

Service
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Service Manual

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SPECIFICATION

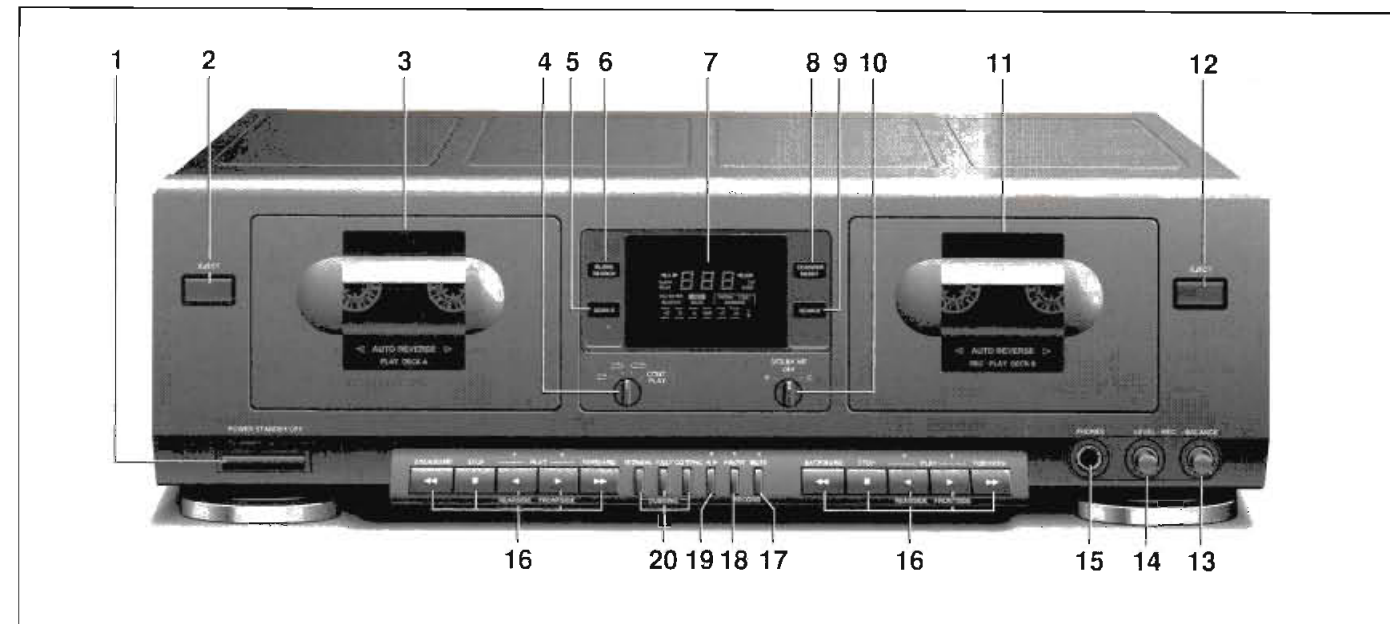
GENERAL

Mains voltage : 220 V /00S/10S
 : 240 V /05S
 : 120 V /17S
 Mains voltage selector : 115-230 V /01S
 Mains frequency : 50-60 Hz
 Power consumption : 17 W max.
 Demensions : 435x140x300mm
 Weight : 5,5 Kg

CASSETTE DECK

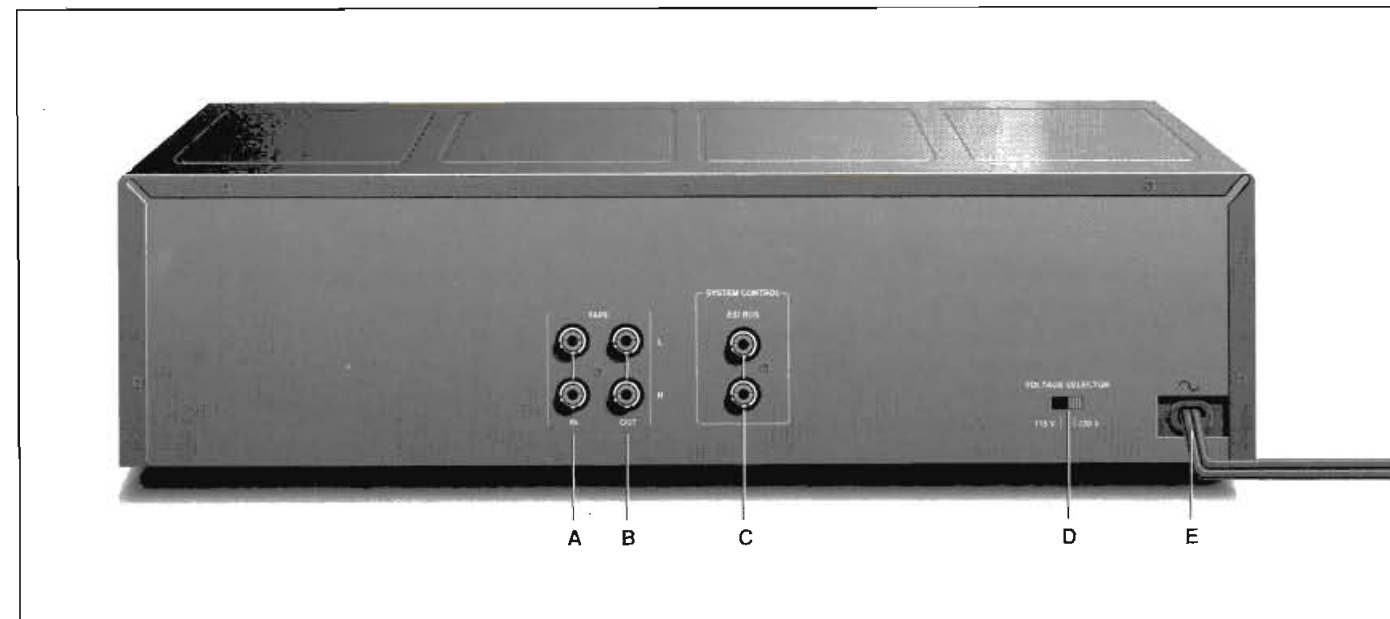
Cassette system : Compact cassette
 Number of tracks : 2x2 (stereo)
 Fast wind time (C60) : ≤ 100 sec.
 Tape speed : 4.76 cm/sec. ± 2% (DIN)
 Wow and flutter weighted : ≤ 0.2% (DIN)
 Bias and erase frequency : 80 KHz ± 10%
 Frequency range chromium : 40 - 15000 Hz (DIN45500)
 Ferro : 40 - 14000 Hz (DIN45500)
 Signal/noise ratio : ≥ 56 dB (DIN45500)
 chromium without dolby : ≥ 53 dB (DIN45500)
 ferro without dolby : ≥ 8.5 dB (CCIR)
 improvement with dolby B : ≥ 17 dB (CCIR)
 improvement with dolby C : ≤ 3%
 Distortion (K3) : ≤ 3%
 Line input sensitivity (cinch) : 75 mV for 200 nWb/m
 Outputs : line output : 500 mV at 200 nWb/m
 headphone (6.3mm jack) : 500 mV at 120 Ω

CONNECTIONS AND CONTROLS



FRONTSIDE

1	Power on/off	1403	16	Keyboard deck A	rewind	1316
2	Eject deck A			stop		1317
3	Cassette holder A			play reverse		1318
4	Rev mode selector	1301		play normal		1319
5	Scan A	1323		wind		1315
6	Blank search	1322		Keyboard deck B		
7	Display	6310		rewind		1308
8	Counter reset	1321		stop		1307
9	Scan B	1320		play revers		1306
10	Dolby NR.	1302		play normal		1305
11	Cassette holder B			wind		1304
12	Eject deck B			Record mute		1309
13	Rec. balance	3425	17	Record pause		1310
14	Rec. level	3426	18	Direction		1311
15	Phones	1407	19	Dubbing CD	synchro	1312
			20		fast	1313
					normal	1314



REARSIDE

A	Tape in	1405	D	Voltage selector	1402
B	Tape out	1408			only /01
C	ESY bus	1406	E	Mains lead	

GB

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

NL

Veiligheidsbepalingen vereisen dat het apparaat 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 ricambiaggio identici a quelli specificati.

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.

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

WARNINGS**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.

NL WAARSCHUWING

Alle ICs 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 hetzelfde potentiaal.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber electrostatischen Entladungen (ESD).

Unvorsichtige Behandlung im Reparaturfall kann 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.

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 enfilez 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.

I AVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche. (ESD)

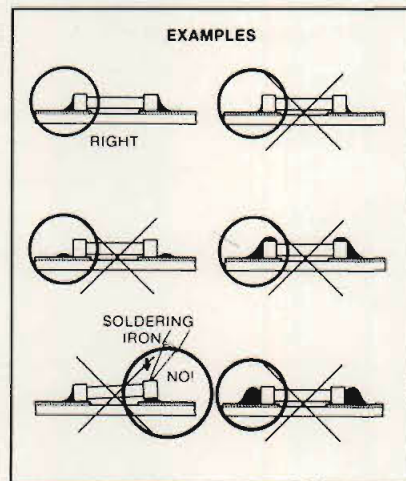
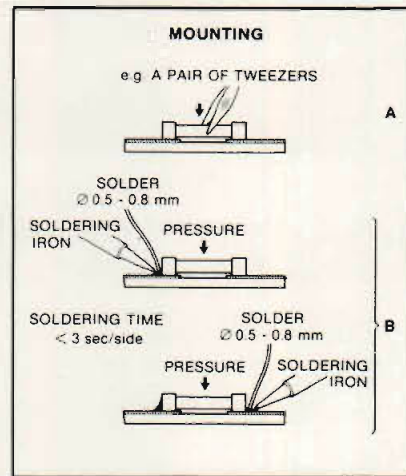
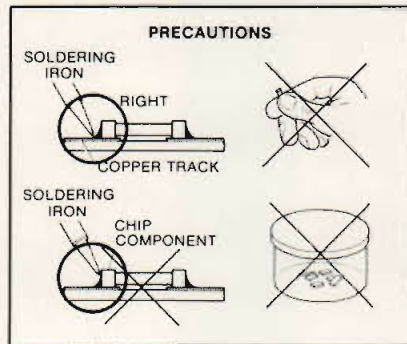
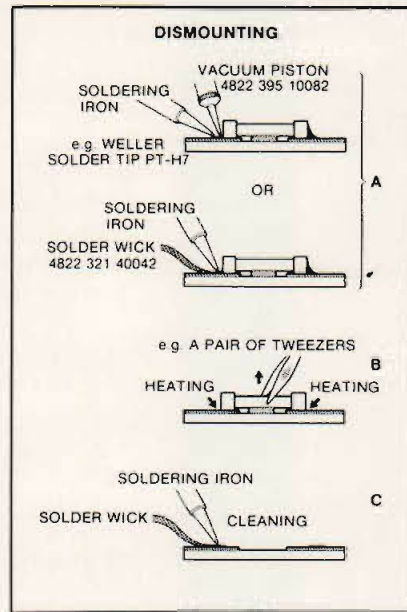
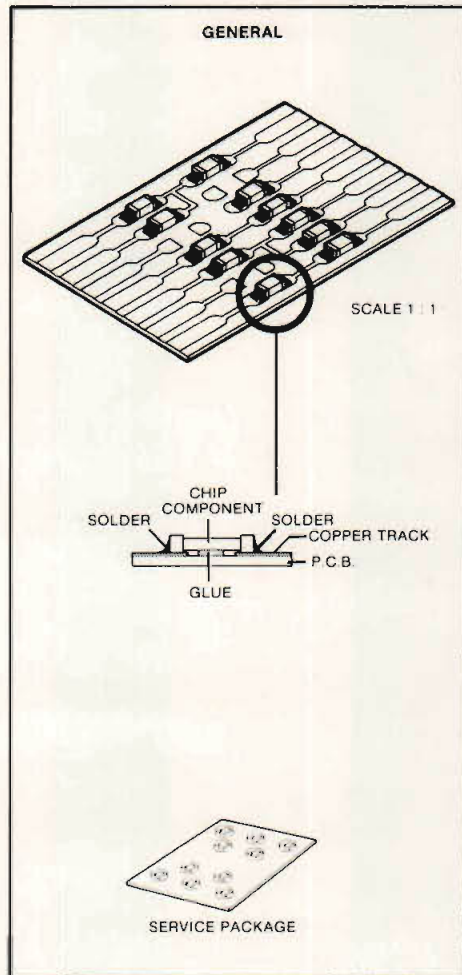
La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cautela alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.

Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

SERVICING HINTS

Explanation of the abbreviations

<u>PSD or PDWN</u>	Power Supply Down Such mentioned points will be activated when the power supply switched off for a short moment.
<u>PAD</u>	Power supply analog/digital Control signal to switch on and off the supply of the analog/ digital converter.
<u>ADL</u>	Output analog/digital converter left channel
<u>ADR</u>	Output analog/digital converter right channel
<u>L</u>	Input analog/digital converter left channel
<u>R</u>	Input analog/digital converter right channel
<u>LO</u>	Output audio signal left channel
<u>RO</u>	Output audio signal right channel
<u>L IN</u>	Input audio signal left channel
<u>R IN</u>	Input audio signal right channel
<u>AC1</u>	AC voltage for display
<u>AC2</u>	AC voltage for display
<u>PVCC</u>	+10 V for recorder module
<u>VCC</u>	+15 V for recorder module
<u>VR</u>	+13,5 V for recorder module
<u>VRD</u>	+7,5 V reference voltage for dolby circuit
<u>DDPR</u>	Dubbel Deck Play-back Recording circuit
<u>DDPR VR</u>	Ref.voltage for Dubbing Deck Play-back recording circuit
<u>GND</u>	Analog ground
<u>PGND</u>	Digital ground
<u>DCL CL or SCLK</u>	Clock line from master to slave processor
<u>DCL DA or SD</u>	Data line from master to slave processor
<u>DE</u>	Data enable line for 8 bit output
<u>STRB</u>	Strobe input line for 8 bit shift register
<u>PMG A or B</u>	Control signal power magnet A deck or power magnet B deck



27 012C12

SERVICE TESTPROGRAMM

GENERAL

With this testprogramm the following parts can be checked.

- 1 Display
- 2 Rotary switches
- 3 Keyboard
- 4 Oscillator

The service testprogramm can be started by pressing the ◀ ▶ (direction) and counter reset buttons together and switched on the set.

With the counter reset button you can scroll through the service modes 1 uptill 6

The service testprogramm can be used without a recorder mechanism.

DISPLAY TEST

Service mode 1

- Select service mode 1 by pressing the counter reset button.
- In this mode the display shows the half of the display segments.

Service mode 2

- By pressing the counter button again service mode 2 can be selected.
- The display shows now the other half of the display segments.

Service mode 3

- Press the counter button once more, the last mode of the display test is selected.
- The display shows now all the display segments

ROTARY SWITCH TEST

Service mode 4

- Select service mode 4 by pressing the counter reset button.
- A two digit key number will be displayed.

a left digit	
Position button	Display shows
Contplay	cont play 4
	3
	2
	1
b right digit	
Position button	Display shows
C	Dolby nr 03
Dolby off	02
B	Dolby nr 01

KEYBOARD TEST

Service mode 5

- Select service mode 5 by pressing the counter reset button.
- A one digit key number will be displayed.

Deck A	
Press button	Display shows
backward	1
stop	2
play reverse	3
play forward	4
forward	5
Deck B	
Dubbing	
normal	6
fast	7
CD Synchro	8
◀ ▶ direction	9
record pause	10
record mute	11
Deck B	
backward	12
stop	13
play reverse	14
play forward	15
forward	16
blank search	17
autoscan A	18
autoscan B	19

OSCILLATOR TEST

Service mode 6

- When this service mode is selected a 78 KHz signal is available on the reset of connector 1300 pin 1 to the recorder PCB.
- During service mode 6 the display is blank.
- normal mode starts again by pressing one of the stop buttons.

MEASURING TEST MODE

When pressing the stop and forward buttons of deck B together and switch on the set, there are three special actions are available.

1 Solenoids

- Press CD Sync button.
- The coil of deck B is activated for 10 seconds immediately followed by activating the coil of deck A for 10 seconds.

2 Speed deck B

- Press Play > button of deck B.
- The fast play mode (HS) of deck B will be started.
- Press Stop button of deck B.
- Press Play < button of deck B.

Deck B swichted over to the normal play mode (NS).

3 Speed deck A

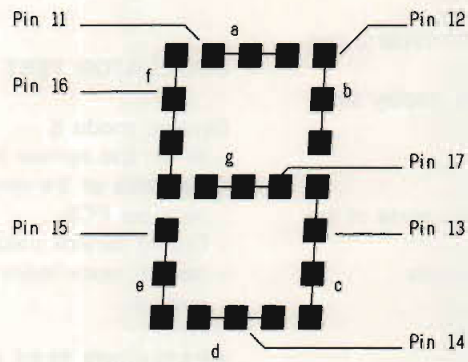
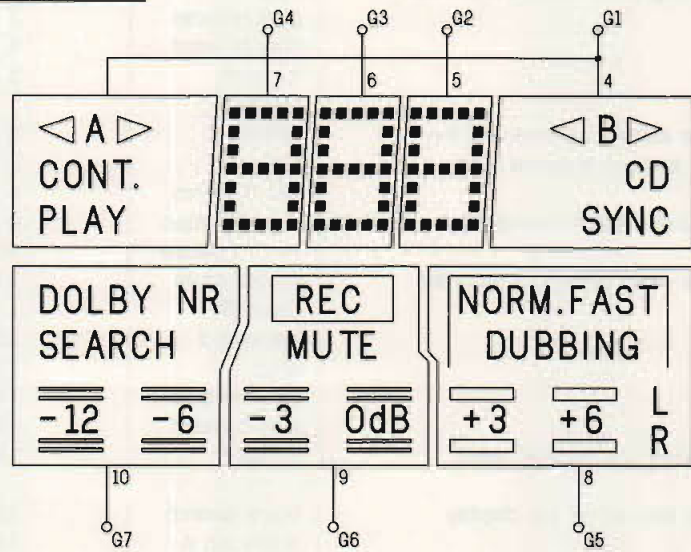
- Press Play > button of deck A.
- The fast play mode (HS) of deck A will be started.
- Press Stop button of deck A.
- Press Play < button of deck A.

Deck A swichted over to the normal play mode (NS).

4 End of test mode

- Switch power off

GRID ASSIGNMENT



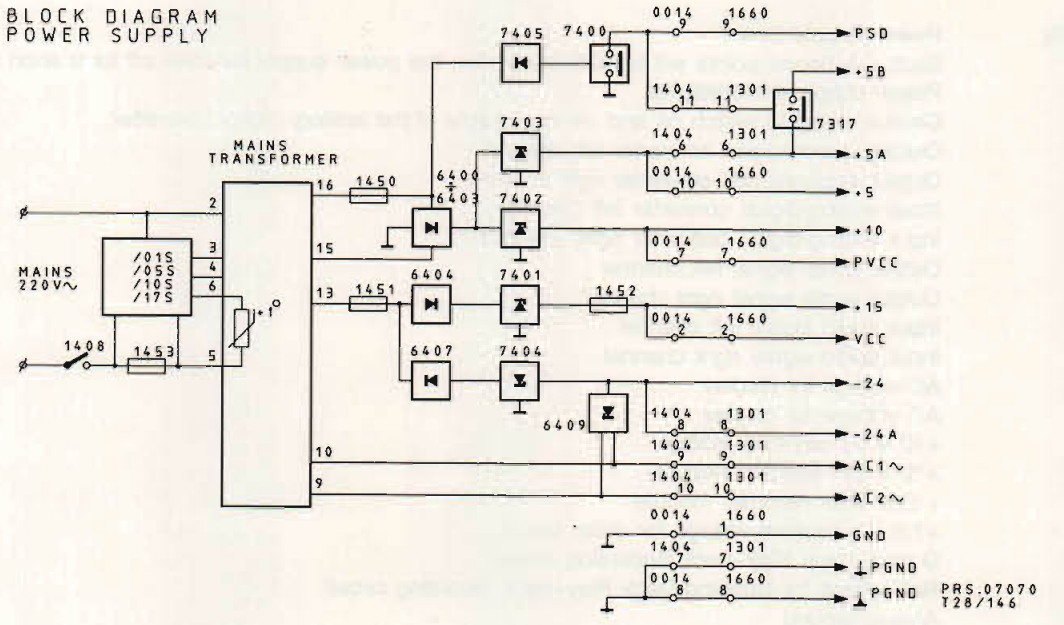
PIN CONNECTION

PIN NO	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F	F	N	P	P	P	P	P	P	P	G	G	G	G	G	G	G	N	F	F	F
	2	2	P	8	7	6	5	4	3	2	1	7	6	5	4	3	2	1	P	1	1

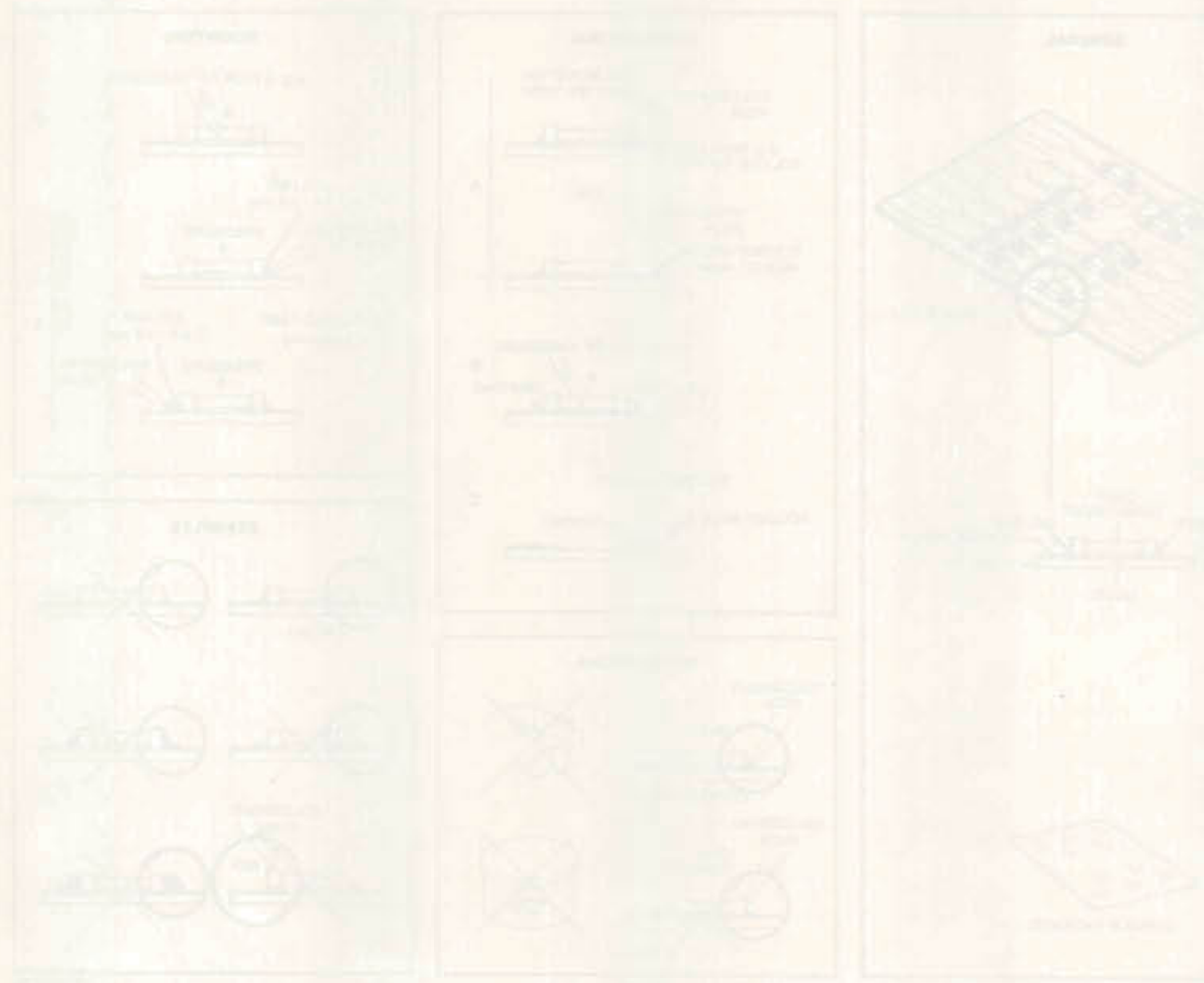
ANODE CONNECTION

	G7	G6	G5	G4	G3	G2	G1
P1	-	-	FAST	a	a	a	▷ right
P2	DOLBY NR	REC	NORM	b	b	b	▷ right
P3	SEARCH	MUTE	DUBBING	c	c	c	A B
P4	≡≡≡	≡≡≡	≡≡≡	d	d	d	▷ left
P5	≡≡≡	≡≡≡	≡≡≡	e	e	e	▷ left
P6	≡≡≡	≡≡≡	≡≡≡	f	f	f	CD SYNC.
P7	≡≡≡	≡≡≡	≡≡≡	g	g	g	CONT.PLAY
P8	-12 -6	-3 0dB	+3 +6 L R	-	-	-	-

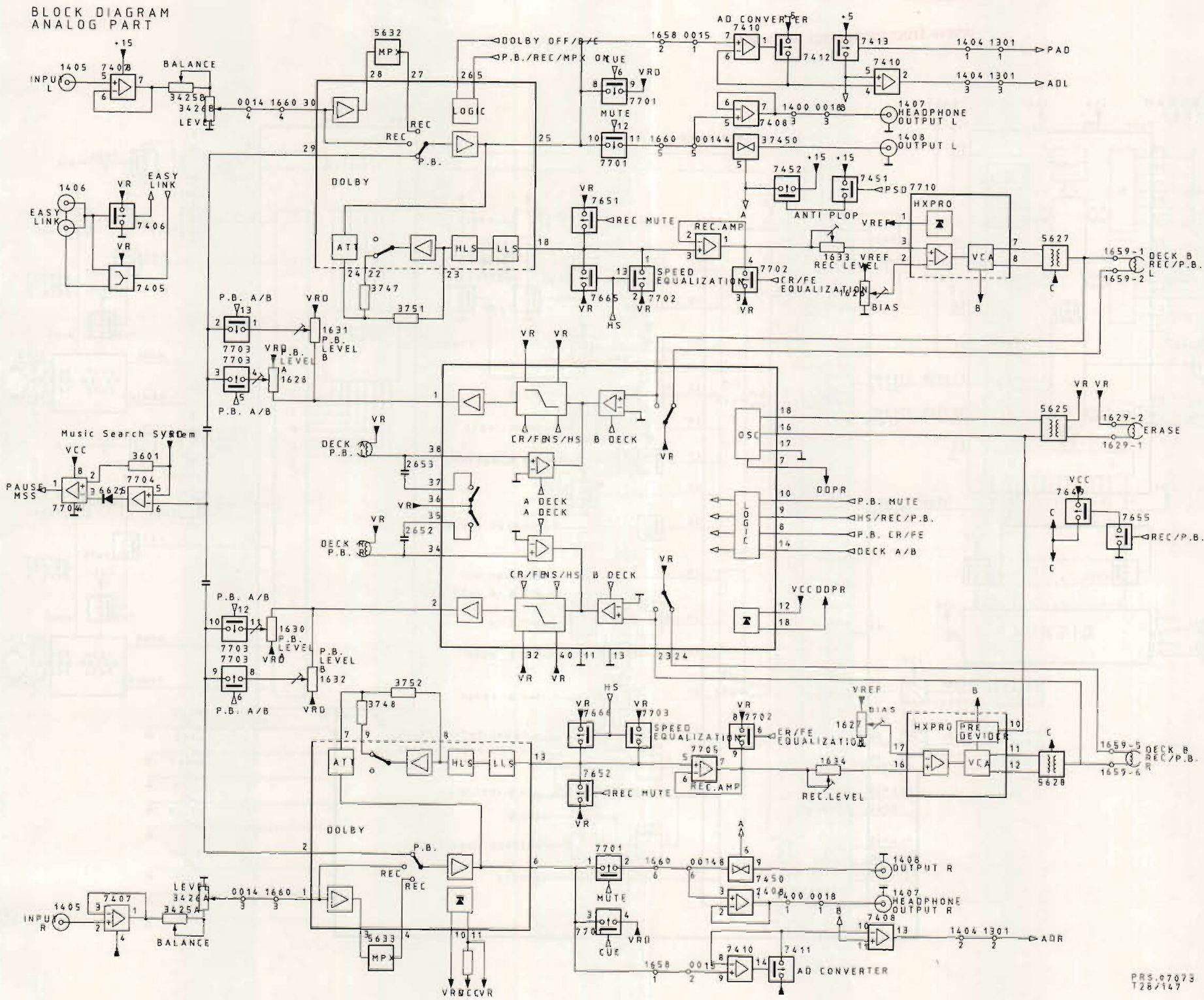
BLOCK DIAGRAM POWER SUPPLY



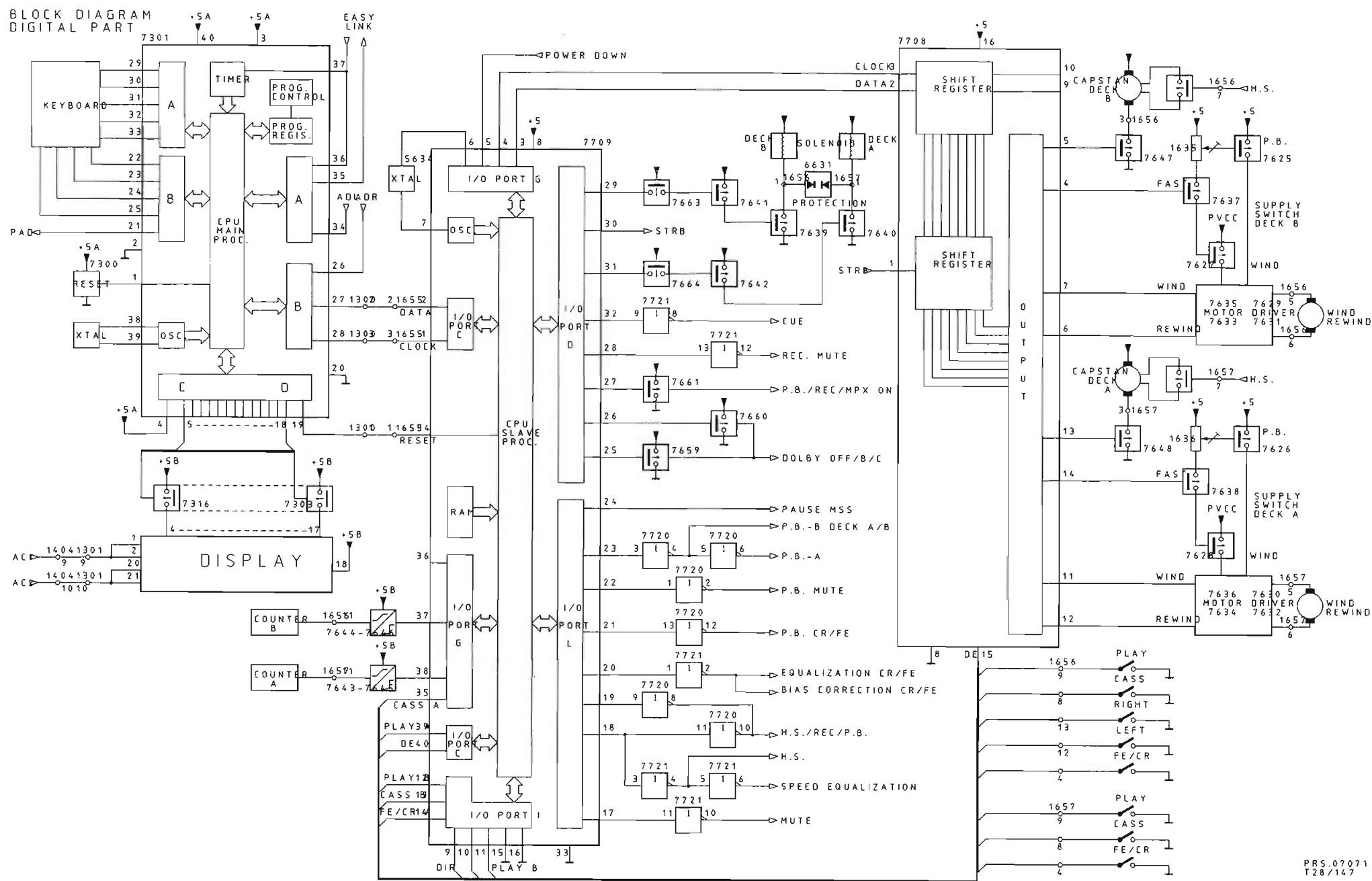
NOTES



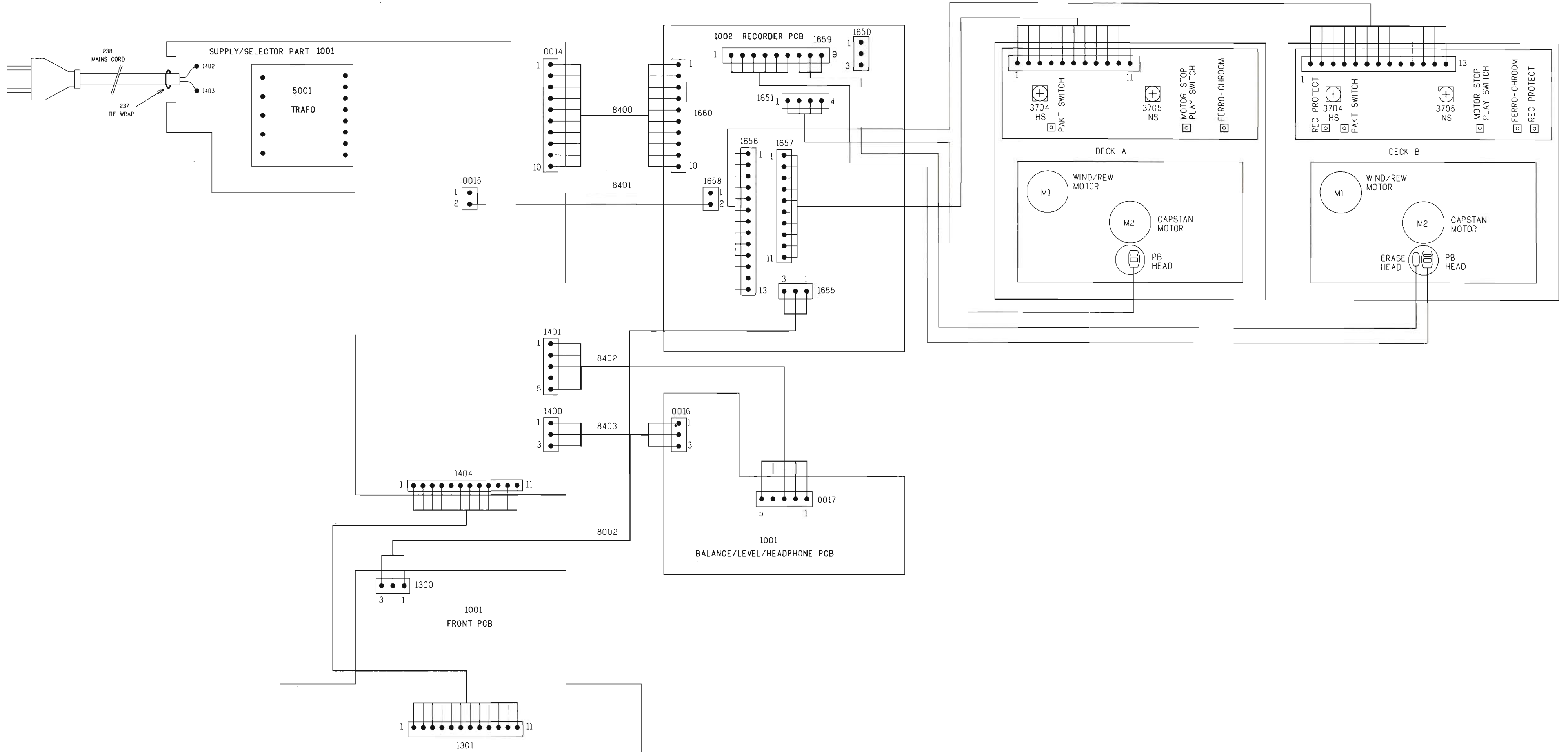
BLOCK DIAGRAM
ANALOG PART



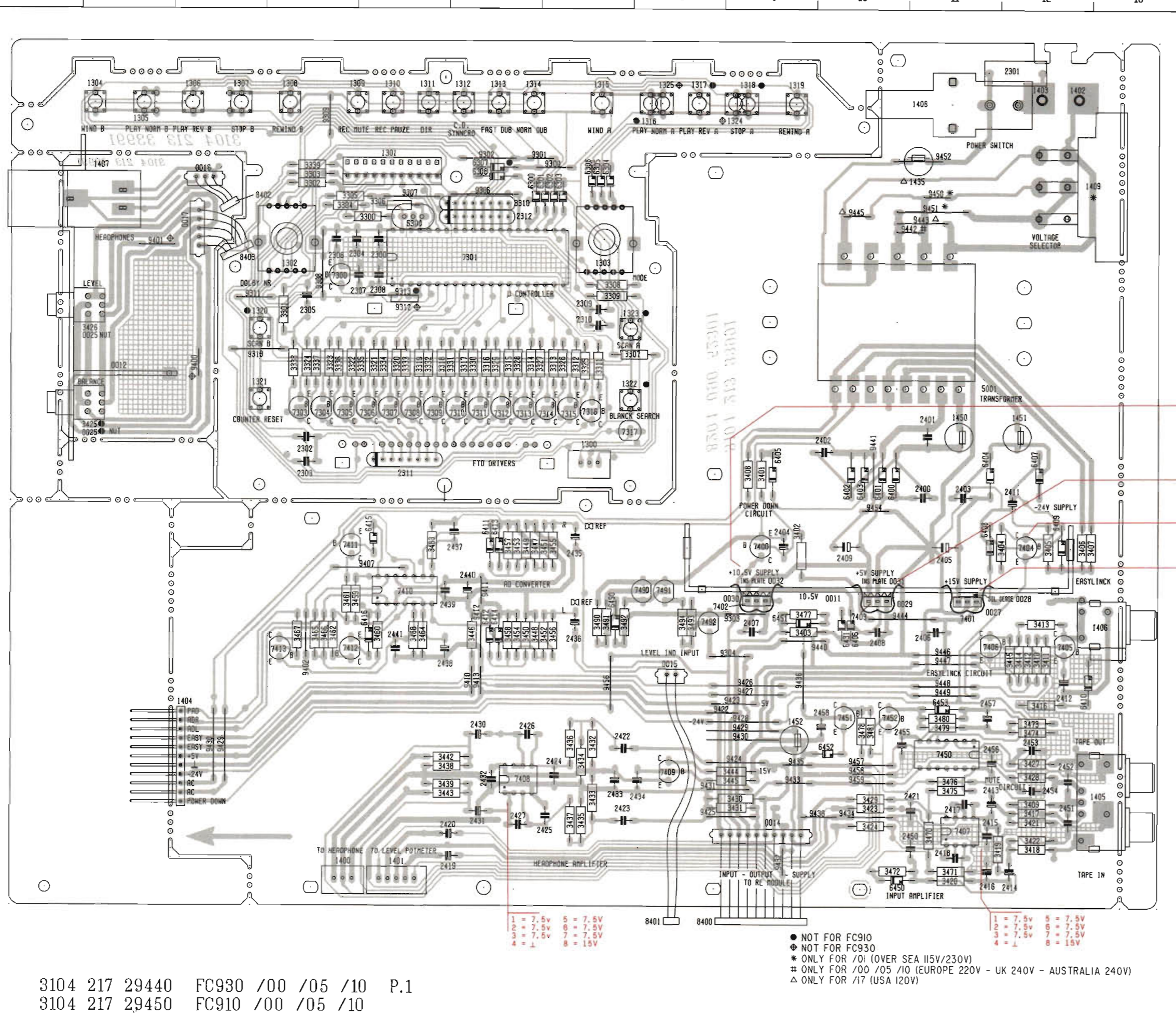
PRS-07073
128/147



PRS.07071
T28/147



0011	G10	3304	C	4	5001	E11	9445	C10		
0012	D	2	3305	C	4	5300	C	5	9446	G11
0014	L	9	3306	C	5	6300	B	6	9447	H11
0015	H	8	3307	D	8	6301	B	6	9448	H11
0016	B	3	3308	D	7	6302	B	7	9449	H11
0017	C	3	3309	D	7	6303	B	7	9450	C11
0025	E	2	3310	C	6	6304	B	7	9451	C11
0025	D	2	3311	D	7	6305	B	7	9452	B11
0027	G11	3312	D	7	6306	B	7	9454	F10	
0028	G12	3313	D	7	6307	B	6	9456	H	7
0029	G10	3314	D	6	6308	B	6	9457	H10	
0030	G	9	3315	D	6	6400	F10	9458	H10	
0031	G10	3316	D	6	6401	F10	9459	H10		
0032	G	9	3317	D	6	6402	F10			
1300	D	7	3318	D	5	6403	F10			
1301	D	5	3319	D	5	6404	E11			
1302	C	4	3320	D	5	6405	E	9		
1303	C	7	3321	D	5	6406	D10			
1304	H	2	3322	D	4	6407	F12			
1305	B	2	3323	D	4	6408	F12			
1306	A	3	3324	D	4	6409	F12			
1307	A	3	3325	D	7	6410	H12			
1308	A	4	3326	D	7	6411	F	6		
1309	A	4	3327	D	7	6412	F	6		
1310	A	5	3328	D	6	6413	F	6		
1311	A	5	3329	D	6	6414	F	6		
1312	A	6	3330	D	6	6415	F	5		
1313	A	6	3331	D	6	6416	F	5		
1314	A	6	3332	D	5	6431	G10			
1315	A	7	3333	D	5	6450	J11			
1316	B	8	3334	D	5	6451	G	9		
1317	B	8	3335	D	5	6452	G	9		
1318	B	9	3336	D	4	6453	H11			
1319	B	9	3337	D	4	6450	G	7		
1320	D	3	3338	D	4	7300	C	4		
1321	E	3	3339	B	4	7301	C	6		
1322	E	7	3401	F	9	7303	E	4		
1323	F	7	3402	F	9	7304	E	4		
1324	F	9	3403	G	9	7305	E	5		
1325	B	8	3404	F12	7306	E	5			
1400	J	4	3405	F12	7307	E	5			
1401	J	5	3406	F12	7308	E	5			
1402	H12	3407	F13	7309	E	5				
1403	H12	3408	F	9	7310	E	6			
1404	H	3	3409	F12	7311	E	6			
1405	H13	3410	H12	7312	E	6				
1406	G13	3411	H12	7313	E	6				
1407	B	2	3412	H12	7314	E	7			
1408	H11	3413	G12	7315	E	7				
1409	H13	3414	H12	7316	E	7				
1435	H11	3415	H12	7317	E	7				
1450	E11	3416	H12	7400	G	9				
1451	F12	3417	I12	7401	G11					
1452	H	9	3418	J12	7402	B	8			
2300	C	5	3419	J12	7403	G10				
2301	H12	3420	J11	7404	F12					
2302	E	4	3421	I12	7405	G12				
2303	F	4	3422	J12	7406	G11				
2304	C	4	3423	I10	7407	I11				
2305	D	4	3424	I10	7408	B	8			
2306	C	4	3425	F	2	7409	B	8		
2307	D	5	3426	D	2	7410	G	5		
2308	D	5	3427	I12	7411	F	4			
2309	D	7	3428	I12	7412	G	4			
2310	D	7	3429	I10	7413	E	4			
2311	F	5	3430	I	9	7450	H11			
2312	C	6	3431	I	9	7451	H10			
2400	F11	3432	H	7	7452	H10				
2401	E11	3433	I	7	7490	G	8			
2402	E10	3434	I	7	7491	G	8			
2403	F11	3435	I	7	7492	G	8			
2404	F	9	3436	H	7	8400	B	8		
2405	F11	3437	I	7	8401	B	8			
2406	G11	3438	I	5	8402	C	3			
2407	G	9	3439	I	5	8403	C	3		
2408	G10	3442	I	5	9300	H	7			
2409	F10	3443	I	5	9301	H	6			
2411	F12	3444	B	9	9302	H	6			
2412	H12	3445	I	9	9303	G	9			
2413	H11	3446	G	6	9304	H	9			
2414	J12	3447	F	6	9306	C	5			
2415	H11	3448	G	6	9307	C	5			
2416	J11	3449	F	6	9308	C	4			
2417	H11	3450	F	6	9309	B	4			
2418	J11	3451	F	7	9310	B	3			
2419	G	6	3452	G	7	9311	B	3		
2420	I	6	3453	F	6	9312	B	5		
2421	H11	3454	G	6	9313	B	5			
2422	H	7	3455	F	7	9400	B	3		
2423	I	7	3456	D	7	9401	C	2		
2424	I	7	3457	F	6	9402	H	4		
2425	I	7	3458	D	6	9403	B	5		
2426	H	6	3459	G	5	9410	H	6		
2427	I	6	3460	D	5	9411	G	6		
2430	H	6	3461	D	4	9412	H	6		
2431	I	6	3462	D	4	9413	H	6		
2432	I	6	3463	F	5	9422	H	8		
2433	I	7	3464	B	5	9423	H	8		
2434	I	8	3465	D	4	9424	I	8		
2435	F	7	3466	D	4	9425	I	9		
2436	G	7	3467	D	4	9426	H	9		
2437	F	6	3468	D	5	9427	H	9		
2438	H	5	3470	H11	9428	H	9			
2439	G	5	3471	H11	9429	H	9			
2440	G	6	3472	J10	9429	H	3			
2441	G	5	3473	H12	9430	H	9			
2450	H11	3474	H12	9430	H	3				
2451	H12	3475	H11	9431	I	8				
2452	H12	3476	H11	9432	J	9				
2453	H12	3477	H	9	9433	I	9			
2454	H12	3478	H10	9434	H10					
2455	H10	3479	H11	9435	L	8				
2456	H11	3480	H11	9436	B	3				
2457	H11	3481	H10	9436	H10					
2458	H10	3490	G	7	9440	G10				
3300	C	5	3491	G	7	9441	E10			
3301	D	4	3492	G	7	9442	C11			
3302	D	4	3493	G	8	9443	C11			
3303	D	4	3494	G	8	9444	G10			



3104 217 29440 FC930 /00 /05 /10 P.1
 3104 217 29450 FC910 /00 /05 /10

- NOT FOR FC910
- ◆ NOT FOR FC930
- * ONLY FOR /01 (OVER SEA I15V/230V)
- ‡ ONLY FOR /00 /05 /10 (EUROPE 220V - UK 240V - AUSTRALIA 240V)
- △ ONLY FOR /17 (USA 120V)

1 = 7.5v
 2 = 7.5v
 3 = 7.5v
 4 = 1

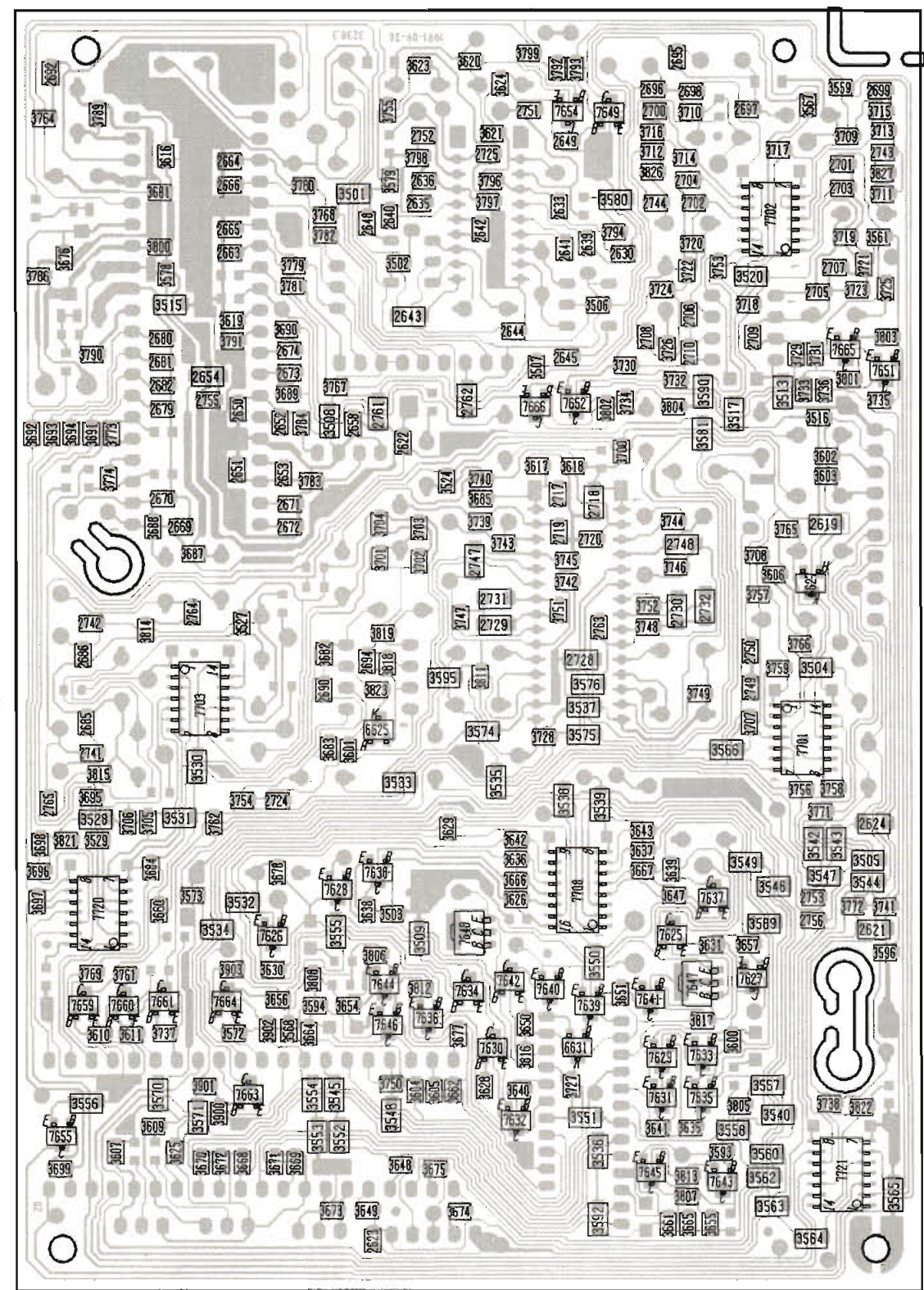
5 = 7.5v
 6 = 7.5v
 7 = 7.5v
 8 = 15v

1 = 7.5v
 2 = 7.5v
 3 = 7.5v
 4 = 1

5 = 7.5v
 6 = 7.5v
 7 = 7.5v
 8 = 15v

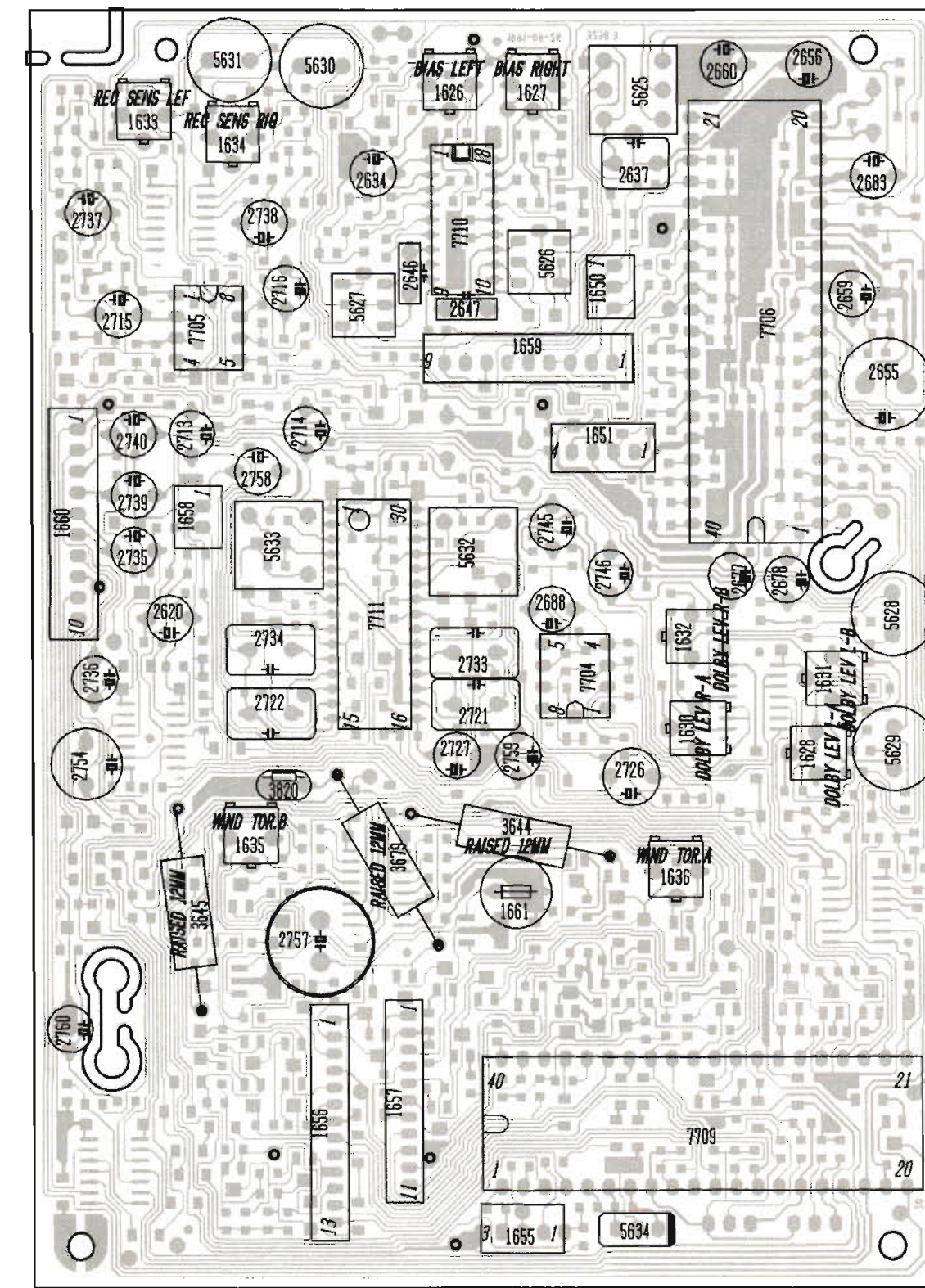
2619	D 6	2749	E 5	3579	B 3	3687	D 2	3765	D 5	7645	H 5
2621	G 6	2750	E 5	3580	B 4	3688	D 2	3766	E 5	7646	G 3
2622	D 3	2751	B 4	3581	D 5	3689	C 2	3767	C 3	7647	G 5
2623	H 3	2752	B 3	3589	G 5	3690	C 2	3768	B 3	7648	G 3
2624	F 6	2753	F 6	3590	C 5	3691	D 1	3769	G 1	7649	B 4
2630	C 4	2755	D 2	3592	H 4	3692	D 1	3771	F 6	7651	C 6
2633	B 4	2756	O 6	3593	H 5	3693	D 1	3772	G 6	7652	D 4
2635	B 3	2761	D 3	3594	G 3	3694	D 1	3773	D 1	7654	B 4
2636	B 3	2762	D 3	3595	E 3	3695	F 1	3774	D 1	7655	H 1
2639	C 4	2763	E 4	3596	G 6	3696	F 1	3779	C 2	7659	G 1
2640	B 3	2764	E 2	3600	G 5	3697	F 1	3780	B 3	7660	G 1
2641	C 4	2765	F 1	3601	F 3	3698	F 1	3781	C 2	7661	G 2
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2645	C 4	3504	E 6	3605	H 3	3702	D 3	3785	C 1	7666	D 4
2649	B 3	3505	F 6	3606	E 5	3703	D 3	3789	B 1	7701	F 5
2649	B 4	3506	C 4	3607	H 1	3704	D 3	3790	C 1	7702	B 5
2650	D 2	3507	C 4	3609	H 2	3705	F 2	3791	C 2	7703	E 2
2651	D 2	3508	D 3	3610	G 1	3706	F 1	3792	B 4	7708	F 4
2652	D 2	3509	G 3	3611	G 1	3707	E 5	3793	B 4	7720	G 1
2653	D 2	3513	C 5	3616	B 2	3708	D 5	3794	C 4	7721	H 6
2654	C 2	3515	C 2	3617	D 4	3709	B 6	3796	B 4		
2658	D 3	3516	D 6	3618	D 4	3710	B 6	3797	B 4		
2663	C 2	3517	D 5	3619	C 2	3711	B 6	3798	B 3		
2664	B 2	3520	C 5	3620	B 4	3712	B 5	3799	A 4		
2665	C 2	3524	D 3	3621	B 4	3713	B 6	3800	C 2		
2666	B 2	3527	E 2	3623	B 3	3714	B 5	3801	C 6		
2669	D 2	3529	F 1	3624	B 4	3715	B 6	3802	D 4		
2670	D 2	3529	F 1	3625	H 2	3716	B 5	3803	C 6		
2671	D 2	3530	F 2	3626	F 4	3717	B 5	3804	D 5		
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2673	C 2	3532	G 2	3629	F 3	3719	C 5	3806	G 3		
2674	C 2	3533	F 3	3630	G 2	3720	C 5	3807	H 5		
2679	D 2	3534	G 2	3631	G 5	3721	C 6	3808	D 3		
2680	C 2	3535	F 4	3635	H 5	3722	C 5	3811	E 4		
2681	C 2	3536	H 4	3636	F 4	3723	C 6	3812	D 3		
2682	C 2	3537	E 4	3637	F 5	3724	C 5	3813	H 5		
2685	E 1	3538	F 4	3638	D 3	3725	C 6	3814	E 2		
2686	E 1	3539	F 4	3639	F 5	3726	C 5	3815	F 1		
2690	E 3	3540	H 5	3640	H 4	3727	H 4	3816	G 4		
2692	B 1	3542	F 6	3641	H 5	3728	F 4	3817	G 5		
2694	E 3	3543	F 6	3642	F 4	3729	C 5	3818	E 3		
2695	H 5	3544	F 6	3643	F 5	3730	C 4	3819	E 3		
2696	H 5	3545	H 3	3647	F 5	3731	C 6	3821	F 1		
2697	B 5	3546	F 5	3648	H 3	3732	C 5	3822	H 6		
2698	B 5	3547	F 6	3649	H 3	3733	C 5	3823	E 3		
2699	B 6	3548	H 3	3650	G 4	3734	D 4	3825	B 5		
2700	B 5	3549	F 5	3651	D 4	3735	D 6	3827	B 6		
2701	B 6	3550	G 4	3654	G 3	3736	C 6	3900	H 2		
2702	B 5	3551	H 4	3655	H 5	3737	G 2	3901	H 2		
2703	B 6	3552	H 3	3656	G 2	3738	H 6	3902	C 2		
2704	B 5	3553	H 3	3657	G 5	3739	D 4	3903	G 2		
2705	C 6	3554	H 3	3660	G 2	3740	D 4	6625	E 3		
2706	C 5	3555	G 3	3661	H 5	3741	G 6	6627	E 6		
2707	C 6	3556	H 1	3662	H 3	3742	E 4	6631	C 4		
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2741	F 1	3572	G 2	3678	F 2	3757	E 5	7639	G 4		
2742	E 1	3573	F 2	3681	B 2	3758	F 6	7640	G 4		
2743	B 6	3574	E 4	3682	E 3	3759	E 5	7641	G 5		
2744	B 5	3575	F 4	3683	F 3	3761	G 1	7642	G 4		
2747	D 4	3576	E 4	3684	F 2	3762	F 2	7643	H 5		
2748	D 5	3578	C 2	3685	D 4	3764	B 1	7644	G 3		

RE-MODULE BOARD / COPPERSIDE VIEW / FC930



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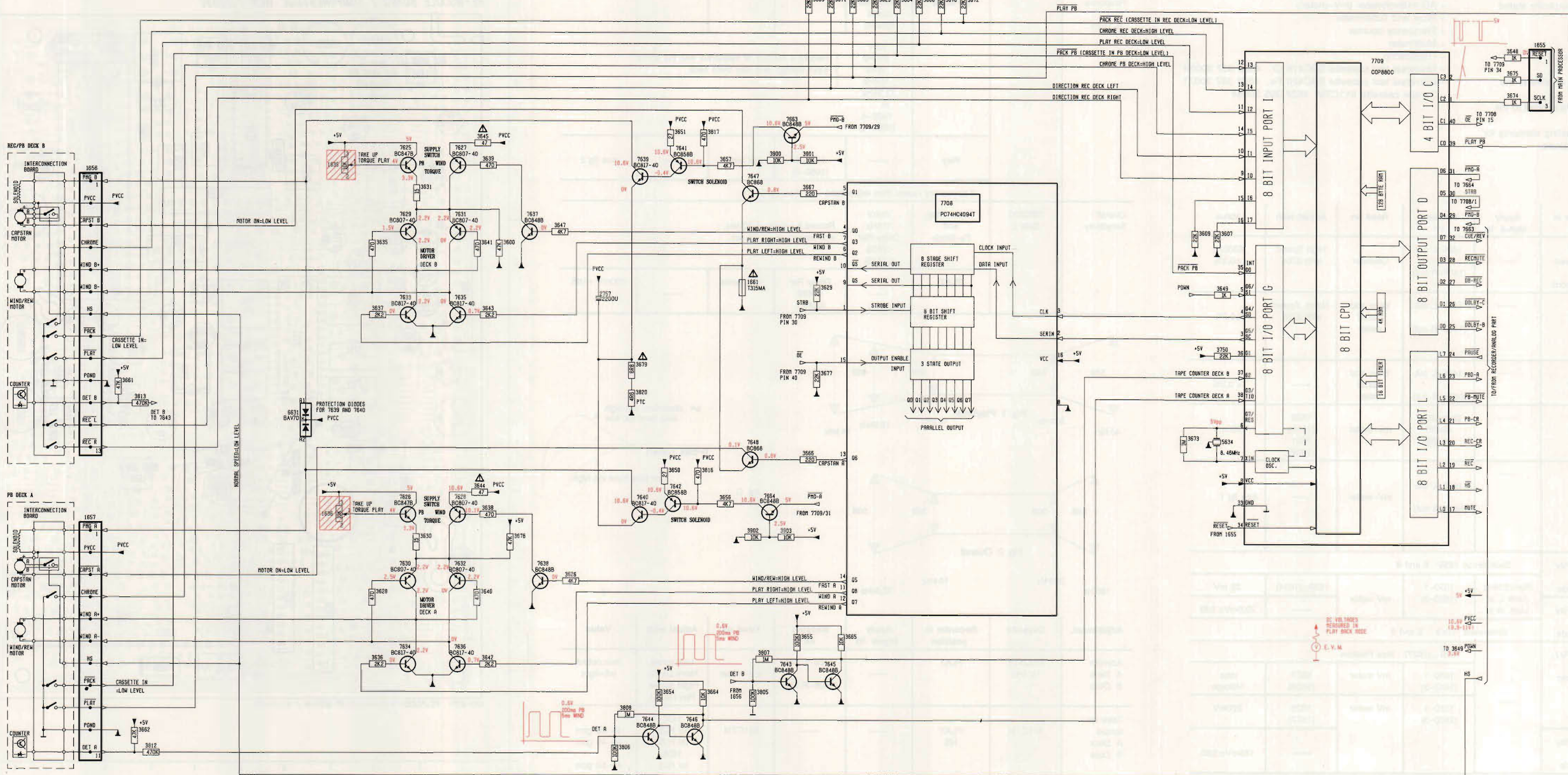
RE-MODULE BOARD / COMPONENTSIDE VIEW / FC930



CAD-REF: PC.FC930.P9.D3.FC930.00.SERV-B / 91-11-28

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RECORDER/DIGITAL PART



1635	D 7
1636	J 7
1655	B29
1656	D 2
1657	K 2
1661	F14
2757	F12
3600	F10
3604	A17
3605	A16
3607	E23
3608	E22
3625	A17
3626	L11
3628	L 8
3629	F15
3630	K 6
3631	F 8
3635	F 8
3636	O 8
3637	J10
3639	D10
3640	L 9
3641	F 9
3642	M10
3643	G10
3644	J 9
D 3645	D10
3647	E11
3648	B28
3649	F23
3650	J13
3651	D13
3654	N13
3655	N15
E 3656	J14
3657	M14
3661	H 3
3662	N 3
3664	N14
3665	M16
3666	I15
3667	E15
F 3668	A17
3669	A15
3670	A18
3671	A16
3672	A18
3673	I22
3674	C28
3675	B28
B 3677	M16
3678	J10
3679	M12
3750	G23
3805	N14
3806	D12
3807	M15
3808	N12
3812	G 4
H 3813	H 3
3816	J13
3817	D14
3820	M12
3900	D15
3901	D15
3902	K14
3903	K15
I 5634	I23
6631	I 6
7825	D 8
7826	J 8
7827	D 9
7828	J 9
7829	E 8
7830	K 8
J 7831	E 9
7832	K 9
7833	G 8
7834	M 8
7835	G 8
7836	M 9
7837	E10
7838	K10
K 7839	D12
7840	J12
7841	D13
7842	J13
7843	M15
7844	N13
7845	M16
7846	N13
7847	D14
L 7848	I14
7849	C15
7864	J15
7708	E18
7709	B26

ELECTRICAL MEASUREMENTS AND ADJUSTMENTS

General conditions

The following general conditions apply to the electrical measurements and adjustments, unless explicitly stated otherwise.

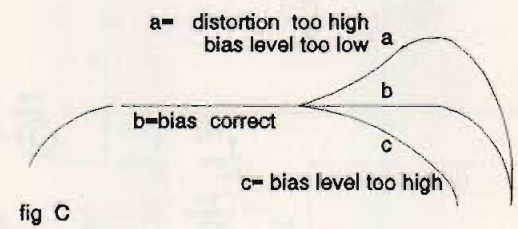
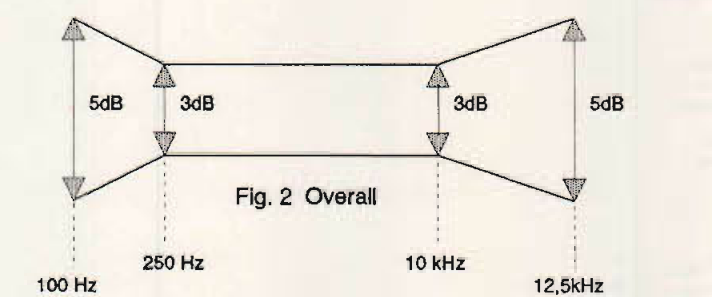
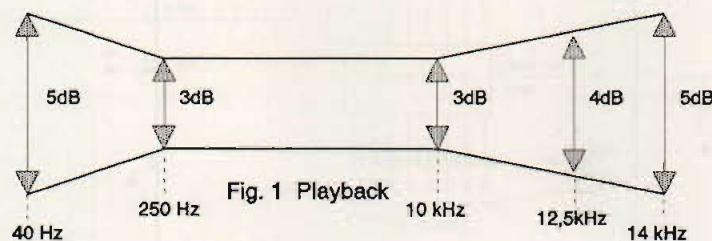
- Mains voltage 220 V ±5% 50 Hz
- Dolby off
- Volume control recording level 3426 max.
- Balance control 3425 on centre click
- The DC voltages have been measured relative to the analog earth.(resistor 3474)
- The measurements and adjustments are related to the left-hand channel.
- The corresponding test points and adjusting elements for the right-hand channel are given in brackets.

Required test equipment and test cassettes

- LF generator:
- AC millivoltmeter (mV-meter)
- Wow and fluttermeter
- Frequency counter
- Multimeter
- Oscilloscop
- Universal test cassette SBC419 Cr. 4822 397 30069
- Universal test cassette SBC420 Fe. 4822 397 30071
- Torque cassette 811CTM 4822 395 30054

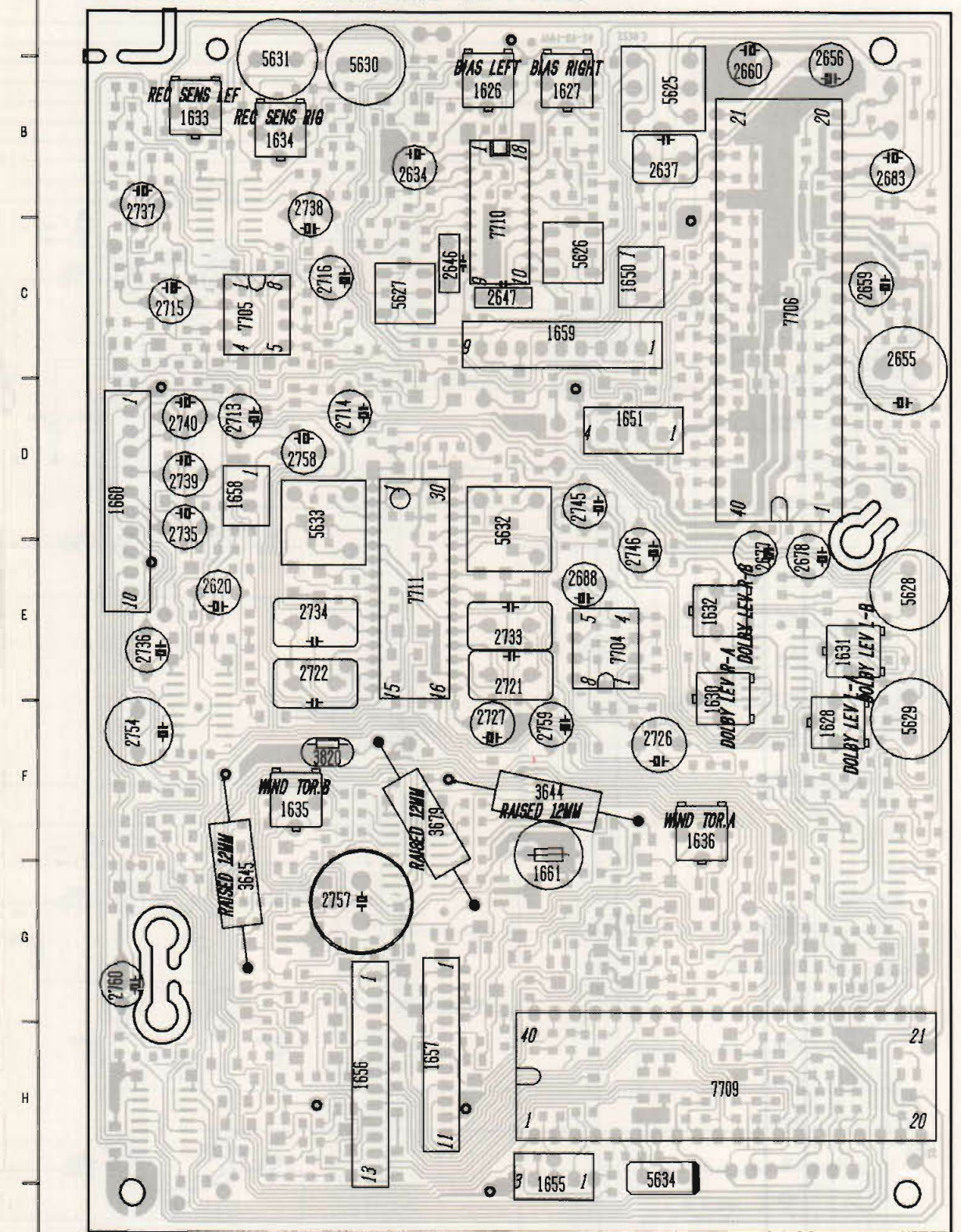
Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Value
Playback High Speed A Deck B Deck	SBC419 3150Hz	PLAY High Speed by Service mode	—	1405-L out (1405-R out)	Counter	High Speed with 3704	6300Hz ±0,3%
Playback Normal Speed A Deck B Deck	SBC419 3150Hz	PLAY	—	1405-L out (1405-R out)	Wow and Flutter meter	Norm. Speed with 3705	±0,3%
Wow and Flutter	SBC419 3150Hz	PLAY	—	1405-L out (1405-R out)	Wow and Flutter meter	—	< 0,2%
Playback sensitivity A Deck B Deck	Dolby 200 N.Wb/m	PLAY	—	Dolby REF c2436 (c2435)	mV-meter	1628 (1630) 1631 (1632)	550mV
Playback Frequentie Response A Deck B Deck	SBC419 40Hz 250Hz 10kHz 12,5kHz 14kHz	PLAY	—	1405-L out (1405-R out)	mV-meter	—	See fig 1
Recording Sensitivity B Deck	SBC419 Side 2	Rec. + Play and Cr - Mode	Short circuit 1659 8 and 9		mV meter	1633 (1634)	25 mV
	SBC420 Side 2	Rec. + Play and Fe - Mode	75mV315Hz 1405-L in 1405-R in				
BIAS	SBC419 Side 2	Rec. + Play and Cr - Mode	1626 (1627) Max Position		mV meter	5627 (5628)	max Voltage
			1650-1 (1650-3)				
	SBC420 Side 2	Rec + Play and Fe-Mode	1650-1 (1650-3)		mV meter	1626 (1627)	270mV
Take up torque A Deck B Deck	811CTM	PLAY HS	—	—	811CTM	1636 for N.S. for H.S. 1635 for N.S. for H.S.	45-50 gcm 40-45 gcm 45-50 gcm 40-45 gcm

Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Value
Overall Frequentie Response B Deck	SBC419 Side 2	Rec + Play and Cr-Mode	±24,5mV 315Hz Dolby Ref c2436 (c2435)	1660-5 (1660-6)	mV meter	LF generator	3,3mV
			63H 250Hz 2kHz 10kHz 12,5kHz to 1660-4 (1660-3)	Record a number of frequentie with the same input voltage and play them back			
		Play	—	1660-5 (1660-6)	mV meter	—	see fig 2
If necessary repaet Bias adjustment See fig C							
Overall Sensitivity	SBC420 Side 2	Rec + Play and Fe-Mode	75mV 315Hz Dolby Ref c2436 (c2435)	Record it for about 30 sec. and rewind about 30 sec.			
		PLAY	—	Dolby Ref c2436 (c2435)	mV meter	—	550mV +1dB



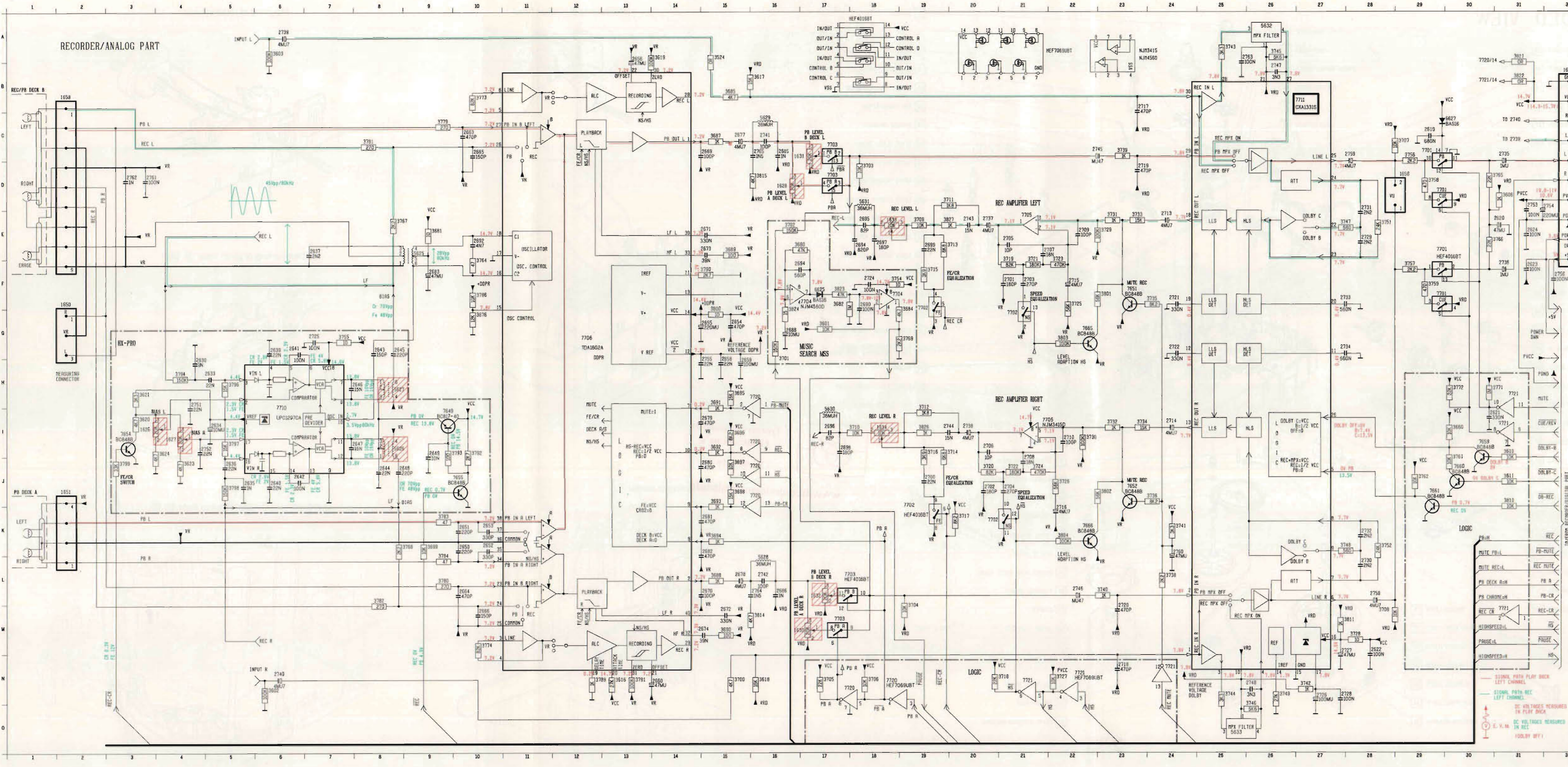
Adjustment	Cassette	Recorder in position	Apply signal to	Measure on	Read on	Adjust with	Value
Azimuth A Deck B Deck	SBC419 10 KHZ	PLAY	—	1405-L out (1405-R out)	mV-meter	Left screw Norm.Dir.(>) Right screw Rev.Dir.(<)	max.output left=right
Take up torque A Deck B Deck	811CTM	PLAY HS	—	—	811CTM	1636 for N.S. for H.S. 1635 for N.S. for H.S.	45-50 gcm 40-45 gcm 45-50 gcm 40-45 gcm

RE-MODULE BOARD / COMPONENTSIDE VIEW / FC930



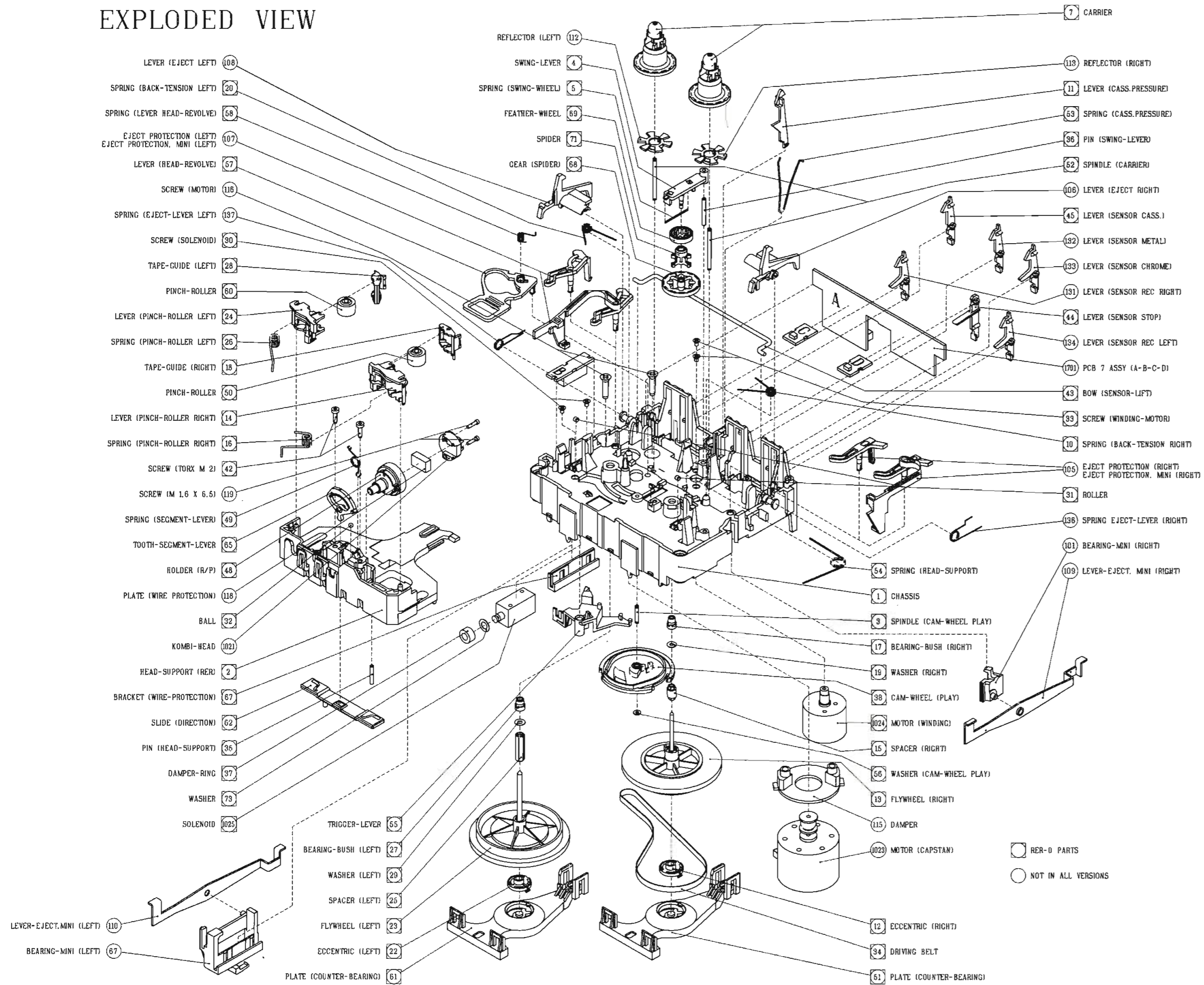
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- 1626 B 3
- 1627 B 4
- 1628 F 5
- 1630 E 5
- 1631 E 6
- 1632 E 5
- 1633 B 1
- 1634 B 2
- 1635 F 2
- 1636 F 5
- 1650 C 4
- 1651 D 4
- 1655 H 4
- 1656 H 3
- 1657 H 3
- 1658 D 2
- 1659 C 4
- 1660 D 1
- 1661 G 4
- 2620 E 2
- 2634 B 3
- 2637 B 4
- 2646 C 3
- 2647 C 3
- 2655 C 6
- 2656 H 5
- 2659 C 6
- 2660 B 5
- 2678 E 5
- 2683 B 5
- 2688 E 4
- 2713 D 2
- 2714 D 2
- 2715 C 1
- 2716 C 2
- 2721 E 3
- 2722 E 2
- 2726 F 4
- 2727 F 3
- 2733 E 3
- 2734 E 2
- 2735 D 1
- 2736 E 1
- 2737 B 1
- 2738 B 2
- 2739 D 1
- 2740 D 1
- 2745 D 4
- 2746 E 4
- 2754 F 1
- 2757 G 2
- 2758 D 2
- 2759 F 4
- 2780 G 1
- 3644 F 4
- 3645 G 2
- 3679 F 3
- 3820 F 2
- 5825 B 4
- 5826 C 4
- 5827 C 3
- 5828 E 6
- 5829 F 6
- 5830 B 3
- 5831 B 2
- 5832 D 3
- 5833 D 2
- 5834 H 4
- 7704 E 4
- 7705 C 2
- 7706 C 5
- 7709 H 5
- 7710 C 3
- 7711 E 3

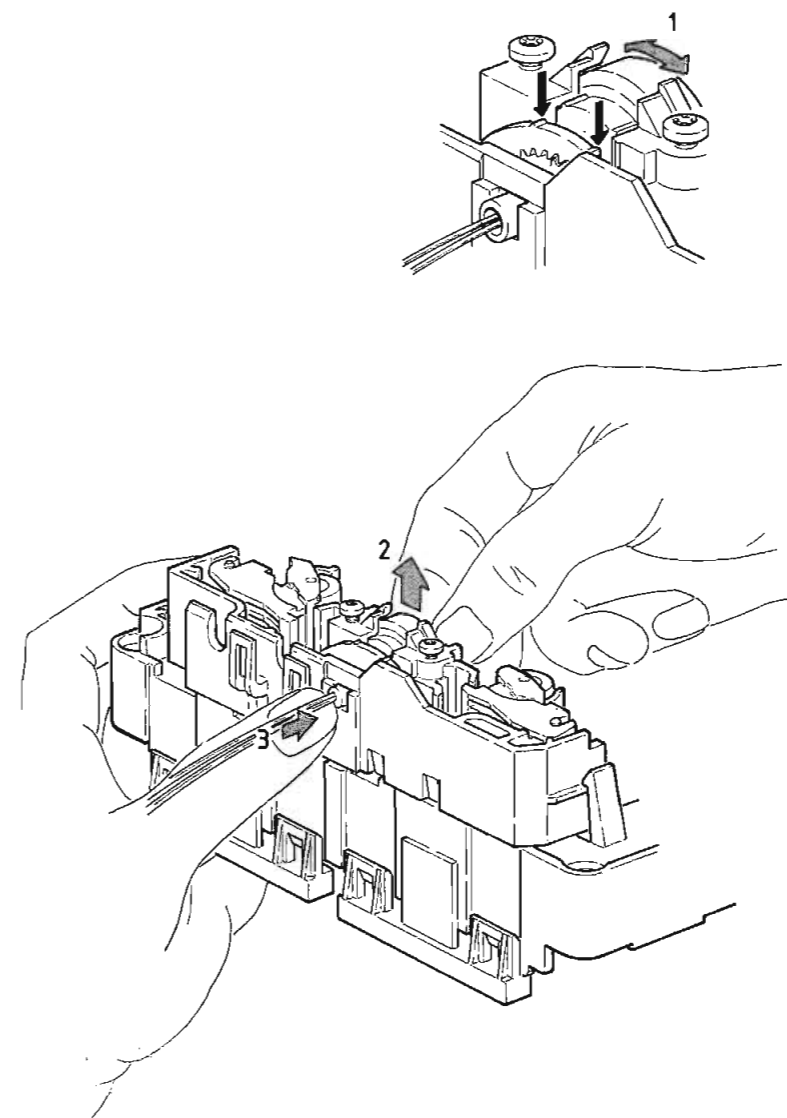


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1627	I 4	2753	D31	3786	F10
1628	D16	2754	D31	3789	M12
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1632	L17	2758	L28	3792	I10
1633	E18	2759	C28	3793	I 9
1634	I19	2760	K24	3794	H 4
1650	F 2	2761	D 3	3796	H 5
1651	J 2	2762	D 3	3797	I 5
1658	D29	2763	K25	3798	J 5
1659	B 2	2764	L15	3799	I 3
1660	B32	2765	C15	3800	G15
2619	C29	3524	A15	3801	F22
2620	E31	3601	G17	3802	J22
2621	I30	3602	H 6	3803	D22
2622	M28	3603	A 6	3804	K22
2623	F31	3605	D31	3810	J11
2624	E31	3610	L31	3811	M27
2630	H 4	3611	J31	3814	M15
2633	H 5	3616	M13	3815	D16
2634	J 5	3617	R15	3821	R31
2635	L 5	3618	N16	3822	R31
2636	J 5	3619	R13	3823	F17
2637	E 7	3620	I 3	3824	O16
2638	G 6	3621	H 3	3826	I18
2640	J 6	3623	J 4	3827	E20
2641	G 6	3624	I 3	3825	E 9
2642	J 6	3660	L30	3826	I 8
2643	G 6	3676	G10	3827	H 8
2644	J 6	3680	E17	3828	H 8
2645	D 8	3681	E 9	3829	C16
2646	H 7	3682	F17	3830	I17
2647	I 7	3684	D18	3831	D18
2651	K10	3689	L15	3832	C29
2652	K10	3690	M15	3833	O25
2653	K10	3691	M15	3834	F23
2654	G15	3692	L15	3835	J23
2655	G14	3693	J15	3836	I 3
2656	G15	3694	K15	3837	J10
2658	M15	3695	M15	3838	L30
2659	M15	3696	M15	3839	J30
2660	M13	3697	J15	3841	J39
2663	C10	3698	J15	3842	D22
2664	L10	3699	K 9	3843	K22
2665	C10	3700	M15	3844	E19
2666	M10	3701	M16	3845	J16
2669	C14	3702	E18	3846	L17
2670	L14	3703	D18	3847	F16
2671	E15	3704	R19	3848	L21
2672	M15	3705	M17	3849	O12
2673	E15	3706	M18	3850	H16
2674	M15	3707	C28	3851	H 26
2677	C15	3708	D28	3852	N18
2678	L15	3709	E18	3853	L18
2679	L14	3710	I18	3854	I18
2680	J14	3711	O20	3855	I19
2681	K14	3712	L19	3856	E19
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2705	E21	3732	I23	3873	F18
2706	I20	3733	E23	3874	F18
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2708	J21	3735	F24	3876	F18
2709	E22	3736	J24	3877	F18
2710	I22	3738	L24	3878	F18
2713	E24	3739	C23	3879	F18
2714	I24	3740	L23	3880	F18
2715	F22	3741	K24	3881	F18
2716	K22	3742	N27	3882	F18
2717	R23	3743	R25	3883	F18
2718	N23	3744	R25	3884	F18
2719	D23	3745	R26	3885	F18
2720	M23	3746	O26	3886	F18
2721	F24	3747	E28	3887	F18
2722	O24	3748	K26	3888	F18
2724	F18	3749	N26	3889	F18
2725	G 7	3751	E28	3890	F18
2726	N27	3752	K28	3891	F18
2727	O27	3754	F18	3892	F18
2728	N27	3755	G 7	3893	F18
2729	E28	3756	C29	3894	F18
2730	L28	3757	F29	3895	F18
2731	O28	3758	O29	3896	F18
2732	K28	3759	F29	3897	F18
2733	F28	3761	J30	3898	F18
2734	O28	3762	J29	3899	F18
2735	C31	3764	F10	3900	F18
2736	F31	3765	O30	3901	F18
2737	E20	3766	E30	3902	F18
2738	I20	3767	E 8	3903	F18
2739	N 6	3768	K 8	3904	F18
2740	N 6	3769	K 8	3905	F18
2741	C16	3771	H30	3906	F18
2742	L16	3772	H30	3907	F18
2743	E20	3773	B10	3908	F18
2744	I20	3774	M10	3909	F18
2745	C23	3776	C 9	3910	F18
2746	L22	3780	L 9	3911	F18
2747	R26	3781	C 8	3912	F18
2748	N26	3782	L 8	3913	F18
2751	H 4	3783	K 9	3914	F18

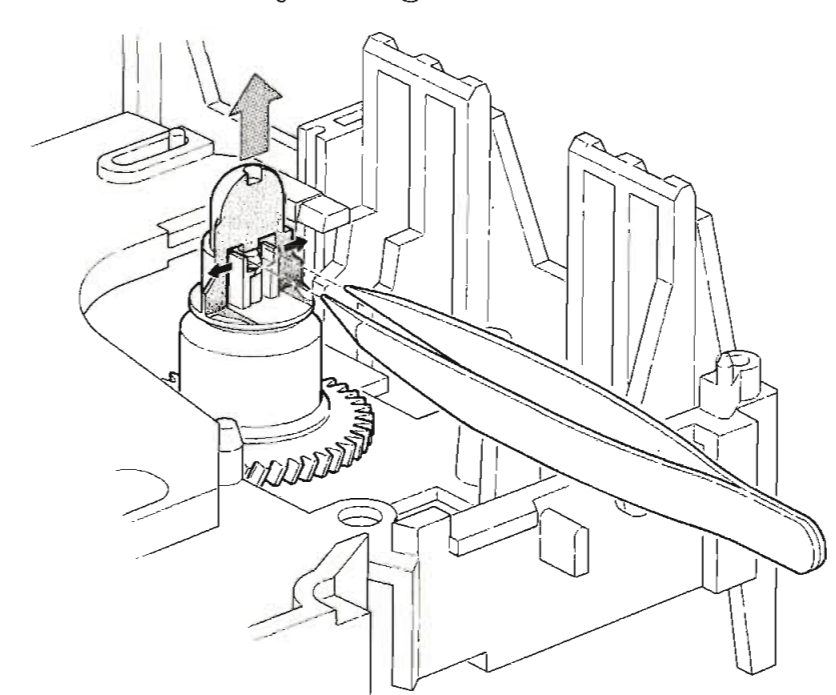
EXPLODED VIEW



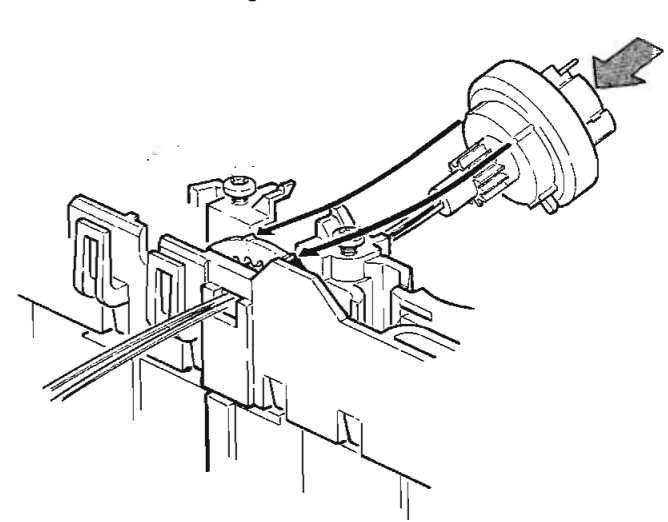
Demounting of rotation head



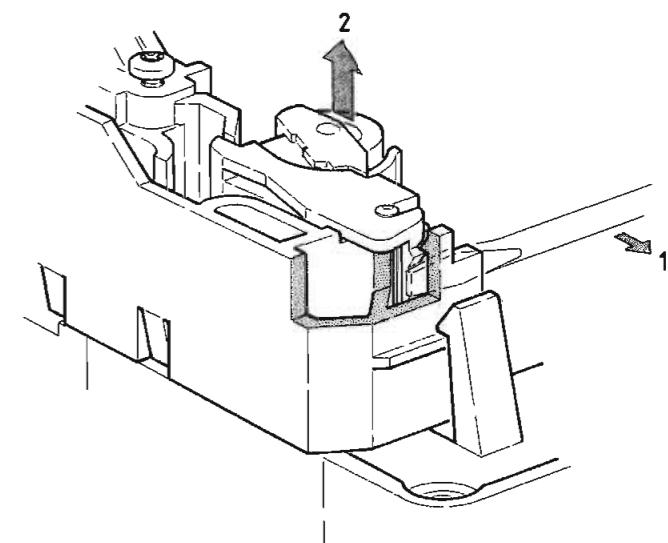
Demounting of carrier 7



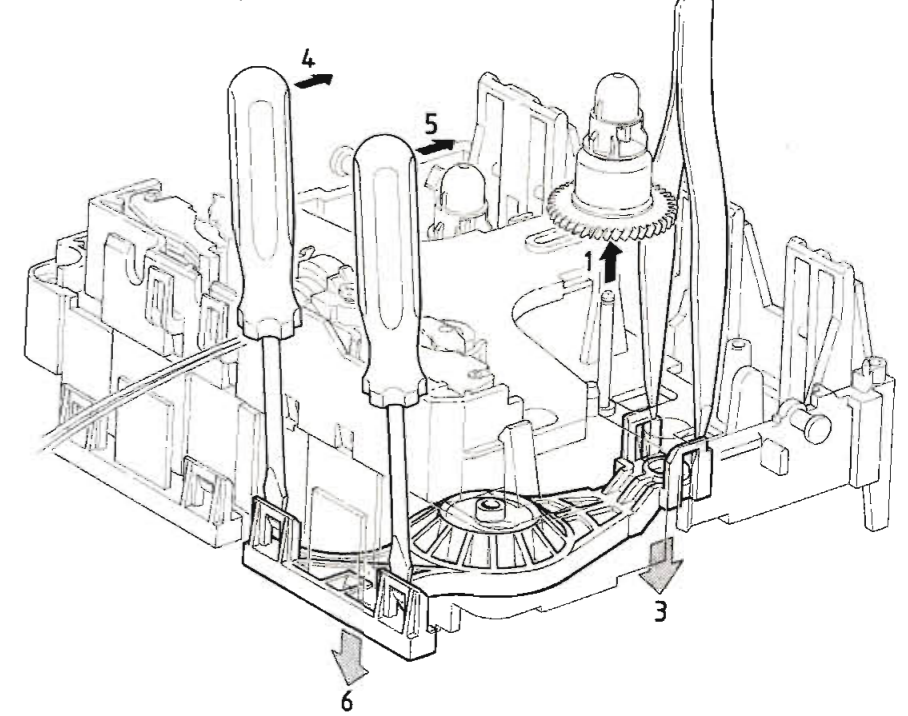
Mounting of rotation head

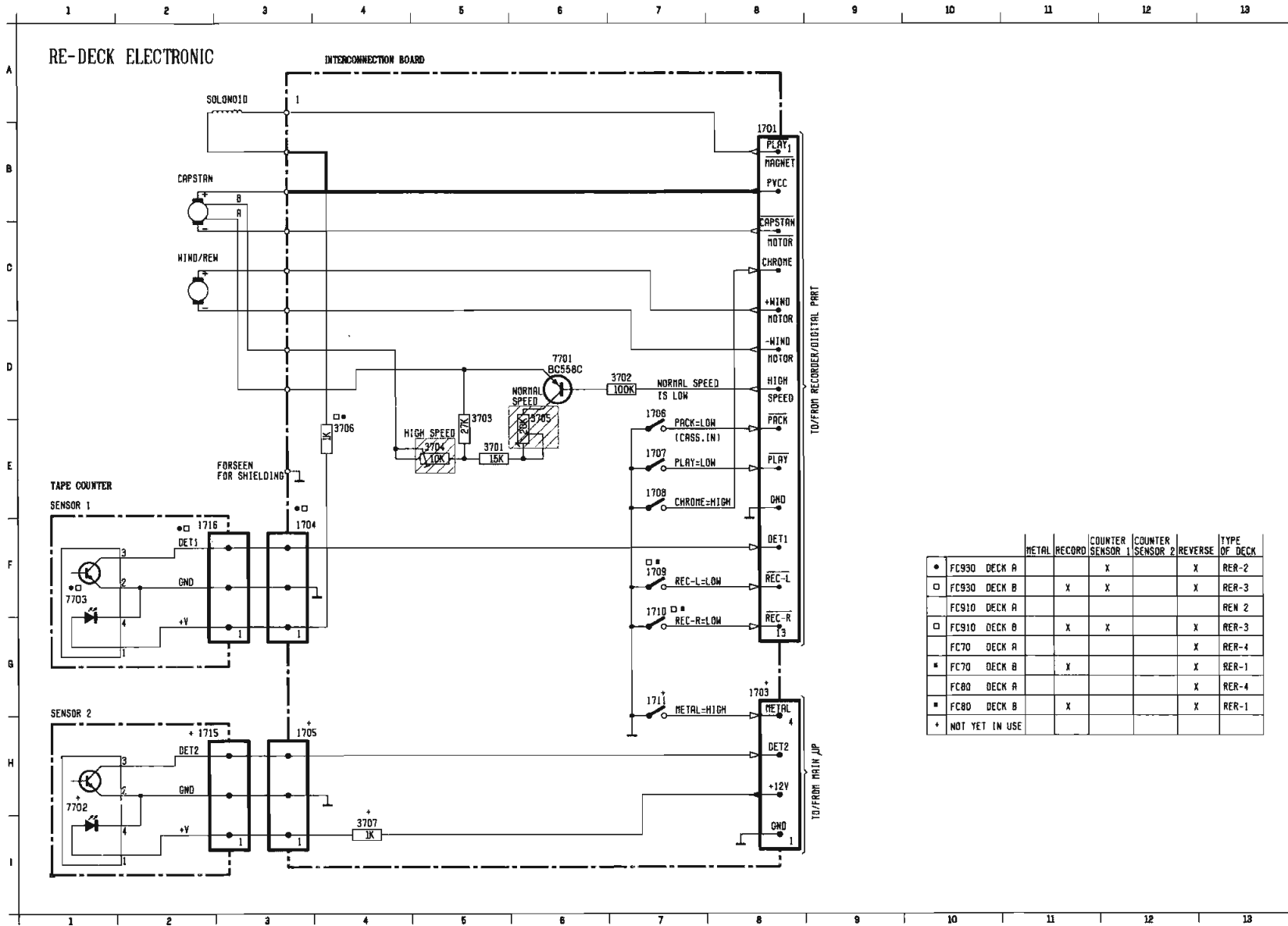


Demounting of pinch roller 14 24

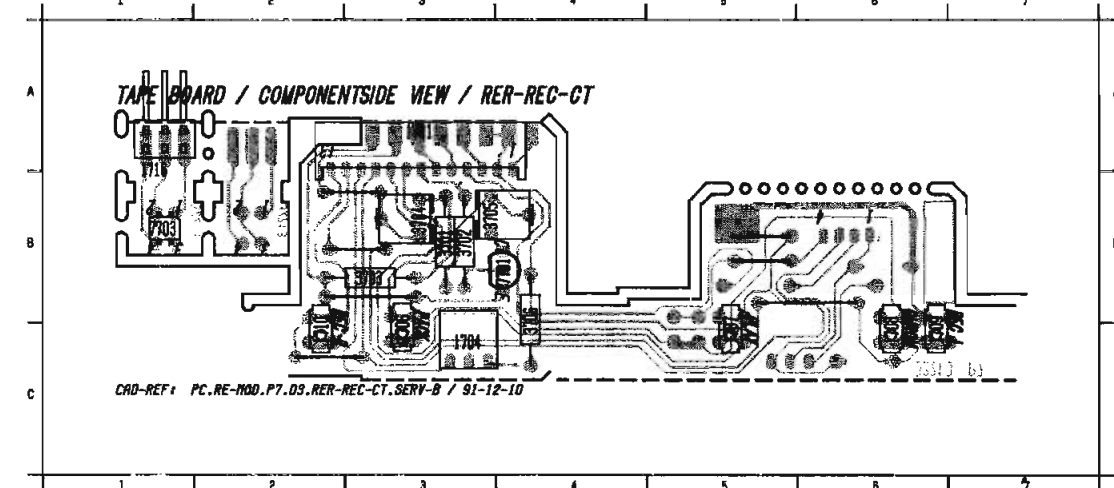


Demounting of Counter Bearing plate 51 61





1701 R 3 1705 C 3 1708 C 6 1710 C 2 3701 B 3 3703 B 3 3705 B 3 7701 B 4
 1704 C 3 1707 C 5 1709 C 6 1715 A 1 3702 B 3 3704 B 3 3706 B 4 7703 B 1



MECHANICAL PARTS CABINET

1701 B 8
 1703 G 8
 1704 F 3
 1705 H 3
 A 1706 D 7
 1707 E 7
 1708 E 7
 1709 F 7
 1710 F 7
 1711 G 7
 1715 H 2
 1716 F 2
 B 3701 E 5
 3702 G 7
 3703 D 5
 3704 E 5
 3705 D 6
 3706 E 4
 3707 I 4
 7701 D 6
 C 7702 H 1
 7703 F 1

- 400 4822 459 40688 FTD WINDOW
- 401 4822 410 61758 EJECT BUTTON
- 402 4822 454 12805 FRONT ASSY
- 403 4822 380 30307 TAPE MIRROR
- 404 4822 443 63568 DOOR FRONT
- 406 4822 459 40689 CASS WINDOW A
- 407 4822 413 31686 KNOB
- 408 4822 529 10257 DAMPER
- 409 4822 492 71047 SPRING CASS
- 411 4822 443 63566 CASS DOOR
- 412 4822 443 63567 STRIP
- 413 4822 459 40691 CASS WINDOW B
- 414 4822 410 61757 BUTTONS
- 416 4822 410 61763 BUTTONS
- 417 4822 410 61705 LEVEL - BALANCE KNOB
- 418 4822 130 91081 DISPLAY
- 419 4822 410 61761 BUTTON
- 421 4822 410 61762 BUTTON
- 422 4822 492 71048 CASS DOOR SPRING
- 423 4822 410 61759 POWER
- 426 4822 403 70572 COUPLING PIECE
- 427 4822 462 41888 FOOT
- 428 4822 462 41887 VILT
- 429 4822 256 91871 FTD HOLDER
- 431 4822 273 10241 ROTARY SWITCH
- 432 4822 273 10239 ROTARY SWITCH
- 433 4822 101 30772 5k LOG
- 434 4822 101 21292 5k LIN
- 436 4822 267 31453 PHONE SOCKET
- 437 4822 532 60948 BUSH
- 439 4822 325 20133 INSULATING PLATE
- 441 4822 492 63051 SPRING CLIP
- 442 4822 276 13231 POWER SWITCH
- 443 4822 267 41035 PIN JACK 4P
- 444 4822 265 20542 PIN JACK 2P
- 446 4822 321 10789 MAINS CORD
- 447 4822 321 22832 SBC1072

MECHANICAL PARTS DECKS

- 115 4822 529 10254 DAMPER
- 116 4822 502 11866 SCREW
- 1021 4822 249 10434 REC/PB HEAD
- 1021 4822 249 30181 PLAY BACK HEAD
- 1023 4822 361 21506 MOTOR

ELECTRICAL PARTSLIST DECKS

- 1706 4822 276 12889 SWITCH
- 1707 4822 276 12889 SWITCH
- 1708 4822 276 12889 SWITCH
- 1709 4822 276 12889 SWITCH
- 1710 4822 276 12889 SWITCH
- 3701 4822 116 52244 15k 5% 0,5W
- 3702 4822 116 52234 100k 5% 0,5W
- 3703 4822 116 52264 27k 5% 0,5W
- 3704 4822 100 20166 10k 30%LIN 0,1W
- 3705 4822 100 20589 20K 30%LIN 0,1W
- 3706 4822 050 21002 1k 1% 0,6W
- 3706 4822 050 21002 1k 1% 0,6W
- 7701 5322 130 60068 BC558C
- 7703 4822 209 31115 NJL5165kA
- 7703 4822 209 31115 NJL5165kA

MISCELLANEOUS

1302	4822 273 10239	ROTARY SWITCH
1303	4822 273 10241	ROTARY SWITCH
1304	4822 276 13213	TACT SWITCH
1305	4822 276 13213	TACT SWITCH
1306	4822 276 13213	TACT SWITCH
1307	4822 276 13213	TACT SWITCH
1308	4822 276 13213	TACT SWITCH
1309	4822 276 13114	TACT SWITCH
1310	4822 276 13114	TACT SWITCH
1311	4822 276 13114	TACT SWITCH
1312	4822 276 13114	TACT SWITCH
1313	4822 276 13213	TACT SWITCH
1314	4822 276 13213	TACT SWITCH
1315	4822 276 13213	TACT SWITCH
1316	4822 276 13213	TACT SWITCH
1317	4822 276 13213	TACT SWITCH
1318	4822 276 13213	TACT SWITCH
1319	4822 276 13213	TACT SWITCH
1320	4822 276 13114	TACT SWITCH
1321	4822 276 13114	TACT SWITCH
1322	4822 276 13114	TACT SWITCH
1323	4822 276 13114	TACT SWITCH
1405	4822 267 41035	PIN JACK 4P
1406	4822 265 20542	PIN JACK 2P
1407	4822 267 31453	PHONE SOCKET
1408	4822 276 13231	POWER SWITCH
1450	4822 071 51002	FUSE 1A
1451	4822 071 56301	FUSE 630MA
1452	4822 071 52501	FUSE 250MA
	4822 736 21338	I.F.U FC930

CAPACITORS

2300	5322 121 42386	100nF 5% 63V
2301	4822 121 70087	47nF 250V
2302	5322 121 42498	680nF 5% 63V
2303	5322 121 42498	680nF 5% 63V
2304	4822 124 40178	100 μ F 20% 10V
2305	4822 124 40433	47 μ F 20% 25V
2306	4822 121 42408	220nF 5% 63V
2307	4822 121 42472	10nF 10% 50V
2308	4822 121 41856	22nF 5% 250V
2309	4822 126 10777	100pF 50V
2310	4822 126 10777	100pF 50V
2400	5322 121 42386	100nF 5% 63V
2401	5322 121 42386	100nF 5% 63V
2402	5322 121 42386	100nF 5% 63V
2403	5322 121 42386	100nF 5% 63V

2404	4822 124 40244	2,2 μ F 20% 63V
2405	4822 124 41993	2200 μ F 20% 35V
2406	5322 121 42386	100nF 5% 63V
2407	5322 121 42386	100nF 5% 63V
2408	5322 121 42386	100nF 5% 63V
2409	4822 124 41995	6800 μ F 25V
2411	4822 124 80049	220mF 35V
2412	4822 124 22794	47 μ F 20% 10V
2413	4822 124 40242	1 μ F 20% 63V
2414	4822 124 40242	1 μ F 20% 63V
2415	4822 126 10777	100pF 50V
2416	4822 126 10777	100pF 50V
2417	4822 126 10777	100pF 50V
2418	4822 126 10777	100pF 50V
2419	4822 124 40242	1 μ F 20% 63V
2420	4822 124 40242	1 μ F 20% 63V
2421	4822 124 40433	47 μ F 20% 25V
2422	5322 121 42386	100nF 5% 63V
2423	5322 121 42386	100nF 5% 63V
2424	4822 126 10777	100pF 50V
2425	4822 126 10777	100pF 50V
2426	4822 126 10777	100pF 50V
2427	4822 126 10777	100pF 50V
2430	4822 124 40433	47 μ F 20% 25V
2431	4822 124 40433	47 μ F 20% 25V
2432	5322 121 42386	100nF 5% 63V
2433	4822 124 40433	47 μ F 20% 25V
2434	4822 124 41525	100 μ F 20% 25V
2435	4822 124 40246	4,7 μ F 20% 63V
2436	4822 124 40246	4,7 μ F 20% 63V
2437	4822 124 40435	10 μ F 20% 50V
2438	4822 124 40435	10 μ F 20% 50V
2439	5322 121 42386	100nF 5% 63V
2440	4822 124 40178	100 μ F 20% 10V
2441	5322 121 42465	68nF 5% 63V

2450	4822 124 41678	22 μ F 20% 25V
2451	4822 126 11167	22nF 20% 50V
2452	4822 126 11167	22nF 20% 50V
2453	4822 126 10781	470pF 50V
2454	4822 126 10781	470pF 50V
2455	4822 124 41678	22 μ F 20% 25V
2456	4822 124 41678	22 μ F 20% 25V
2457	4822 124 40242	1 μ F 20% 63V
2458	4822 124 22794	47 μ F 20% 10V

RESISTORS

3300	4822 116 82366	2 Ω
3301	4822 116 82366	2 Ω
3302	4822 052 10108	1 Ω 5% 0,33W

3303	4822 052 10108	1Ω	5%	0,33W
3304	4822 116 52234	100k	5%	0,5W
3305	4822 050 21003	10k	1%	0,6W
3306	4822 050 21005	1M	1%	0,6W
3307	4822 051 10101	100Ω	2%	0,25W
3308	4822 051 10101	100Ω	2%	0,25W
3309	4822 051 10101	100Ω	2%	0,25W
3310	4822 111 92077	15k X7	RESNET	0,1W
3311	4822 050 21803	18k	1%	0,6W
3312	4822 050 21803	18k	1%	0,6W
3313	4822 050 21803	18k	1%	0,6W
3314	4822 050 21803	18k	1%	0,6W
3315	4822 050 21803	18k	1%	0,6W
3316	4822 050 21803	18k	1%	0,6W
3317	4822 050 21803	18k	1%	0,6W
3318	4822 050 21803	18k	1%	0,6W
3319	4822 050 21803	18k	1%	0,6W
3320	4822 050 21803	18k	1%	0,6W
3321	4822 050 21803	18k	1%	0,6W
3322	4822 050 21803	18k	1%	0,6W
3323	4822 050 21803	18k	1%	0,6W
3324	4822 050 21803	18k	1%	0,6W
3325	4822 050 22203	22k	1%	0,6W
3326	4822 050 22203	22k	1%	0,6W
3327	4822 050 22203	22k	1%	0,6W
3328	4822 050 22203	22k	1%	0,6W
3329	4822 050 22203	22k	1%	0,6W
3330	4822 050 22203	22k	1%	0,6W
3331	4822 050 22203	22k	1%	0,6W
3332	4822 050 22203	22k	1%	0,6W
3333	4822 050 22203	22k	1%	0,6W
3334	4822 050 22203	22k	1%	0,6W
3335	4822 050 22203	22k	1%	0,6W
3336	4822 050 22203	22k	1%	0,6W
3337	4822 050 22203	22k	1%	0,6W
3338	4822 050 22203	22k	1%	0,6W
3339	4822 050 21002	1k	1%	0,6W
3401	4822 116 80562	10Ω	5%	
3402	4822 050 25604	560k	1%	0,6W
3403	4822 050 22203	22k	1%	0,6W
3404	4822 050 24702	4k7	1%	0,6W
3405	4822 050 22203	22k	1%	0,6W
3406	4822 116 52197	56Ω	5%	0,5W
3407	4822 116 52197	56Ω	5%	0,5W
3408	4822 052 10108	1Ω	5%	0,33W
3409	4822 116 52224	470Ω	5%	0,5W
3410	4822 050 24703	47k	1%	0,6W
3411	4822 050 24703	47k	1%	0,6W
3412	4822 051 10101	100Ω	2%	0,25W
3413	4822 050 24703	47k	1%	0,6W
3414	4822 050 21803	18k	1%	0,6W
3415	4822 050 24703	47k	1%	0,6W
3416	4822 050 11009	10Ω	1%	0,4W
3417	4822 116 52224	470Ω	5%	0,5W
3418	4822 116 52224	470Ω	5%	0,5W
3419	4822 050 24703	47k	1%	0,6W
3420	4822 050 24703	47k	1%	0,6W
3421	4822 050 24703	47k	1%	0,6W
3422	4822 050 24703	47k	1%	0,6W
3423	4822 116 52224	470Ω	5%	0,5W
3424	4822 116 52224	470Ω	5%	0,5W
3425	4822 101 21192	5k	LIN	
3426	4822 101 30772	5k	LOG	
3427	4822 051 10101	100Ω	2%	0,25W
3428	4822 051 10101	100Ω	2%	0,25W
3429	4822 116 82366	2Ω	2	
3430	4822 116 52234	100k	5%	0,5W
3431	4822 116 52234	100k	5%	0,5W
3432	4822 050 22204	220k	1%	0,6W
3433	4822 050 22204	220k	1%	0,6W
3434	4822 050 22204	220k	1%	0,6W
3435	4822 050 22204	220k	1%	0,6W
3436	4822 050 21002	1k	1%	0,6W
3437	4822 050 21002	1k	1%	0,6W
3438	4822 050 21003	10k	1%	0,6W
3439	4822 050 21003	10k	1%	0,6W
3442	4822 050 21201	120Ω	1%	0,6W
3443	4822 050 21201	120Ω	1%	0,6W
3444	4822 116 80562	10Ω	5%	
3445	4822 050 24702	4k7	1%	0,6W
3446	4822 116 82366	2Ω	2	
3447	4822 050 24702	4k7	1%	0,6W
3448	4822 050 24702	4k7	1%	0,6W
3449	4822 050 21002	1k	1%	0,6W
3450	4822 050 21002	1k	1%	0,6W
3451	4822 050 15602	5k6	1%	0,4W
3452	4822 050 15602	5k6	1%	0,4W
3453	4822 050 14709	47Ω	1%	0,4W
3454	4822 050 14709	47Ω	1%	0,4W
3455	4822 116 52244	15k	5%	0,5W
3456	4822 116 52244	15k	5%	0,5W
3457	4822 050 28201	820Ω	1%	0,6W
3458	4822 050 28201	820Ω	1%	0,6W
3459	4822 050 24702	4k7	1%	0,6W
3460	4822 050 24702	4k7	1%	0,6W
3461	4822 051 10101	100Ω	2%	0,25W
3462	4822 051 10101	100Ω	2%	0,25W
3463	4822 050 21803	18k	1%	0,6W
3464	4822 050 21803	18k	1%	0,6W
3465	4822 050 21003	10k	1%	0,6W
3466	4822 050 21003	10k	1%	0,6W
3467	4822 050 22203	22k	1%	0,6W
3468	4822 116 52234	100k	5%	0,5W
3470	4822 050 21003	10k	1%	0,6W
3471	4822 050 21003	10k	1%	0,6W
3472	4822 050 22204	220k	1%	0,6W

3473	4822 050 22003	20k	1%	0,6W
3474	4822 050 24702	4k7	1%	0,6W
3475	4822 050 21003	10k	1%	0,6W
3476	4822 050 24702	4k7	1%	0,6W
3477	4822 050 22204	220k	1%	0,6W
3478	4822 050 21003	10k	1%	0,6W
3479	4822 050 24703	47k	1%	0,6W
3480	4822 050 21005	1M	1%	0,6W
3481	4822 050 24703	47k	1%	0,6W
3490	4822 050 21502	1k5	1%	0,6W
3491	4822 050 22203	22k	1%	0,6W
3492	4822 050 21003	10k	1%	0,6W
3493	4822 116 52224	470Ω	5%	0,5W
3494	4822 050 22202	2k2	1%	0,6W
COILS and RESONATORS				
5001	4822 146 31061	MAINS TRAF0		
5300	4822 242 72567	RESONATOR 4MHz		
DIODES				
6300	4822 130 30621	1N4148		
6301	4822 130 30621	1N4148		
6302	4822 130 30621	1N4148		
6303	4822 130 30621	1N4148		
6304	4822 130 30621	1N4148		
6305	4822 130 30621	1N4148		
6306	4822 130 30621	1N4148		
6307	4822 130 30621	1N4148		
6308	4822 130 30621	1N4148		
6310	4822 130 91081	DISPLAY		
6400	4822 130 31438	1N4001GP		
6401	4822 130 31438	1N4001GP		
6402	4822 130 31438	1N4001GP		
6403	4822 130 31438	1N4001GP		
6404	5322 130 30684	1N4002GP		
6405	4822 130 30621	1N4148		
6406	4822 130 30621	1N4148		
6407	4822 130 34121	BAX18		
6408	4822 130 34379	BZX79-C27		
6409	4822 130 31981	BZX79-C3V9		
6410	4822 130 34173	BZX79-C5V6		
6411	4822 130 30621	1N4148		
6412	4822 130 30621	1N4148		
6413	4822 130 31983	BAT85		
6414	4822 130 31983	BAT85		
6415	4822 130 30621	1N4148		
6416	4822 130 30621	1N4148		
6431	4822 130 34278	BZX79-C6V8		
6450	4822 130 30621	1N4148		
6451	4822 130 30621	1N4148		
6452	4822 130 30621	1N4148		
6453	4822 130 30621	1N4148		
6490	4822 130 34195	BZX79-C13		
TRANSISTORS & IC's				
7300	4822 130 40937	BC548B		
7301	4822 209 52199	68HC05C4PROG		
7303	4822 130 44197	BC558B		
7304	4822 130 44197	BC558B		
7305	4822 130 44197	BC558B		
7306	4822 130 44197	BC558B		
7307	4822 130 44197	BC558B		
7308	4822 130 44197	BC558B		
7309	4822 130 44197	BC558B		
7310	4822 130 44197	BC558B		
7311	4822 130 44197	BC558B		
7312	4822 130 44197	BC558B		
7313	4822 130 44197	BC558B		
7314	4822 130 44197	BC558B		
7315	4822 130 44197	BC558B		
7316	4822 130 44197	BC558B		
7317	4822 130 40937	BC548B		
7400	4822 130 40937	BC548B		
7401	4822 209 80808	7815CT		
7402	4822 209 80891	7805CT		
7403	4822 209 80891	7805CT		
7404	4822 130 40854	BC327		
7405	4822 130 44197	BC558B		
7406	4822 130 40937	BC548B		
7407	4822 209 70157	NJM4560DD		
7408	4822 209 82362	NJM4556D		
7409	4822 130 40855	BC337		
7410	4822 209 80631	LM339N		
7411	4822 130 40937	BC548B		
7412	4822 130 40937	BC548B		
7413	4822 130 40937	BC548B		
7450	4822 209 71636	TC4016BP		
7451	4822 130 40937	BC548B		
7452	4822 130 44197	BC558B		
7490	4822 130 40937	BC548B		
7491	4822 130 40937	BC548B		
7492	4822 130 41715	BC328-40		

PARTSLIST RE-MODULE

MISCELLANEOUS

1626	4822 100 11869	20k 0,1W
1627	4822 100 11869	20k 0,1W
1628	4822 100 11869	20k 0,1W
1630	4822 100 11869	20k 0,1W
1631	4822 100 11869	20k 0,1W
1632	4822 100 11869	20k 0,1W
1633	4822 100 11676	10k 30%LIN 0.2W
1634	4822 100 11676	10k 30%LIN 0.2W
1635	4822 100 11676	10k 30%LIN 0.2W
1636	4822 100 11676	10k 30%LIN 0.2W
1661	4822 071 53151	19372(315MA)

CAPACITORS

2619	4822 126 12103	680nF 80%20 50V
2620	4822 124 40177	47μF 20% 10V
2621	4822 122 33064	330nF 80% 25V
2622	4822 126 10002	100nF 20% 25V
2623	4822 126 10002	100nF 20% 25V
2624	4822 122 31947	100nF 20% 63V
2630	5322 122 34123	1nF 10% 50V
2633	5322 122 32654	22nF 10% 63V
2634	4822 124 40435	10μF 20% 50V
2635	5322 122 34123	1nF 10% 50V
2636	5322 122 32654	22nF 10% 63V
2637	4822 121 51598	2,2nF 5% 400V
2639	5322 122 32654	22nF 10% 63V
2640	5322 122 32654	22nF 10% 63V
2641	4822 126 10002	100nF 20% 25V
2642	4822 126 10002	100nF 20% 25V
2643	4822 122 31808	150pF 10% 50V
2644	5322 122 32654	22nF 10% 63V
2645	4822 122 32575	220pF 10% 500V
2646	4822 121 51362	15nF 5% 100V
2647	4822 121 51362	15nF 5% 100V
2648	4822 122 32575	220pF 10% 500V
2649	4822 122 33177	10nF 20% 50V
2650	4822 122 32575	220pF 10% 500V
2651	4822 122 32575	220pF 10% 500V
2652	5322 122 31863	330pF 5% 50V
2653	5322 122 31863	330pF 5% 50V
2654	4822 122 31727	470pF 5% 63V
2655	4822 124 22263	

2656	4822 124 40177	47μF 20% 10V
2658	5322 122 32654	22nF 10% 63V
2659	4822 124 41584	100μF 20% 10V
2660	4822 124 40177	47μF 20% 10V
2663	5322 122 32268	470pF 10% 50V
2664	5322 122 32268	470pF 10% 50V
2665	5322 122 33538	150pF 5% 63V
2666	5322 122 33538	150pF 5% 63V
2669	5322 122 32531	100pF 5% 50V
2670	5322 122 32531	100pF 5% 50V
2671	4822 126 12102	330nF 80%20 50V
2672	4822 126 12102	330nF 80%20 50V
2673	4822 126 12101	39nF 10% 50V
2674	4822 126 12101	39nF 10% 50V
2677	4822 124 40246	4,7μF 20% 63V
2678	4822 124 40246	4,7μF 20% 63V
2679	5322 122 32268	470pF 10% 50V
2680	5322 122 32268	470pF 10% 50V
2681	5322 122 32268	470pF 10% 50V
2682	5322 122 32268	470pF 10% 50V
2683	4822 124 40433	47μF 20% 25V
2685	5322 122 34123	1nF 10% 50V
2686	5322 122 34123	1nF 10% 50V
2688	4822 124 40435	10μF 20% 50V
2690	4822 126 10002	100nF 20% 25V
2692	4822 122 33339	4,7nF 10% 50V 0805
2694	4822 122 33218	
2695	4822 122 33515	82pF 5% 63V
2696	4822 122 33515	82pF 5% 63V
2697	4822 126 10326	180pF
2698	4822 126 10326	180pF
2699	5322 122 32654	22nF 10% 63V
2700	5322 122 32654	22nF 10% 63V
2701	4822 126 10326	180pF
2702	4822 126 10326	180pF
2703	4822 122 33216	270pF 5% 50V
2704	4822 122 33216	270pF 5% 50V
2705	5322 122 32448	10pF 5% 50V
2706	5322 122 32448	10pF 5% 50V
2707	4822 122 33893	18nF 10% 63V
2708	4822 122 33893	18nF 10% 63V
2709	5322 122 32531	100pF 5% 50V
2710	5322 122 32531	100pF 5% 50V
2713	4822 124 40246	4,7μF 20% 63V
2714	4822 124 40246	4,7μF 20% 63V
2715	4822 124 40246	4,7μF 20% 63V
2716	4822 124 40246	4,7μF 20% 63V
2717	5322 122 32268	470pF 10% 50V
2718	4822 122 31727	470pF 5% 63V
2719	5322 122 32268	470pF 10% 50V
2720	5322 122 32268	470pF 10% 50V
2721	5322 121 42661	330nF 5% 63V
2722	5322 121 42661	330nF 5% 63V

2724	4822 126 10002	100nF 20% 25V
2725	4822 126 10002	100nF 20% 25V
2726	4822 124 41525	100μF 20% 25V
2727	4822 124 40433	47μF 20% 25V
2728	4822 122 33496	100nF 10% 63V
2729	4822 122 32999	2,2N 5% NPO
2730	4822 122 32999	2,2N 5% NPO
2731	4822 122 32999	2,2N 5% NPO
2732	4822 122 32999	2,2N 5% NPO
2733	4822 121 51412	560nF 10% 63V
2734	4822 121 51412	560nF 10% 63V
2735	4822 124 40242	1μF 20% 63V
2736	4822 124 40242	1μF 20% 63V
2737	4822 124 40246	4,7μF 20% 63V
2738	4822 124 40246	4,7μF 20% 63V
2739	4822 124 40246	4,7μF 20% 63V
2740	4822 124 40246	4,7μF 20% 63V
2741	5322 122 32531	100pF 5% 50V
2742	5322 122 32531	100pF 5% 50V
2743	4822 122 33128	15nF 10% 63V
2744	4822 122 33128	15nF 10% 63V
2745	4822 124 40239	0,47μF 20% 63V
2746	4822 124 40239	0,47μF 20% 63V
2747	5322 122 33446	3,3nF 10% 63V
2748	5322 122 33446	3,3nF 10% 63V
2751	5322 122 32654	22nF 10% 63V
2752	5322 122 32654	22nF 10% 63V
2753	4822 126 10002	100nF 20% 25V
2754	4822 124 40196	220μF 20% 16V
2755	5322 122 32654	22nF 10% 63V
2756	4822 126 10002	100nF 20% 25V
2757	4822 124 22412	2200μF 20% 16V
2758	4822 124 40246	4,7μF 20% 63V
2759	4822 124 40246	4,7μF 20% 63V
2760	4822 124 40433	47μF 20% 25V
2761	4822 122 33496	100nF 10% 63V
2762	4822 122 31746	1000pF 5% 50V
2763	4822 126 10002	100nF 20% 25V
2764	4822 122 33174	1,5nF 20% 50V
2765	4822 122 33174	1,5nF 20% 50V

RESISTORS

3501	4822 051 10008	0Ω 5% 0,25W
3502	4822 051 20008	0Ω 5% 0,1W
3503	4822 051 20008	0Ω 5% 0,1W
3504	4822 051 10008	0Ω 5% 0,25W
3505	4822 051 10008	0Ω 5% 0,25W

3506	4822 051 20008	0Ω 5% 0,1W
3507	4822 051 20008	0Ω 5% 0,1W
3508	4822 051 10008	0Ω 5% 0,25W
3509	4822 051 10008	0Ω 5% 0,25W
3513	4822 051 10008	0Ω 5% 0,25W
3515	4822 051 10008	0Ω 5% 0,25W
3516	4822 051 20008	0Ω 5% 0,1W
3517	4822 051 10008	0Ω 5% 0,25W
3520	4822 051 10008	0Ω 5% 0,25W
3524	4822 051 20008	0Ω 5% 0,1W
3527	4822 051 20008	0Ω 5% 0,1W
3528	4822 051 10008	0Ω 5% 0,25W
3529	4822 051 20008	0Ω 5% 0,1W
3530	4822 051 10008	0Ω 5% 0,25W
3531	4822 051 10008	0Ω 5% 0,25W
3532	4822 051 10008	0Ω 5% 0,25W
3533	4822 051 10008	0Ω 5% 0,25W
3534	4822 051 10008	0Ω 5% 0,25W
3535	4822 051 10008	0Ω 5% 0,25W
3536	4822 051 10008	0Ω 5% 0,25W
3537	4822 051 10008	0Ω 5% 0,25W
3538	4822 051 10008	0Ω 5% 0,25W
3539	4822 051 10008	0Ω 5% 0,25W
3540	4822 051 10008	0Ω 5% 0,25W
3542	4822 051 10008	0Ω 5% 0,25W
3543	4822 051 10008	0Ω 5% 0,25W
3544	4822 051 10008	0Ω 5% 0,25W
3545	4822 051 10008	0Ω 5% 0,25W
3546	4822 051 10008	0Ω 5% 0,25W
3547	4822 051 10008	0Ω 5% 0,25W
3548	4822 051 10008	0Ω 5% 0,25W
3549	4822 051 10008	0Ω 5% 0,25W
3550	4822 051 10008	0Ω 5% 0,25W
3551	4822 051 10008	0Ω 5% 0,25W
3552	4822 051 10008	0Ω 5% 0,25W
3553	4822 051 10008	0Ω 5% 0,25W
3554	4822 051 10008	0Ω 5% 0,25W
3555	4822 051 10008	0Ω 5% 0,25W
3556	4822 051 10008	0Ω 5% 0,25W
3557	4822 051 10008	0Ω 5% 0,25W
3558	4822 051 10008	0Ω 5% 0,25W
3559	4822 051 20008	0Ω 5% 0,1W
3560	4822 051 10008	0Ω 5% 0,25W
3561	4822 051 20008	0Ω 5% 0,1W
3562	4822 051 10008	0Ω 5% 0,25W
3563	4822 051 10008	0Ω 5% 0,25W
3564	4822 051 10008	0Ω 5% 0,25W
3565	4822 051 10008	0Ω 5% 0,25W
3566	4822 051 10008	0Ω 5% 0,25W
3567	4822 051 20008	0Ω 5% 0,1W

3568	4822 051 20008	0Ω	5%	0,1W
3570	4822 051 10008	0Ω	5%	0,25W
3571	4822 051 10008	0Ω	5%	0,25W
3572	4822 051 20008	0Ω	5%	0,1W
3573	4822 051 20008	0Ω	5%	0,1W
3574	4822 051 10008	0Ω	5%	0,25W
3575	4822 051 10008	0Ω	5%	0,25W
3576	4822 051 10008	0Ω	5%	0,25W
3578	4822 051 20008	0Ω	5%	0,1W
3579	4822 051 20008	0Ω	5%	0,1W
3580	4822 051 10008	0Ω	5%	0,25W
3581	4822 051 10008	0Ω	5%	0,25W
3589	4822 051 10008	0Ω	5%	0,25W
3590	4822 051 10008	0Ω	5%	0,25W
3592	4822 051 10008	0Ω	5%	0,25W
3593	4822 051 20008	0Ω	5%	0,1W
3594	4822 051 20008	0Ω	5%	0,1W
3595	4822 051 10008	0Ω	5%	0,25W
3596	4822 051 20008	0Ω	5%	0,1W
3600	4822 051 20473	47k	5%	0,1W
3601	4822 051 20103	10k	5%	0,1W
3602	4822 051 20104	100k	5%	0,1W
3603	4822 051 20104	100k	5%	0,1W
3604	4822 051 20223	22k	5%	0,1W
3605	4822 051 20223	22k	5%	0,1W
3606	4822 051 10102	1k	2%	0,25W
3607	4822 051 20223	22k	5%	0,1W
3609	4822 051 20223	22k	5%	0,1W
3610	4822 051 20103	10k	5%	0,1W
3611	4822 051 20103	10k	5%	0,1W
3616	4822 051 20273	27k	5%	0,1W
3617	4822 051 20153	15k	5%	0,1W
3618	4822 051 20153	15k	5%	0,1W
3619	4822 051 20104	100k	5%	0,1W
3620	4822 051 20472	4k7	5%	0,1W
3621	4822 051 20332	3k3	5%	0,1W
3623	4822 051 20472	4k7	5%	0,1W
3624	4822 051 20472	4k7	5%	0,1W
3625	4822 051 20223	22k	5%	0,1W
3626	4822 051 20472	4k7	5%	0,1W
3628	4822 051 20471	470Ω	5%	0,1W
3629	4822 051 20223	22k	5%	0,1W
3630	4822 051 20159	15Ω	5%	0,1W
3631	4822 051 20159	15Ω	5%	0,1W
3635	4822 051 20471	470Ω	5%	0,1W
3636	4822 051 20222	2k2	5%	0,1W
3637	4822 051 20222	2k2	5%	0,1W
3638	4822 051 20471	470Ω	5%	0,1W
3639	4822 051 20471	470Ω	5%	0,1W
3640	4822 051 20471	470Ω	5%	0,1W
3641	4822 051 20471	470Ω	5%	0,1W
3642	4822 051 20222	2k2	5%	0,1W

3643	4822 051 20222	2k2	5%	0,1W
3644	5322 116 55012	47Ω	5%	2,5W
3645	5322 116 55012	47Ω	5%	2,5W
3647	4822 051 20472	4k7	5%	0,1W
3648	4822 051 10102	1k	2%	0,25W
3649	4822 051 10102	1k	2%	0,25W
3650	4822 051 20279	27Ω	5%	0,1W
3651	4822 051 20279	27Ω	5%	0,1W
3654	4822 051 20104	100k	5%	0,1W
3655	4822 051 20104	100k	5%	0,1W
3656	4822 051 20472	4k7	5%	0,1W
3657	4822 051 20472	4k7	5%	0,1W
3660	4822 051 20103	10k	5%	0,1W
3661	4822 051 20473	47k	5%	0,1W
3662	4822 051 20473	47k	5%	0,1W
3664	4822 051 20103	10k	5%	0,1W
3665	4822 051 20103	10k	5%	0,1W
3666	4822 051 20221	220Ω	5%	0,1W
3667	4822 051 20221	220Ω	5%	0,1W
3668	4822 051 20223	22k	5%	0,1W
3669	4822 051 20223	22k	5%	0,1W
3670	4822 051 20223	22k	5%	0,1W
3671	4822 051 20223	22k	5%	0,1W
3672	4822 051 20223	22k	5%	0,1W
3673	4822 051 20105	1M	5%	0,1W
3674	4822 051 10102	1k	2%	0,25W
3675	4822 051 10102	1k	2%	0,25W
3676	4822 051 20123	12k	5%	0,1W
3677	4822 051 20223	22k	5%	0,1W
3678	4822 051 20473	47k	5%	0,1W
3679	4822 116 51455	6Ω8	2,5W	
3680	4822 051 20473	47k	5%	0,1W
3681	4822 051 20109	10Ω	5%	0,1W
3682	4822 051 20105	1M	5%	0,1W
3684	4822 051 20472	4k7	5%	0,1W
3685	4822 051 20472	4k7	5%	0,1W
3687	4822 051 10102	1k	2%	0,25W
3688	4822 051 10102	1k	2%	0,25W
3689	4822 051 20101	100Ω	5%	0,1W
3690	4822 051 20101	100Ω	5%	0,1W
3691	4822 051 10102	1k	2%	0,25W
3692	4822 051 10102	1k	2%	0,25W
3693	4822 051 10102	1k	2%	0,25W
3694	4822 051 10102	1k	2%	0,25W
3695	4822 051 20153	15k	5%	0,1W
3696	4822 051 20822	8k2	5%	0,1W
3697	4822 051 20103	10k	5%	0,1W
3698	4822 051 20153	15k	5%	0,1W
3699	4822 051 20103	10k	5%	0,1W
3700	4822 051 20472	4k7	5%	0,1W
3701	4822 051 20154	150k	5%	0,1W
3702	4822 051 20154	150k	5%	0,1W

3703	4822 051 20103	10k	5%	0,1W
3704	4822 051 20103	10k	5%	0,1W
3705	4822 051 20223	22k	5%	0,1W
3706	4822 051 20103	10k	5%	0,1W
3707	4822 051 20103	10k	5%	0,1W
3708	4822 051 20103	10k	5%	0,1W
3709	4822 051 20103	10k	5%	0,1W
3710	4822 051 20103	10k	5%	0,1W
3711	4822 051 20182	1k8	5%	0,1W
3712	4822 051 20182	1k8	5%	0,1W
3713	4822 051 20682	6k8	5%	0,1W
3714	4822 051 20682	6k8	5%	0,1W
3715	4822 051 20392	3k9	5%	0,1W
3716	4822 051 20392	3k9	5%	0,1W
3717	4822 051 20822	8k2	5%	0,1W
3718	4822 051 20223	22k	5%	0,1W
3719	4822 051 20823	82k	5%	0,1W
3720	4822 051 20823	82k	5%	0,1W
3721	4822 051 20184	180k	5%	0,1W
3722	4822 051 20184	180k	5%	0,1W
3723	4822 051 20474	470k	5%	0,1W
3724	4822 051 20474	470k	5%	0,1W
3725	4822 051 20563	56k	5%	0,1W
3726	4822 051 20563	56k	5%	0,1W
3727	4822 051 20103	10k	5%	0,1W
3728	4822 051 20109	10Ω	5%	0,1W
3729	4822 051 20104	100k	5%	0,1W
3730	4822 051 20104	100k	5%	0,1W
3731	4822 051 10102	1k	2%	0,25W
3732	4822 051 10102	1k	2%	0,25W
3733	4822 051 20153	15k	5%	0,1W
3734	4822 051 20153	15k	5%	0,1W
3735	4822 051 20822	8k2	5%	0,1W
3736	4822 051 20822	8k2	5%	0,1W
3737	4822 051 20103	10k	5%	0,1W
3738	4822 051 20222	2k2	5%	0,1W
3739	4822 051 10102	1k	2%	0,25W
3740	4822 051 10102	1k	2%	0,25W
3741	4822 051 20332	3k3	5%	0,1W
3742	4822 051 10102	1k	2%	0,25W
3743	4822 051 20332	3k3	5%	0,1W
3744	4822 051 20332	3k3	5%	0,1W
3745	4822 051 20562	5k6	5%	0,1W
3746	4822 051 20562	5k6	5%	0,1W
3747	4822 051 20561	560Ω	5%	0,1W
3748	4822 051 20561	560Ω	5%	0,1W
3749	4822 051 20273	27k	5%	0,1W
3750	4822 051 20223	22k	5%	0,1W
3751	4822 051 20243	24k	5%	0,1W
3752	4822 051 20243	24k	5%	0,1W
3753	4822 051 20008	0Ω	5%	0,1W

3754	4822 051 20109	10Ω	5%	0,1W
3755	4822 051 20109	10Ω	5%	0,1W
3756	4822 051 20222	2k2	5%	0,1W
3757	4822 051 20222	2k2	5%	0,1W
3758	4822 051 20471	470Ω	5%	0,1W
3759	4822 051 20471	470Ω	5%	0,1W
3761	4822 051 20103	10k	5%	0,1W
3762	4822 051 20103	10k	5%	0,1W
3764	4822 051 20479	47Ω	5%	0,1W
3765	4822 051 20223	22k	5%	0,1W
3766	4822 051 20223	22k	5%	0,1W
3767	4822 051 20222	2k2	5%	0,1W
3768	4822 051 20222	2k2	5%	0,1W
3769	4822 051 20222	2k2	5%	0,1W
3771	4822 051 20105	1M	5%	0,1W
3772	4822 051 20223	22k	5%	0,1W
3773	4822 051 20823	82k	5%	0,1W
3774	4822 051 20823	82k	5%	0,1W
3779	4822 051 20271	270Ω	5%	0,1W
3780	4822 051 20271	270Ω	5%	0,1W
3781	4822 051 20271	270Ω	5%	0,1W
3782	4822 051 20271	270Ω	5%	0,1W
3783	4822 051 20479	47Ω	5%	0,1W
3784	4822 051 20479	47Ω	5%	0,1W
3786	4822 051 20103	10k	5%	0,1W
3789	4822 051 10102	1k	2%	0,25W
3790	4822 051 20272	2k7	5%	0,1W
3791	4822 051 20104	100k	5%	0,1W
3792	4822 051 20272	2k7	5%	0,1W
3793	4822 051 20101	100Ω	5%	0,1W
3794	4822 051 20154	150k	5%	0,1W
3796	4822 051 20153	15k	5%	0,1W
3797	4822 051 20153	15k	5%	0,1W
3798	4822 051 20154	150k	5%	0,1W
3799	4822 051 20333	33k	5%	0,1W
3800	4822 051 20109	10Ω	5%	0,1W
3801	4822 051 20563	56k	5%	0,1W
3802	4822 051 20563	56k	5%	0,1W
3803	4822 051 20104	100k	5%	0,1W
3804	4822 051 20104	100k	5%	0,1W
3805	4822 051 20104	100k	5%	0,1W
3806	4822 051 20104	100k	5%	0,1W
3807	4822 051 20105	1M	5%	0,1W
3808	4822 051 20105	1M	5%	0,1W
3811	4822 051 10102	1k	2%	0,25W
3812	4822 051 20474	470k	5%	0,1W
3813	4822 051 20474	470k	5%	0,1W
3814	4822 051 20472	4k7	5%	0,1W
3815	4822 051 20472	4k7	5%	0,1W
3816	4822 051 20471	470Ω	5%	0,1W

3817	4822 051 20471	470Ω 5% 0,1W
3820	4822 116 40227	4Ω6 25% 12V
3821	4822 051 20008	0Ω 5% 0,1W
3822	4822 051 20008	0Ω 5% 0,1W
3823	4822 051 20473	47k 5% 0,1W

3824	4822 051 20159	15Ω 5% 0,1W
3826	4822 051 10102	1k 2% 0,25W
3827	4822 051 10102	1k 2% 0,25W
3900	4822 051 20103	10k 5% 0,1W
3901	4822 051 20103	10k 5% 0,1W

3902	4822 051 20103	10k 5% 0,1W
3903	4822 051 20103	10k 5% 0,1W

COILS and RESONATORS

5625	4822 156 20946	
5626	4822 157 63864	
5627	4822 157 63864	
5628	4822 156 20811	10ΩB/181LY-363J TOKO
5629	4822 156 20811	10ΩB/181LY-363J TOKO

5630	4822 156 20811	10ΩB/181LY-363J TOKO
5631	4822 156 20811	10ΩB/181LY-363J TOKO
5632	4822 242 73768	5332-042 SUMIDA
5633	4822 242 73768	5332-042 SUMIDA
5634	4822 242 73557	4 000,000 MHz

DIODES

6625	5322 130 31928	BAS16
6627	5322 130 31928	BAS16
6631	5322 130 34331	BAV70

TRANSISTORS & IC's

7625	4822 130 60511	BC847B
7626	4822 130 60511	BC847B
7627	5322 130 60123	BC807-40
7628	5322 130 60123	BC807-40
7629	5322 130 60123	BC807-40

7630	5322 130 60123	BC807-40
7631	5322 130 60123	BC807-40
7632	5322 130 60123	BC807-40
7633	4822 130 42615	BC817-40
7634	4822 130 42615	BC817-40

7635	4822 130 42615	BC817-40
7636	4822 130 42615	BC817-40
7637	5322 130 41982	BC848B
7638	5322 130 41982	BC848B

7639	4822 130 42615	BC817-40
7640	4822 130 42615	BC817-40
7641	5322 130 41983	BC858B
7642	5322 130 41983	BC858B
7643	5322 130 41982	BC848B

7644	5322 130 41982	BC848B
7645	5322 130 41982	BC848B
7646	5322 130 41982	BC848B
7647	5322 130 61569	BC868
7648	5322 130 61569	BC868

7649	4822 130 42615	BC817-40
7651	5322 130 41982	BC848B
7652	5322 130 41982	BC848B
7654	5322 130 41982	BC848B
7655	5322 130 41982	BC848B

7659	5322 130 41982	BC848B
7660	5322 130 41982	BC848B
7661	5322 130 41982	BC848B
7663	5322 130 41982	BC848B
7664	5322 130 41982	BC848B

7665	5322 130 41982	BC848B
7666	5322 130 41982	BC848B
7701	4822 209 31135	HEF4016BT
7702	4822 209 31135	HEF4016BT
7703	4822 209 31135	HEF4016BT

7704	4822 209 83274	NJM4560D
7705	4822 209 73994	NJM3415D
7706	4822 209 62372	TDA1602A/N3
7708	5322 209 12171	PC74HC4094T
7709	4822 209 31133	COP880C

7710	4822 209 72874	UPC1297CA
7711	4822 209 31134	CXA1331S
7720	4822 209 31137	HEF7069UBT
7721	4822 209 31137	HEF7069UBT

Service
Service
Service

Product Service Group CE Audio

Service Information

Recorder Part

* To improve performance of Dolby requirements

C2650, 2651 have been changed into 180pF	(4822 126 10326)
C2652, 2653 have been changed into 270pF	(4822 122 33216)
C2743, 2744 have been changed into 1,5nF	(4822 122 33174)
R3713, 3714 have been changed into 5k6	(4822 051 20562)
R3801, 3802 have been changed into 82k	(4822 051 20823)
R3826, 3827 have been changed into 3k3	(4822 051 20332)

* For reason of ESD a capacitor (2768) 100pF (5322 122 32531) has been added between pin 33 and pin 34 of IC7709

* To improve record mute attenuation
TS7651, 7652 have been changed into BC817-40 (4822 130 42615)

Service Information

Adaption of Manual 4822 725 23907

Following parts of the tape transports are available:

Mechanical parts

14	4822 403 20239	LEVER PINCH ROLLER
16	4822 492 71106	SPRING PINCH ROLLER
18	4822 535 93315	TAPE GUIDE RIGHT
24	4822 403 20241	LEVER PINCH ROLLER
26	4822 492 71107	SPRING PINCH ROLLER
28	4822 535 93314	TAPE GUIDE LEFT
34	4822 358 31184	DRIVING BELT
50	4822 528 70793	PINCH ROLLER
60	4822 528 70793	PINCH ROLLER
115	4822 529 10254	DAMPER (MOTOR)
116	4822 502 11866	SCREW (MOTOR)

Electrical parts

1021	4822 249 30181	PLAY BACK HEAD
1021	4822 249 10434	REC/PB HEAD
1023	4822 361 21506	MOTOR (CAPSTAN)
1024	4822 361 21516	MOTOR (WINDING)
1706	4822 276 12889	SWITCH
1707	4822 276 12889	SWITCH
1708	4822 276 12889	SWITCH
1709	4822 276 12889	SWITCH
1710	4822 276 12889	SWITCH
3701	4822 116 52244	15k 5% 0,5W
3702	4822 116 52234	100k 5% 0,5W
3703	4822 116 52264	27k 5% 0,5W
3704	4822 100 20166	10k TRIMPOT.
3705	4822 100 20589	TRIMPOT. 20k LIN.
3706	4822 050 21002	1k 1% 0,6W
3706	4822 050 21002	1k 1% 0,6W
7701	5322 130 60068	BC558C
7703	4822 209 31115	NJL5165KA

Complete Tape Deck

left deck	4822 691 20775	RER-2
right deck	4822 691 20763	RER-3

Service Information

During production the following changes were made :

70FC930 all version

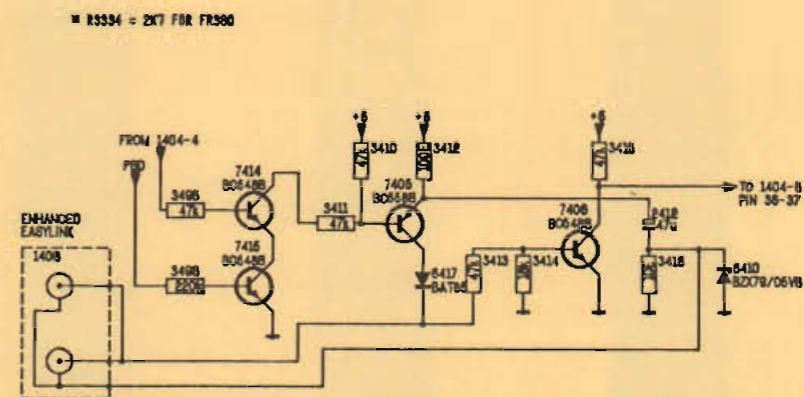
To improve better overalles frequentie-responce (roll-off) at 63Hz change elko item 2419,2420 from 1µF 63V to 4,7µF 63V. 4822 124 40246

To solve tape salad by mainsfailure change resistor item 3402 to 330k 1/8W 4822 116 52272

To solve reduce power-on plop change resistor item 3430,3431 from 100k to 22k 4822 050 22203

Adaption of Supply-Digital circuit diagram transistor item 7414 BC548B 4822 130 40937 and resistor item 3495 47k. 4822 050 24703

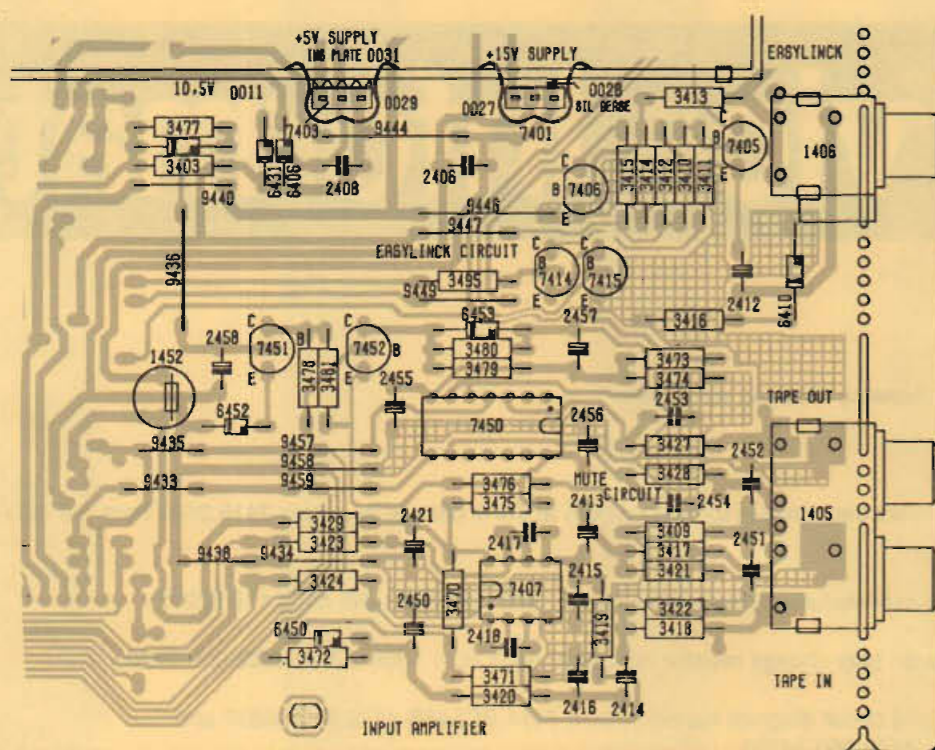
To improve extra easylinck protection for switching power-off add resistor item 3496 220k 4822 050 22204 ,transistor item 7415 BC548B 4822 130 40937 ,and diode item 6417 BAT85. 4822 130 31983



Service Service Service

Product Service Group CE Audio

Service Information



* Some parts have been added to the partslist of the tape transports.

Partslist Reverse Deck

- 4822 691 20775 COMPLETE RER-2 DECK (Playback)
- 4822 691 20763 COMPLETE RER-3 DECK (Recording)
- 7 4822 528 10889 CARRIER
- 12 4822 528 30414 ECCENTRIC RIGHT
- 13 4822 528 60413 FLYWHEEL RIGHT
- 14 4822 403 20239 LEVER PINCH ROLLER
- 16 4822 492 71106 SPRING PINCH ROLLER
- 18 4822 535 93315 TAPE GUIDE RIGHT
- 22 4822 528 30415 ECCENTRIC LEFT
- 23 4822 528 60412 FLYWHEEL LEFT
- 24 4822 403 20241 LEVER PINCH ROLLER
- 26 4822 492 71107 SPRING PINCH ROLLER
- 28 4822 535 93314 TAPE GUIDE LEFT
- 32 4822 520 40134 STEEL BALL
- 34 4822 358 31184 DRIVING BELT
- 45 4822 403 30801 LEVER SENSOR CASSETTE
- 50 4822 528 70793 PINCH ROLLER
- 51 4822 520 10747 COUNTER BEARING PLATE
- 60 4822 528 70793 PINCH ROLLER
- 61 4822 520 10747 COUNTER BEARING PLATE
- 106 4822 403 30804 EJECT LEVER RIGHT
- 108 4822 403 30803 EJECT LEVER LEFT
- 115 4822 529 10254 DAMPER (MOTOR)
- 116 4822 502 11866 SCREW (MOTOR)
- 1021 4822 249 10434 REC/PB HEAD
- 1021 4822 249 30181 PLAYBACK HEAD
- 1023 4822 361 21506 MOTOR (CAPSTAN)
- 1024 4822 361 21516 MOTOR (WINDING)
- 1025 4822 281 11063 SOLENOID

Partslist Single Direction Deck

- 4822 691 20764 COMPLETE REN-2 DECK
- 7 4822 528 10889 CARRIER
- 12 4822 528 30414 ECCENTRIC RIGHT
- 13 4822 528 60413 FLYWHEEL RIGHT
- 14 4822 403 20239 LEVER PINCH ROLLER
- 16 4822 492 71106 SPRING PINCH ROLLER
- 34 4822 358 31184 DRIVING BELT
- 45 4822 403 30801 LEVER SENSOR CASS
- 50 4822 528 70793 PINCH ROLLER
- 51 4822 520 10747 COUNTER BEARING PLATE
- 108 4822 403 30803 EJECT LEVER LEFT
- 115 4822 529 10254 DAMPER (MOTOR)
- 116 4822 502 11866 SCREW (MOTOR)
- 121 4822 492 51473 SPRING AZIMUTH
- 1021 4822 249 10458 PB HEAD
- 1022 4822 404 10685 ERASE HEAD DUMMY
- 1023 4822 361 21506 MOTOR (CAPSTAN)
- 1024 4822 361 21516 MOTOR (WINDING)
- 1025 4822 281 11063 SOLENOID

Service Information

70FC930 all version

Problem:

It is possible that through using the operating sequence PLAY-EJECT without STOP button, the fuse 1661 on the RE module can go defect.

Solution:

Change in the RE module the fuse 1661 by a PTC resistor. Service codenumber PTC 4822 116 40227

*From week 9312 this is introduced in production.

It was not possible with cassette deck FC930 to erase a metal cassette.

This can be solved through the following changes:

change resistor item 3676 12k into 1k5 service codenumber 4822 051 20152

change capacitor item 2643 150pF into 56pF service codenumber 5322 122 32661

*From week 9313 this is introduced in production.

Problem: 70FC910

When Deck A is actuated in Fast Forward or Fast Reverse Mode, the autostop doesn't work function properly during the Play Back Mode of Deck B .

Solution:

change resistor 3493 from 470r to 2k2 codnr.4822 050 22202

change resistor 3494 from 2k2 to 470r codnr.4822 050 24701

*From week 9245 this is introduced in production.

**Though the autostop function is mechanically implemented in the tape decks of 70FC930, this modification has also been applied in 70FC930 (same main printed board)