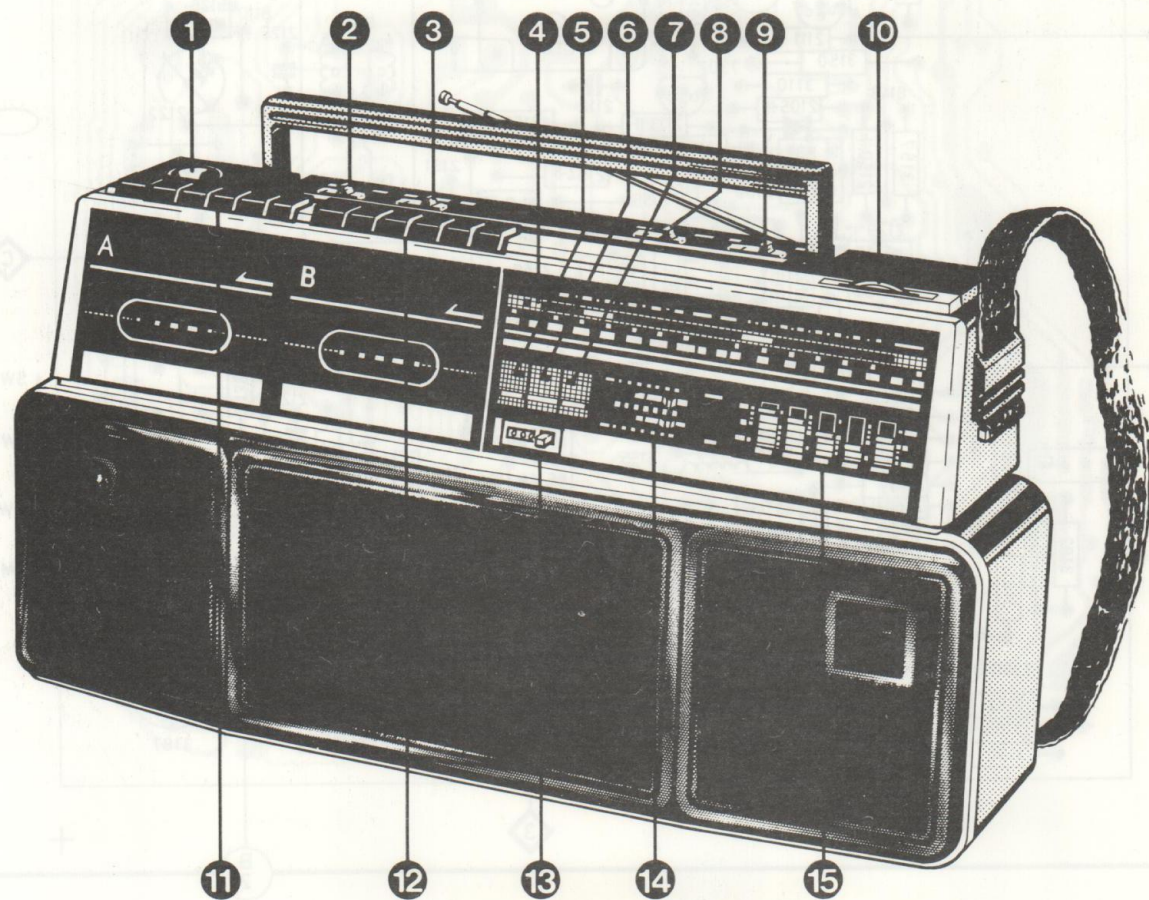


For repair information of the cassette mechanism see
Service Manual of Recorders tape deck RX Version RX-4

Service Manual



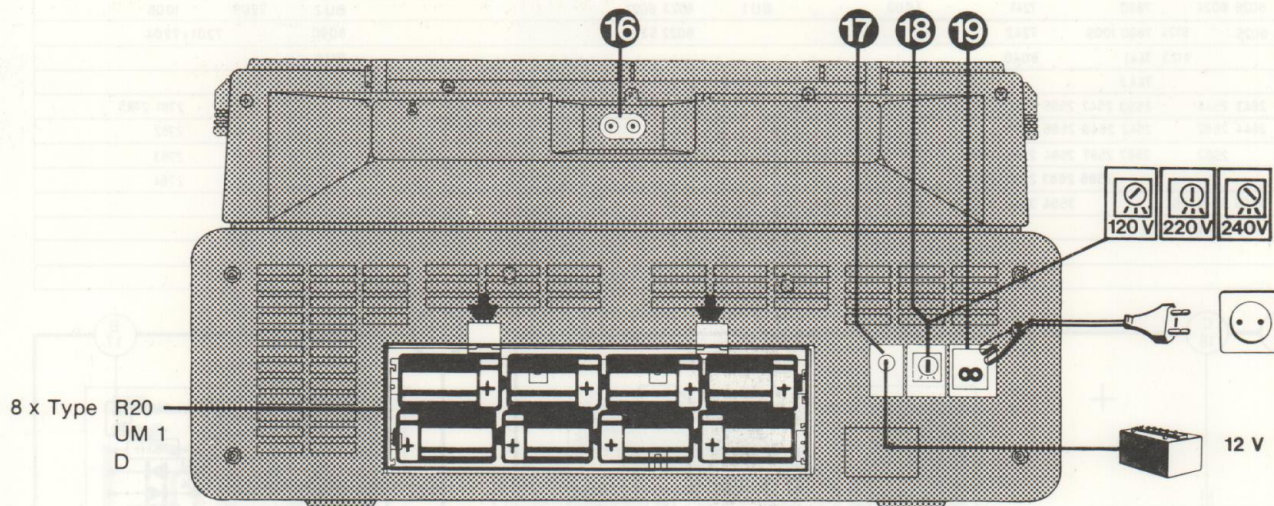
Connections and controls:

- | | | |
|----|----------------------|------|
| 1 | | BU-1 |
| 2 | Dubbing speed | SK-E |
| 3 | | SK-A |
| 4 | | 4001 |
| 5 | Power indicator | 7180 |
| 6 | Stereo indicator | 7181 |
| 7 | Dubbing indicator | 7190 |
| 8 | Mono/Stereo | SK-D |
| 9 | FM/MW/LW/SW | SK-B |
| 10 | | 2000 |
| 11 | Tape deck A button : | |
| | | SK-G |
| | | SK-G |
| | | SK-G |
| | Continuous play | SK-G |
| | | SK-G |

Specifications:

- 120/220/240V 50/60Hz
Voltage selection : Serviceable
- : 12V (8 x R20)
: External DC 12V
- $\sim 2 \times 1.4W - 1dB$ } 8 Ω , d=10%
 $\sim 2 \times 2.0W - 1dB$ } mid-range
- $\sim 1 \times 2.6W - 1dB$ } 4 Ω , d=10%
 $\sim 1 \times 3.6W - 1dB$ } woofer

AM IF	468KHz
FM IF	10.7MHz
LW	148.5-283.5KHz
MW	526.5-1606.5KHz
SW	5.9-17.9MHz
FM	87.5-108MHz



12 Tape deck B button :

- | | |
|--|------------|
| | SK-H |
| | SK-H |
| | SK-H |
| | SK-C, SK-H |
| | SK-H |

13 Counter and reset button

- | | | |
|----|-------------------|------|
| 14 | L,R | 3570 |
| 15 | Graphic equalizer | 3570 |
| 16 | L,R | BU-3 |
| 17 | | BU-4 |
| 18 | Not in use | |
| 19 | | BU-2 |

Tape speed 4.76cm/sec $\pm 3\%$
2 x 4.76cm/sec
(high speed dubbing)

Wow and flutter <0.35%

Signal to noise ratio >40dB
>37dB (dubbing)

Freq response :
(within 8dB) 250-6300Hz (play)
(within 8dB) 250-5000Hz (dubbing)
(within 10dB) 250-5000Hz (H.S. dubbing)

Equalizer control at 100Hz - 300Hz -
1kHz - 4kHz - 10kHz :
-8dB to 8dB

SK...						
-------	--	--	--	--	--	--

AM-IF

MW	468KHz		min.	5151		max.
	$\Delta f=10KHz$ via 33nF			5153		

AM-RF

MW *	1640KHz		min.	2136		max.
	560KHz			5001a		
	1500KHz			2122		
LW *	147KHz		max.	5130		max.
	160KHz			5001b		
SW * @	5.9MHz		max.	5131		max.
	17.9MHz			CTa		
	6.2MHz			5126		
	17.0MHz			CTb		

* Mod 1KHz 30% @ via 9.1pF

FM-IF

FM	$\approx 10.7MHz$		min.	5150		
	$\Delta f=300KHz$ (50Hz) via 22nF			5154		

FM-RF

FM α	87.35MHz + Mod 1KHz $\Delta f=22.5KHz$		max.	5103		max.
	108.2MHz + Mod 1KHz $\Delta f=22.5KHz$			5102		

α via 10nF + 15 Ω $\pm \pm 0.15MHz$

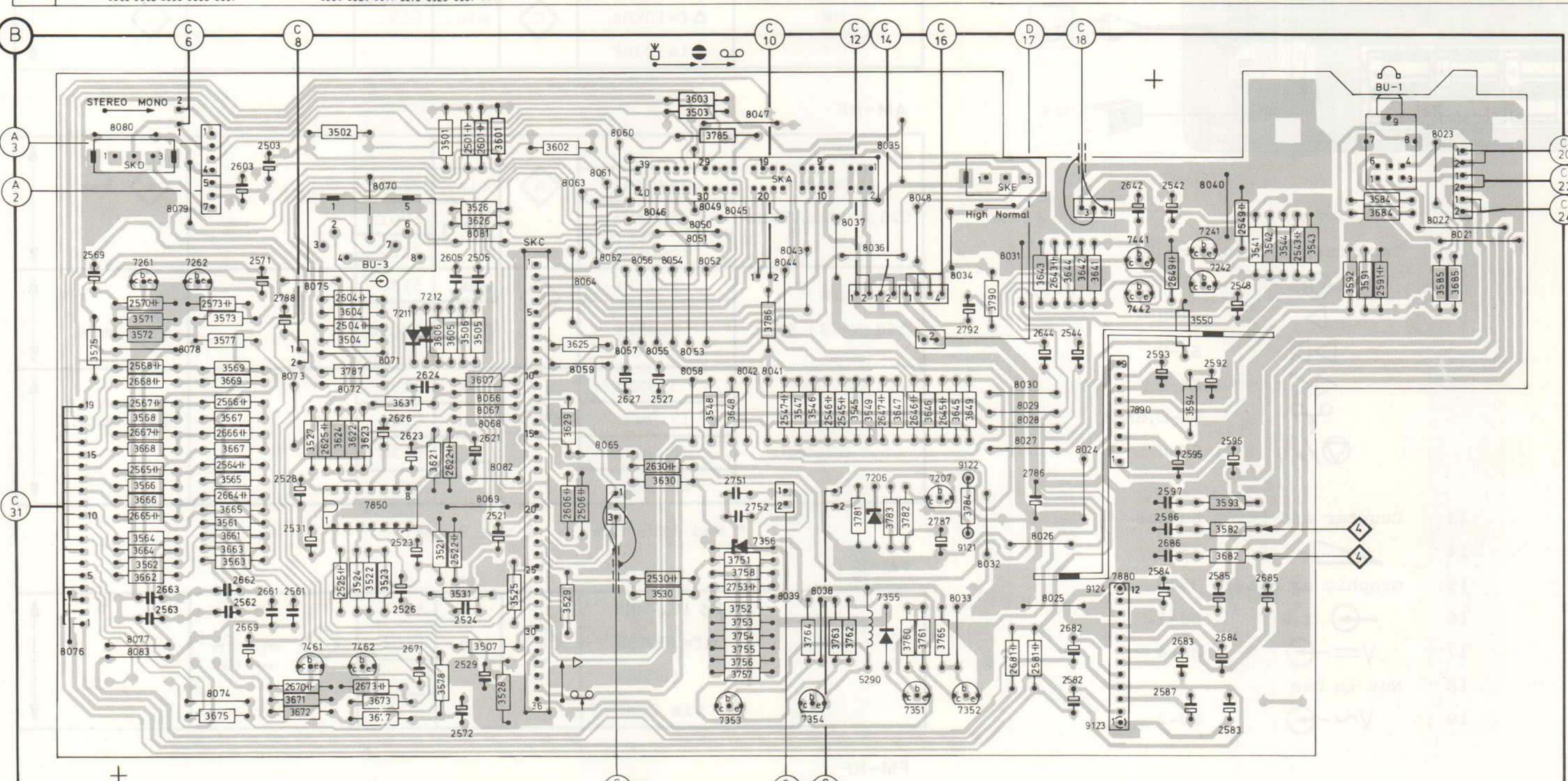
Stereo decoder

SK....		Counter
FM STEREO	3187	19 $\pm 0.2KHz$

Repeat

"Bei notwendigem Abgleich ist das Gert auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen".

Misc.	8076	8080	7261	8079	7262	8074	8073	7461	8072	7850	8070	7212	8081	4001	SKC	8080+8065	8049+8057	SKH	SKA	8038	5290	8037	8035	8048	7207	8034	1007	8031	8026	8024	7890	7241	4009	BU1	8023	8021	BU2	7205	1006																			
	SKD		8077		8078		4006		4003		7462		8071		8066+8069		4004		SKG		8046		8047		8041+8045		7354		1008		8036		9122		8033		8027		8030		8025		9124		7880		1009		7242		8022		5200		8090		7201+7204	
	8083		4005		8075		7211		4007		8059		7190		7353		8039		7206		7355		7351		9121		7352		8032		8029		9123		7441		8040												BU4									
	BU3						8082						8058		7181		7356		7180		SK E		8028		7442																																	
Cap	2569	2570	2567	2663	2573	2603	2503	2788	2625	2673	2626	2624	2605	2505	2601	2606	2627	2527	2751	2752	2547	2546	2647	2646	2645	2792	2786	2643	2544	2593	2542	2595	2592	2549	2685	2543	2591													2781	2785							
	2568	2565	2563	2564	2566	2571	2528	2670	2525	2604	2523	2623	2522	2501	2521	2506	2530	2753	2545	2787	2681	2644	2682	2642	2649	2686	2585																									2782						
	2668	2665	2664	2666	2661	2531	2504	2526	2622	2529	2621					2630						2581	2582	2587	2597	2584	2684	2548																							2783							
	2667		2662	2562	2669	2561	2671	2524	2572																			2586	2683	2583	2596																					2784						
Res.	3575	3571	3564	3561	3573	3567	3675	3671	3527	3502	3622	3522	3631	3501	3526	3601	3525	3602	3625	3630	3603	3548	3648	3547	3546	3781	3545	3647	3646	3784	3645	3790	3643	3644	3641	3594	3550	3593	3541	3544	3543	3592	3591	3585														
	3566	3572	3664	3661	3577	3569	3672	3624	3623	3523	3621	3606	3506	3507	3629	3530	3503	3785	3751+3758	3764	3763	3762	3549	3783	3760	3765	3649	3642							3582	3542			3584	3685																		
	3666	3668	3562	3663	3565	3669		3604	3787	3673	3521	3605	3505	3528	3529											3782	3761									3682	3570			3684																		
	3568	3662	3563	3665	3667		3504	3524	3677	3578	3626	3607	3531						3786																																							



Adjustment	Cassette	Recorder position			Measure on	Read on	Adjust with	Adjust to
		SK...	Deck A	Deck B				
Azimuth	10KHz SBC 420*	Tape	Play	—	BU-1	mV-meter	Left hand screw Play head	max. output L = R
		Tape	—	Play	BU-1	mV-meter	Left hand screw R/P head	
Motor speed (Normal)	3150Hz SBC 420*	Tape	Play	—	BU-1	Wow and Flutter meter	preset in motor	**a
		Tape	—	Play	BU-1	Wow and Flutter meter	—	**a
Motor speed (High)	3150Hz SBC 420*	Dubbing High speed	Play	Record	BU-1	Frequency counter	—	6.0 ± 0.3 KHz

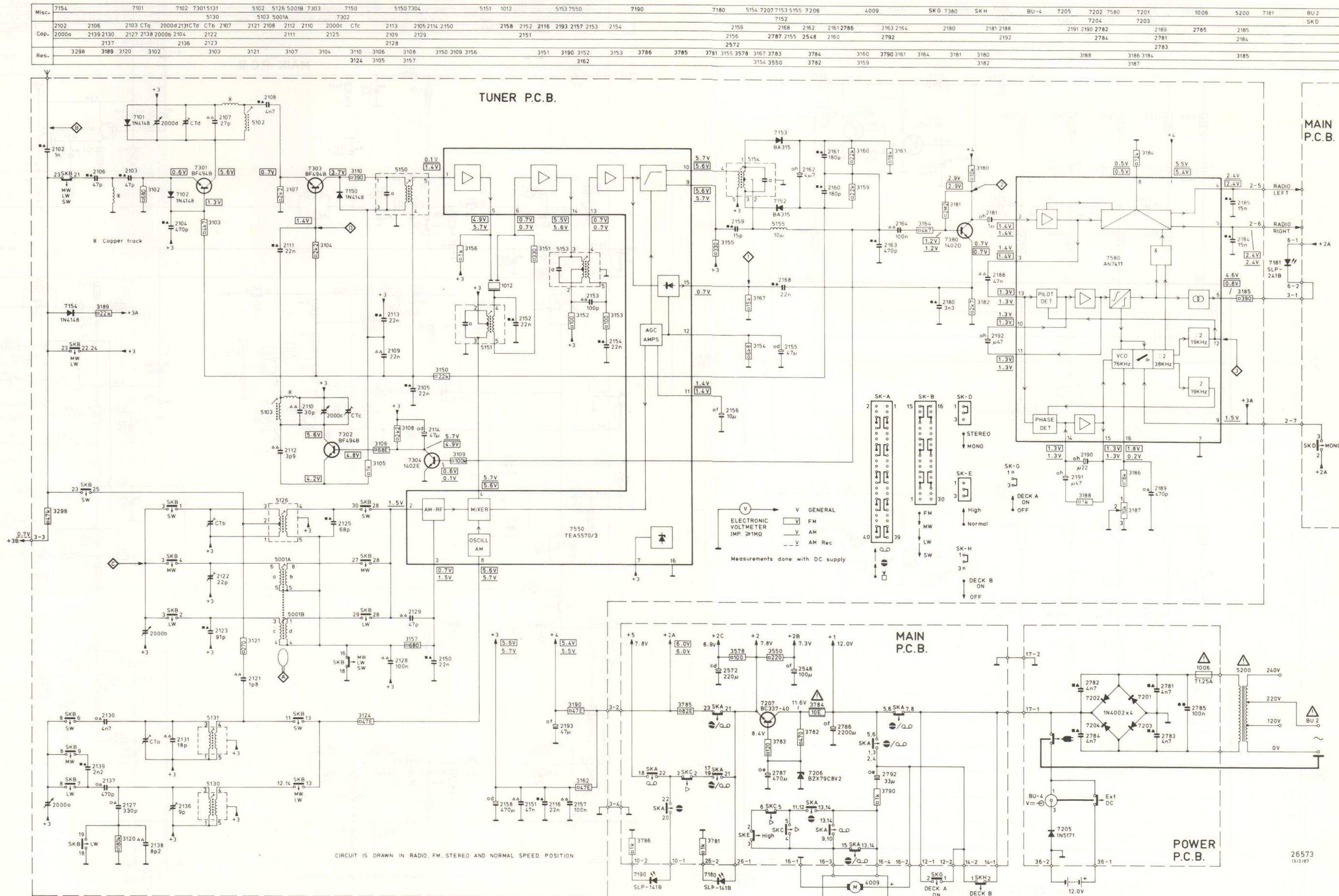
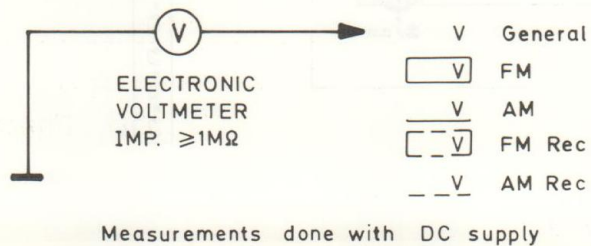
* SBC 420 : 4822 397 30071

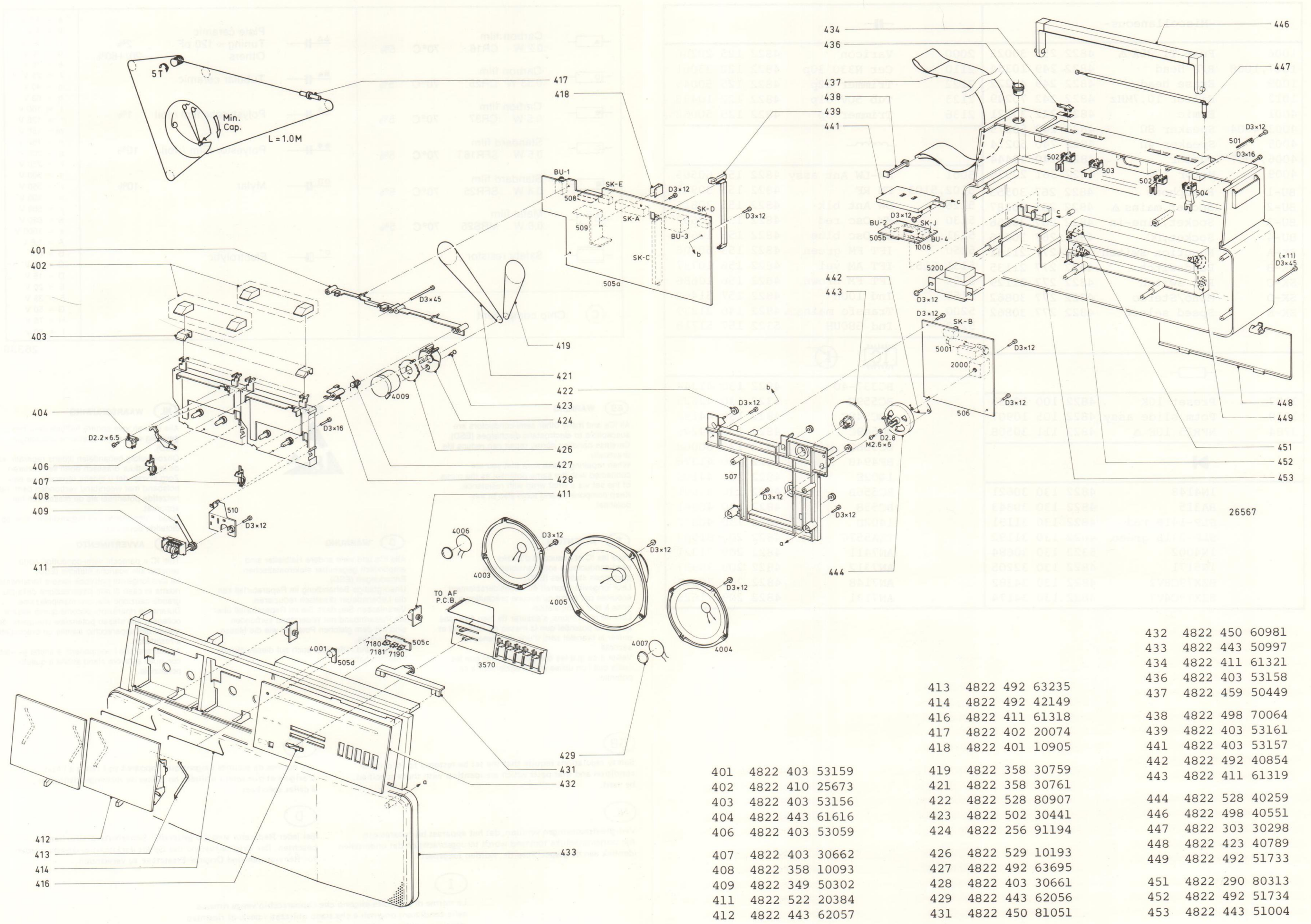
**a The maximum permissible speed deviation is 2%.
Moreover, the wow and flutter value can be read.
This value should not exceed 0.35%.

7550	1 - 1.4V 0.1V	7850	1 - 0V	7890	1 - 6.0V	7242/7442	e - 5.5V	7304	e - 0V 0V
2 - 0V 1.5V	2 - 0V	2 - 0V	2 - 0V	2 - 0V	2 - 0V	b - 6.1V	b - 0.6V 0.1V	b - 0.6V 0.1V	
3 - 0.7V 1.5V	3 - 0.7V	3 - 0V	3 - 0V	3 - 11.3V	3 - 11.3V	c - 7.3V	c - 4.9V 5.7V	c - 4.9V 5.7V	
4 - 5.6V 5.7V	4 - 5.6V	4 - 3.7V	4 - -	4 - -	4 - -				
5 - 4.9V 5.7V	5 - -	5 - 1.4V	5 - 1.4V	5 - 1.4V	5 - 1.4V				
6 - 0.7V 0.7V	6 - 1.3V	6 - 0.1V	6 - 0.1V	6 - 0.1V	6 - 0.1V				
7 - 5.6V 5.7V	7 - 0.1V	7 - 0V	7 - 0V	7 - 0V	7 - 0V				
8 - 5.6V 5.7V	8 - 0.1V	8 - 11.5V	8 - 11.5V	8 - 11.5V	8 - 11.5V				
9 - 5.6V 5.7V	9 - 1.3V	9 - 12.0V	9 - 12.0V	9 - 12.0V	9 - 12.0V				
10 - 5.6V 5.7V	10 - -								
11 - 1.4V 1.4V	11 - 3.7V								
12 - 0V 0V	12 - 0V								
13 - 0.7V 0.7V	13 - 7.2V								
14 - 5.5V 5.6V	14 - 7.3V								
15 - 0V 0.7V									
16 - 0V 0V									
7580	1 - 5.4V 5.5V	7880	1 - 1.3V	7380	e - 0.7V	7301	e - 0.6V	7353	e - 0.1V 0V
2 - 1.4V 1.4V	2 - 0.1V	2 - 0.1V	2 - 0.1V	2 - 1.2V	2 - 1.2V	b - 1.3V	b - 0.3V 0V	b - 0.3V 0V	
3 - 1.4V 1.4V	3 - 11.9V	3 - 11.9V	3 - 11.9V	3 - 11.9V	3 - 11.9V	c - 2.9V	c - 0.8V 0V	c - 0.8V 0V	
4 - 2.4V 2.4V	4 - 0V	4 - 0V	4 - 0V	4 - 0V	4 - 0V				
5 - 2.4V 2.4V	5 - 0.1V	5 - 0.1V	5 - 0.1V	5 - 0.1V	5 - 0.1V				
6 - 0.8V 4.6V	6 - 1.3V	6 - 1.3V	6 - 1.3V	6 - 1.3V	6 - 1.3V				
7 - 0V 0V	7 - 6.5V	7 - 6.5V	7 - 6.5V	7 - 6.5V	7 - 6.5V				
8 - 0.5V 0.5V	8 - 11.0V	8 - 11.0V	8 - 11.0V	8 - 11.0V	8 - 11.0V				
9 - 0V 1.5V	9 - 0V	9 - 0V	9 - 0V	9 - 0V	9 - 0V				
10 - 1.3V 1.3V	10 - 12.0V	10 - 12.0V	10 - 12.0V	10 - 12.0V	10 - 12.0V				
11 - 1.3V 1.3V	11 - 11.0V	11 - 11.0V	11 - 11.0V	11 - 11.0V	11 - 11.0V				
12 - -	12 - 6.5V	12 - 6.5V	12 - 6.5V	12 - 6.5V	12 - 6.5V				
13 - 1.3V 1.3V									
14 - 1.3V 1.3V									
15 - 1.3V 1.3V									
16 - 1.8V 0.2V									
7303	1 - 0.7V	7241/7441	e - 7.3V	7302	e - 4.2V	7354	e - 0.8V 0V	7354	e - 0.8V 0V
2 - 1.4V	2 - 1.4V	2 - 1.4V	2 - 1.4V	2 - 1.4V	2 - 1.4V	b - 0.1V 0V	b - 0.1V 0V	b - 0.1V 0V	
3 - 3.7V	3 - 3.7V	3 - 3.7V	3 - 3.7V	3 - 3.7V	3 - 3.7V	c - 12.0V 12.0V	c - 12.0V 12.0V	c - 12.0V 12.0V	

V

<





401	4822	403	53159	413	4822	492	63235	432	4822	450	60981
402	4822	410	25673	414	4822	492	42149	433	4822	443	50997
403	4822	403	53156	416	4822	411	61318	434	4822	411	61321
404	4822	443	61616	417	4822	402	20074	436	4822	403	53158
406	4822	403	53059	418	4822	401	10905	437	4822	459	50449
407	4822	403	30662	419	4822	358	30759	438	4822	498	70064
408	4822	358	10093	421	4822	358	30761	439	4822	403	53161
409	4822	349	50302	422	4822	528	80907	441	4822	403	53157
411	4822	522	20384	423	4822	502	30441	442	4822	492	40854
412	4822	443	62057	424	4822	256	91194	443	4822	411	61319
				426	4822	529	10193	444	4822	528	40259
				427	4822	492	63695	446	4822	498	40551
				428	4822	403	30661	447	4822	303	30298
				429	4822	443	62056	448	4822	423	40789
				431	4822	450	81051	449	4822	492	51733
								451	4822	290	80313
								452	4822	492	51734
								453	4822	443	51004

-Miscellaneous-							
1006	Fuse T1.25A Δ	4822 253 30022	2000	Varicon	4822 125 20286		
1007,1008	R/P Head	4822 249 10334	2110	Cer N330 30p	4822 122 33061		
1009	Erase head	4822 249 40222	2122	Trimmer 22p	4822 125 50045		
1012	Filter 10.7MHz	4822 242 70249	2123	Tub 50V 91p	4822 122 10435		
4001	E-mic	4822 242 30121	2136	Trimmer 9p	4822 125 50062		
4003,4004	Speaker 8Ω	4822 240 50275					
4005	Speaker 4Ω	4822 240 50274					
4006,4007	Buzzer	4822 240 30444					
4009	Motor 12V	4822 361 20975	5001	MW-LW Ant assy	4822 158 60565		
BU-1	Headphone	4822 267 30553	5102,5103	FM RF	4822 156 30947		
BU-2	Socket,mains Δ	4822 265 20287	5126	SW Ant blk	4822 156 30811		
BU-3	Socket,line-in	4822 267 30556	5130	MW Osc red	4822 156 10687		
BU-4	Socket,DC	4822 267 30446	5131	SW Osc blue	4822 156 10689		
SK-A	Function switch	4822 277 21131	5150	IFT FM green	4822 153 50206		
SK-B	Bandswitch	4822 277 21135	5151,5153	IFT AM yel	4822 156 10737		
SK-C	Rec switch	4822 277 21129	5154	IFT FM brown	4822 156 10686		
SK-D	Mono/Stereo	4822 277 30862	5155	Ind 10UH	4822 157 51462		
SK-E	Speed select	4822 277 30862	5200	Transfo mains Δ	4822 146 21239		
			5290	Ind 680UH	5322 157 51718		
3187	Preset 10K	4822 100 10035	BC337-40		4822 130 41344		
3570	Potm slide assy	4822 105 10907	BC559C		5322 130 42625		
3784	NFR25 10E Δ	4822 111 30508	TBC548C		4822 130 44196		
				BC549C	4822 130 44246		
1N4148		4822 130 30621	BC558C		5322 130 60068		
BA315		4822 130 30843	BF494B		4822 130 41376		
SLP-141B red		4822 130 31191	1402E		4822 130 44196		
SLP-241B green		4822 130 31192	BC556B		4822 130 41691		
1N4002		5322 130 30684	BC558		4822 130 40941		
1N5171		4822 130 32205	1402D		4822 130 40937		
BZX79C8V2		4822 130 34382	TEA5570		4822 209 81563		
BZX79C4V7		4822 130 34174	AN7411		4822 209 71321		
			AN7312		4822 209 70997		
			AN7148		4822 209 70998		
			AN7131		4822 209 71625		

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

26338

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.

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.

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

ESD**D WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen 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.

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

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.

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.