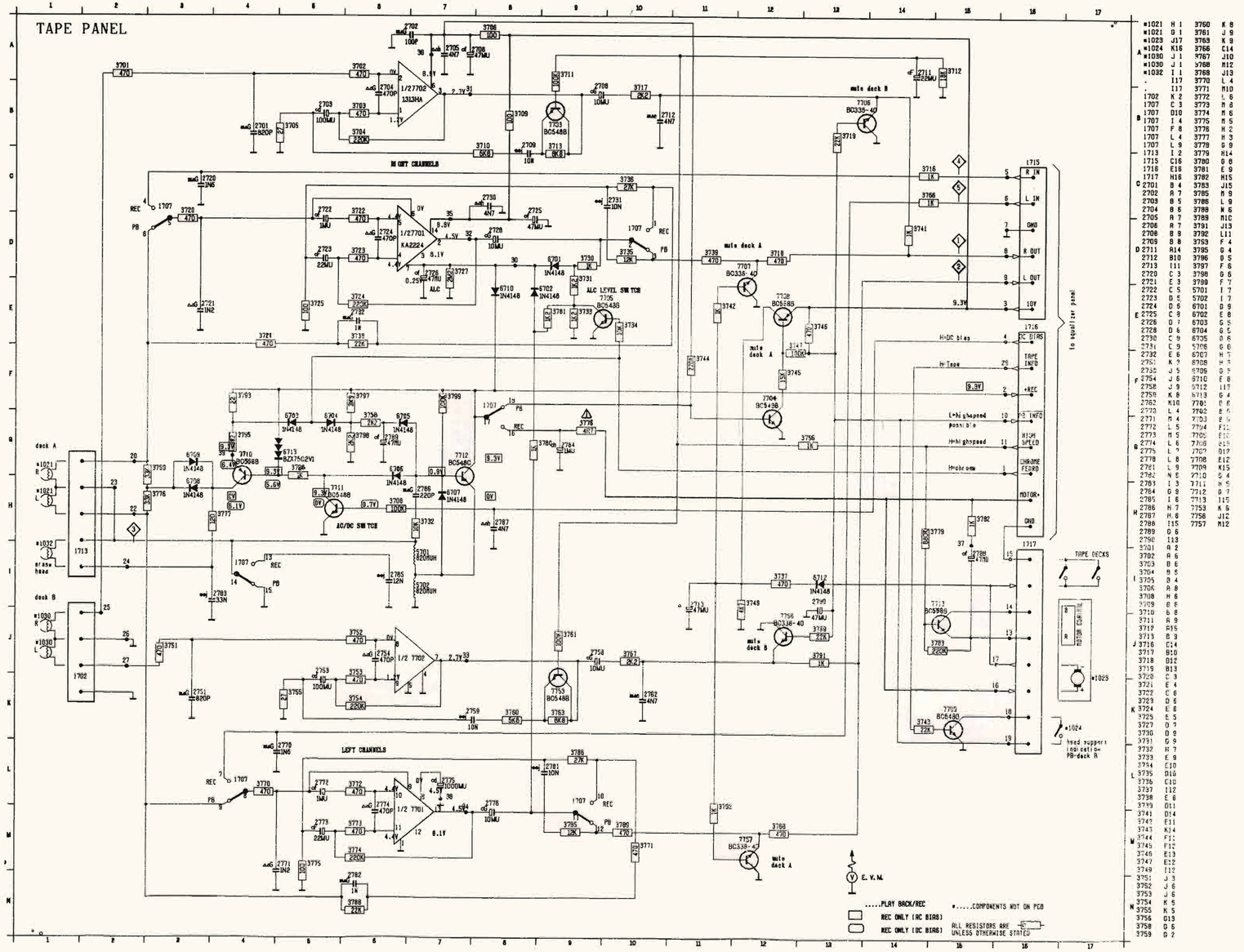


7701	7702		REC AC-BIAS	REC DC-BIAS
1 : 0V	1 : 1.2V	7710	e : 9.3V	e : 6.4V
2 : 4.5V	2 : 0V		b : 9.3V	b : 5.6V
3 : 8.1V	3 : 2.7V		c : 0V	c : 6.1V
4 : 4.4V	4 : 0V			
5 : 4.4V	5 : 0V			
6 : 0V	6 : 8.9V	7711	e : 0V	e : 0V
7 : 0.25V	7 : 2.7V		b : 0V	b : 0.7V
8 : 4.5V	8 : 0V		c : 9.3V	c : 0V
9 : 0V	9 : 1.2V			
10 : 4.4V				
11 : 4.4V		7712	e : 0V	
12 : 8.1V			b : 0.9V	
13 : 4.5V			c : 9.3V	
14 : 8.8V				

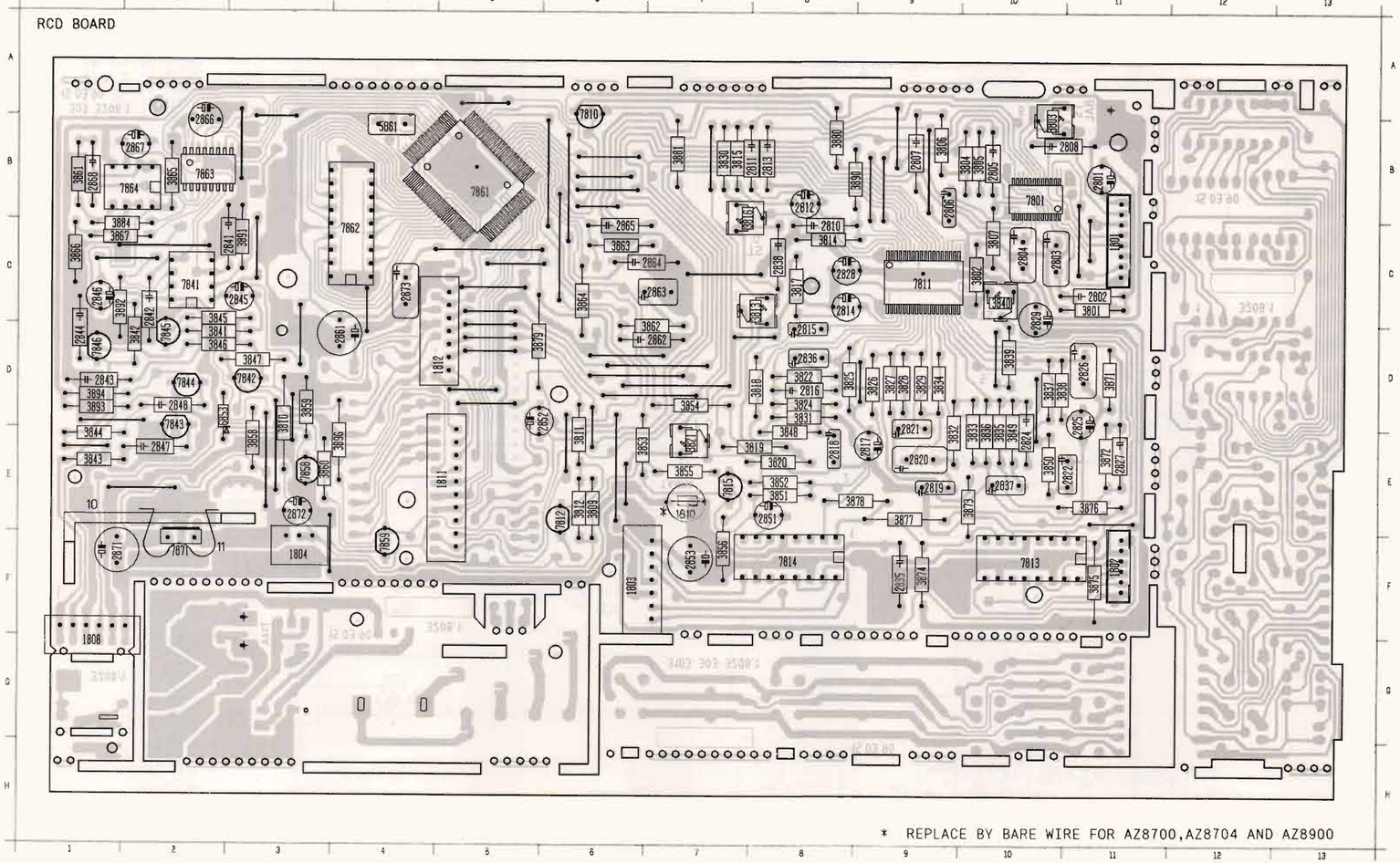
ADJUSTMENT	CASSETTE	SK...	RECORDER POSITION DECK A	DECK B	MEASURE ON	READ ON	ADJUST WITH	ADJUST TO
Azimuth	10KHz SBC 420*	Tape	Play	-	1303	mV-meter	Left hand Screw Play head	Max. L = R
		Tape	-	Play fwd	1303	mV-meter	Left hand Screw R/P Head	
		Tape	-	Play rev	1303	mV-meter	Right hand Screw R/P Head	
Motor speed (Normal)	3150Hz SBC 420*	Tape	Play	-	1303	Wow and Flutter meter	preset in motor	** a
		Tape	-	Play	1303	Wow and Flutter meter.	-	
Motor speed (high)	3150Hz SBC 420*	Tape HSD	Record	Play	1303	Frequency counter	-	6.0KHz ±0.3KHz

* SBC 420 : 4822 397 30071

** a The maximum permissible speed deviation is 2%.
Moreover, the wow and flutter value can be read.
This value should not exceed 0.35%.



RCD BOARD



ASSEMBLY DRAWING FOR AZ8700 FROM COMPONENT SIDE
BESTUECKUNGSPLAN FUER AZ8700 VON BAUTEILSEITE

DERIVED FROM PART PC.AZ8694.P8.D1
ERZEUGT VOM PART PC.AZ8694.P8.D1

7841

1 : 2.5V
2 : 2.5V
3 : 2.5V
4 : 0V
5 : 2.5V
6 : 2.5V
7 : 2.5V
8 : 5V

7864

1 : 2.5V
2 : 2.5V
3 : 2.5V
4 : 0V
5 : 2.5V
6 : 2.5V
7 : 2.5V
8 : 5V

7871

1 : 9.2V
2 : 0V
3 : 5V

CD part	⊛—	◇	◯	▭	▭
TRACKING OFFSET					
Stop			3840		▭ 6 ⟷ 10 0 V ± 10 mV
TRACKING BALANCE					
Service test progr.* pos. 3 display 3--,--			3803	8 ⟷ 2 Adjust to 0 V DC offset	
TRACKING GAIN					
Play with test disc 5	1200 Hz 200 mV	see Fig. 1	3816		See Fig. 1 CHX = 0,2 V/DIV CHY = 50 mV/DIV Adjust to circle
FOCUS GAIN					
Play with any normal disc	1100 Hz 700 mV	see Fig. 2	3813		See Fig. 2 CHX = 0,5 V/DIV CHY = 5 mV/DIV Adjust to circle
FOCUS OFFSET					
Play with any normal disc			3821		9 Max HF
			Check only	7 ⟷ 2 U DC measured =Ux	
			3821	7 ⟷ 2 Adjust to $\frac{Ux}{2}$	

* How to get in Service test programme see Service test programme

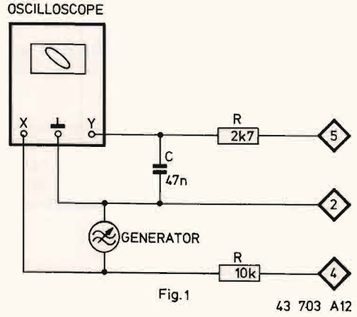


Fig.1

43 703 A12

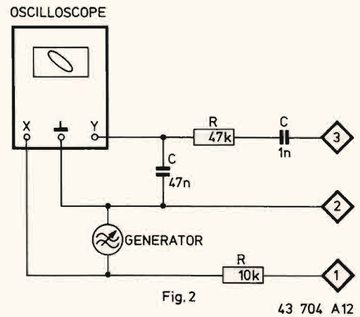
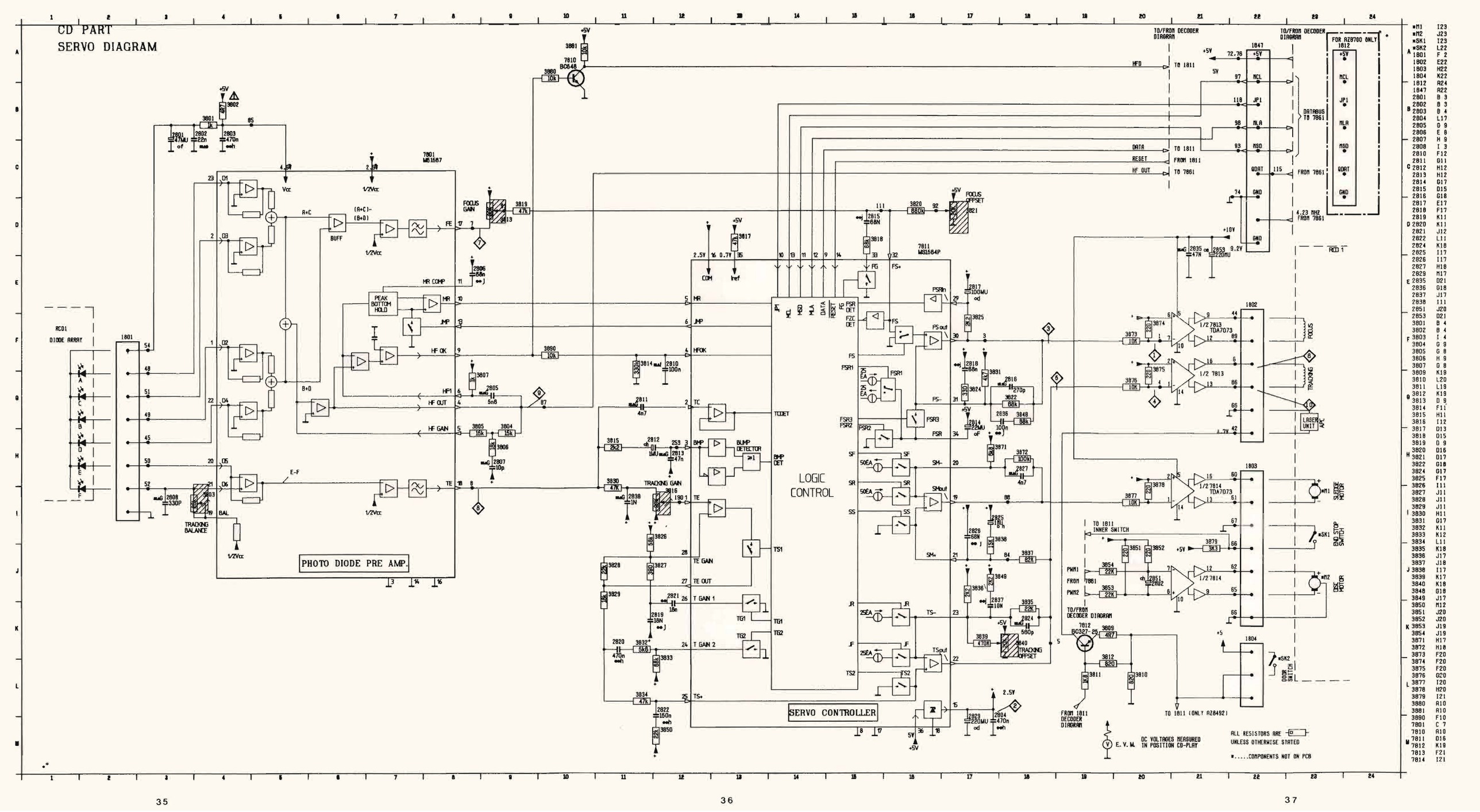


Fig.2

43 704 A12

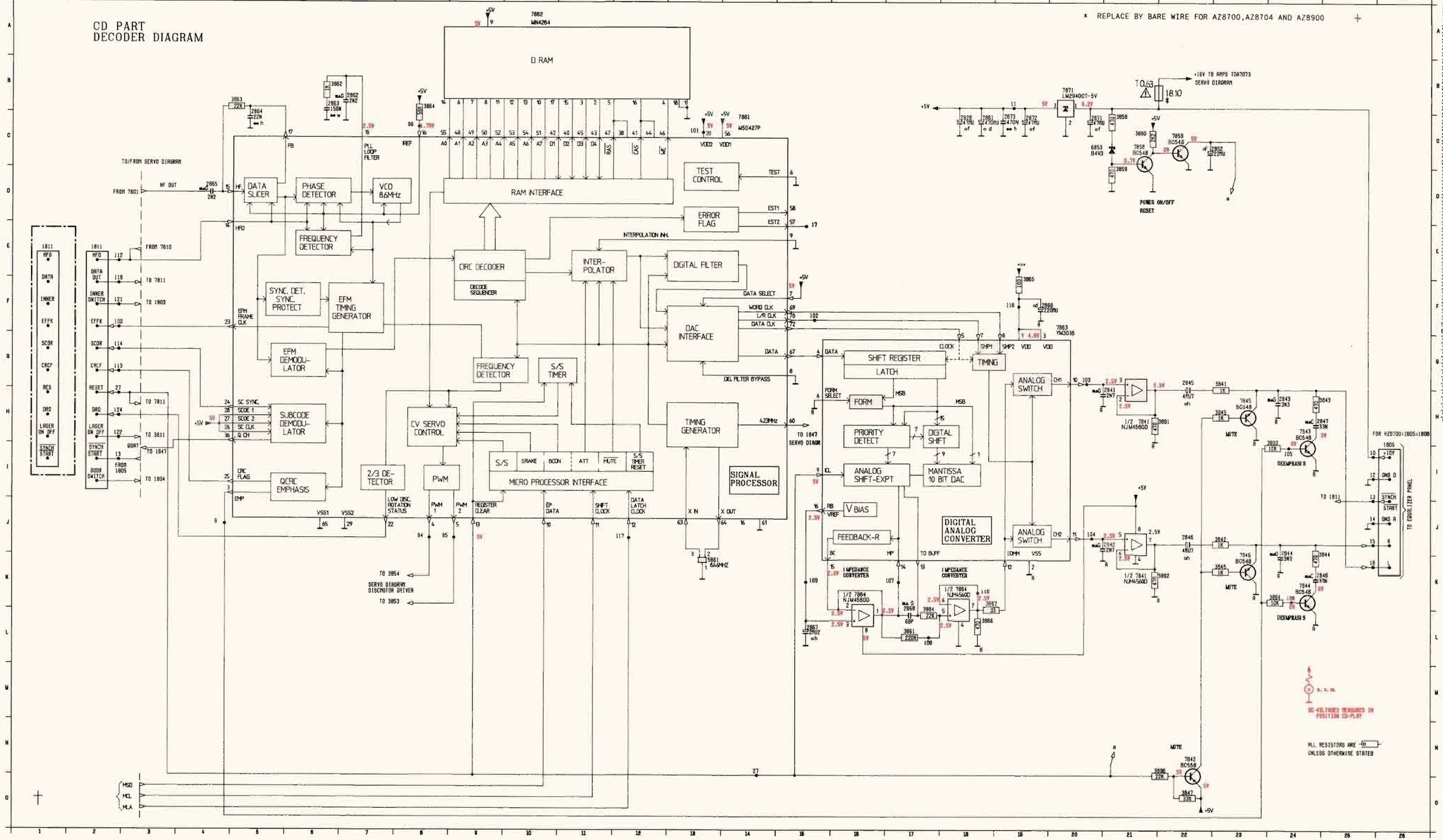
CD PART
SERVO DIAGRAM

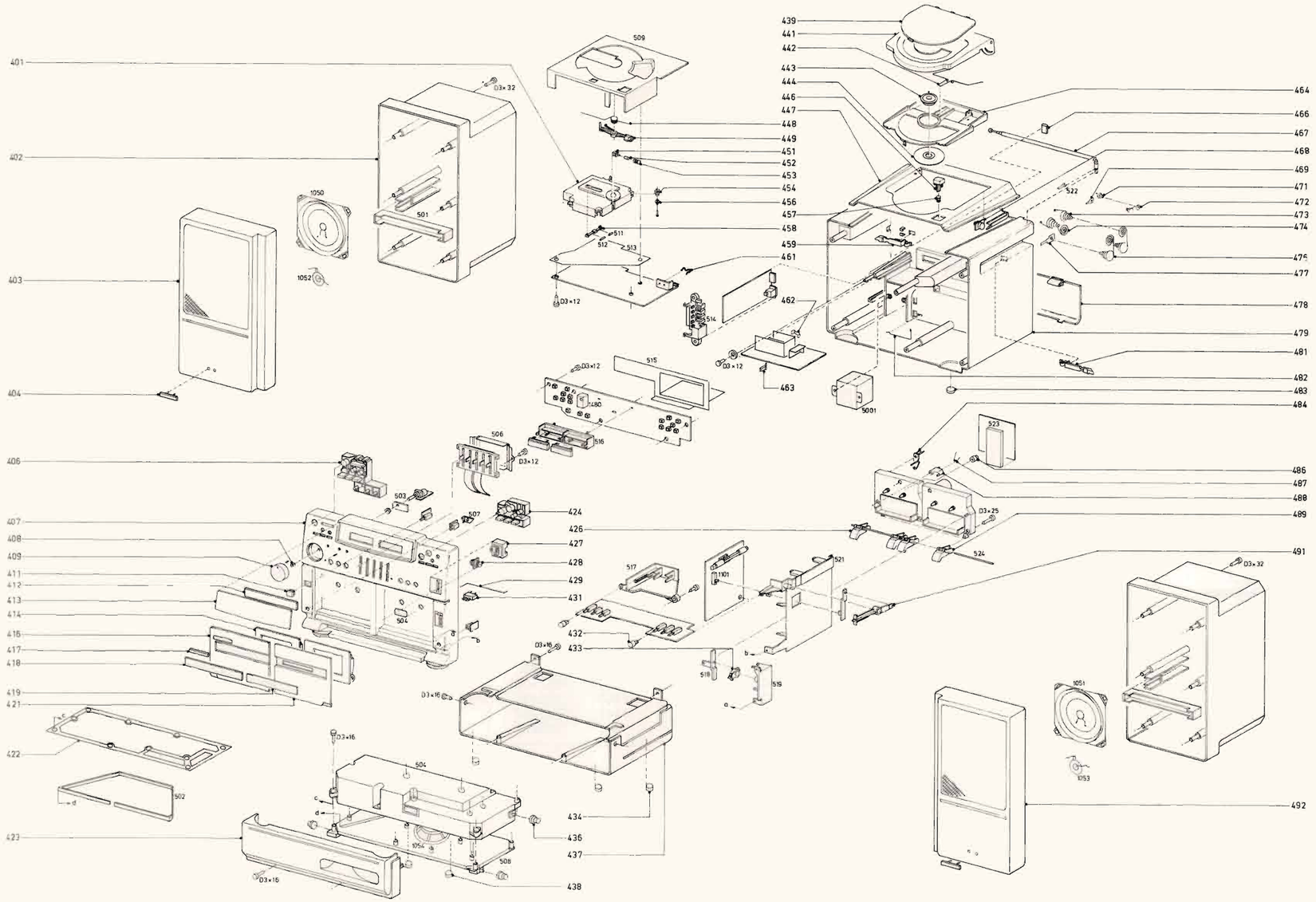


35 36 37

CD PART
DECODER DIAGRAM

* REPLACE BY BARE WIRE FOR AZ8700, AZ8704 AND AZ8900





401	4822 691 20596	432	4822 410 60761	463	4822 255 40843
402	4822 445 40099	433	4822 411 61697	464	4822 404 10808
403	4822 445 30211	434	4822 462 40683	466	Not applicable
404	4822 459 11003	436	4822 325 60334	467	4822 303 30296
406	4822 410 60763	437	4822 421 60142	468	4822 522 20384
407	4822 426 51455	438	4822 462 40683	469	4822 290 80606
408	4822 492 51374	439	4822 450 61577	471	4822 492 52175
409	4822 413 41586	441	4822 444 60717	472	4822 492 63982
411	4822 410 60765	442	4822 492 70157	473	4822 492 51734
412	4822 454 12648	443	4822 532 51871	474	4822 492 70655
413	4822 381 11175	444	4822 535 60096	476	4822 492 51733
414	4822 443 62936	446	4822 410 26898	477	4822 290 80313
416	4822 443 63124	447	4822 423 90156	478	4822 423 51049
417	4822 459 11003	448	4822 492 42321	479	4822 426 10039
418	4822 454 12642	449	4822 402 50272	481	4822 404 21117
419	4822 454 12641	451	4822 325 20138	482	Not applicable
421	4822 443 63125	452	4822 404 60471	483	4822 462 40683
422	4822 462 71702	453	4822 492 51724	484	4822 404 21115
423	4822 423 41079	454	4822 532 61103	486	4822 466 92641
424	4822 410 60764	456	4822 532 61104	487	4822 492 70426
426	4822 410 60611	457	4822 492 52059	488	4822 403 30772
427	Not applicable	458	4822 492 70156	489	4822 410 60612
428	4822 529 10251	459	4822 404 21116	491	4822 410 60835
429	4822 492 70427	461	4822 255 40179	492	4822 445 30212
431	4822 466 70692	462	5322 255 40397		
				IFU	4822 736 20877

(GB) WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

ESD

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

(F)

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(NL)

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(D)

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

MISCELLANEOUS

1044		Switch leaf	4822	276 12165
1050		Loudspeaker 4Ω	4822	240 30556
1051		Loudspeaker 4Ω	4822	240 30556
1052		Buzzer	4822	280 10222
1053		Buzzer	4822	280 10222
1054		Loudspeaker 8Ω	4822	240 30512
1101		Bandswitch	4822	276 12951
1300	△	Fuse T2.5A	4822	070 32502
1301	△	Socket mains	4822	265 20287
1302		Power switch	4822	276 12571
1303		Socket headphone	4822	267 30553
1304		Socket CD	4822	267 30933
1305		Socket CD	4822	267 30933
1306		Socket speaker	4822	267 31176
1309	△	Fuse T1.25A	4822	071 51252
1401		CD Display	4822	130 90762
1402		Tuner display	4822	130 90763
1410		Switch key	4822	276 12276
1411		Switch key	4822	276 12276
1412		Switch key	4822	276 12276
1413		Switch key	4822	276 12276
1414		Switch key	4822	276 12276
1415		Switch key	4822	276 12276
1416		Switch key	4822	276 12276
1417		Switch key	4822	276 12276
1418		Switch key	4822	276 12276
1419		Switch key	4822	276 12276
1420		Switch key	4822	276 12276
1421		Switch key	4822	276 12276
1422		Switch key	4822	276 12276
1423		Switch key	4822	276 12276
1424		Switch key	4822	276 12276
1425		Switch key	4822	276 12276
1426		Switch key	4822	276 12276
1480		Rcr GP1U520X	4822	130 81254
1580		Mode selector	4822	276 12947
1581		Speed selector	4822	276 12146
1582		Tape selector	4822	276 12146
1583		DBB switch	4822	276 12263
1585		Socket mic	4822	267 30553
1586	*	Socket aerial	4822	267 30633
1707		Record switch	4822	277 20594
1810	△	Fuse T0.63A	4822	253 20089
5110				
5111		Filter package	4822	242 72977
5112				
5113		Filter 450kHz	4822	158 60511
5114		Filter 450kHz	4822	158 60511
5150		Filter 7.2MHz	4822	242 72976
5401		Resonator 6MHz	4822	242 71854
5402		X'tal 32.768kHz	4822	242 70938
5861		Resonator	4822	242 72565
		Remote control	4822	218 10369

CAPACITORS

2103		Trimmer 3-11pF	4822	125 60101
2109		Trimmer 4.2-20pF	4822	125 50355
2112		Chip 470pF	4822	122 32882
2113		PP 590pF 160V	4822	121 43706
2114		PP 390pF 160V	4822	121 43705
2115		Trimmer 4.2-20pF	4822	125 50355
2116		Chip 100nF 50V	4822	122 32893
2117		Chip 100nF 50V	4822	122 32893
2118		Chip 180pF 50V	4822	122 31768
2119		Chip 100nF 50V	4822	122 32893
2123		Chip 15nF 50V	4822	122 31782
2124		Chip 15nF 50V	4822	122 31782
2134		Chip 22nF 50V	4822	122 31797
2135		Chip 15pF 50V	4822	122 32504
2141		Chip 15pF 50V	4822	122 32504
2142		Chip 470pF 50V	4822	122 31727
2143		Chip 100pF 50V	4822	122 31765
2144		Chip 470pF 50V	4822	122 31727
2146		Chip 1nF 50V	5322	122 31647
2148		Chip 6.8pF 50V	4822	122 32507
2149		Chip 12pF 50V	4822	122 33205
2152		Chip 10nF 50V	4822	122 32442
2154		Chip 470pF 50V	4822	122 31727
2161		Chip 470pF 50V	4822	122 31727
2162		Chip 100nF 50V	4822	122 32893
2163		Chip 100nF 50V	4822	122 32893
2166		Chip 100nF 50V	4822	122 32893
2167		Chip 100nF 50V	4822	122 32893
2168		Chip 10nF 50V	4822	122 32442
2169		Chip 1nF 50V	5322	122 31647
2171		Chip 100nF 50V	4822	122 32893
2173		Chip 180pF 50V	4822	122 31768
2174		Chip 2.2nF 50V	4822	122 33704
2176		Chip 22nF 50V	4822	122 31797
2181		Chip 6.8pF 50V	4822	122 32507
2185		Chip 3.9pF 50V	4822	122 32081
2186		Chip 2.2pF 50V	4822	122 32425
2406		Trimmer 20pF	4822	125 50309

RESISTORS

3104		Chip 100kΩ 0.1W	4822	051 20104
3106		Chip 2.2kΩ 0.1W	4822	051 20222
3108		Chip 4.7kΩ 0.1W	4822	051 20472
3109		Chip 2.2kΩ 0.1W	4822	051 20222
3110		Chip 10kΩ 0.1W	4822	051 20103
3111		Trimmer 20kΩ	4822	100 20589
3114		Chip 47kΩ 0.1W	4822	051 20473
3115		Chip 47kΩ 0.1W	4822	051 20473
3117		Chip 100kΩ 0.1W	4822	051 20104
3119		Chip 47kΩ 0.1W	4822	051 20473
3120		Chip 6.8kΩ 0.1W	4822	051 20682
3121		Chip 100kΩ 0.1W	4822	051 20104
3123		Chip 10kΩ 0.1W	4822	051 20103
3124		Chip 10kΩ 0.1W	4822	051 20103
3133		Chip 1MΩ 0.1W	4822	051 20135
3136		Chip 1MΩ 0.1W	4822	051 20135
3138		Chip 1kΩ 0.1W	4822	051 10102
3139		Chip 1kΩ 0.1W	4822	051 10102
3141		Chip 2.2kΩ 0.1W	4822	051 20222
3142		Chip 2.2kΩ 0.1W	4822	051 20222
3149		Chip 4.7kΩ 0.1W	4822	051 20472
3156		Chip 22kΩ 0.1W	4822	051 20223
3157		Chip 220kΩ 0.1W	4822	051 20224
3161		Chip 4.7kΩ 0.1W	4822	051 20472
3167		Chip 100kΩ 0.1W	4822	051 20104
3168		Chip 10Ω 0.1W	4822	051 20109
3172		Chip 330kΩ 0.1W	4822	051 20334
3173		Chip 220kΩ 0.1W	4822	051 20224
3174		Chip 10kΩ 0.1W	4822	051 20103
3177		Chip 22kΩ 0.1W	4822	051 20223
3178		Chip 1MΩ 0.1W	4822	051 20135
3179		Chip 4.7MΩ 0.1W	4822	051 10475
3181		Chip 10kΩ 0.1W	4822	051 20103
3187		Chip 0Ω	4822	051 20008
3188		Chip 0Ω	4822	051 20008
3190		Chip 0Ω	4822	051 20008
3198		Chip 0Ω	4822	051 20008
3199		Chip 0Ω	4822	051 20008
3327	△	NFR25 10Ω	4822	111 30508
3580		Potm slide assy	4822	105 11054
3600		Potm 50KB X 2	4822	102 20104
3778	△	NFR25 4.7Ω	4822	052 10478
3802	△	NFR25 4.7kΩ	4822	052 10478
3803		Trimmer 20kΩ	4822	100 20589
3809	△	NFR25 4.7kΩ	4822	052 10478
3813		Trimmer 20kΩ	4822	100 20589
3816		Trimmer 20kΩ	4822	100 20589
3821		Trimmer 20kΩ	4822	100 20589
3840		Trimmer 20kΩ	4822	100 20589

COILS

5001	△	Transfo, mains	4822	146 30926
5101		Coil 0.47µH	4822	157 50967
5102		Coil 1µH	4822	157 51195
5103		Coil	4822	156 30947
5104		Coil	4822	156 30947
5105		Coil	4822	157 53883
5106		Antenna assy	4822	158 60593
5107				
5108		Coil	4822	157 53884
5109		Coil 110µH	4822	157 60517
5403		Coil 2.2µH	4822	157 62552
5404		Coil 2.2µH	4822	157 62552
5405		Coil 2.2µH	4822	157 62552
5406		Coil 2.2µH	4822	157 62552
5414		Coil 2.2µH	4822	157 62552
5415		Coil 2.2µH	4822	157 62552
5480		Coil 680µH	4822	157 53809
5701		Coil 820mH	4822	157 51238
5702		Coil 820mH	4822	157 51238

SEMICONDUCTORS

6080		TLR220 RD	4822	130 82027
6101		BA484	4822	130 32214
6102		1N4148-75	4822	130 30621
6103		BB304	4822	130 81091
6104		BB304	4822	130 81091
6105		1SV149	4822	130 81673
6106		1N4148-75	4822	130 30621
6107		1SV149	4822	130 81673
6108		1N4148-75	4822	130 30621
6109		1N4148-75	4822	130 30621
6150		1N4148-75	4822	130 30621
6151		1N4148-75	4822	130 30621
6152		1N4148-75	4822	130 30621
6153		1N4148-75	4822	130 30621
6154		1N4148-75	4822	130 30621
6170		BZX79/B5V6	4822	130 34173
6171		1N4148-75	4822	130 30621
6172		1N4148-75	4822	130 30621
6173		1N4148-75	4822	130 30621
6300		KBU4D	4822	130 80305
6301		1N4148	4822	130 30621
6302		1N4148	4822	130 30621
6303		1SS106	4822	130 32574
6304		HZ6LB3	4822	130 81758
6305		1SS106	4822	130 32574
6306		1N4148	4822	130 30621
6310		1N4148	4822	130 30621
6311		1N4148	4822	130 30621
6312		BZX79C4V7	4822	130 34174
6313		BZX79C9V1	4822	130 30862
6314		BZX79C5V6	4822	130 34173
6330		1N4148	4822	130 30621
6331		1N4148	4822	130 30621
6332		BZX79C6V2	4822	130 34167
6401		1N4148	4822	130 30621
6402		1N4148	4822	130 30621
6406		1N4148	4822	130 30621
6407		1N4148	4822	130 30621
6414		1N4148	4822	130 30621
6421	*	1N4148	4822	130 30621
6422	*	1N4148	4822	130 30621
6480		1N4148	4822	130 30621
6581		BZX79C6V2	4822	130 34167
6581	$	BZX79C6V8	4822	130 34278
6582		TLG124A GN	4822	130 32472
6601		1N4148	4822	130 30621
6602		1N4148	4822	130 30621
6603		1N4148	4822	130 30621
6604		TLG124A GN	4822	130 32472
6605		TLG124A GN	4822	130 32472
6606		BZX79C5V6	4822	130 34173
6607		1N4148	4822	130 30621
6608		BZX79C5V6	4822	130 34173
6609		1N4148	4822	130 30621
6701		1N4148-75	4822	130 30621
6702		1N4148-75	4822	130 30621
6703		1N4148-75	4822	130 30621
6704		1N4148-75	4822	130 30621
6705		1N4148-75	4822	130 30621
6706		1N4148-75	4822	130 30621
6707		1N4148-75	4822	130 30621
6708		1N4148-75	4822	130 30621
6709		1N4148-75	4822	130 30621
6710		1N4148-75	4822	130 30621
6712		1N4148-75	4822	130 30621
6713		BZX75-C2V1	4822	130 34049
6853		BZX79-B4V3	4822	130 31554
7101		CXA 1238M	4822	209 73851
7102		2SC1047	4822	130 60163
7103		BC548C	4822	130 44196
7104		BC548C	4822	130 44196
7105		CD4007CM	4822	209 61116
7106		2SC1047	4822	130 60163
7107		2SA838B	4822	130 60093
7108		2SC1047	4822	130 60163
7109		2SC1047	4822	130 60163
7150		LM7000	4822	209 71331
7151		BC548C	4822	130 44196
7152		BC558B	4822	130 44197
7153		BC558B	4822	130 44197
7154		BC548C	4822	130 44196
7155		BC548C	4822	130 44196
7156		BC548C	4822	130 44196
7157		BC548C	4822	130 44196
7158		BC548C	4822	130 44196
7170		BC558B	4822	130 44197
7171		BC548C	4822	130 44196
7172		BC548C	4822	130 44196
7173		BC548C	4822	130 44196
7260		TBC548C	4822	130 44196
7301		TBC548C	4822	130 44196
7310		BD234	4822	130 61236
7311		TBC548C	4822	130 44196
7312		TBC558B	4822	130 44197
7313		AN7147	4822	209 72368
7314		TBC548C	4822	130 44196
7315		BC337-40	4822	130 41344
7316		BC327-40	4822	130 41327
7330		AN7147	4822	209 72368
7331		2SA1160B	4822	130 62388
7332		2SA1160B	4822	130 62388
7333		TBC548B	4822	130 40937
7334		BC337-25	4822	130 40981
7335		TBC548C	4822	130 44196
7360		TBC548C	4822	130 44196
7401		TMP47C820F-3677	4822	209 63032
7480		TBC558B	4822	130 44197
7481		TBC548B	4822	130 40937
7501		TBC548C	4822	130 44196
7502		TBC548C	4822	130 44196
7503		TBC548C	4822	130 44196
7505		TBC549C	4822	130 44246
7541		TBC548C	4822	130 44196
7542		TBC548C	4822	130 44196
7543		TBC548C	4822	130 44196
7545		TBC549C	4822	130 44246
7580		TBC548A	4822	130 40948
7590		BC337-40	4822	130 41344
7591		BC337-40	4822	130 41344
7592		BC327-40	4822	130 41327
7593		BC327-40	4822	130 41327
7594		TBC548C	4822	130 44196
7595		TBC548C	4822	130 44196
7601		TBC558B	4822	130 44197
7602		TBC558B	4822	130 44197
7604		TBC548C	4822	130 44196
7701		KA2224	4822	209 72491
7702		1313HA	4822	209 70288
7703		BC548B	4822	130 40937
7704		BC548B	4822	130 40937
7705		BC548B	4822	130 40937
7706		TBC338-40	5322	130 44779
7707		TBC338-40	5322	130 44779
7708		BC558B	4822	130 44197
7709		BC548B	4822	130 40937
7710		BC558B	4822	130 44197
7711		BC548B	4822	130 40937
7712		BC548C	4822	130 44196
7713		BC558B	4822	130 44197
7753		BC548B	4822	130 40937
7756		TBC338-40	5322	130 44779
7757		TBC338-40	5322	130 44779
7801		M51567	4822	209 72814
7810		TBC548	4822	130 40938
7811		M51564	4822	209 72815
7812		BC327-25	4822	130 41246
7813		TDA7073/N1	4822	209 61073
7814		TDA7073/N1	4822	209 61073
7841		NJM4560D	4822	209 83274
7842		TBC548	4822	130 40938
7843		TBC548	4822	130 40938
7844		TBC558	4822	130 40941
7858		TBC548	4822	130 40938
7859		TBC548	4822	130 40938
7861		M50427FP	4822	209 62371
7862		MN4264-15	4822	209 70422
7863		YM3016F	4822	209 73864
7864		NJM4560D	4822	209 83274
7871		LM2940CT-5.0	5322	209 72487
7891		TBC548	4822	130 40938
7892		TBC548	4822	130 40938

* NOT FOR -/02

$ ONLY FOR -/02