

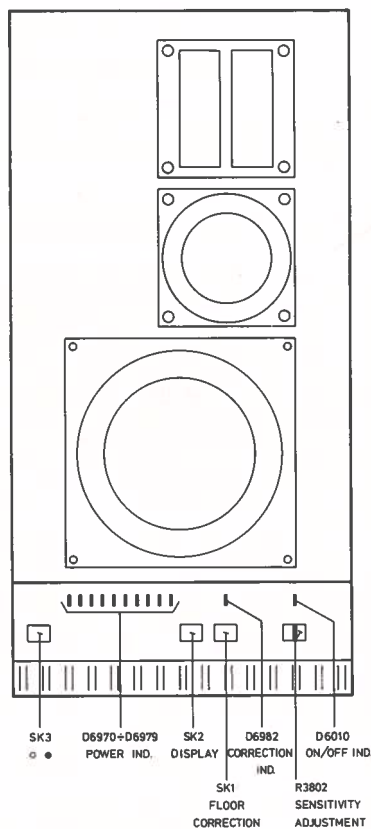
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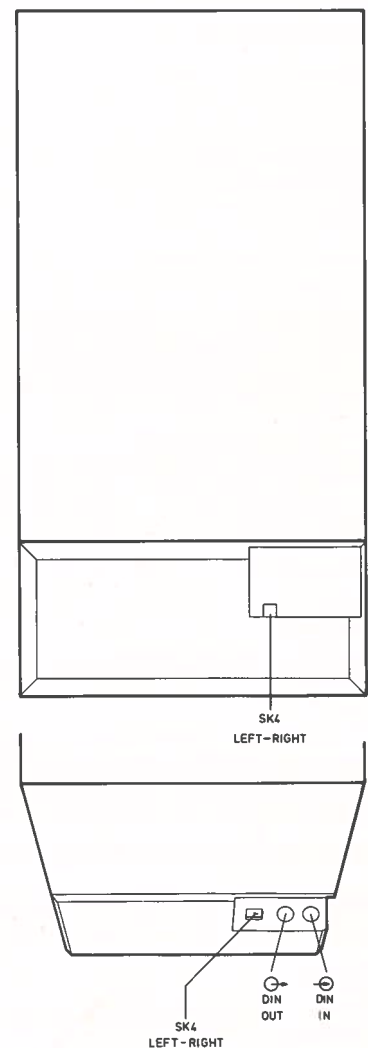
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Service Manual



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

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



Subject to modification

4822 725 20069

Printed in The Netherlands

PHILIPS

TECHNICAL DATA

Volume (internal/external)	: 26/42 l
Dimensions	: 310 x 630 x 235 mm
Weight	: 16.2 kg
Output power	: 85 W
Frequency range	: 27-40.000 Hz
Input sensitivity	: 0.5-22 V (variable)
Operating voltage	: 220 V

SERVICING HINTS

Disassembly of amplifier section

Rear:

1. Remove cover grille (6 screws) from rear.
2. Remove the 4 screws with which the amplifier is fixed.
3. Disconnect the 4 plug connections.
4. When remounting the amplifier section, reapply the adhesive tape under the loudspeaker box.

Front:

5. Remove the 2 screws behind lid item number 107 (see fig. 33532E).
6. Now take the complete amplifier out of the enclosure.

Important

1. After repair, the packings that were removed from their places should be replaced by new ones. Furthermore the ornamental ring of the woofer should be refixed with double-sided adhesive tape.
2. After repair the loudspeaker box should be checked for airtightness. Perform a sound test at a frequency of 80-125 Hz.
3. After repair the loudspeaker box should be checked for rustle. To this end perform a sound test over the entire frequency area.

AUTOMATIC SWITCH-ON

The box can automatically be switched on in two ways:

1. Switch-on with LF audio signal

For this the signal is taken off **before** preset-level potentiometer R3802. This signal is amplified, limited and rectified in the stages with TS7929, 7931 and 7932.

Electrolytic capacitor C2923 is charged and ensures a delayed drop-out of the relay after drop-out of the signal.

Drop-out time is 5 to 10 minutes.

When electrolytic capacitor C2923 is sufficiently charged, whereby $V_C \geq 2.5$ V, a positive voltage of ≥ 1.8 V appears on mute pin 7 on IC7930 (μ pc 1237H-relay driver), resulting in the pull-in of the relay.

2. Switch-on with an external control voltage

If a control voltage of ≥ 4 V is applied to pin 6 of the DIN input plug, the box will be switched on. This control voltage overrules the functioning of the automatic switch-on described sub 1, because it directly affects pin 7 on IC7930.

ANTI-PLOP CIRCUIT

Switch-on delay

In order to not hear any annoying sounds during switch-on of the box, the output stage is closed. This is realized by applying a positive voltage to pins 3 of IC7860 and IC7886.

At switch-on, electrolytic capacitor 2949 is empty. Then there is +1 on pin 3 (via 3959), which controls the current source in such a way that the differential amplifier does not transmit any signals.

Electrolytic capacitor 2949 is charged, so that the voltage on pin 3 will become lower. The output stage ICs are now adjusted for their operating points.

Switch-off suppression

At switch-off, the voltage coming from diode 6892 will immediately drop out. Then transistor 7938 has a positive control on the base via 3955.

Transistor 7938 becomes saturated, driving 7937 to full power.

Now the +1 practically appears on the collector of 7937 and hence also on output stage ICs 7860 and 7886, so that the output stage is not driven to full power (see switch-on delay).

DC PROTECTION

From the woofer and midrange/tweeter, outputs R3925 and R3926 are connected to DC or overload detector pin 2 on IC7930.

Upon occurrence of a DC error, C2938 is charged at pin 2 and causes the flip-flop in IC7930 to flop back. The relay drops out and does not pull in until the supply voltage (pins 4 and 8) of the relay-driver has been sufficiently lowered.

This can be done by switching off SK3 for more than 5 seconds, or by pulling out the mains plug.

When the F9638 chassis is switched on without load resistances on woofer and midrange outputs ($4\ \Omega$ and $8\ \Omega$ respectively), a positive or negative load on those outputs cannot leak away to ground in time and the relay drops out again immediately after pulling-in; for this reason always ensure that load resistances or speakers are connected.

FEEDBACK-FEEDFORWARD

In order to enable stable feedback, the signal fed back should stay in antiphase with the input signal. Loudspeaker and recorder supply a signal to the output recorder which:

- 1) Slopes below the resonance frequency ($\approx 80\text{ Hz}$) by 12 dB/oct. up to $\pm 20\text{ Hz}$.
- 2) Slopes from 200 Hz to $\pm 400\text{ Hz}$ by 3 dB/oct.
- 3) Behaves erratically from $> 800\text{ Hz}$ due to breaking-up of the cone (1000 Hz) and resonances of the cone and the record element (2800 Hz). See Fig. 1.

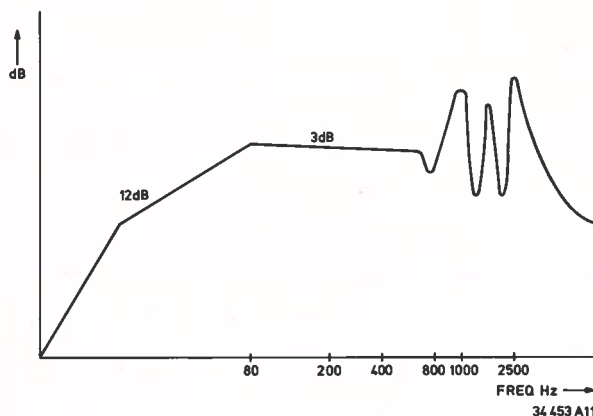


Fig. 1

This playback response is smoothed out in amplitude and phase from 20 Hz to 1000 Hz in the feedforward amplifier. At frequencies over 1000 Hz resonance peaks are filtered away with a dip filter round 7885 and 7887.

After disconnecting electrolytic capacitor 2846 from the collector of TS7811, the following graph is obtained (open loop measurement from input to record signal, i.e. the emitter of TS7882).

Note: R3922 should be disconnected for this. See Fig. 2.

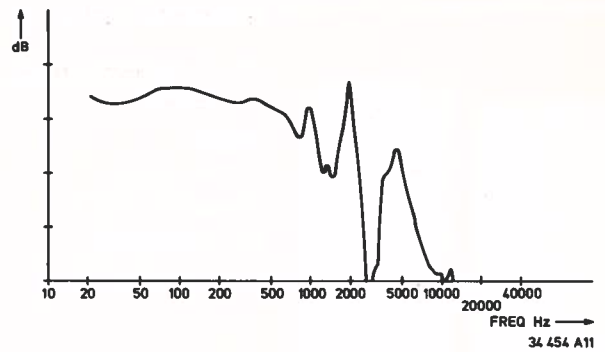


Fig. 2

In order to feed back over a system with playback response as shown in Fig. 2, the loop amplification below 20 Hz and over 700 Hz should be smaller than 1, because otherwise the system will oscillate.

To be able to feed back much in spite of all this, "auxiliary signals" are added to the feedback signal (or record signal) which have a phase and amplitude corrective effect outside the 20 Hz-700 Hz range.

In fact we do not use the feedback signal as feedback correction below 20 Hz and over 700 Hz, but a signal that is derived from the input and amplified.

This feedforward signal is taken off the output of the first mixer (pin 1 on 7883).

Round 7884 is a filter-amplifier which filters away frequencies between 100 and 500 Hz as much as necessary and which is able, inside the problem ranges of feedback, to supply sufficient signal to mixer 2 (pin 6 on 7883) where record signal and feedforward signal are mixed. The feedforward curve measured from the input at electrolytic capacitor 2846 to pin 1 on 7884 (apply a signal to electrolytic capacitor 2846 after having disconnected C2846 from the collector of TS7822) is shown in diagrammatical form in Fig. 3.

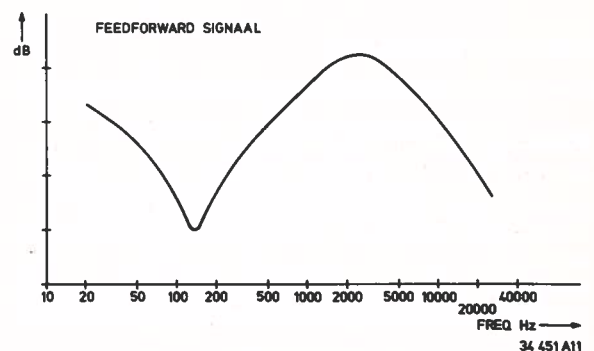


Fig. 3

Suppose we perform the following measurements:

- A. From input to pin 7 of 7883. As a result of this R3922 is disconnected and R3895 is connected to ground at the side of 7884. (open loop measurement of the forward system).
- B. From input to pin 7 on 7883. Also here R3922 is disconnected, but during these measurements pin 5 on 7883 is connected to ground (feedforward measurement whereby the forward signal was taken away).

These two measurements result in the following curve:

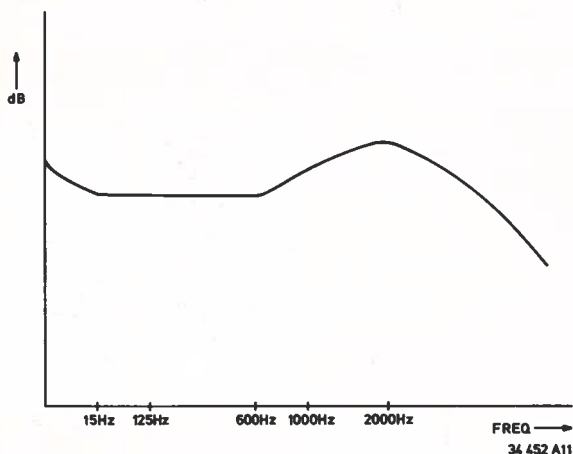


Fig. 4

The sum of A and B is used as feedback signal for the system.

This sum looks as follows:

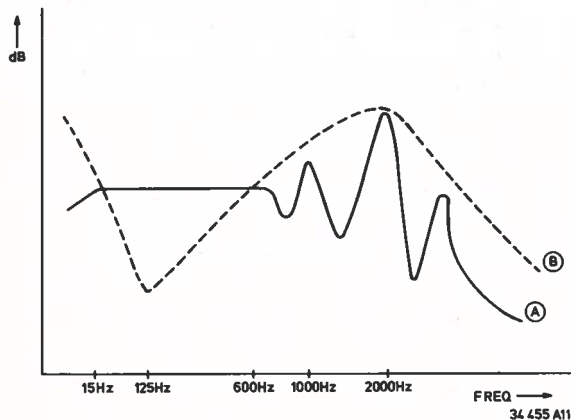


Fig. 5

With this feedback signal it is possible to make a stable fed back system.

Diagrammatically

In the chain of curve A, MFB trimming potentiometer 3919 is located (see Fig. 4). With this the entire level of curve A is displaced relative to curve B.

If curve A is placed too high (more MFB), the peak at 1000 Hz and next the peak at 2000 Hz will exceed curve B.

The system oscillates and whistles at 1000 Hz or 2000 Hz. The degree of feedback at each frequency is the distance between curve A and curve B.

DC ADJUSTMENT OF THE OUTPUT STAGES

Perform the adjustment 5 minutes after switching on the set.

High and intermediate notes amplifier IC

Adjust the IC with 3866 for $20 \text{ mV} \pm 2 \text{ mV}$, to be measured across 3867.
(between the emitter of 7862 and the emitter of 7863).

Low notes amplifier IC

Adjust the IC with 3914 for $20 \text{ mV} \pm 2 \text{ mV}$, to be measured across 3923.
(between the emitter of 7889 and the emitter of 7890).

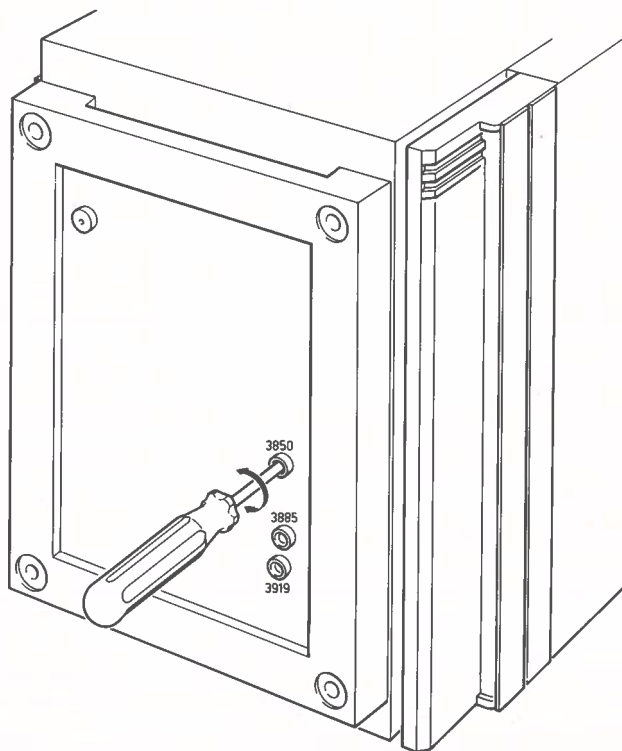
Adjustment of the amplifier levels and acoustic feedback

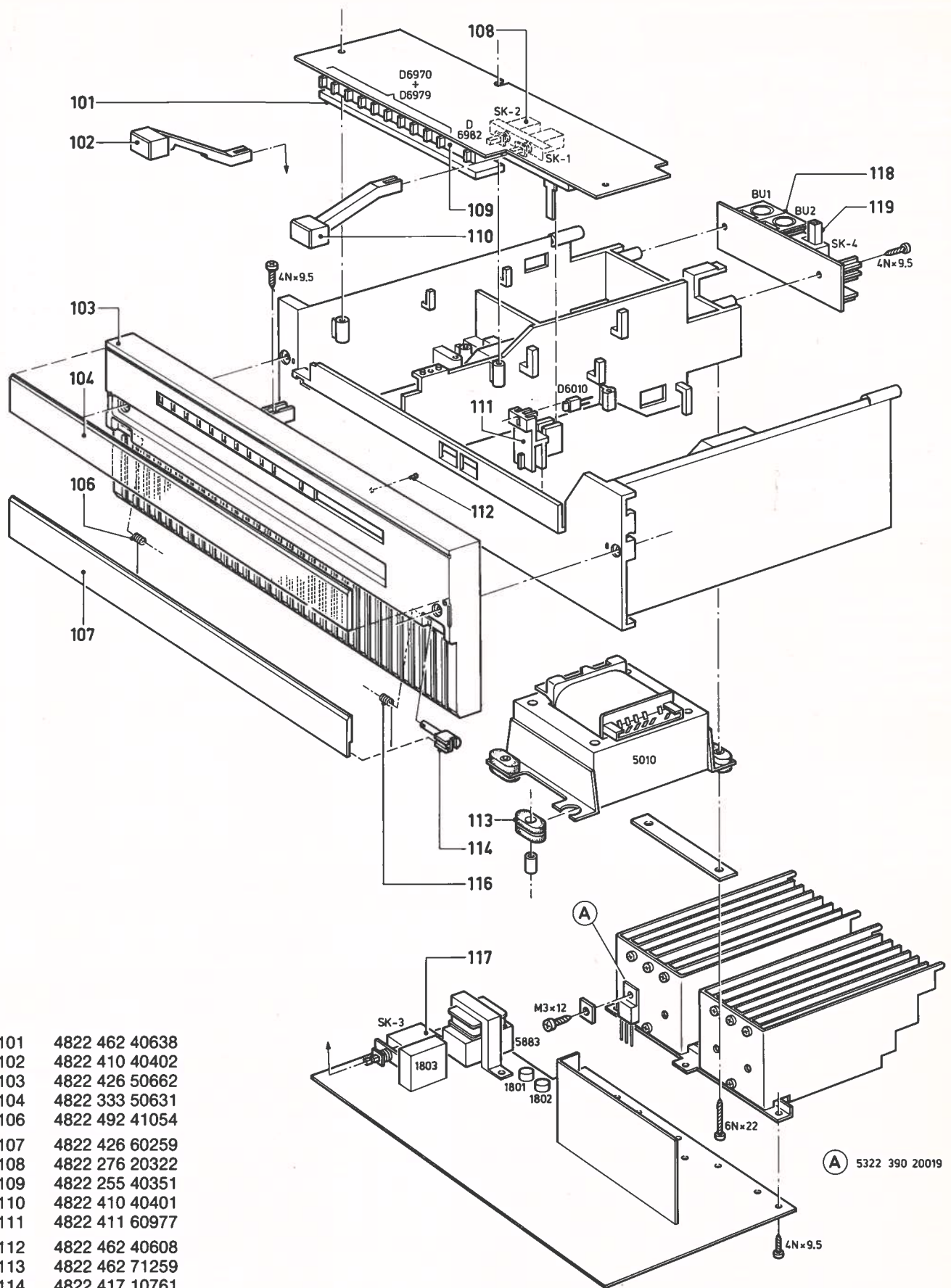
A. Replacing and adjusting woofer AD80681/MFB4

- Put the Floor correcting filter in OFF position.
- Set the input sensitivity control to maximum sensitivity (position 11).
- Remove rear panel of amplifier section.
- Turn the slider of potentiometer 3919 (MFB) to ground.
This is fully clockwise viewed from the bottom side of the loudspeaker box (see drawing).
- Turn the slider of potentiometer 3885 (woofer) fully clockwise; i.e. minimum amplification.
- Connect an AC voltmeter to plugs B130-B131 and B132-B133.
- Apply a signal of 10 mV and 125 Hz to pins 3 and 5 of BU-1.
- Adjust potentiometer 3885 until the output is 1400 mV.
- Adjust potentiometer 3919 until the output is 330 mV.
- Connect an AC voltmeter to pins B114 and B115.
- Apply a 10 mV signal with a frequency of 1000 Hz to pins 3 and 5 of BU-1.
- Check the output. This should be 205 mV. Readjust, if necessary, with potentiometer 3850 (squawker, tweeter).

B. Replacing Mid-Range AD02170/SQ8 and/or Isophase tweeter AD21601/RT8

- Connect an AC voltmeter to plugs B130-131 and B132-B133.
- Apply a 10 mV signal with a frequency of 125 Hz to pins 3 and 5 of BU-1.
- Check the output. This should be 330 mV. If this is not so, readjust the woofer (see replacing the woofer).
- Connect a AC voltmeter to B114 and B115.
- Apply a signal of 10 mV with a frequency of 1000 Hz to pins 3 and 5 of BU-1.
- Adjust potentiometer 3850 (squawker-tweeter) until the output is 205 mV.

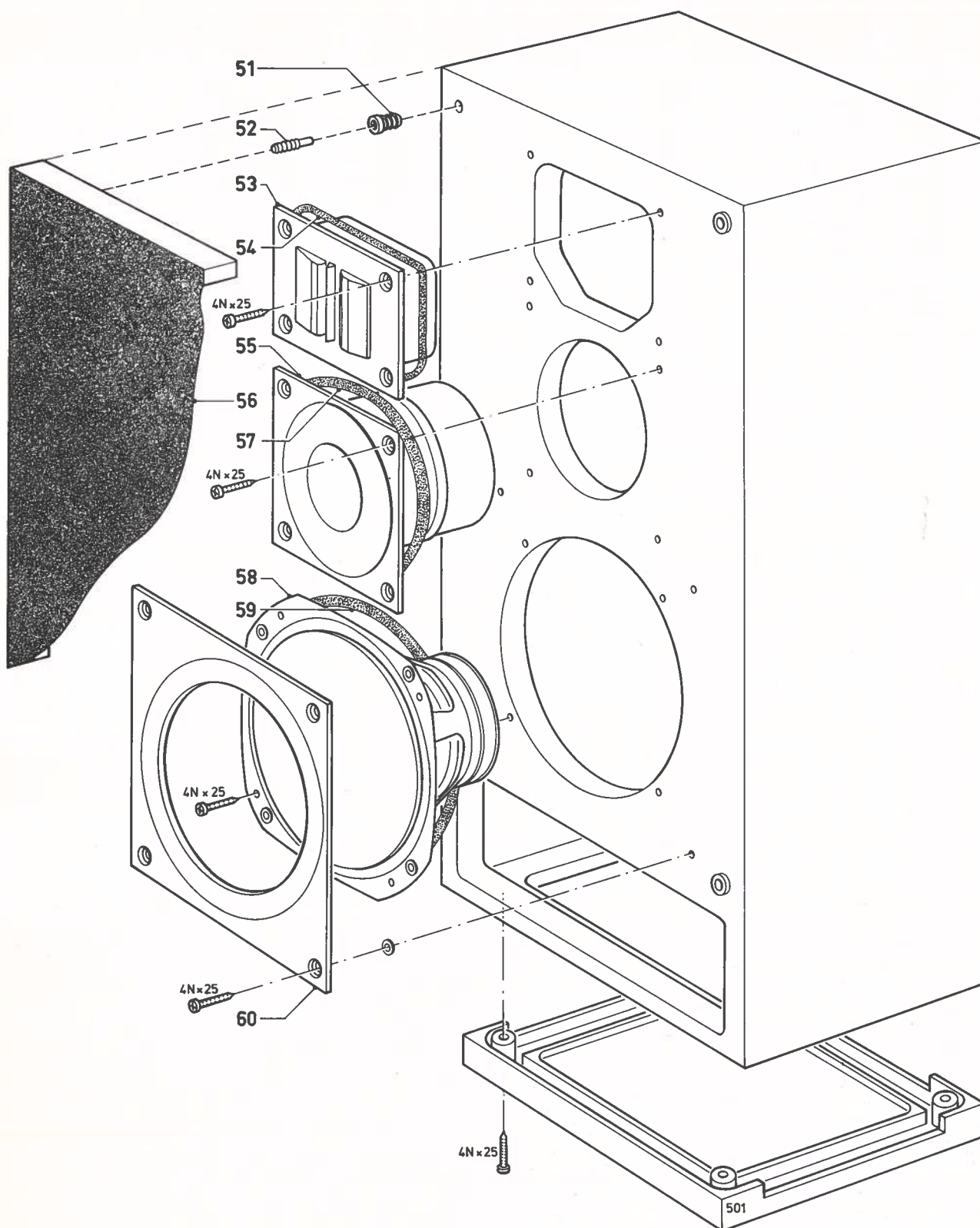




101	4822 462 40638
102	4822 410 40402
103	4822 426 50662
104	4822 333 50631
106	4822 492 41054
107	4822 426 60259
108	4822 276 20322
109	4822 255 40351
110	4822 410 40401
111	4822 411 60977
112	4822 462 40608
113	4822 462 71259
114	4822 417 10761
116	4822 492 41053
117	4822 276 11227
118	4822 267 50435
119	4822 277 20892

4822 401 10632 kabelbinder

(A) 5322 390 20019



51	4822 325 80223
52	4822 535 91649
53	4822 240 30244
54	4822 532 51513
55	4822 240 50231
56	4822 445 30088
57	4822 532 51312
58	4822 532 51514
59	4822 240 60163
60	4822 532 51484

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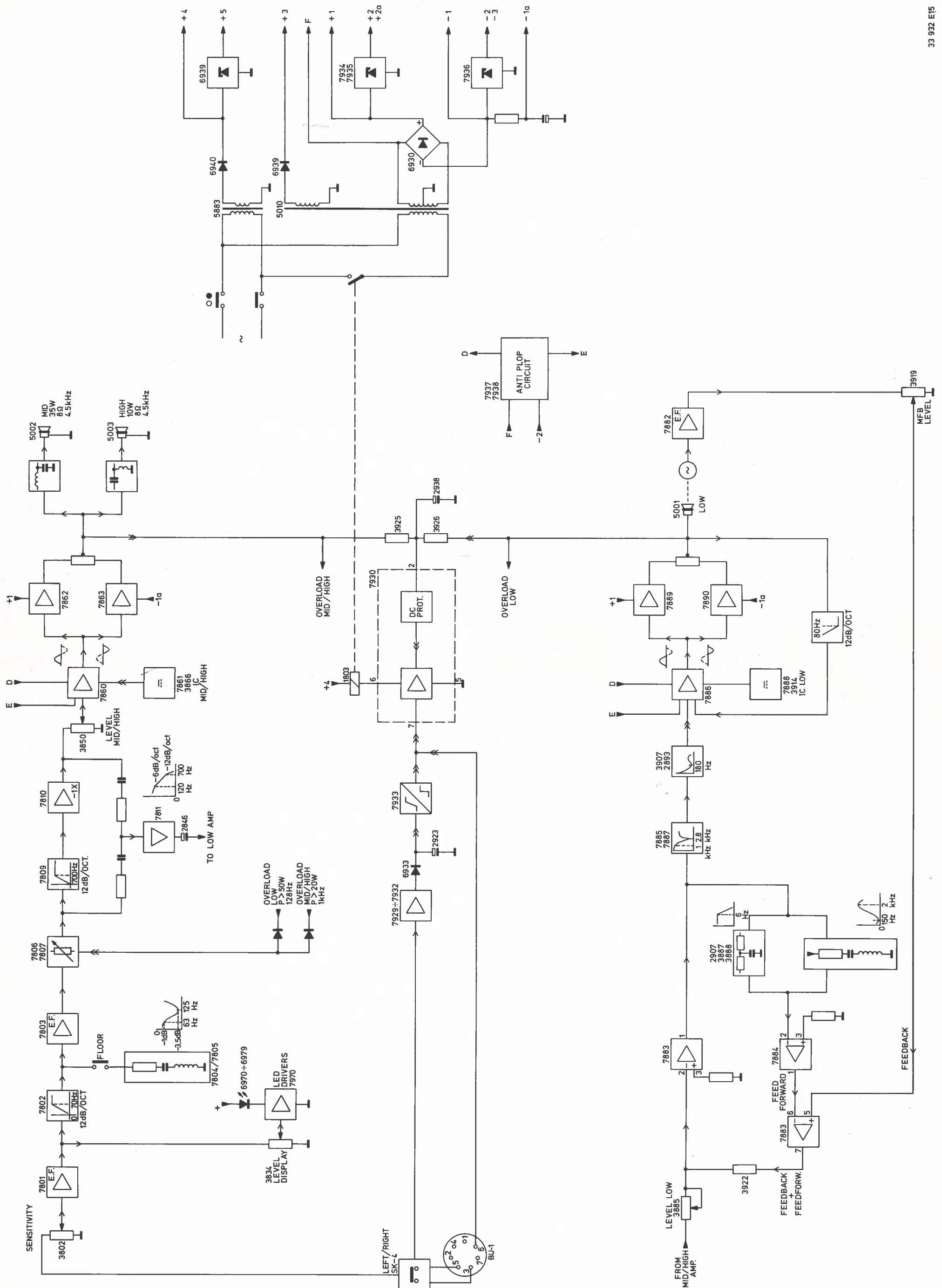
					
2817	Cer. cap. 180 pF N1500	5322 122 34232	7801÷7803	BC547C	4822 130 44503
2860	Cer. cap. 100 pF 2% 100 V	4822 122 32031	7804	BC557B	4822 130 44568
2861	Cer. cap. 100 pF 2% 100 V	4822 122 32031	7805÷7806	BC547C	4822 130 44503
2862	Cer. cap. 100 pF 2% 100 V	4822 122 32031	7807	BC548B	4822 130 40937
2864	Cer. cap. 56 pF N1500	4822 122 31457	7809	BC547C	4822 130 44503
2866	Cer. cap. 150 pF 2% 100 V	4822 122 31308	7810	BC549B	4822 130 40936
2867	Cer. cap. 56 pF N1500	4822 122 31457	7811	BC547C	4822 130 44503
2870	Bip elco 10 µF 63 V	4822 124 21411	7861	BC547C	4822 130 44503
2871	Bip elco 4,7 µF	4822 124 21402	7862	BDT95A	4822 130 42105
2896	Cer. cap. 180 pF N1500	4822 122 34232	7863	BDT96A	4822 130 42106
2897	Cer. cap. 100 pF 100 V	4822 122 32031	7882	BC547C	4822 130 44503
2898	Cer. cap. 100 pF 100 V	4822 122 32031	7885	BC557B	4822 130 44568
2899	Cer. cap. 100 pF 100 V	4822 122 32031	7887	BC547C	4822 130 44503
2901	Cer. cap. 150 pF 100 V	4822 122 31308	7888	BC548B	4822 130 40937
2905	Cer. cap 180 pF	4822 122 31507	7889	BDT85A	4822 130 42143
2930	Elco 4700 µF	4822 124 21388	7890	BDT86A	4822 130 42144
2931	Elco 4700 µF	4822 124 21388	7929	BC557B	4822 130 44568
			7931÷7934	BC547C	4822 130 44503
3802	Potm. 100 k	4822 105 10536	7935	BC337	4822 130 40855
3834	Potm. trim. 47 k	4822 100 10079	7936	BC327	4822 130 40854
3850	Potm. trim. 47 k	4822 100 10079	7937	BC557B	4822 130 44568
3866	Potm. trim. 470 E	4822 100 10038	7938	BC546B	4822 130 44461
3867	Res. w.w. 2x0.33 E	4822 113 80317			
3869	Res. safe 10 E	4822 111 30508	7860	µPC1225H	4822 209 81561
3885	Potm. trim. 10 k	4822 100 10035	7883÷7884	NJM4558DE	4822 209 81054
3914	Potm. trim. 470 E	4822 100 10038	7886	µPC1225H	4822 209 81561
3918	Res. safe 10 E	4822 111 30508	7930	µPC1237H	4822 209 81567
3919	Potm. trim. 22 k	4822 100 10051	7970	IR-2E02	4822 209 80943
3923	Res. w.w. 2x0.33 E	4822 113 80317	Miscellaneous		
3931	Res. carbon 1 E	4822 111 30339	1801	Fuse 4A slow	4822 253 30028
3933	Res. fuse 33 E	4822 116 52094	1802	Fuse 4A slow	4822 253 30028
3941	Res. safe 180 E	4822 111 30542	1803	Relay	4822 280 70222
3946	Res. safe 180 E	4822 111 30542	5883	Transformer (print)	4822 146 20842
3951	Res. safe 8 E2	4822 111 30506		Transformer	4822 146 20843
3959	Res. safe 68 E	4822 111 30007			
					
5881	Coil 0,35 mH	4822 158 10393			
5882	Coil 0,5 mH	4822 156 10427			
					
6801÷6804	1N4148	4822 130 30621			
6860÷6862	1N4148	4822 130 30621			
6885÷6887	1N4148	4822 130 30621			
6890÷6892	1N4148	4822 130 30621			
6930	KBL02	4822 130 32037			
6931÷6933	1N4148	4822 130 30621			
6934÷6935	BZX79-B18	4822 130 31024			
6936	BAX14A	4822 130 31719			
6938	1N4148	4822 130 30621			
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6970÷6978	SLP251B50A LED	4822 130 32057			
6979	SLP151B-40 LED	4822 130 31703			
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6982	SLP251B50A LED	4822 130 32057			

6010 SLP 251 B50A

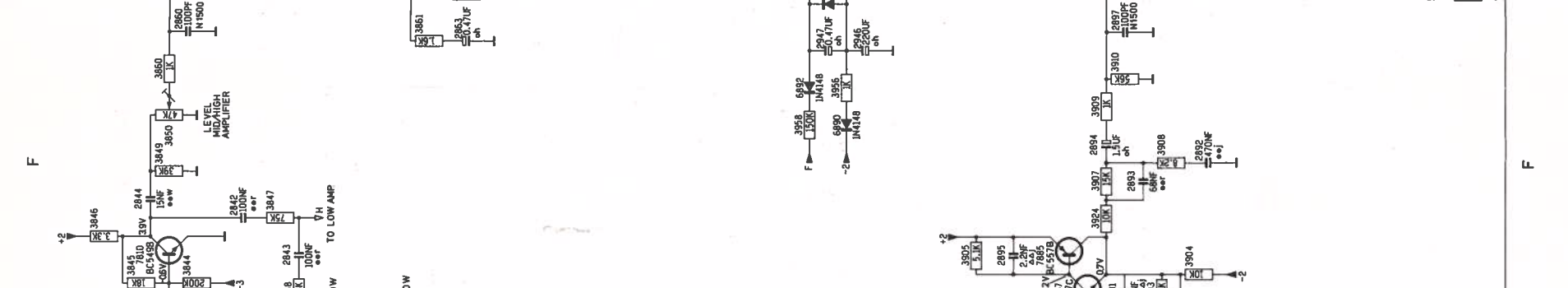
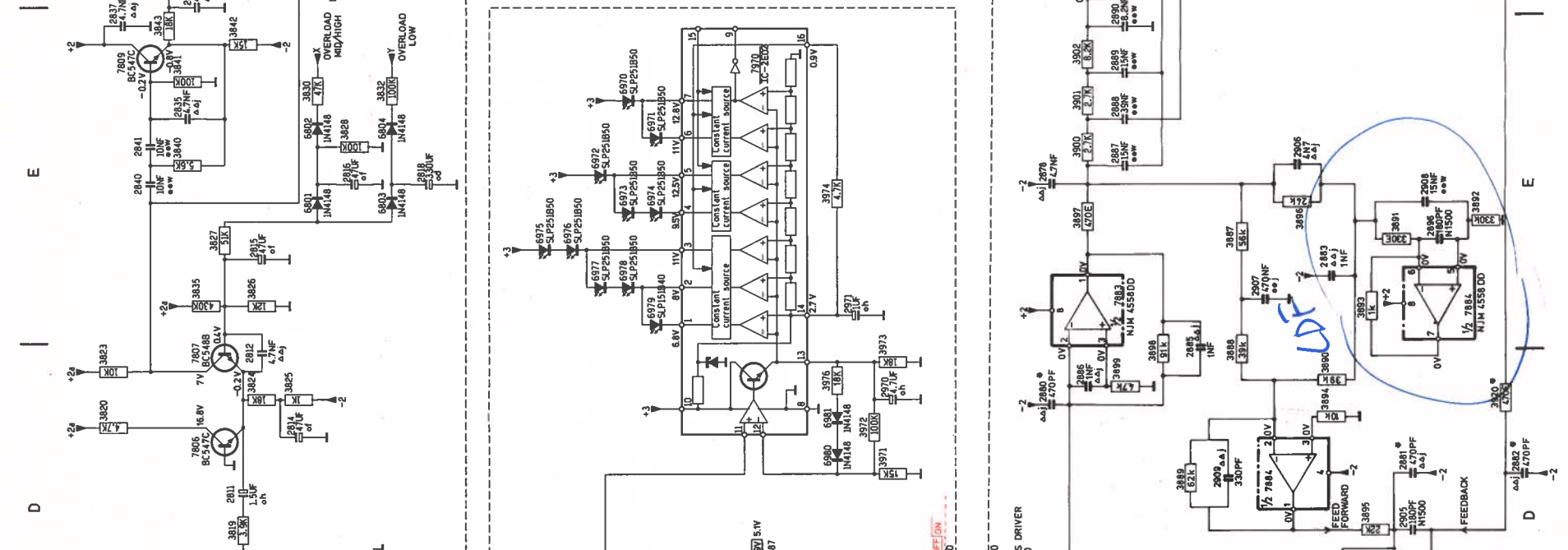
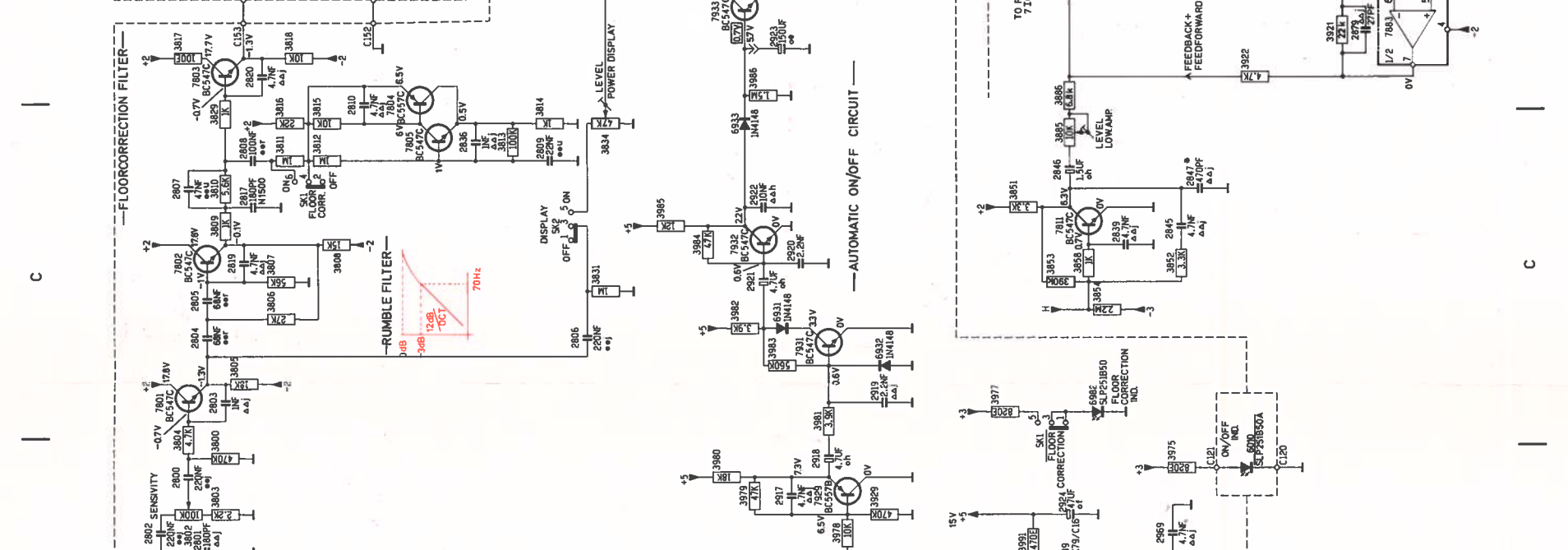
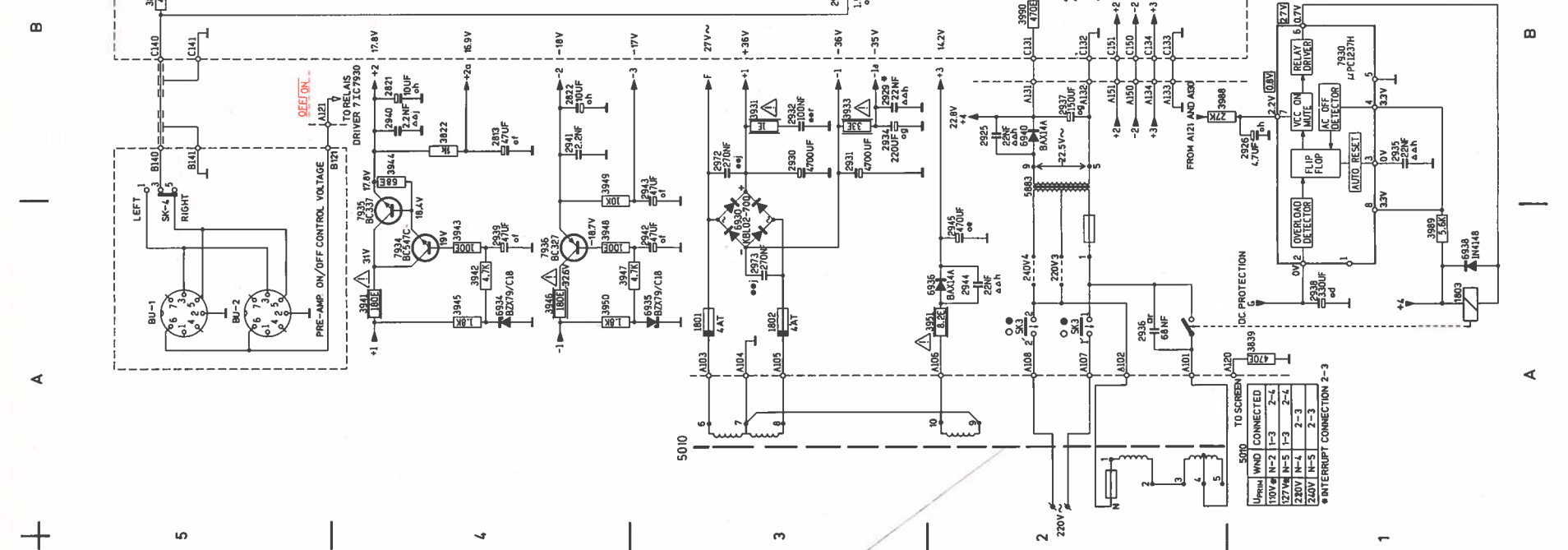
4822 130 32057

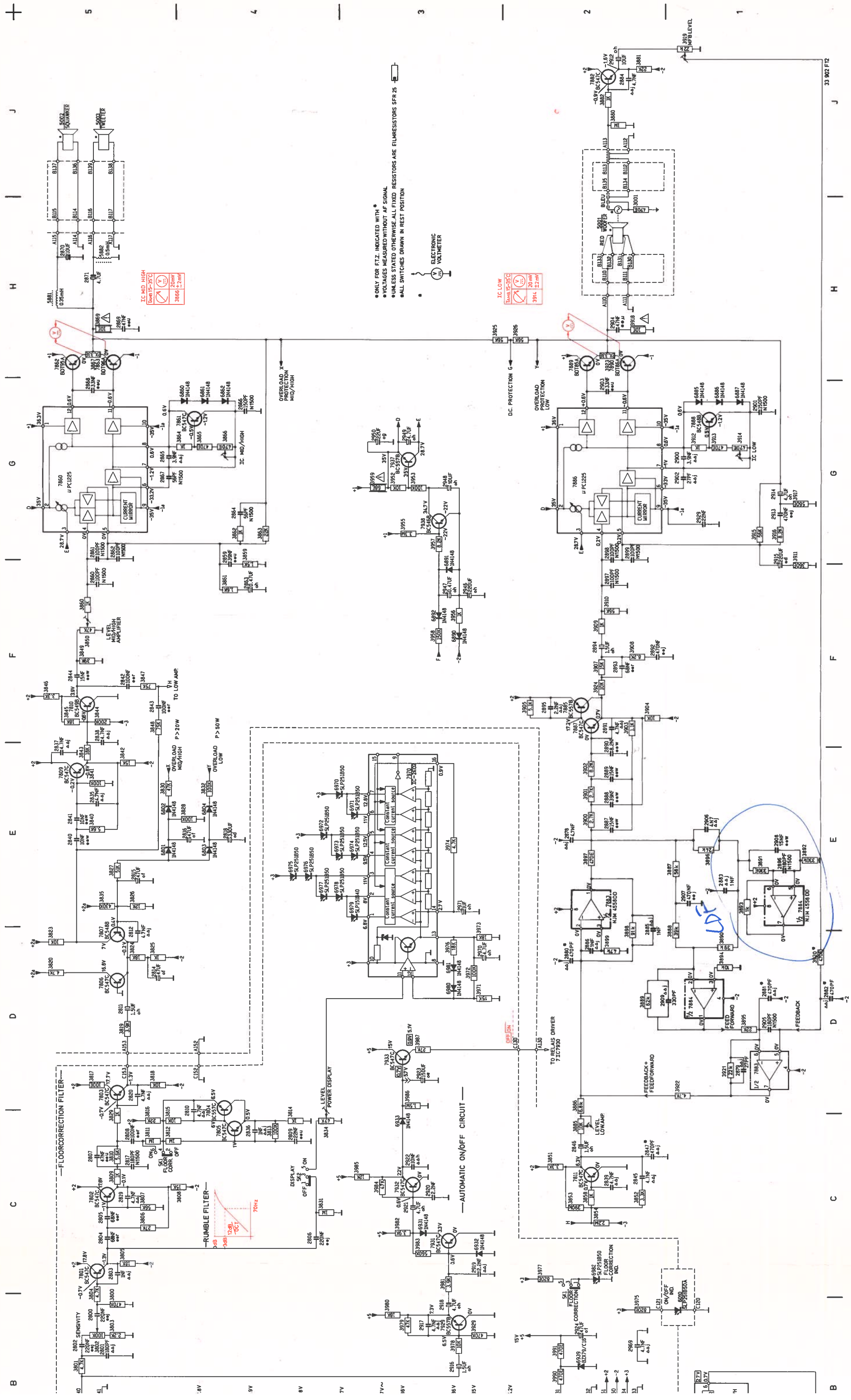
	Carbon film 0.2 W 70°C 5%		Ceramic plate Tuning ≤ 120 pF NP.0 2% Others -20/+80%	*a = 2,5 V b = 4 V c = 6,3 V d = 10 V e = 16 V f = 25 V g = 40 V h = 63 V j = 100 V l = 125 V m = 150 V n = 160 V q = 200 V r = 250 V s = 300 V t = 350 V u = 400 V v = 500 V w = 630 V x = 1000 V A = 1,6 V B = 6 V C = 12 V D = 15 V E = 20 V F = 35 V G = 50 V H = 75 V I = 80 V
	Carbon film 0.33 W 70°C 5%		Polyester flat foil 10%	
	Metal film 0.33 W 70°C 5%		Metalized polyester flat film 10%	
	Carbon film 0.5 W 70°C 5%		Polyester flat foil small size (Mylar) 10%	
	Carbon film 0.67 W 70°C 5%		Polysterene film/foil 1%	
	Carbon film 1.15 W 70°C 5%		Tubular ceramic	
			Miniature single	
			Subminiature tantalum $\pm 20\%$	
© Chip component				

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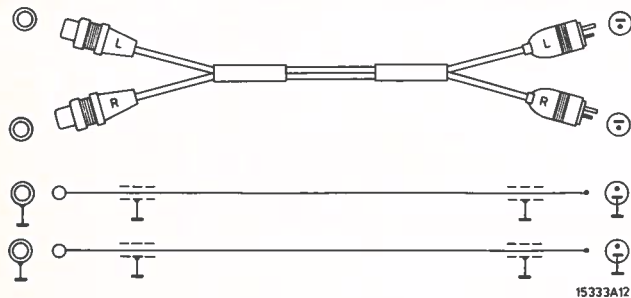


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2808	B05	6988	F02
2809	B05	6989	F03
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2811	B05	6991	F03
2812	B05	6992	F02
2813	B05	6993	F03
2814	B05	6994	F02
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2920	B05	7100	F02
2921	B05	7101	F03
2922	B05	7102	F02
2923	B05	7103	F03
2924	B05	7104	F02
2925	B05	7105	F03
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2938	B05	7118	F02
2939	B05	7119	F03
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2952	B05	7132	F02
2953	B05	7133	F03
2954	B05	7134	F02
2955	B05	7135	F03
2956	B05	7136	F02
2957	B05	7137	F03
2958	B05	7138	F02
2959	B05	7139	F03
2960	B05	7140	F02
2961	B05	7141	F03
2962	B05	7142	F02
2963	B05	7143	F03
2964	B05	7144	F02
2965	B05	7145	F03
2966	B05	7146	F02
2967	B05	7147	F03
2968	B05	7148	F02
2969	B05	7149	F03
2970	B05	7150	F02
2971	B05	7151	F03
2972	B05	7152	F02
2973	B05	7153	F03
2974	B05	7154	F02
2975	B05	7155	F03
2976	B05	7156	F02
2977	B05	7157	F03
2978	B05	7158	F02
2979	B05	7159	F03
2980	B05	7160	F02
2981	B05	7161	F03
2982	B05	7162	F02
2983	B05	7163	F03
2984	B05	7164	F02
2985	B05	7165	F03
2986	B05	7166	F02
2987	B05	7167	F03
2988	B05	7168	F02
2989	B05	7169	F03
2990	B05	7170	F02
2991	B05	7171	F03
2992	B05	7172	F02
2993	B05	7173	F03
2994	B05	7174	F02
2995	B05	7175	F03
2996	B05	7176	F02
2997	B05	7177	F03
2998	B05	7178	F02
2999	B05	7179	F03
3000	B05	7180	F02

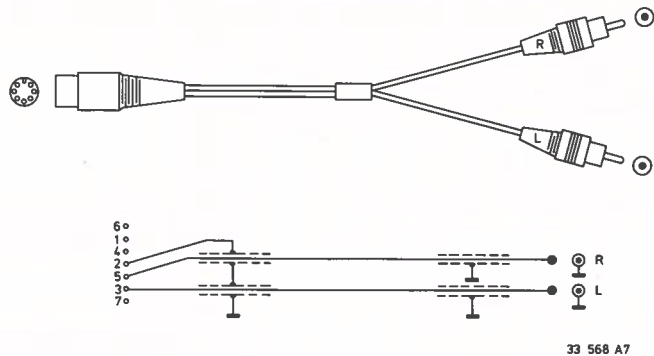




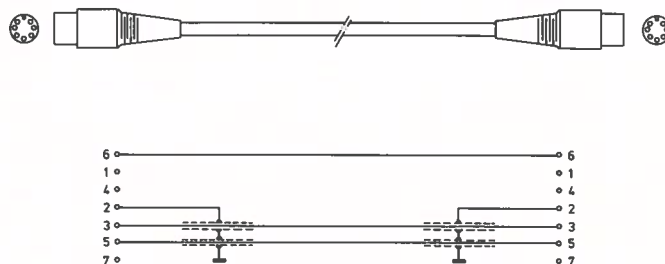
4822 321 20374



4822 321 20828



4822 321 20827



7 polig DIN plug
Female 5322 26640038

33 569 A7

PARTS LOCATION ON WIRING DIAGRAM

1801 B06	2802 G07	2807 F09	2812 D07	2818 C08	2836 C09	2841 D08	2846 D09	2862 C07	2867 C08
1802 B06	2803 G10	2808 F09	2813 D08	2819 F10	2837 D07	2842 C07	2847 E08	2863 C07	2868 B08
1803 C05	2804 F10	2809 G08	2815 E07	2820 F09	2838 C07	2843 D07	2859 C07	2864 C08	2869 B07
2800 C10	2805 F10	2810 F08	2816 C08	2821 F09	2839 E07	2844 C07	2860 C07	2865 B08	2870 B10
2801 F07	2806 G07	2811 D08	2817 F10	2822 G09	2840 D07	2845 D07	2861 C08	2866 B07	2871 C10
2881 E08	2886 D08	2891 D10	2896 D09	2901 C09	2906 D09	2913 D10	2918 G05	2923 F04	2932 B07
2882 D08	2887 D10	2892 D10	2897 C09	2902 C09	2907 E09	2914 C10	2919 F05	2924 G05	2934 B10
2883 D09	2888 E10	2893 D10	2898 C09	2903 C10	2908 D09	2915 C09	2920 G05	2925 D05	2935 D05
2884 D10	2889 E10	2894 D11	2899 C09	2904 B09	2909 D09	2916 F07	2921 G05	2929 C10	2936 C05
2885 D09	2890 D10	2895 D10	2900 B09	2905 E08	2912 D09	2917 F05	2922 G04	2931 C05	2937 D04
2938 D05	2943 D07	2948 C07	2971 G06	3802 G09	3807 F10	3812 F08	3817 F09	3823 D08	3828 C08
2939 C07	2944 D05	2949 B07	2972 C06	3803 G09	3808 G09	3813 F09	3818 F09	3824 D07	3829 F09
2940 D09	2945 D06	2950 B07	3001 F02	3804 C10	3809 F10	3814 G09	3819 D08	3825 D07	3830 C08
2941 D09	2946 D06	2969 G07	3800 G09	3805 G10	3810 F10	3815 F08	3820 D08	3826 D07	3831 G07
2942 C07	2947 B06	2970 G05	3801 F07	3806 F10	3811 F09	3816 F09	3822 D08	3827 D08	3832 C09
3834 G06	3842 D07	3847 C07	3852 D07	3860 C08	3865 B08	3881 D09	3888 D09	3893 D10	3898 D08
3835 D08	3843 C07	3848 D07	3853 D07	3861 C07	3866 B08	3882 D10	3889 D09	3894 D10	3899 D08
3839 C08	3844 C07	3849 C08	3854 D07	3862 C08	3867 B08	3885 C09	3890 D09	3895 D10	3900 D10
3840 D07	3845 C07	3850 C08	3858 E07	3863 C08	3869 B07	3886 D08	3891 D09	3896 D09	3901 D10
3841 C07	3846 D08	3851 D07	3859 C07	3864 B08	3880 D09	3887 E09	3892 D09	3897 E09	3902 D10
3903 E10	3909 C09	3914 C10	3919 C09	3925 C08	3941 D06	3946 D05	3951 D06	3957 B06	3973 G05
3904 D10	3910 C09	3915 C10	3921 E08	3926 C08	3942 C06	3947 B06	3952 B07	3958 B06	3974 G06
3905 D10	3911 C09	3916 D10	3922 D08	3929 F05	3943 D06	3948 D06	3953 B07	3959 B07	3975 G07
3907 D11	3912 C10	3917 D10	3923 B10	3931 B07	3944 D06	3949 C07	3955 B07	3971 G05	3976 G05
3908 D11	3913 C10	3918 B09	3924 D11	3933 B10	3945 C06	3950 C06	3956 D06	3972 G05	3977 C07
3978 F06	3983 F05	3988 D04	5002 E02	5883 B05	6860 B08	6887 C11	6931 F05	6936 D05	6971 G05
3979 F05	3984 G04	3989 D04	5003 C02	6801 D08	6861 B08	6890 D06	6932 F05	6938 D05	6972 G05
3980 F05	3985 G04	3990 F06	5010 D03	6802 C08	6862 B08	6891 B06	6933 G04	6939 F06	6973 G06
3981 F05	3986 G04	3991 F06	5881 B10	6803 D08	6885 C11	6892 C06	6934 C06	6940 D05	6974 G06
3982 G05	3987 F04	5001 G02	5882 C09	6804 C08	6886 C11	6930 B06	6935 C06	6970 G05	6975 G06
6976 G06	6981 G05	7804 G08	7810 C07	7863 B09	7886 C09	7929 F05	7934 D06	7970 G06	SK-3 C04
6977 G07	6982 G08	7805 G08	7811 D07	7882 C10	7887 D10	7930 E05	7935 D06	BU-1 A02	SK-4 A03
6978 G07	7801 G10	7806 D08	7860 C08	7883 D08	7888 B10	7931 F05	7936 D05	BU-2 A02	
6979 G07	7802 F10	7807 D07	7861 B08	7884 D09	7889 B08	7932 G05	7937 C07	SK-1 F08	
6980 G05	7803 F09	7809 D07	7862 B07	7885 D10	7890 B10	7933 F04	7938 C07	SK-2 F08	

Type	Addition	Correction	Standardization	New code number Old code number (...)	Description
<u>MFB</u> F9638/00/05		x		4822 240 60163 (4822 532 51514)	item 58 (wrong coded)
		x		4822 532 51514 (4822 240 60163)	item 59 (wrong coded)
<u>Tape Transport</u> RTS-1 supplement	x			4822 492 32416	spring item 113
	x			4822 502 11926	screw item 534
RTS-28		x		4822 361 60296 (4822 361 20486)	motor M1 (motor M1 for RTS-2)
<u>Cass. Rec.</u> D6623/17	x			4822 423 40804	item 01 (MVX)
	x			4822 464 50352	item 05 (MVX)
	x			4822 410 23924	item 08 (MVX)
<u>Radio Rec.</u> D8234		x		4822 423 40798 (4822 423 40622)	batt. cover item 431 (batt. cover TR1821)
	x			4822 403 52187	lever item 511
	x			4822 403 52188	lever item 512
	x			4822 420 60091	box front item 514
	x			4822 459 20302	tweeter grill item 516
	x			4822 423 90116	box rear item 513
TR2843		x		4822 423 40798 (4822 423 40622)	batt. cover item 431 (batt. cover TR1821)
D6631	x			4822 404 10653	item 403
D6633	x			4822 404 10653	item 403
D6641		x		4822 528 90433 (4822 528 70433)	item 36 (printing error)
<u>Auto Cass. Rad.</u> 22AC807	x			4822 404 20538	item 602 preset unit

Please introduce the following corrections and changes to your Service Manual.

Corrections

Add to the electrical parts list diode 6010 SLP251B50A, 4822 130 32057.

In the mechanical parts list the code number of item 58 should read 4822 240 60163 and the code number of item 59 4822 532 51514.

As from PL01

Adapted to FTZ requirements.

In the Service Manual these components are marked with a *.

From PL02 onwards

Resistor 3951 8E2  has been changed into 4E7 .

Reason: safety requirements

From PL03 onwards

Resistor 3900 2k7 has been changed into 3k3

Resistor 3901 2k7 has been changed into 3k3

Resistor 3903 1k1 has been changed into 2k

Trimming potentiometer 3885 10k has been changed into 22k

Capacitor 2888 0.039 μ F has been changed into 0.033 μ F

Reason: improving stability and complying with specification of woofer circuit.

From PL04 onwards

A red ornamental strip has been applied to the tweeter.

Reason: request Comm. Dept.

From PL05 onwards

Mid-range speaker 4822 240 50231 has been changed into 4822 240 50228.

Capacitor 2859 has been changed from 39 nF into 180 nF.

Reason: to facilitate production, a different speaker with smaller magnetic system has been applied. Therefore the frequency characteristic should be adapted by changing 2859.

SCHADUWARCHIEF

Please introduce the following corrections and changes to your Service Manual.

Corrections

Add to the electrical parts list diode 6010 SLP251B50A, 4822 130 32057.

In the mechanical parts list the code number of item 58 should read 4822 240 60163 and the code number of item 59 4822 532 51514.

As from PL01

Adapted to FTZ requirements.

In the Service Manual these components are marked with a *.

From PL02 onwards

Resistor 3951 8E2  has been changed into 4E7 .

Reason: safety requirements

From PL03 onwards

Resistor 3900 2k7 has been changed into 3k3

Resistor 3901 2k7 has been changed into 3k3

Resistor 3903 1k1 has been changed into 2k

Trimming potentiometer 3885 10k has been changed into 22k

Capacitor 2888 0.039 μ F has been changed into 0.033 μ F

Reason: improving stability and complying with specification of woofer circuit.

From PL04 onwards

A red ornamental strip has been applied to the tweeter.

Reason: request Comm. Dept.

From PL05 onwards

Mid-range speaker 4822 240 50231 has been changed into 4822 240 50228.

Capacitor 2859 has been changed from 39 nF into 180 nF.

Reason: to facilitate production, a different speaker with smaller magnetic system has been applied. Therefore the frequency characteristic should be adapted by changing 2859.