

Service  
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# Service Manual



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**PHILIPS**

**TECHNICAL SPECIFICATION****General:**

Mains voltage : 220V-230V / 50Hz for /00 /04 /14  
 230V-240V / 50Hz for /05 /10  
 110V-127V / 220V-240V /50Hz switchable for /01 /11 /11H  
 120V / 60Hz for /17

Battery : 9V ( 6xR20 )

Power consumption :  $\leq 15W$  at maximum output power, ( $\leq 11W$  at  $1/8 P_{max}$ )  
 $\leq 5W$  (typ. 2W) with source switch in *tape/off*

**Amplifier:**

Power stage protection : temperature and shortcircuit

Output power mains : 2 x 1,4W<sub>rms</sub> -1dB at 4 $\Omega$  D=10%  
 battery : 2 x 2W<sub>rms</sub> -1dB at 4 $\Omega$  D=10%

Headphone : 3,5mm stereo jack,  $\geq 20mW$  at 32 $\Omega$  ( $\approx 0,8V$  at 32 $\Omega$ ) D=10%

Frequency response : 30Hz - 16kHz ( typ. at volume set to -20dB, CD mode 0dB signal level  $\Rightarrow$  use SBC429 )

Tone control DBB : +12dB  $\pm 3dB$  at 100Hz ( volume set to -20dB )

**Tuner:**

	FM	MW
Tuning range	87,5 - 108 MHz	522 - 1607 kHz (520 - 1730 kHz for /17)
IF	10,7 MHz $\pm 20$ kHz	468 kHz $\pm 3$ kHz
Sensitivity Mono: 26dB S/N, m=30% -3 dB limiting point	$\leq 4 \mu V$ ( $\leq 2\mu V$ typ.) $\leq 5 \mu V$ ( $\leq 2\mu V$ typ.)	$\leq 4mV/m$ ( $\leq 1,5mV/m$ typ.)
AFC capture range	$\pm 300kHz$ typ.	
Distortion	$\leq 7%$ ( $\leq 1%$ typ.) RF=1mV $\Delta f=75kHz$	$\leq 7%$ ( $\leq 2,5%$ typ.) RF=100mV/m m=80%
Image rejection ratio	$\geq 20dB$ (26dB typ.)	$\geq 28dB$
Channel separation at 1kHz	$\geq 20dB$ (25dB typ.)	

**CD:** To be measured on phone socket with 100k $\Omega$  load.

Frequency response : 30 - 16.000 Hz -4dB  
 Signal/Noise ratio :  $\geq 60dB$   
 Distortion : 0.2% typ. at 1 kHz  
 Channel difference :  $\leq 3dB$  at 1 kHz  
 Channel crosstalk : 40dB typ.  
 De emphasis : 0 or 15/50 $\mu s$  switched automatically by subcode on the disc

Laser  
 Output power : 500 $\mu W$   
 Wave length : 780  $\pm$  20 nm

**Recorder:** To be measured on phone socket with 100k $\Omega$  load.

Tape speed : 4,76cm/s  $\pm 3%$   
 Wow & Flutter :  $\leq 0,5%$  weighted  
 Winding speed : 120s for C60 cassette  
 Erase / Bias system : permanent magnetic erase head / AC 65  $\pm 5kHz$   
 Distortion at 250 nWb/m :  $\leq 7%$   
 Signal/Noise ratio (FF weighted) :  $\geq 40dB$   
 (A - weighted) :  $\geq 43dB$   
 Channel difference at PB :  $\leq 5dB$   
 Channel difference overall :  $\leq 5dB$   
 Channel separation :  $\geq 15dB$  at 1kHz  
 Track separation :  $\geq 55dB$  at 1kHz

Frequency response IEC I  
 Pb : 125Hz - 8000Hz (within 8dB)  
 overall : 250Hz - 6300Hz (within 8dB)

**note: set is not prepared to play or record IEC II Chrome cassettes!**

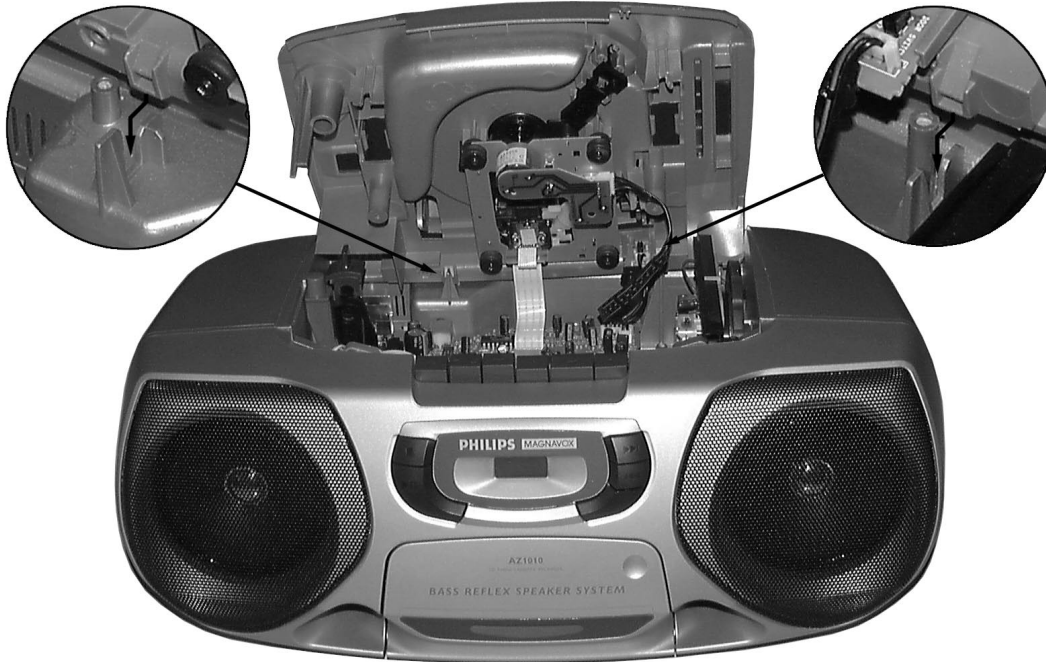
## SERVICE HINTS

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### General Service position

For repairs on:

- CD failures
- Rec/Pb-amplifier
- Power-amplifier
- Power supply
- Tuner Board

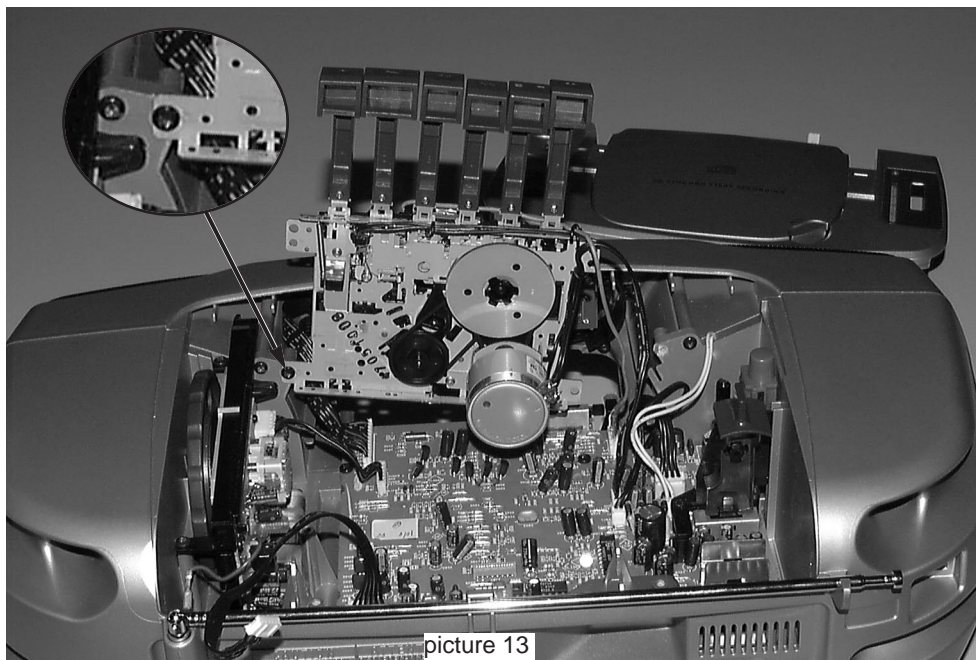


picture 12

### Service position Tape Transport

For repairs on the Tape Transport or for adjustment of the tape speed:

- Dismantle tape transport as described in chapter 3-3.
- Fix tape transport on cabinet with one screw as shown in picture 13.
- Connect cables on Combi Board again.

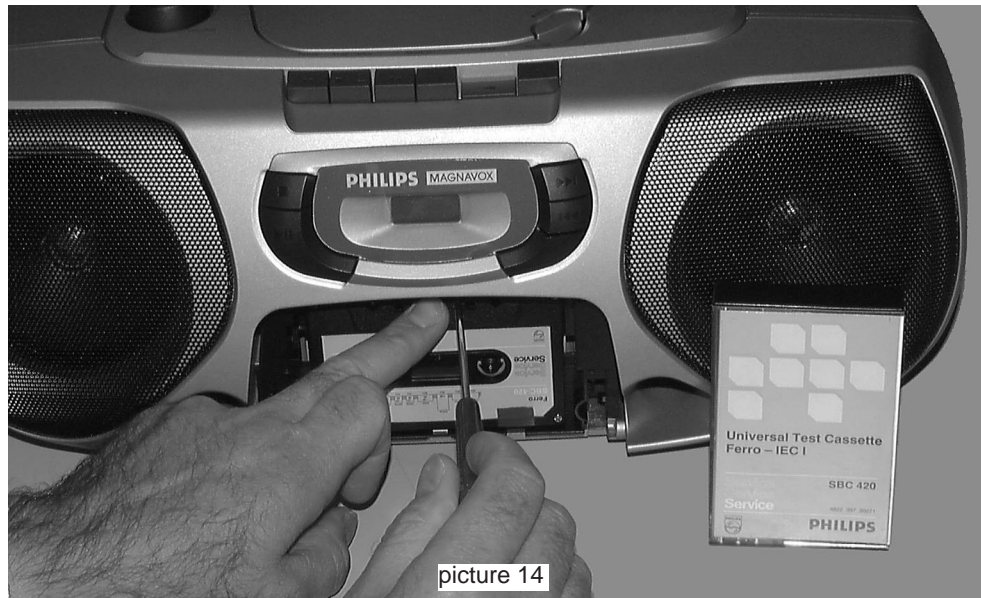


picture 13

## SERVICE HINTS

### Alignment of AZIMUTH

- Remove cassette door as described in chapter 3-1.
- Insert testcassette SBC420 (4822 397 30071) directly into cassette compartment and play 10kHz part.
- Adjust right hand screw for max. output and left channel = right channel.

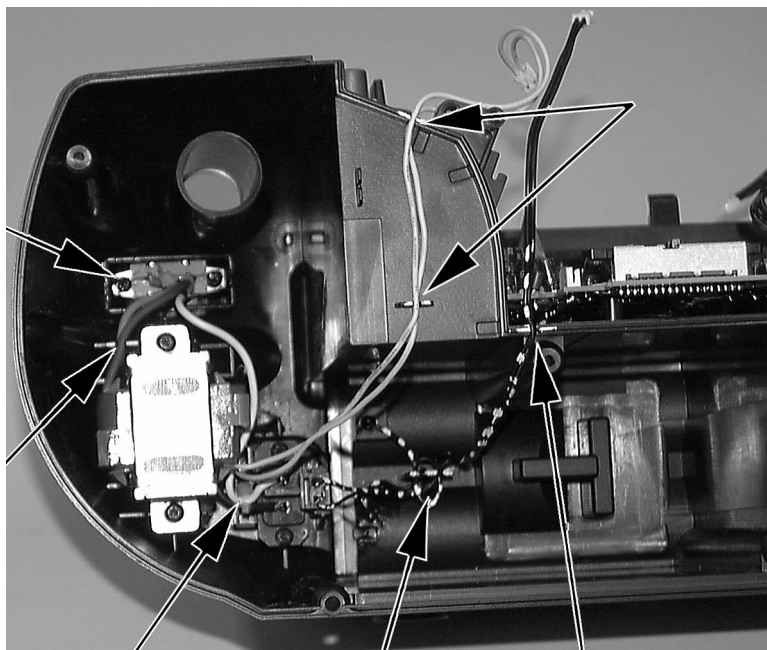


picture 14

### Details wire routing of mains transformer

Wire routing has to be carried out as shown in picture 15 in order to:

- fulfil safety requirements and
- obtain tight speaker boxes

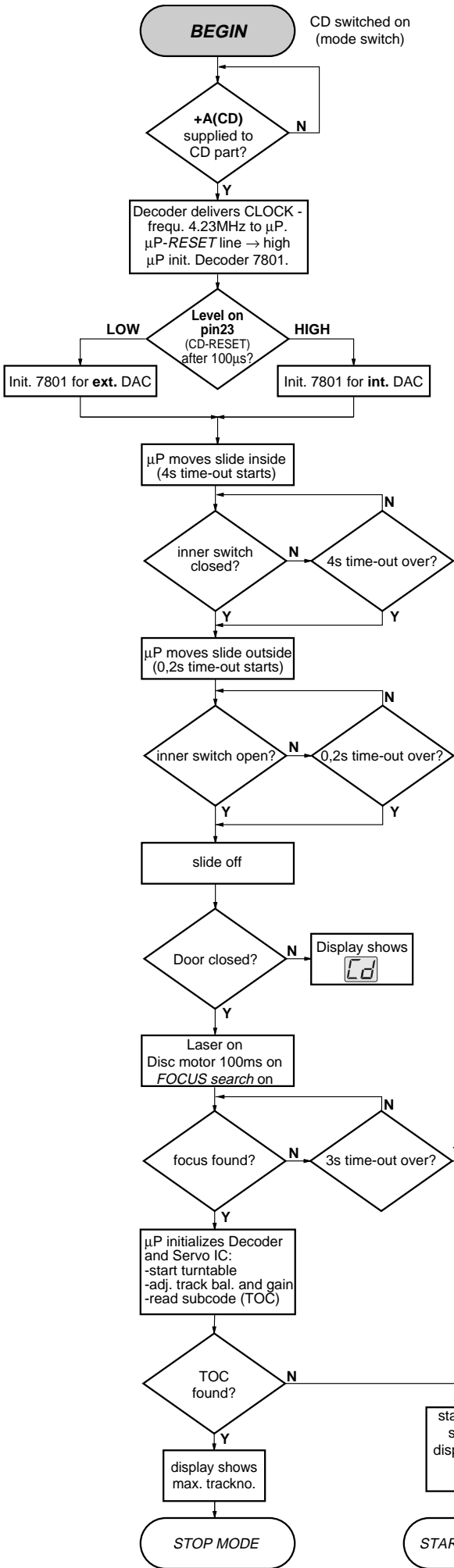


picture 15



# CD STARTUP PROCEDURE

3-7



**Remark:** To check focus servo, slide servo, track servo and turntable use service test program

- .....> - Battery empty?
- .....> - check +A,
- .....> - mode switch o.k.?

- .....> check: - +A(CD), +B(CD), +LASER, +M,
- .....> - time constant of reset circuit
- .....> - Pin 32 of µP 7800 HIGH ?
- .....> - Pin 30 of µP 7800, if 4.23 MHz o.k.

.....> check: - door switch

.....> check: - Laser light on ?  
 Check pin 38 of 7803 and LASER CONTROL circuit  
 - Focus Servo

.....> check: - Motor control pin 27 of Decoder 7801 and Disc Motor driver 7805  
 - HF Signal by using service testprogram

**SERVO PROCESSOR M62475FP**

Pin	Name	Direction	Description
1-3	A, B, C	Diode array → Servo processor	Current input ( central photo diode signal input )
4-5	E, F	Diode array → Servo processor	Current input ( satellite photo diode signal input )
6	SGT	Servo processor → Track error ampl. input	Signal generator output to track servo, sends 1700Hz for adjustment procedure
7	TE -	-	Inverting input of track error amplifier
8	TEGain	-	Gain control pin of track error amplifier
9	TG1	-	Track Gain 1 - switch: controls the gain of the track servo amplifier
10	TE out	-	Track Error amplifier output
11	TC/Shock	-	Track Cross/Shock detector input
12	TS +	-	Non inverting input of track servo amplifier
13	TG2	not connected	Track Gain 2 - switch: controls the gain of the track servo amplifier
14	TS -	-	Inverting input of track servo amplifier
15	TS out	Servo processor → Servo driver	Output of track servo amplifier
16	SS +	-	Non inverting input of slide servo amplifier
17	SS -	-	Inverting input of slide servo amplifier
18	Slide out	Servo processor → Motor driver	Output of slide servo amplifier
19	DET.FILTER	-	Pin for connection of DETection FILTer capacitor of <i>ADJUST LOGIC</i>
20	BIAS	Servo processor → external electronic	Reference Voltage output $V_{cc}/2$ of internal BIAS-generator
21	GND	-	Ground connection pin ( negative supply )
22	MLA/DIS	$\mu P$ → Servo processor	Serial interface Microprocessor LAtch control / DISCharge control for adjustment
23	JP1/SG	$\mu P$ → Servo processor	Serial interface Jump control line / Signal Generator input line for adjustment
24	MCK	$\mu P$ → Servo processor	Serial interface Clock input line
25	MSD	$\mu P$ → Servo processor	Serial interface Data input line
26	D <sub>out</sub>	Servo processor → $\mu P$	Serial interface Data output line
27	CLPF	-	Pin for connection of Low Pass Filter capacitor for <i>ADJUST LOGIC</i>
28	I <sub>REF</sub>	-	Reference current input
29	V <sub>CC</sub>	-	Positive supply connection pin ( 4V - 5.5V )
30	FS <sub>OUT</sub>	Servo processor → Servo driver	Output of focus servo amplifier
31	FS -	-	Inverting input of focus servo amplifier
32	FEGain	-	Gain control pin of focus error amplifier
33	FE -	-	Inverting input of focus error amplifier
34	SGF	Servo processor → Focus error ampl. input	Signal generator output to focus servo, sends 1300Hz for adjust. procedure
35	C <sub>FSR</sub>	-	Charge capacitor for Focus Search triangle-generator
36	ALPC +	-	Non inverting input of Automatic Laser Power Control amplifier
37	ALPC -	-	Inverting input of Automatic Laser Power Control amplifier
38	ALPC <sub>OUT</sub>	Servo processor → Laser driver	Output of Automatic Laser Power Control amplifier
39	MRC	-	Connection pin for capacitor of Mirror detector
40	HF	Servo processor → Decoder	Output of HF amplifier
41	HFI	-	Inverting input of HF amplifier
42	ABC	-	Sum output of amplified A, B and C input ( central photo diode signal input ) to external ac-coupling capacitor

**SIGNAL PROCESSOR M65824FP**

Pin	Name	Direction	Description
1	Anal. V <sub>SS</sub>	-	Analog system ground
2	ADJCLK	not connected	Clock output for servo adjustment; f=88.2kHz
3	LOCK	not connected	Lock monitor / low disc rotation output
4	CKSEL	-	System clock selection. Low=8.4672MHz, high=16.9344MHz
5	RESET	$\mu P$ → Signal processor	System reset ( low level = active )
6	C423	Signal processor → $\mu P$	4.2336MHz clock output
7	C846	not connected	8.4672MHz clock output
8	XI	X-Tal → Signal processor	Crystal oscillator input
9	DVSS	-	Digital system ground
10	XO	Signal processor → X-Tal	Crystal oscillator output
11	TEST	-	Normal / Test selection input. Testmode = high
12	SBCO	not connected	Subcode serial output
13	SCCK	-	Shift clock input for subcode data read
14	SYCLK	not connected	Frame lock status output. Lock = high
15	EFFK	not connected	EFM frame clock output. Duty = 50%
16	KILLB	not connected	Digital silence mute output. Digital zero = low
17	EST1	not connected	Error monitor output 1
18	EST2	not connected	Error monitor output 2
19	HF	Servo processor → Signal processor	HF signal input
20	TLC	-	Slice level control signal output
21	LPF	-	PLL loop filter
22	Dig.V <sub>DD</sub>	-	Digital interface power supply
23	DSPS	-	Digital system power supply
24	SBQS	not connected	Interrupt signal to read out subcode Q data. Read = low
25	CRCF	not connected	Subcode Q-channel Cyclic Redundance Check Flag output. CRC o.k.=high level
26	SCAND	not connected	Subcode sync signal detection. Sync = high
27	PWM	Signal processor → Motor driver	Disc motor driving ( Pulse Width Modulation ) output
28	DVDD2	-	Digital interface power supply 2
29	DVSS2	-	Digital system ground2
30	MCK	$\mu P$ → Signal processor	$\mu P$ interface shift Clock input
31	MSD	$\mu P$ ↔ Signal processor	$\mu P$ interface Serial Data I/O line
32	MLAB	$\mu P$ → Signal processor	$\mu P$ interface Latch clock input ( internal 22k pull up resistor )
33	EXP1	→ Signal processor	Versatile input pin ( internal 4.7k pull up resistor )
34	EXP2	→ Signal processor	Versatile input pin ( internal 4.7k pull up resistor )
35	CGREF	→ Signal processor	Charge-pump for LPF reference current input
36	AMPREF	not connected	Op-amp for LPF reference voltage setting
37	LOUT/DO	Signal processor →	Audio signal output (left channel) / Ext. DAC mode: Audio serial data output
38	LNEG	not connected	Charge pump output (left channel) / Ext. DAC mode: Wordclock output
39	ROUT/DSCK	Signal processor →	Audio signal output (right channel) / Ext. DAC mode: Data shift clock output
40	RNEG/LRCK	Signal processor →	Charge pump output (right channel) / Ext. DAC mode: L/R clock output
41	IREF	-	Current reference
42	Anal. V <sub>DD</sub>	-	Analog System power supply

# SERVICE TESTPROGRAM

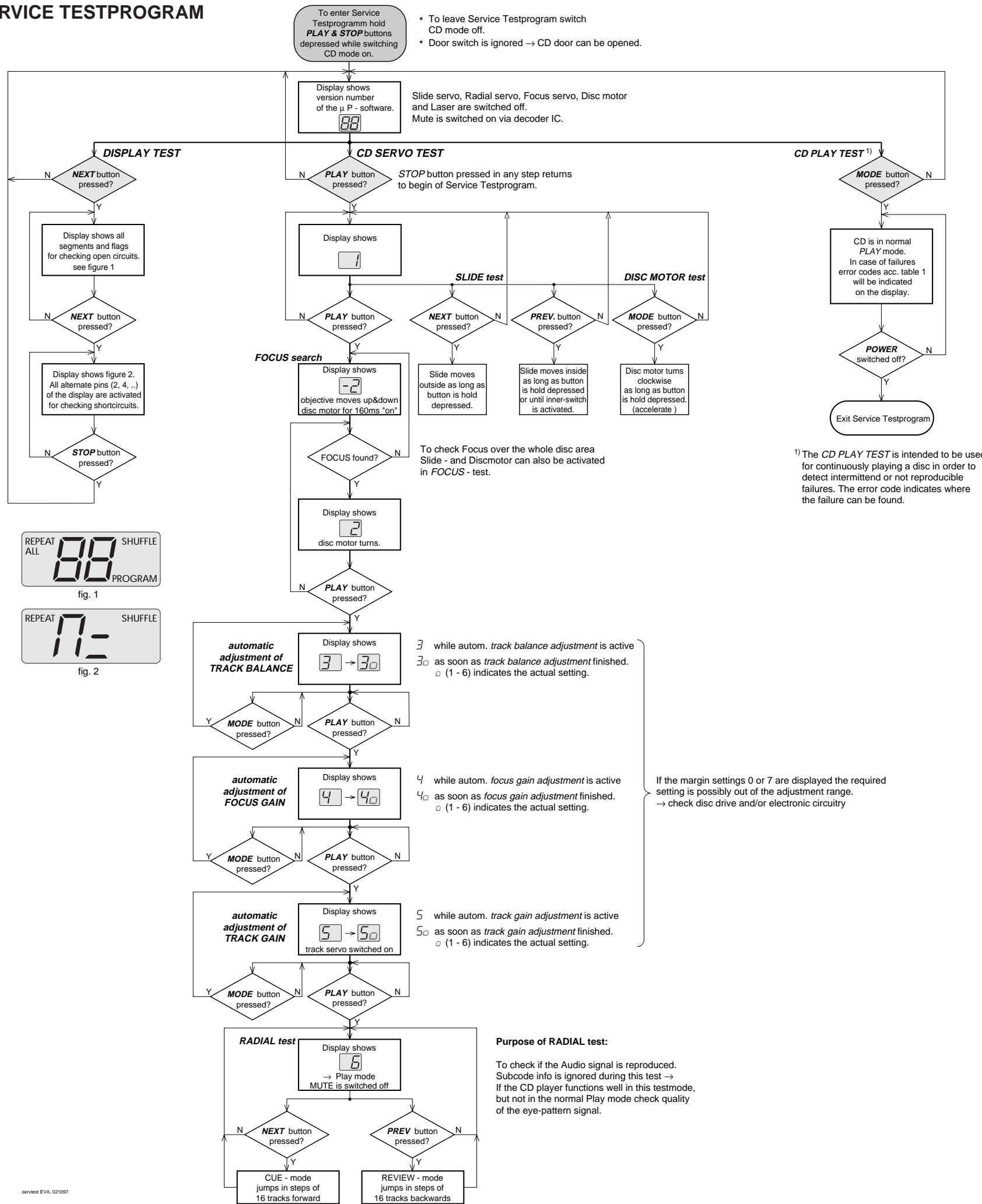


fig. 1



fig. 2

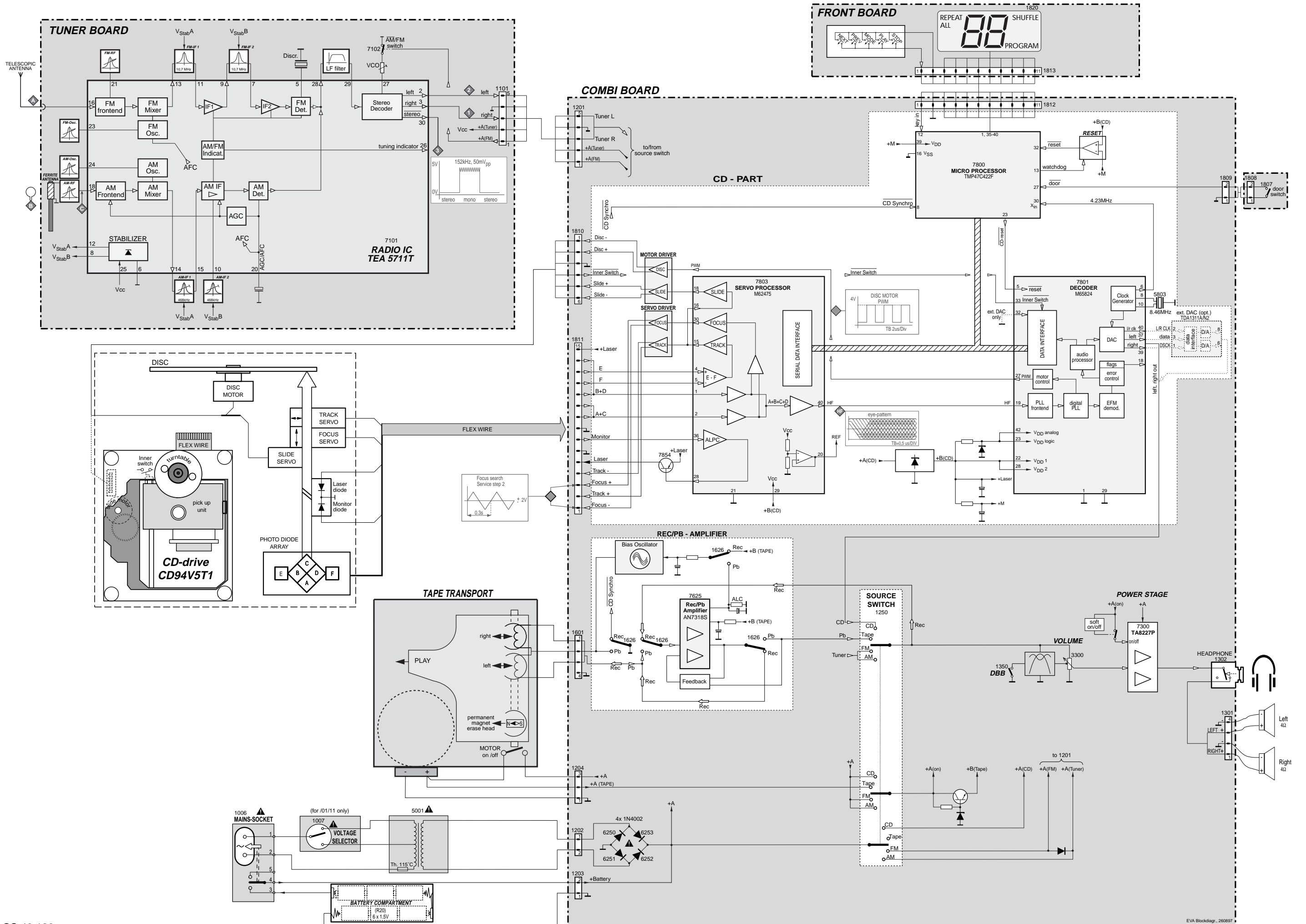
## CD ERROR codes

Error number	Error description	Error type
E0	<b>Focus Error</b> Triggered when the focus is lost for more than 250ms during playing the CD.	W
E2	<b>Slide-in error</b> Generated when the inner-switch did not close within approx. 4s when the pick up is moved inside. Inner-switch or slide motor problems.	W
E3	<b>Slide-out error</b> Generated when the inner-switch did not open within approx. 250ms when the pick up is moved from the inner position outside. Inner-switch or slide motor problems.	W
E5	<b>Jump error.</b> Triggered when the servo processor counts too less tracks in a defined time during JUMPS. This can be caused by a disturbed HF-signal (the tracks cannot be recognized exactly), slide motor problems, track servo problems or scratched discs.	W
E6	<b>Subcode Error</b> No valid subcode for 300ms during PLAY.	W
E7	<b>PLL lock error</b> When the PLL did not lock after 10 retries then this warning message is generated and the servo is stopped and restarted (as if the user would have pressed STOP and then PLAY immediately) to recover.	W
F0	<b>Focus Search Error</b> Triggered when the focus could not be found within 3s when starting up the CD.	F
F2	<b>Fatal Subcode Error</b> No valid subcode for more than 4s during PLAY.	F

table 1

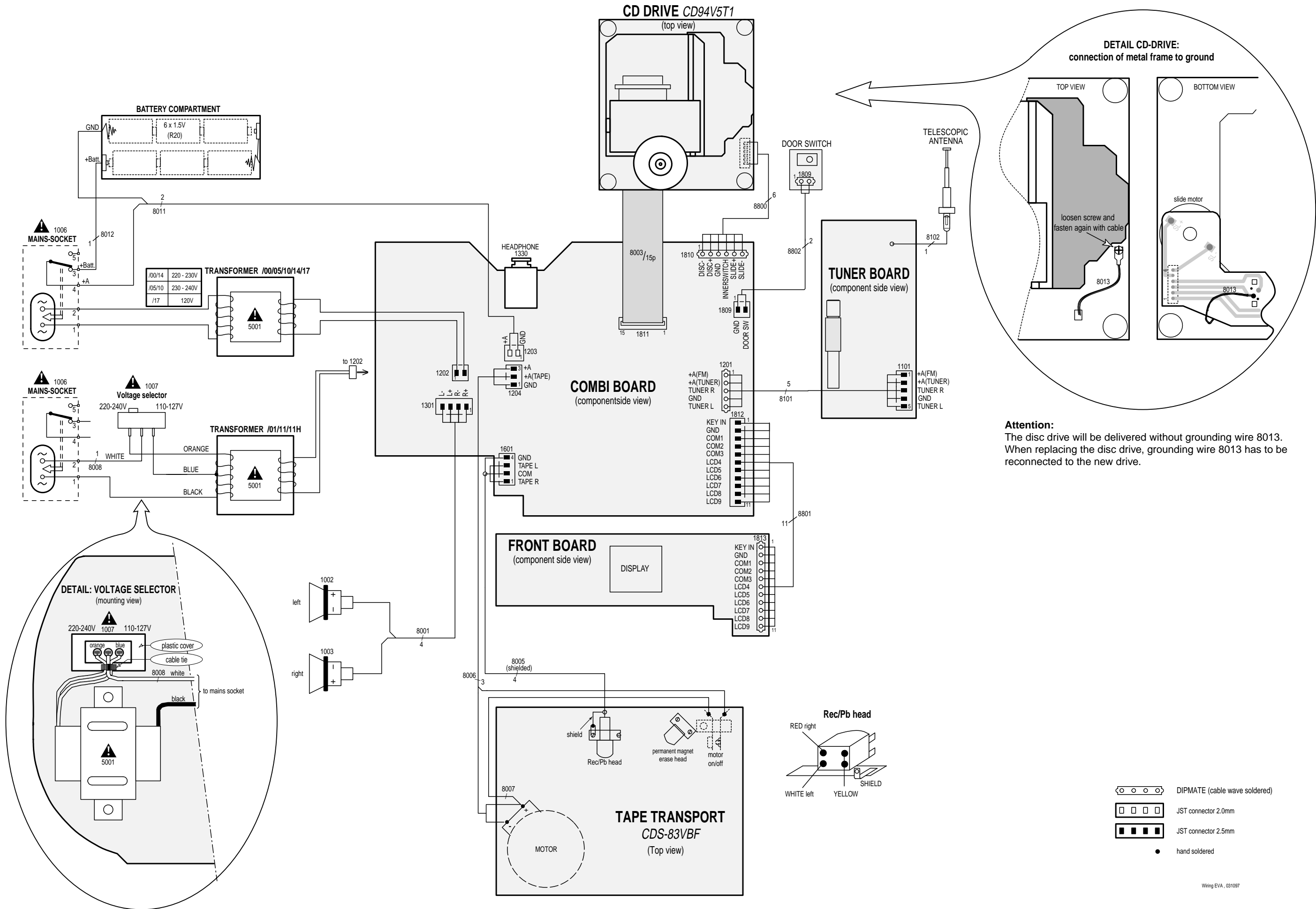
**Error type:** W = Warning → set continues operation, message remains on the display until next error occurs or any key is pressed.

F = Fatal Error → set stops operation, message remains on the display. (The set can only be operated again via a reset)



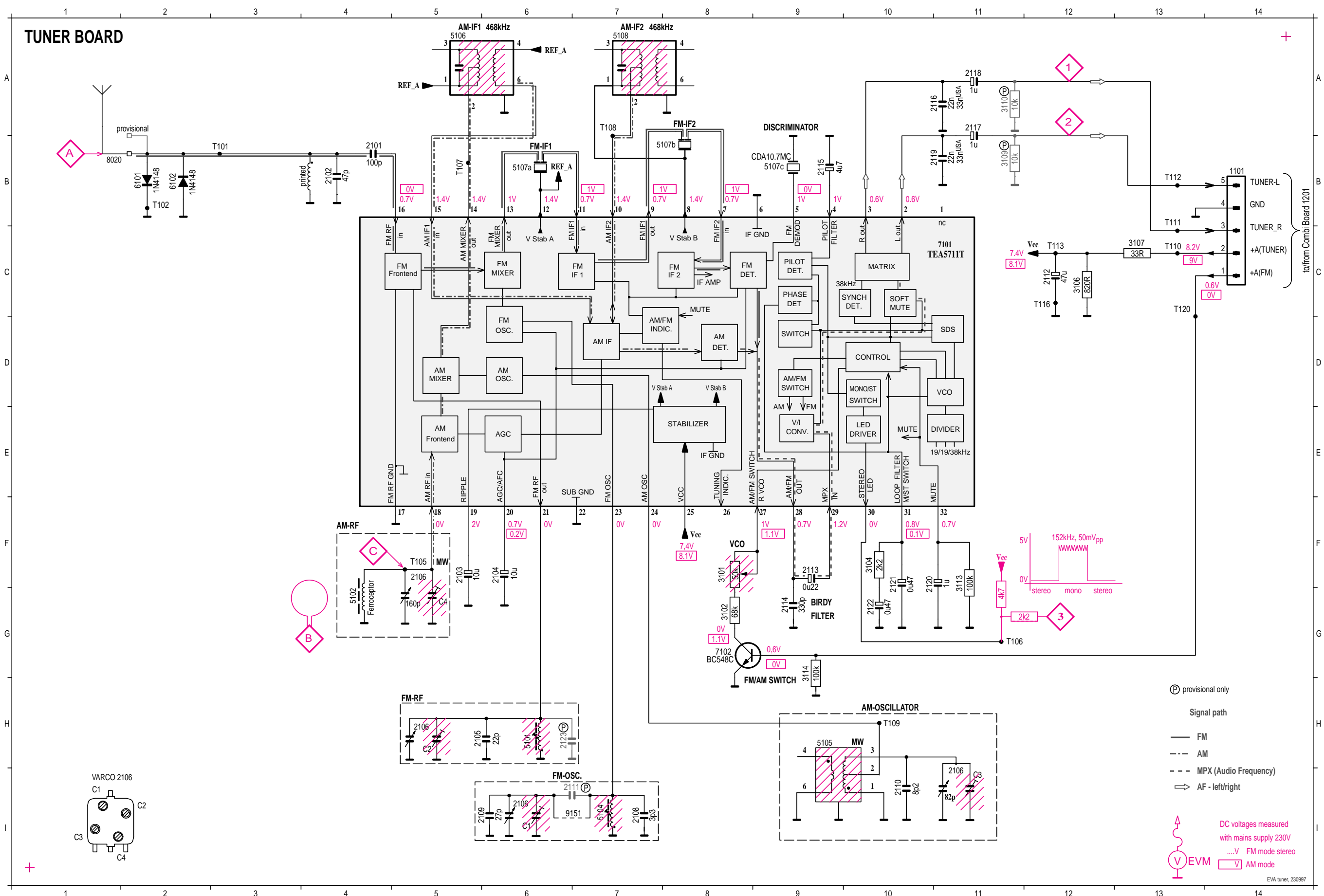


WIRING DIAGRAM



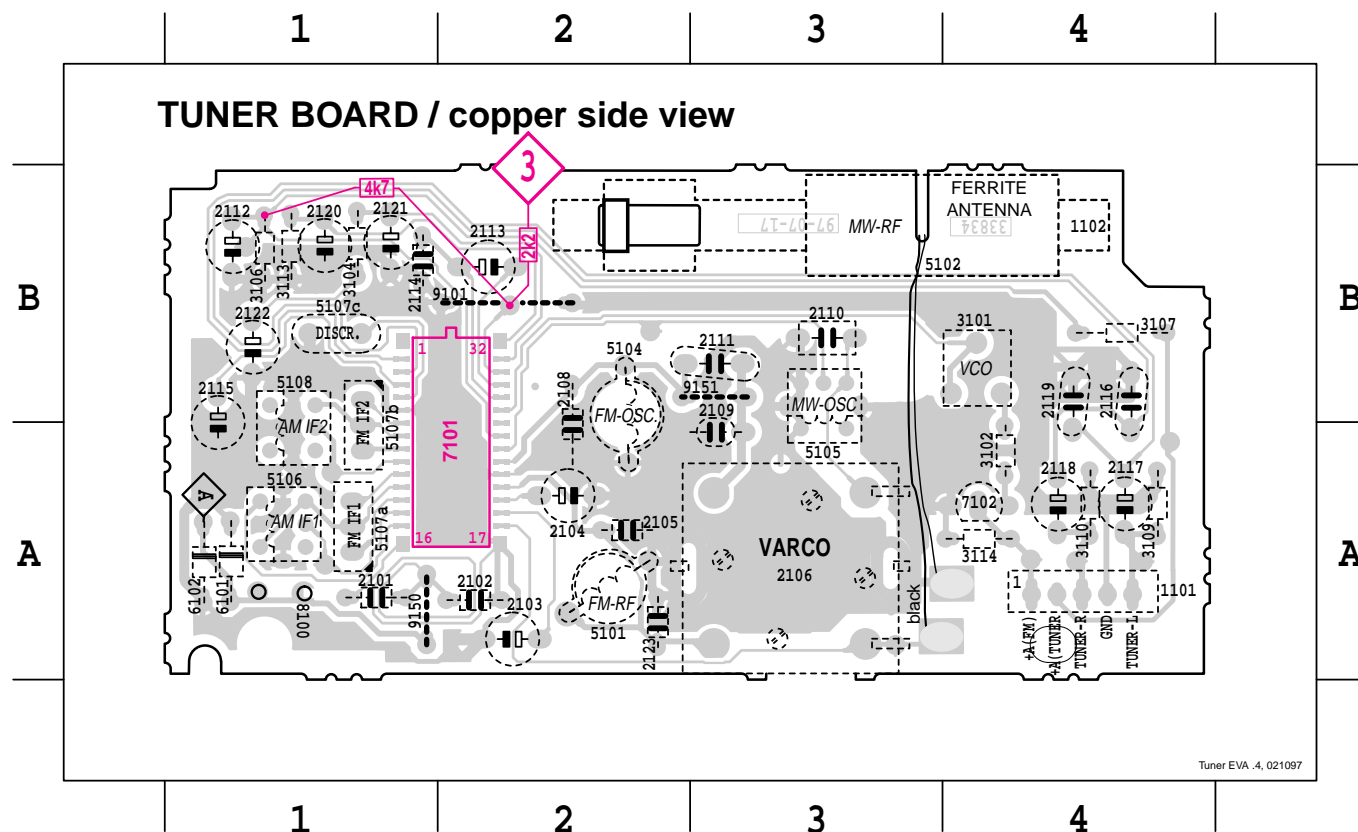
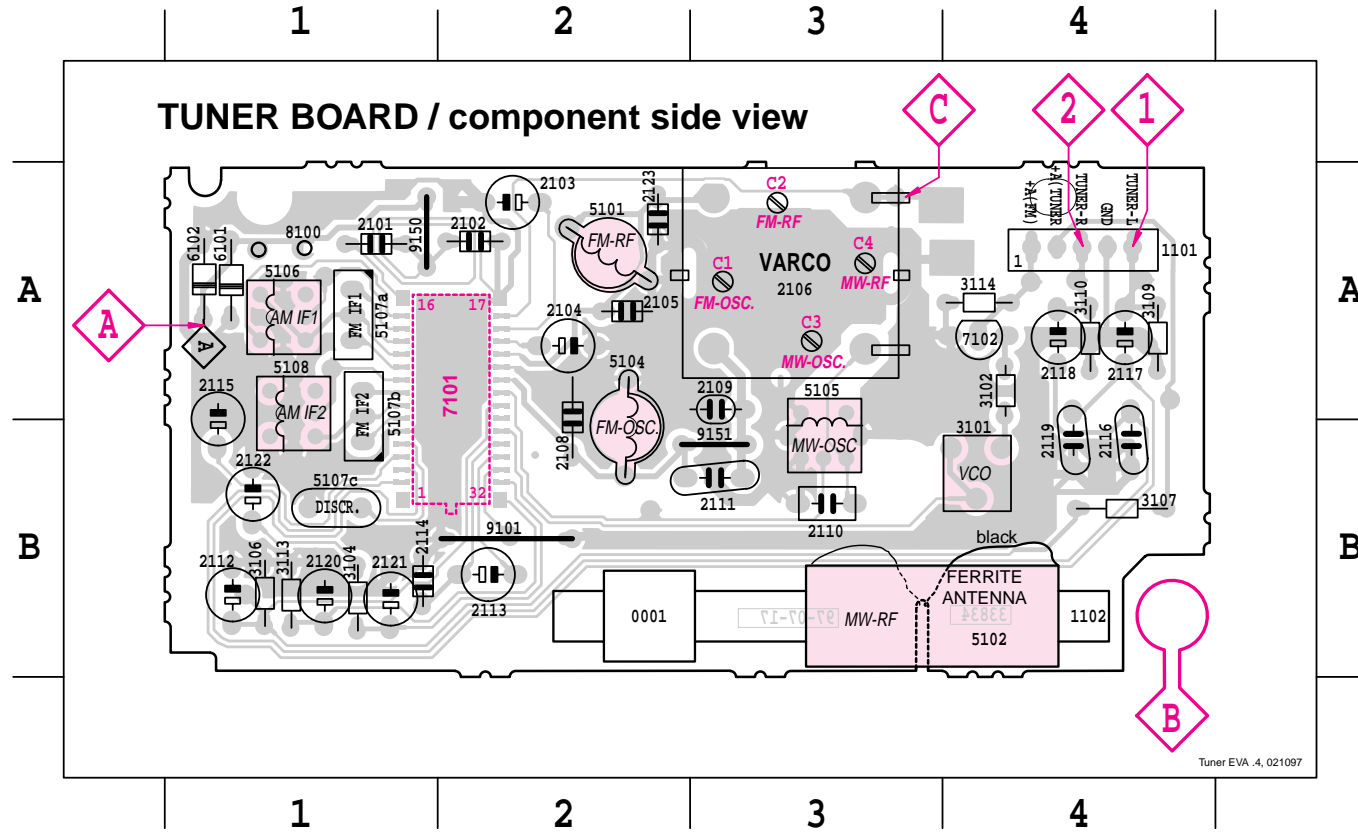
- DIPMATE (cable wave soldered)
- JST connector 2.0mm
- JST connector 2.5mm
- hand soldered

# TUNER BOARD



- 1101 B14
- 2101 B 4
- 2102 B 4
- 2103 F 5
- 2104 F 6
- 2105 H 5
- 2106 I 6
- 2106 I11
- 2106 F 5
- 2108 I 7
- 2109 I 6
- 2110 I 10
- 2111 I 7
- 2112 C12
- 2113 F 9
- 2114 G 9
- 2115 B 9
- 2116 A11
- 2117 A11
- 2118 A11
- 2119 B11
- 2120 F10
- 2121 F10
- 2122 G10
- 2123 H 6
- 3101 F 8
- 3102 G 8
- 3104 F10
- 3106 C12
- 3107 C13
- 3109 B11
- 3110 A11
- 3113 F11
- 3114 G 9
- 5101 H 6
- 5102 G 4
- 5104 I 7
- 5105 I 9
- 5106 A 5
- 5107a B 6
- 5107b B 8
- 5107c B 9
- 5108 A 7
- 6101 B 2
- 6102 B 2
- 7101 C11
- 7102 G 8
- 9151 I 6

0001 B 2	2104 A 2	2111 B 3	2117 A 4	2123 A 2	3109 A 4	5104 B 2	5108 A 1	9101 B 2
1101 A 4	2105 A 2	2112 B 1	2118 A 4	3101 B 4	3110 A 4	5105 B 3	6101 A 1	9150 A 1
1102 B 4	2106 A 3	2113 B 2	2119 B 4	3102 A 4	3113 B 1	5106 A 1	6102 A 1	9151 B 3
2101 A 1	2108 A 2	2114 B 1	2120 B 1	3104 B 1	3114 A 4	5107a A 1	7101 A 2	
2102 A 2	2109 A 3	2115 A 1	2121 B 1	3106 B 1	5101 A 2	5107b A 1	7102 A 4	
2103 A 2	2110 B 3	2116 B 4	2122 B 1	3107 B 4	5102 B 4	5107c B 1	8100 A 1	



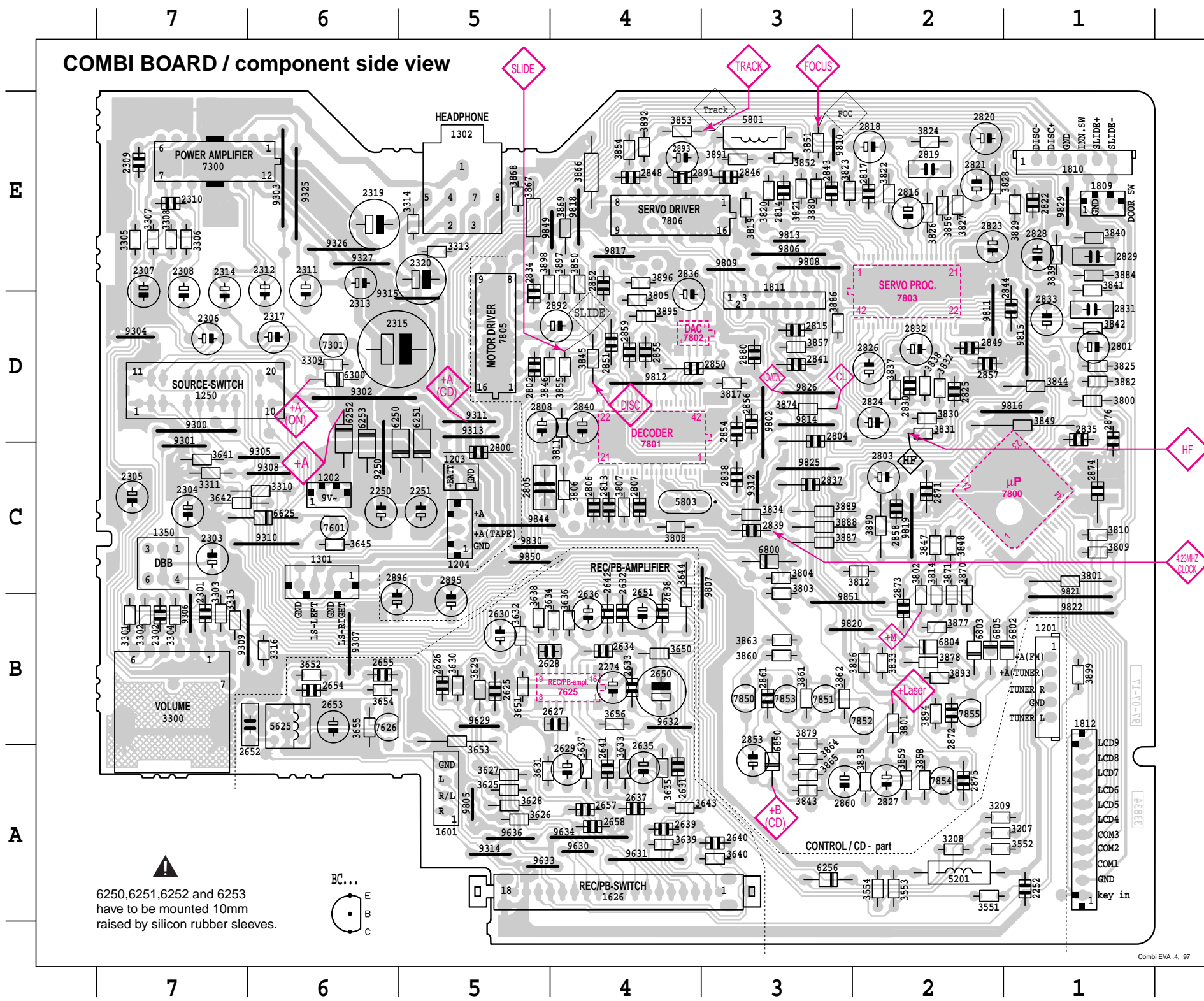
**TUNER ADJUSTMENT TABLE**

Waverange	Input Frequency	Input	Set tuned to	Adjust	Measure on	Scope / Counter
<b>OSCILLATOR</b>						
<b>FM</b> <sup>1)</sup> 87,5 - 108 MHz	87,35 MHz	<b>A</b>	lower band end	5104	<b>1</b> or <b>2</b>	
	108,25 MHz	$\Delta f = \pm 500\text{kHz}$ $V_{RF} = 100\mu\text{V}$	upper band end	2106 C1	<b>1</b> or <b>2</b>	
<b>MW</b> 525 - 1607 kHz (530 - 1710 kHz) <sup>2)</sup>	512 kHz (525 kHz)	<b>C</b>	lower band end	5105	<b>1</b> or <b>2</b>	
	1635 kHz (1720 kHz)	$\Delta f = \pm 30\text{kHz}$ $V_{RF} = 100\mu\text{V}$	upper band end	2106 C3	<b>1</b> or <b>2</b>	
<b>FM - RF</b>						
<b>FM</b> 87,5 - 108 MHz	87,5 MHz	<b>A</b>	87,5 MHz	5101	<b>1</b> or <b>2</b>	
	108 MHz	$\Delta f = \pm 500\text{kHz}$ $V_{RF} = 10\mu\text{V}$	108 MHz	2106 C2	<b>1</b> or <b>2</b>	
<b>VCO</b>						
<b>FM</b>	98 MHz	<b>A</b> continuous wave $V_{RF} = 1\text{ mV}$	98 MHz	3101	<b>3</b>	
<b>AM - IF</b>						
<b>MW</b>	468 kHz connect pin 24 of IC 7101 (AM Osc) with short wire to ground	<b>C</b> $\Delta f = \pm 15\text{kHz}$ $V_{RF} = 10\text{mV}$	IC 7101 10 	5106	<b>1</b> or <b>2</b>	
			IC 7101 14 	5108	<b>1</b> or <b>2</b>	
<b>AM - RF</b>						
<b>MW</b>	560 kHz	<b>B</b>	560 kHz	5102 (ferroceptor coil)	<b>1</b> or <b>2</b>	
	1500 kHz		1500 kHz	2106 C4		

↑ repeat

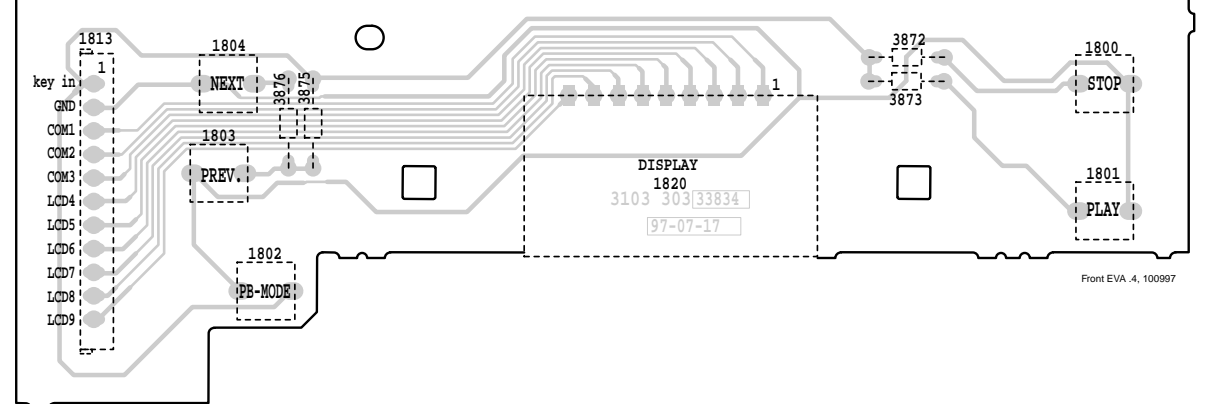
- 1) Check if capacitor 2109 stands upright before starting adjustments.
- 2) for USA /17
- 3) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum).
- 4) RC-network serves for damping the IF-filter while adjusting the other one.

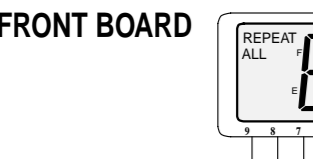
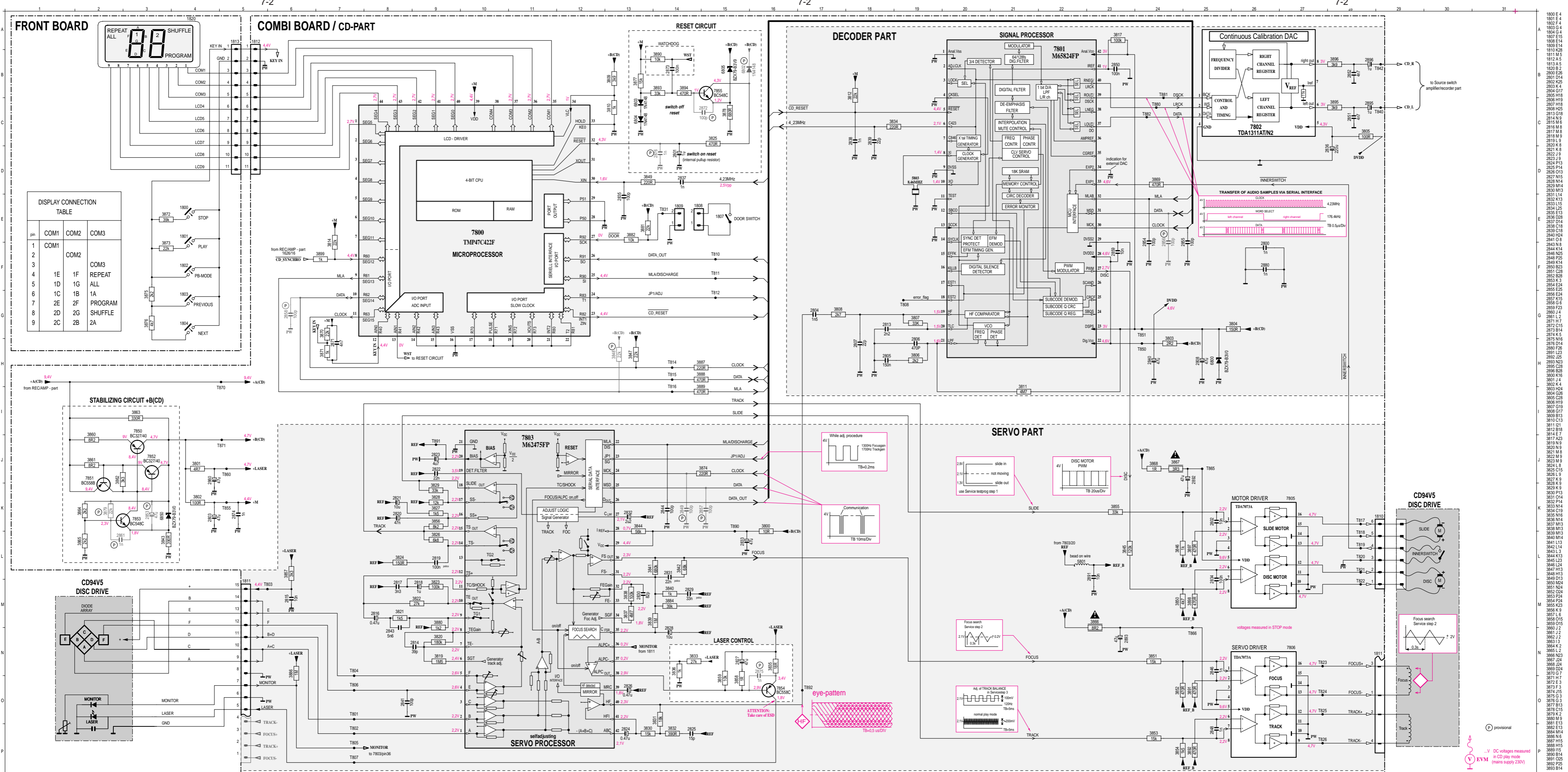




1201 B 1	2815 D 3	3315 B 7	3843 A 3	7800 C 1
1202 C 6	2816 E 2	3316 B 6	3844 D 1	7801 D 4
1203 C 5	2817 E 2	3551 A 2	3845 D 4	7802 D 4
1204 C 5	2818 E 2	3552 A 2	3846 D 5	7803 D 2
1250 D 7	2819 E 2	3553 A 2	3847 C 2	7805 D 5
1301 C 6	2820 E 2	3554 A 2	3848 C 2	7806 E 4
1302 E 5	2821 E 2	3625 A 5	3849 D 1	7850 B 3
1350 C 7	2822 E 1	3626 A 5	3850 E 4	7851 B 3
1601 A 5	2823 E 2	3627 A 5	3851 E 3	7852 B 2
1626 A 4	2824 D 2	3628 A 5	3852 E 3	7853 B 3
1809 E 1	2825 D 2	3629 B 5	3853 E 4	7854 A 2
1810 E 1	2826 D 2	3630 B 5	3854 E 4	7855 B 2
1811 D 3	2827 A 2	3631 A 5	3855 D 4	9250 C 6
1812 A 1	2828 E 1	3632 B 5	3856 E 2	9300 D 7
2250 C 6	2829 E 1	3633 A 4	3857 D 3	9301 C 7
2251 C 5	2830 D 2	3634 B 4	3858 A 2	9302 D 6
2252 A 1	2831 D 1	3635 A 4	3859 A 2	9303 E 6
2274 B 4	2832 D 2	3636 B 4	3860 B 3	9304 D 7
2301 B 7	2833 D 1	3637 A 4	3861 B 3	9305 C 6
2302 B 7	2834 D 5	3638 B 5	3862 B 3	9306 B 7
2303 C 7	2835 D 1	3639 A 4	3863 B 3	9307 B 6
2304 C 7	2836 D 4	3640 A 3	3864 A 3	9308 C 6
2305 C 7	2837 C 3	3641 C 7	3865 A 3	9309 B 6
2306 D 7	2838 C 3	3642 C 7	3866 E 4	9310 C 6
2307 D 7	2839 C 3	3643 A 4	3867 E 5	9311 D 5
2308 D 7	2840 D 4	3644 B 4	3868 E 5	9312 C 3
2309 E 7	2841 D 3	3645 C 6	3869 E 4	9313 D 5
2310 E 7	2843 C 3	3650 A 4	3870 B 2	9314 A 5
2311 E 6	2844 D 1	3651 B 5	3871 B 2	9315 D 5
2312 E 6	2846 C 3	3652 B 6	3874 D 3	9325 E 6
2313 E 6	2848 E 4	3653 B 5	3877 B 2	9326 E 6
2314 D 7	2849 D 2	3654 B 6	3878 B 2	9327 E 6
2315 D 6	2850 D 4	3655 B 6	3879 B 3	9629 B 5
2317 D 6	2851 D 4	3656 B 4	3880 E 3	9630 A 4
2319 E 6	2852 E 4	3800 D 1	3881 C 1	9631 A 4
2320 E 5	2853 A 3	3801 B 2	3882 D 1	9632 B 4
2625 B 5	2854 D 3	3802 B 2	3884 E 1	9633 A 5
2626 B 5	2855 D 4	3803 C 3	3886 D 3	9634 A 4
2627 B 4	2856 D 3	3804 B 3	3887 C 3	9636 A 5
2628 B 5	2857 D 2	3805 D 4	3888 C 3	9802 D 3
2629 A 4	2858 C 2	3806 C 4	3889 C 3	9805 A 5
2630 B 5	2859 D 4	3807 C 4	3890 C 2	9806 E 3
2631 A 4	2860 A 3	3808 C 4	3891 E 3	9807 C 3
2632 B 4	2861 B 3	3809 C 1	3892 E 4	9808 E 3
2633 B 4	2871 C 2	3810 C 1	3893 B 2	9809 E 3
2634 B 4	2872 B 2	3811 D 4	3894 B 2	9810 E 3
2635 A 4	2873 B 2	3812 C 2	3895 D 4	9811 D 2
2636 B 4	2874 C 1	3814 B 2	3896 E 4	9812 D 4
2637 A 4	2875 A 2	3817 D 3	3897 E 4	9813 E 3
2638 B 4	2876 D 1	3819 C 3	3898 E 5	9814 D 3
2639 A 4	2880 D 3	3820 E 3	3899 B 1	9815 D 1
2640 A 3	2891 E 4	3821 E 3	5201 A 2	9816 D 1
2641 A 4	2892 D 4	3822 E 2	5625 B 6	9817 E 4
2642 B 4	2893 E 4	3823 E 3	5801 E 3	9818 E 4
2650 B 4	2895 B 5	3824 E 2	5803 C 4	9819 C 2
2651 B 4	2896 B 6	3825 D 1	6250 C 5	9820 B 3
2652 B 6	3207 A 2	3826 E 2	6251 C 5	9821 B 1
2653 B 6	3208 A 2	3827 E 2	6252 D 6	9822 B 1
2654 B 6	3209 A 2	3828 E 2	6253 C 6	9825 C 3
2655 B 6	3300 B 7	3829 E 1	6256 A 3	9826 D 3
2657 A 4	3301 B 7	3830 D 6	6300 D 6	9829 E 1
2658 A 4	3302 B 7	3831 D 2	6625 C 6	9830 C 5
2800 C 5	3303 B 7	3832 D 2	6800 C 3	9844 C 5
2801 D 1	3304 B 7	3833 B 2	6802 B 1	9849 E 4
2802 D 5	3305 E 7	3834 C 3	6803 B 2	9850 C 5
2803 C 2	3306 E 7	3835 A 2	6804 B 2	9851 B 3
2804 D 3	3307 E 7	3836 B 2	6805 B 2	
2805 C 5	3308 E 7	3837 D 2	6850 A 3	
2806 C 4	3309 D 6	3838 D 2	7300 E 7	
2807 C 4	3310 C 6	3839 E 1	7301 D 6	
2808 D 5	3311 C 7	3840 E 1	7601 C 6	
2813 C 4	3313 E 5	3841 E 1	7625 B 4	
2814 E 3	3314 E 5	3842 D 1	7626 B 6	

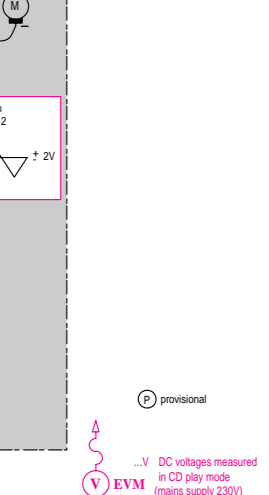
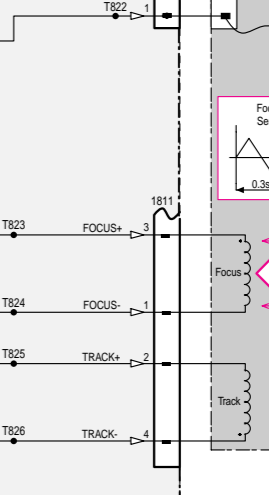
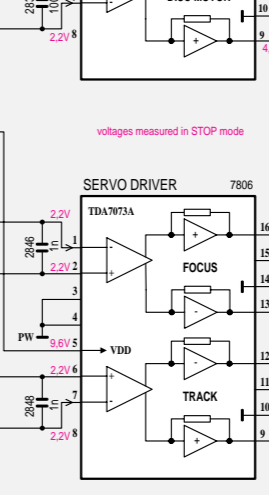
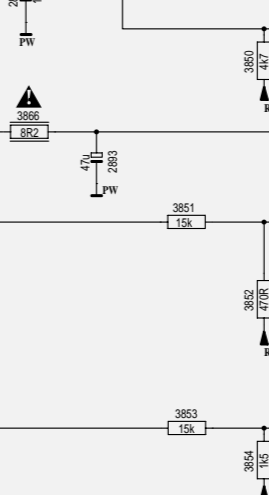
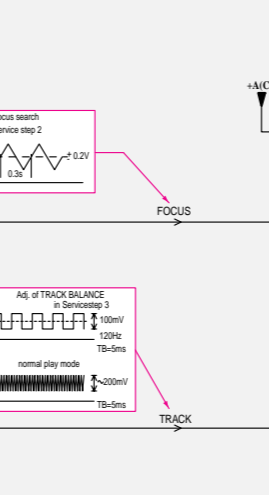
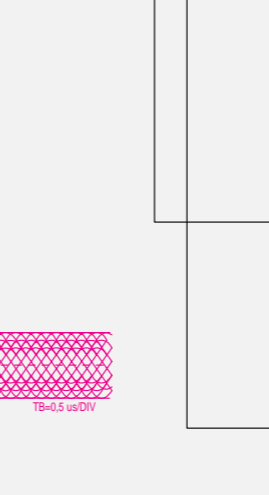
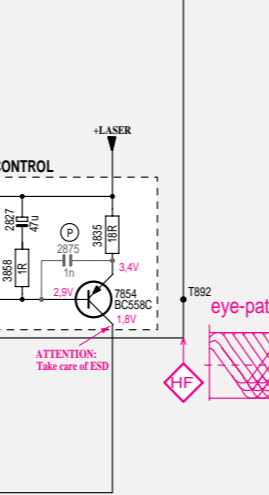
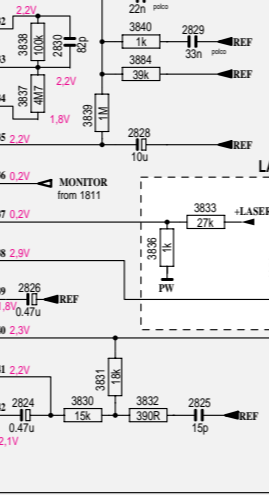
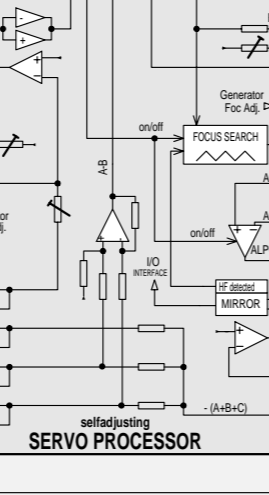
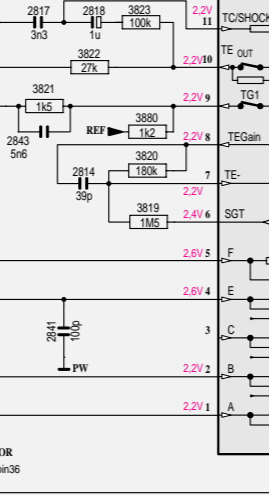
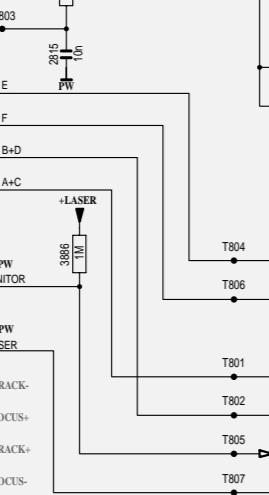
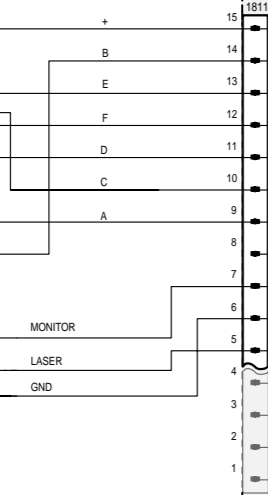
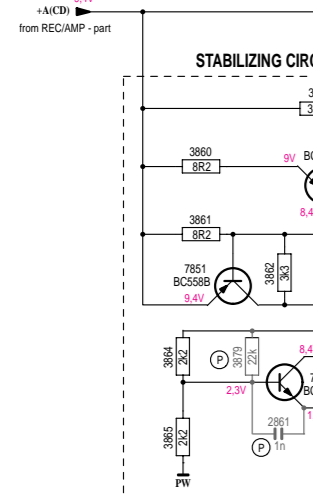
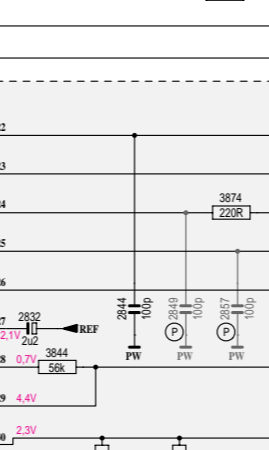
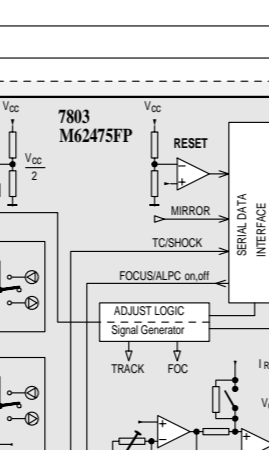
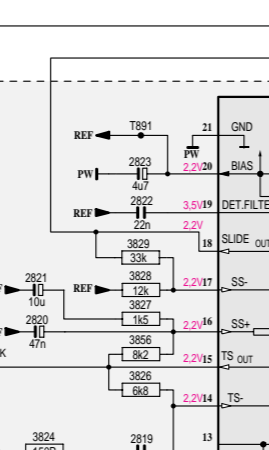
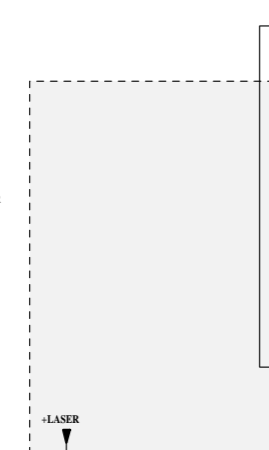
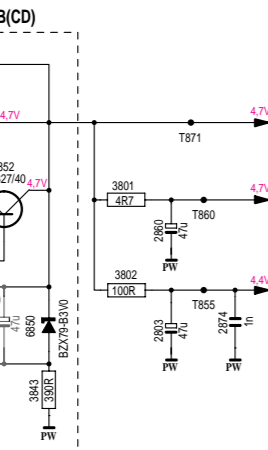
FRONT BOARD / copper side view





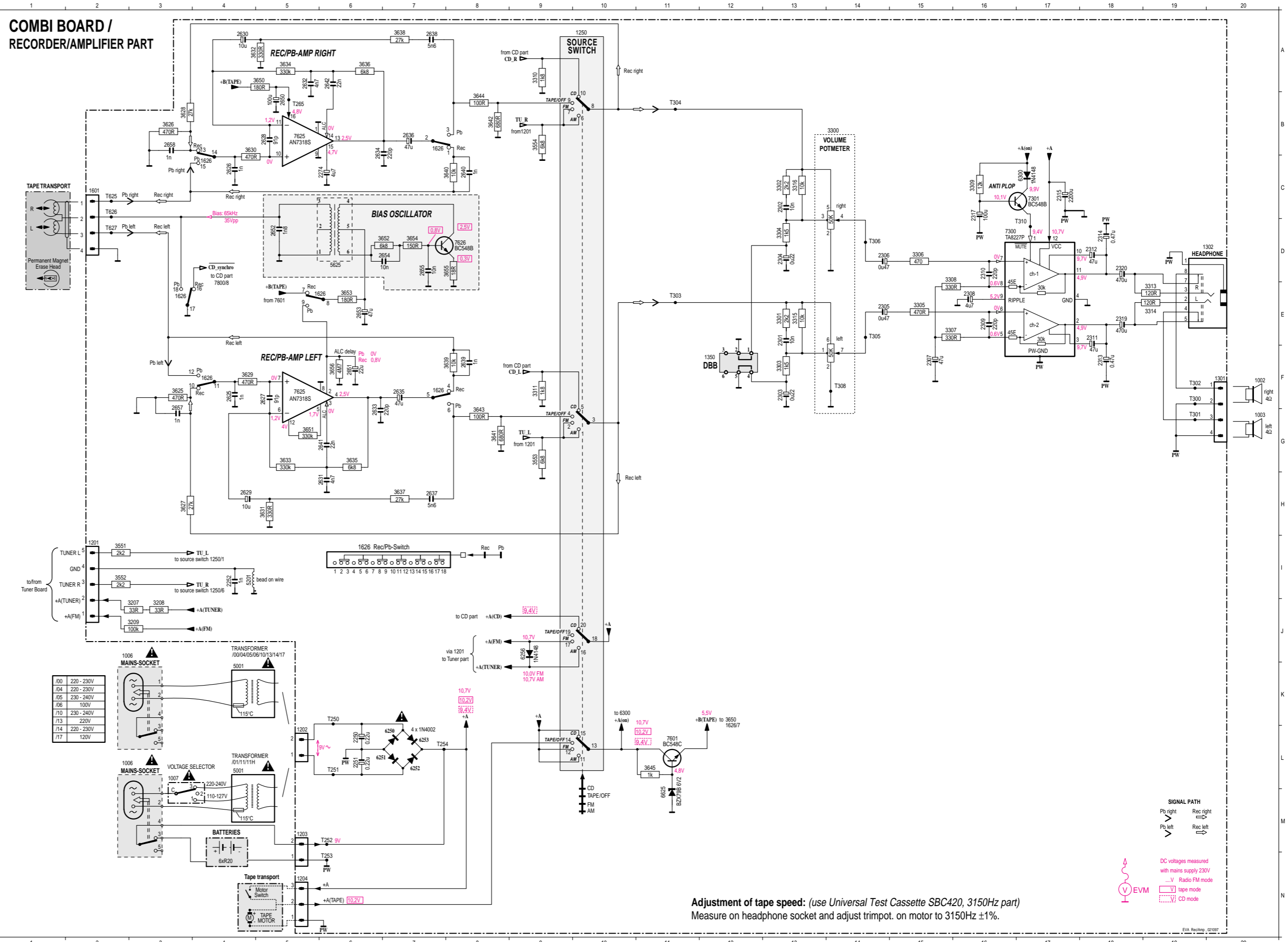
**DISPLAY CONNECTION TABLE**

pin	COM1	COM2	COM3
1	COM1		
2		COM2	
3			COM3
4	1E	1F	REPEAT
5	1D	1G	ALL
6	1C	1B	1A
7	2E	2F	PROGRAM
8	2D	2G	SHUFFLE
9	2C	2B	2A



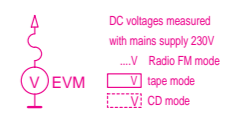


### COMBI BOARD / RECORDER/AMPLIFIER PART

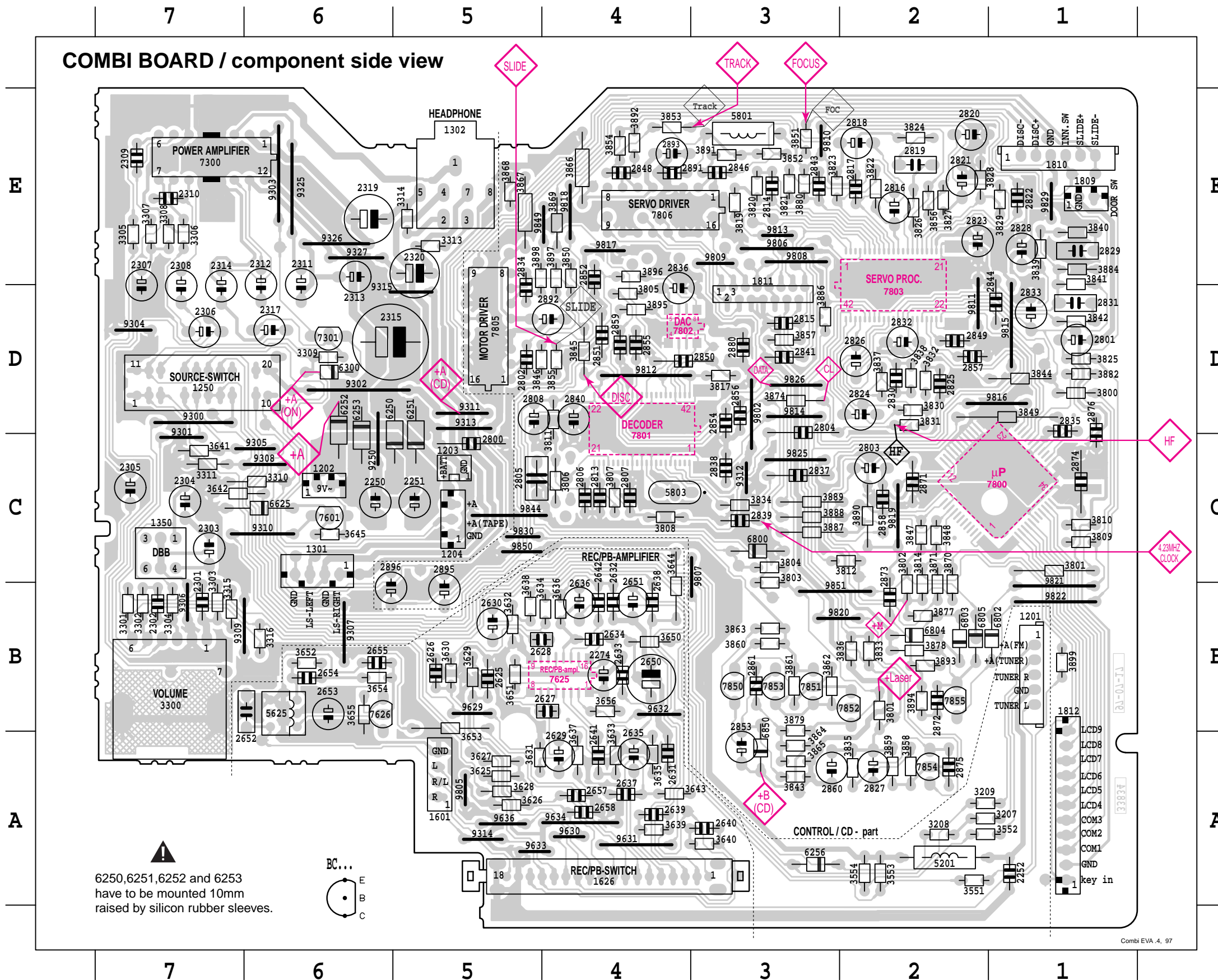


- 1201 I 2
- 1202 K 5
- 1203 M 5
- 1204 N 5
- 1250 F 10
- 1250 B 10
- 1250 L 10
- 1250 J 10
- 1301 G 20
- 1302 E 19
- 1350 F 12
- 1601 C 2
- 1626 B 7
- 1626 F 7
- 1626 E 6
- 1626 F 4
- 1626 C 4
- 1626 E 3
- 2250 L 6
- 2251 L 6
- 2252 I 4
- 2274 C 6
- 2291 E 3
- 2302 C 13
- 2303 F 13
- 2304 D 13
- 2306 E 14
- 2307 F 15
- 2308 E 16
- 2309 E 16
- 2310 D 16
- 2311 E 18
- 2312 D 18
- 2313 F 18
- 2314 D 18
- 2315 C 17
- 2317 C 16
- 2319 E 17
- 2320 D 18
- 2625 F 4
- 2626 C 4
- 2627 F 5
- 2628 F 5
- 2629 H 4
- 2630 H 4
- 2631 H 6
- 2632 A 5
- 2633 G 5
- 2634 B 6
- 2635 F 7
- 2636 B 7
- 2637 H 7
- 2638 A 7
- 2639 F 8
- 2640 G 8
- 2641 G 6
- 2642 A 6
- 2643 B 5
- 2651 F 6
- 2652 D 5
- 2653 E 6
- 2654 D 7
- 2657 G 3
- 2658 B 3
- 3201 J 3
- 3208 J 3
- 3209 J 3
- 3300 C 14
- 3300 E 14
- 3301 L 13
- 3302 C 13
- 3303 F 13
- 3304 D 13
- 3306 E 15
- 3306 D 15
- 3307 E 15
- 3308 D 15
- 3310 A 9
- 3311 F 9
- 3313 E 19
- 3314 E 19
- 3315 E 13
- 3316 C 13
- 3551 I 2
- 3552 I 2
- 3553 G 9
- 3554 B 9
- 3625 F 3
- 3626 B 3
- 3627 H 3
- 3628 B 3
- 3629 B 4
- 3631 H 5
- 3632 A 5
- 3633 G 5
- 3634 A 5
- 3635 G 6
- 3636 A 6
- 3637 H 7
- 3638 A 7
- 3639 F 8
- 3641 C 8
- 3641 G 8
- 3642 B 8
- 3644 B 8
- 3645 L 11
- 3650 A 5
- 3651 G 5
- 3652 D 7
- 3653 E 6
- 3654 D 7
- 3655 D 8
- 3656 F 6
- 5201 I 4
- 5225 D 6
- 6250 L 7
- 6251 L 6
- 6252 L 7
- 6253 L 7
- 6256 J 9
- 6300 C 17
- 6625 M 11
- 7300 D 16
- 7301 C 17
- 7601 L 11
- 7625 F 5
- 7626 B 5
- 7626 D 8

Adjustment of tape speed: (use Universal Test Cassette SBC420, 3150Hz part)  
 Measure on headphone socket and adjust trimpt. on motor to 3150Hz ±1%.



### COMBI BOARD / component side view



1201 B 1	2815 D 3	3315 B 7	3843 A 3	7800 C 1
1202 C 6	2816 E 2	3316 B 6	3844 D 1	7801 D 4
1203 C 5	2817 E 2	3551 A 2	3845 D 4	7802 D 4
1204 C 5	2818 E 2	3552 A 2	3846 D 5	7803 D 2
1250 D 7	2819 E 2	3553 A 2	3847 C 2	7805 D 5
1301 C 6	2820 E 2	3554 A 2	3848 C 2	7806 E 4
1302 E 5	2821 E 2	3625 A 5	3849 D 1	7850 B 3
1350 C 7	2822 E 1	3626 A 5	3850 E 4	7851 B 3
1601 A 5	2823 E 2	3627 A 5	3851 E 3	7852 B 2
1626 A 4	2824 D 2	3628 A 5	3852 E 3	7853 B 3
1809 E 1	2825 D 2	3629 B 5	3853 E 4	7854 A 2
1810 E 1	2826 D 2	3630 B 5	3854 E 4	7855 B 2
1811 D 3	2827 A 2	3631 A 5	3855 D 4	9250 C 6
1812 A 1	2828 E 1	3632 B 5	3856 E 2	9300 D 7
2250 C 6	2829 E 1	3633 A 4	3857 D 3	9301 C 7
2251 C 5	2830 D 2	3634 B 4	3858 A 2	9302 D 6
2252 A 1	2831 D 1	3635 A 4	3859 A 2	9303 E 6
2274 B 4	2832 D 2	3636 B 4	3860 B 3	9304 D 7
2301 B 7	2833 D 1	3637 A 4	3861 B 3	9305 C 6
2302 B 7	2834 D 5	3638 B 5	3862 B 3	9306 B 7
2303 C 7	2835 D 1	3639 A 4	3863 B 3	9307 B 6
2304 C 7	2836 D 4	3640 A 3	3864 A 3	9308 C 6
2305 C 7	2837 C 3	3641 C 7	3865 A 3	9309 B 6
2306 D 7	2838 C 3	3642 C 7	3866 E 4	9310 C 6
2307 D 7	2839 C 3	3643 A 4	3867 E 5	9311 D 5
2308 D 7	2840 D 4	3644 B 4	3868 E 5	9312 C 3
2309 E 7	2841 D 3	3645 C 6	3869 E 4	9313 D 5
2310 E 7	2843 E 3	3650 B 4	3870 B 2	9314 A 5
2311 E 6	2844 D 1	3651 B 5	3871 B 2	9315 D 5
2312 E 6	2846 C 3	3652 B 6	3874 D 3	9325 E 6
2313 E 6	2848 E 4	3653 B 5	3877 B 2	9326 E 6
2314 D 7	2849 D 2	3654 B 6	3878 B 2	9327 E 6
2315 D 6	2850 D 4	3655 B 6	3879 B 3	9629 B 5
2317 D 6	2851 D 4	3656 B 4	3880 E 3	9630 A 4
2319 E 6	2852 E 4	3800 D 1	3881 C 1	9631 A 4
2320 E 5	2853 A 3	3801 B 2	3882 D 1	9632 B 4
2625 B 5	2854 D 3	3802 B 2	3884 E 1	9633 A 5
2626 B 5	2855 D 4	3803 B 3	3886 D 3	9634 A 4
2627 B 4	2856 D 3	3804 C 3	3887 C 3	9636 A 5
2628 B 5	2857 D 2	3805 D 4	3888 C 3	9802 D 3
2629 A 4	2858 C 2	3806 C 4	3889 C 3	9805 A 5
2630 B 5	2859 D 4	3807 C 4	3890 C 2	9806 E 3
2631 A 4	2860 A 3	3808 C 4	3891 E 3	9807 C 3
2632 B 4	2861 B 3	3809 C 1	3892 E 4	9808 E 3
2633 B 4	2871 C 2	3810 C 1	3893 B 2	9809 E 3
2634 B 4	2872 B 2	3811 D 4	3894 B 2	9810 E 3
2635 A 4	2873 B 2	3812 C 2	3895 D 4	9811 D 2
2636 B 4	2874 C 1	3814 B 2	3896 E 4	9812 D 4
2637 A 4	2875 A 2	3817 D 3	3897 E 4	9813 E 3
2638 B 4	2876 D 1	3819 E 3	3898 E 5	9814 D 3
2639 A 4	2880 D 3	3820 E 3	3899 B 1	9815 D 1
2640 A 3	2891 E 4	3821 E 3	5201 A 2	9816 D 1
2641 A 4	2892 D 4	3822 E 2	5625 B 6	9817 E 4
2642 B 4	2893 E 4	3823 E 3	5801 E 3	9818 E 4
2650 B 4	2895 B 5	3824 E 2	5803 C 4	9819 C 2
2651 B 4	2896 B 6	3825 D 1	6250 C 5	9820 B 3
2652 B 6	3207 A 2	3826 E 2	6251 C 5	9821 B 1
2653 B 6	3208 A 2	3827 E 2	6252 D 6	9822 B 1
2654 B 6	3209 A 2	3828 E 2	6253 C 6	9825 C 3
2655 B 6	3300 B 7	3829 E 1	6256 A 3	9826 D 3
2657 A 4	3301 B 7	3830 D 2	6300 D 6	9829 E 1
2658 A 4	3302 B 7	3831 D 2	6625 C 6	9830 C 5
2800 C 5	3303 B 7	3832 D 2	6800 C 3	9844 C 5
2801 D 1	3304 B 7	3833 B 2	6802 B 1	9849 E 4
2802 D 5	3305 E 7	3834 C 3	6803 B 2	9850 C 5
2803 C 2	3306 E 7	3835 A 2	6804 B 2	9851 B 3
2804 D 3	3307 E 7	3836 B 2	6805 B 2	
2805 C 5	3308 E 7	3837 D 2	6850 A 3	
2806 C 4	3309 D 6	3838 D 2	7300 E 7	
2807 C 4	3310 C 6	3839 E 1	7301 D 6	
2808 D 5	3311 C 7	3840 E 1	7601 C 6	
2813 C 4	3313 E 5	3841 E 1	7625 B 4	
2814 E 3	3314 E 5	3842 D 1	7626 B 6	

## ELECTRICAL PARTSLIST

## MECHANICAL PARTS

0001 4822 256 90463 HOLDER FERRITE BAR

## MISCELLANEOUS

1250 4822 277 11739 SWITCH SLIDE, MODE  
 1302 4822 267 31468 SOCKET HEADPHONE 3,5mm Jack  
 1350 4822 276 12648 SWITCH PUSH, DBB  
 1626 4822 277 11504 SWITCH SLIDE, REC/PB  
 1800 4822 276 13114 TACT SWITCH

1801 4822 276 13114 TACT SWITCH  
 1802 4822 276 13114 TACT SWITCH  
 1803 4822 276 13114 TACT SWITCH  
 1804 4822 276 13114 TACT SWITCH  
 1807 4822 276 12889 DOOR SWITCH

1820 4822 135 00151 LCD

## CAPACITORS

2101 4822 122 33195 100pF 10% 50V  
 2102 4822 122 33848 47pF 5% 50V  
 2103 4822 124 40248 10µF 20% 63V  
 2104 4822 124 40248 10µF 20% 63V  
 2105 4822 122 33191 22pF 5% 50V

2106 4822 125 50681 VARCO TUNING  
 2108 4822 126 13508 3p3 10% 50V  
 2109 4822 126 13674 27pF 5% N330  
 2110 4822 126 12229 8,2pF N750 50V  
 2112 4822 124 41397 47µF 20% 25V

2113 4822 126 13581 0,22µF 20% 50V  
 2114 4822 126 12787 330pF 10% 50V  
 2115 4822 124 40246 4,7µF 20% 63V  
 2116 4822 121 43144 22nF 10% 50V  
 2116 4822 121 43145 33nF 10% 50V

2117 4822 124 40242 1µF 20% 63V  
 2118 4822 124 40242 1µF 20% 63V  
 2119 4822 121 43144 22nF 10% 50V  
 2119 4822 121 43145 33nF 10% 50V  
 2120 4822 124 40242 1µF 20% 63V

2121 4822 124 40239 0,47µF 20% 63V  
 2122 4822 124 40239 0,47µF 20% 63V  
 2250 4822 124 40746 0,22µF 20% 63V  
 2251 4822 124 40746 0,22µF 20% 63V  
 2252 4822 122 33197 1nF 10% 50V

2274 4822 124 40246 4,7µF 20% 63V  
 2301 4822 121 51387 10nF 20% 16V  
 2302 4822 121 51387 10nF 20% 16V  
 2303 4822 124 40746 0,22µF 20% 63V  
 2304 4822 124 40746 0,22µF 20% 63V

2305 4822 124 41407 0,47µF 20% 63V  
 2306 4822 124 41407 0,47µF 20% 63V  
 2307 4822 124 40433 47µF 20% 25V  
 2308 4822 124 40246 4,7µF 20% 63V  
 2309 4822 122 10466 220pF 10% 50V

2310 4822 122 10466 220pF 10% 50V  
 2311 4822 124 40433 47µF 20% 25V  
 2312 4822 124 40433 47µF 20% 25V  
 2313 4822 124 41407 0,47µF 20% 63V  
 2314 4822 124 41407 0,47µF 20% 63V

2315 4822 123 14025 2200µF 20% 16V  
 2317 4822 124 81029 100µF 20% 25V  
 2319 4822 124 41997 470µF 20% 10V  
 2320 4822 124 41997 470µF 20% 10V  
 2625 4822 122 33197 1nF 10% 50V

2626 4822 122 33197 1nF 10% 50V

## CAPACITORS

2627 4822 126 13507 91pF 5% 50V  
 2628 4822 126 13507 91pF 5% 50V  
 2629 4822 124 41579 10µF 20% 50V  
 2630 4822 124 41579 10µF 20% 50V  
 2631 4822 126 11714 4,7nF 20% 16V

2632 4822 126 11714 4,7nF 20% 16V  
 2633 4822 122 10466 220pF 10% 50V  
 2634 4822 122 10466 220pF 10% 50V  
 2635 4822 124 40433 47µF 20% 25V  
 2636 4822 124 40433 47µF 20% 25V

2637 4822 126 13098 5,6nF 20% 16V  
 2638 4822 126 13098 5,6nF 20% 16V  
 2639 4822 122 33197 1nF 10% 50V  
 2640 4822 122 33197 1nF 10% 50V  
 2641 4822 126 11585 22nF 20% 50V

2642 4822 126 11585 22nF 20% 50V  
 2650 4822 124 41584 100µF 20% 10V  
 2651 4822 124 41596 22µF 20% 50V  
 2652 4822 121 43054 1,8nF 10% 50V  
 2653 4822 124 40433 47µF 20% 25V

2654 4822 121 51387 10nF 20% 16V  
 2655 4822 121 51387 10nF 20% 16V  
 2657 4822 122 33197 1nF 10% 50V  
 2658 4822 122 33197 1nF 10% 50V  
 2800 4822 122 33197 1nF 10% 50V

2801 4822 124 40242 1µF 20% 63V  
 2802 4822 121 51387 10nF 20% 16V  
 2803 4822 124 40433 47µF 20% 25V  
 2804 4822 126 12878 1,5nF 10% 16V  
 2805 4822 121 41854 150nF 10% 63V

2806 4822 122 33519 470pF 10% 50V  
 2807 4822 122 33191 22pF 5% 50V  
 2808 4822 124 40433 47µF 20% 25V  
 2813 4822 126 12339 2,2nF 10% 16V  
 2814 4822 126 13677 39pF 5% 50V

2815 4822 121 51387 10nF 20% 16V  
 2816 4822 124 41407 0,47µF 20% 63V  
 2817 4822 122 10577 3,3nF 10% 16V  
 2818 4822 124 40242 1µF 20% 63V  
 2819 5322 121 42386 100nF 5% 63V

2820 4822 121 43526 47nF 5% 100V  
 2821 4822 124 41579 10µF 20% 50V  
 2822 4822 126 11585 22nF 20% 50V  
 2823 4822 124 40246 4,7µF 20% 63V  
 2824 4822 124 41407 0,47µF 20% 63V

2825 4822 122 10462 15pF 5% 50V  
 2826 4822 124 41407 0,47µF 20% 63V  
 2827 4822 124 40433 47µF 20% 25V  
 2828 4822 124 41579 10µF 20% 50V  
 2829 5322 121 42489 33nF 5% 100V

2830 4822 122 10319 82pF 5% 50V  
 2831 4822 121 41856 22nF 5% 250V  
 2832 4822 124 41576 2,2µF 20% 50V  
 2833 4822 124 40433 47µF 20% 25V  
 2834 4822 126 12882 100nF 20% 50V

2835 4822 122 33195 100pF 10% 50V  
 2836 4822 124 12068 220µF 20% 10V  
 2837 4822 122 33197 1nF 10% 50V  
 2838 4822 122 33197 1nF 10% 50V  
 2839 4822 122 33191 22pF 5% 50V

2840 4822 124 40433 47µF 20% 25V  
 2841 4822 122 33195 100pF 10% 50V  
 2843 4822 126 13098 5,6nF 20% 16V



## ELECTRICAL PARTSLIST

## CAPACITORS

2844	4822 122 33195	100pF	10%	50V
2846	4822 122 33197	1nF	10%	50V
2848	4822 122 33197	1nF	10%	50V
2850	4822 126 12882	100nF	20%	50V
2851	4822 126 11714	4,7nF	20%	

2852	4822 126 11714	4,7nF	20%	
2854	4822 122 33195	100pF	10%	50V
2855	4822 122 33195	100pF	10%	50V
2856	4822 122 33195	100pF	10%	50V
2859	4822 121 51387	10nF	20%	16V

2860	4822 124 40433	47μF	20%	25V
2871	4822 126 11714	4,7nF	20%	
2873	4822 126 12882	100nF	20%	50V
2874	4822 122 33197	1nF	10%	50V
2880	4822 122 33197	1nF	10%	50V

2891	4822 121 51387	10nF	20%	16V
2892	4822 124 40433	47μF	20%	25V
2893	4822 124 40433	47μF	20%	25V
2895	4822 124 40242	1μF	20%	63V
2896	4822 124 40242	1μF	20%	63V

## RESISTORS

3101	4822 100 20167	50kΩ TRIMPOT.	LIN.	
3102	4822 116 52297	68kΩ	5%	0,5W
3104	4822 116 52256	2,2kΩ	5%	0,16W
3106	4822 116 52231	820Ω	5%	0,5W
3107	4822 116 52191	33Ω	5%	0,5W

3113	4822 116 52234	100kΩ	5%	0,5W
3114	4822 116 52234	100kΩ	5%	0,5W
3207	4822 116 52191	33Ω	5%	0,5W
3208	4822 116 52191	33Ω	5%	0,5W
3209	4822 116 52234	100kΩ	5%	0,5W

3300	4822 101 11826	2x50kΩ LIN.,	VOLUME POTMETER	
3301	4822 116 52256	2,2kΩ	5%	0,16W
3302	4822 116 52256	2,2kΩ	5%	0,16W
3303	4822 116 52243	1,5kΩ	5%	0,16W
3304	4822 116 52243	1,5kΩ	5%	0,16W

3305	4822 116 83883	470Ω	5%	0,16W
3306	4822 116 83883	470Ω	5%	0,16W
3307	4822 116 52219	330Ω	5%	0,5W
3308	4822 116 52219	330Ω	5%	0,5W
3309	4822 116 52238	12kΩ	5%	0,5W

3310	4822 116 52249	1,8kΩ	5%	0,16W
3311	4822 116 52249	1,8kΩ	5%	0,16W
3313	4822 116 52206	120Ω	5%	0,5W
3314	4822 116 52206	120Ω	5%	0,5W
3315	4822 116 83864	10kΩ	5%	0,5W

3316	4822 116 83864	10kΩ	5%	0,5W
3551	4822 116 52256	2,2kΩ	5%	0,16W
3552	4822 116 52256	2,2kΩ	5%	0,16W
3553	4822 116 83961	6,8kΩ	5%	0,16W
3554	4822 116 83961	6,8kΩ	5%	0,16W

3625	4822 116 83883	470Ω	5%	0,16W
3626	4822 116 83883	470Ω	5%	0,16W
3627	4822 116 52264	27kΩ	5%	0,5W
3628	4822 116 52264	27kΩ	5%	0,5W
3629	4822 116 83883	470Ω	5%	0,16W

3630	4822 116 83883	470Ω	5%	0,16W
3631	4822 116 52219	330Ω	5%	0,5W
3632	4822 116 52219	330Ω	5%	0,5W
3633	4822 116 52272	330kΩ	5%	0,5W
3634	4822 116 52272	330kΩ	5%	0,5W

3635	4822 116 83961	6,8kΩ	5%	0,16W
3636	4822 116 83961	6,8kΩ	5%	0,16W

## RESISTORS

3637	4822 116 52264	27kΩ	5%	0,5W
3638	4822 116 52264	27kΩ	5%	0,5W
3639	4822 116 83864	10kΩ	5%	0,5W
3640	4822 116 83864	10kΩ	5%	0,5W
3641	4822 116 52228	680Ω	5%	0,5W

3642	4822 116 52228	680Ω	5%	0,5W
3643	4822 116 52175	100Ω	5%	0,5W
3644	4822 116 52175	100Ω	5%	0,5W
3645	4822 050 11002	1kΩ	5%	0,2W
3650	4822 116 52213	180Ω	5%	0,5W

3651	4822 116 52272	330kΩ	5%	0,5W
3652	4822 116 83961	6,8kΩ	5%	0,16W
3653	4822 116 52213	180Ω	5%	0,5W
3654	4822 116 83868	150Ω	5%	0,5W
3655	4822 116 52184	18Ω	5%	0,5W

3656	4822 111 30893	4,7MΩ	5%	0,2W
3800	4822 116 52176	10Ω	5%	0,5W
3801	4822 050 24708	4,7Ω	1%	0,6W
3802	4822 116 52175	100Ω	5%	0,5W
3803	4822 116 81154	2,2Ω	5%	0,5W

3804	4822 116 83868	150Ω	5%	0,5W
3805	4822 116 52175	100Ω	5%	0,5W
3806	4822 116 52256	2,2kΩ	5%	0,16W
3807	4822 116 52271	33kΩ	5%	0,16W
3808	4822 116 52263	2,7kΩ	5%	0,5W

3809	4822 116 52276	3,9kΩ	5%	0,5W
3810	4822 050 11002	1kΩ	5%	0,2W
3811	4822 111 30893	4,7MΩ	5%	0,2W
3812	4822 116 52257	22kΩ	5%	0,5W
3814	4822 116 52257	22kΩ	5%	0,5W

3817	4822 116 52234	100kΩ	5%	0,5W
3819	4822 117 11825	1,5MΩ	5%	0,4W
3820	4822 116 52252	180kΩ	5%	0,5W
3821	4822 116 52243	1,5kΩ	5%	0,16W
3822	4822 116 52264	27kΩ	5%	0,5W

3823	4822 116 52234	100kΩ	5%	0,5W
3824	4822 116 83868	150Ω	5%	0,5W
3825	4822 116 83883	470Ω	5%	0,16W
3826	4822 116 83961	6,8kΩ	5%	0,16W
3827	4822 116 52243	1,5kΩ	5%	0,16W

3828	4822 116 52238	12kΩ	5%	0,5W
3829	4822 116 52271	33kΩ	5%	0,16W
3830	4822 116 52244	15kΩ	5%	0,5W
3831	4822 116 52251	18kΩ	5%	0,5W
3832	4822 116 52222	390Ω	5%	0,16W

3833	4822 116 52264	27kΩ	5%	0,5W
3834	4822 116 83872	220Ω	5%	0,5W
3835	4822 116 52184	18Ω	5%	0,5W
3836	4822 050 11002	1kΩ	5%	0,2W
3837	4822 111 30893	4,7MΩ	5%	0,2W

3838	4822 116 52234	100kΩ	5%	0,5W
3839	4822 116 52235	1MΩ	5%	0,5W
3840	4822 050 11002	1kΩ	5%	0,2W
3841	4822 116 52298	680kΩ	5%	0,5W
3842	4822 116 52297	68kΩ	5%	0,5W

3843	4822 116 52222	390Ω	5%	0,16W
3844	4822 116 52291	56kΩ	5%	0,5W
3845	4822 116 52239	120kΩ	5%	0,5W
3846	4822 050 11002	1kΩ	5%	0,2W
3847	4822 116 52257	22kΩ	5%	0,5W

3849	4822 116 83872	220Ω	5%	0,5W
3850	4822 116 52283	4,7kΩ	5%	0,5W
3851	4822 116 52244	15kΩ	5%	0,5W
3852	4822 116 83883	470Ω	5%	0,16W

## ELECTRICAL PARTSLIST

## RESISTORS

3853	4822 116 52244	15kΩ	5%	0,5W
3854	4822 116 52243	1,5kΩ	5%	0,16W
3855	4822 116 52271	33kΩ	5%	0,16W
3856	4822 116 52303	8,2kΩ	5%	0,5W
3857	4822 116 52269	3,3kΩ	5%	0,5W
3858	4822 116 80176	1Ω	5%	0,5W
3859	4822 116 83864	10kΩ	5%	0,5W
3860	4822 050 18208	8,2Ω	1%	0,4W
3861	4822 050 18208	8,2Ω	1%	0,4W
3862	4822 116 52269	3,3kΩ	5%	0,5W
3863	4822 116 52219	330Ω	5%	0,5W
3864	4822 116 52256	2,2kΩ	5%	0,16W
3865	4822 116 52256	2,2kΩ	5%	0,16W
3866 ▲	4822 052 10828	8,2Ω	5%	0,3W
3867 ▲	4822 052 10338	3,3Ω	NFR25	
3868	4822 116 80176	1Ω	5%	0,5W
3869	4822 116 83883	470Ω	5%	0,16W
3870	4822 116 52257	22kΩ	5%	0,5W
3871	4822 050 11002	1kΩ	5%	0,2W
3872	4822 116 83882	39kΩ	5%	0,5W
3873	4822 116 52257	22kΩ	5%	0,5W
3874	4822 116 83872	220Ω	5%	0,5W
3875	4822 116 52256	2,2kΩ	5%	0,16W
3876	4822 116 52283	4,7kΩ	5%	0,5W
3877	4822 116 52244	15kΩ	5%	0,5W
3878	4822 116 52228	680Ω	5%	0,5W
3880	4822 116 52207	1,2kΩ	5%	0,5W
3881	4822 116 52257	22kΩ	5%	0,5W
3882	4822 116 83864	10kΩ	5%	0,5W
3884	4822 116 83882	39kΩ	5%	0,5W
3886	4822 116 52235	1MΩ	5%	0,5W
3887	4822 116 83872	220Ω	5%	0,5W
3888	4822 116 83883	470Ω	5%	0,16W
3889	4822 116 83883	470Ω	5%	0,16W
3890	4822 116 83864	10kΩ	5%	0,5W
3891	4822 116 83883	470Ω	5%	0,16W
3892	4822 116 83883	470Ω	5%	0,16W
3893	4822 116 52271	33kΩ	5%	0,16W
3894	4822 116 83883	470Ω	5%	0,16W
3895	4822 116 52276	3,9kΩ	5%	0,5W
3896	4822 116 52276	3,9kΩ	5%	0,5W
3897	4822 116 83883	470Ω	5%	0,16W
3898	4822 116 83883	470Ω	5%	0,16W
3899	4822 050 11002	1kΩ	5%	0,2W

## COILS

1102	4822 526 10176	FERRITE BAR 5X13X55MM
5101	4822 157 70513	RF COIL 3,5 TURNS
5102	4822 157 70731	COIL, FERR. ANT. (w/o FERRITE BAR)
5104	4822 156 30947	RF COIL 1,5 TURNS
5105	4822 157 71145	COIL VAR., MW-OSC.
5106	4822 157 70499	AM-IF FILTER, 468kHz
5107	4822 242 81154	FILTER KIT, FM-IF
5108	4822 156 11146	AM-IF FILTER, 468kHz
5201	4822 526 10494	FERRITE BEAD
5625	4822 157 10371	BIAS OSC. COIL VAR. 100kHz
5801	4822 526 10494	FERRITE BEAD
5803	4822 242 73557	CERAMIC RES. 8,46MHz

## DIODES

6101	4822 130 30621	1N4148
6102	4822 130 30621	1N4148
6250 ▲	4822 130 31878	1N4003G
6251 ▲	4822 130 31878	1N4003G

## DIODES

6252 ▲	4822 130 31878	1N4003G
6253 ▲	4822 130 31878	1N4003G
6256	4822 130 30621	1N4148
6300	4822 130 30621	1N4148
6625	4822 130 34167	BZX79-B6V2
6800	4822 130 31881	BZX79-B3V0
6803	4822 130 30621	1N4148
6804	4822 130 30621	1N4148
6805	4822 130 31981	BZX79-C3V9
6850	4822 130 31881	BZX79-B3V0

## TRANSISTORS

7102	4822 130 44196	BC548C
7301	4822 130 40937	BC548B
7601	4822 130 44196	BC548C
7626	4822 130 40937	BC548B
7850	4822 130 41327	BC327-40
7851	4822 130 44197	BC558B
7852	4822 130 41327	BC327-40
7853	4822 130 44196	BC548C
7854	5322 130 60068	BC558C
7855	4822 130 44196	BC548C

## INTEGRATED CIRCUITS

7101 ©	4822 209 32746	TEA5711T/N2, RADIO IC
7300	4822 209 31544	TA8227P, POWER AMPLIFIER IC
7625 ©	4822 209 32918	AN7318S, Rec/Pb-AMPLIFIER IC
7800 ©	4822 209 15932	TMP47C422F-AZ1010.1, μ-PROC.
7801 ©	4822 209 15952	M65824FP, SIGNAL PROCESSOR IC
7802 ©	4822 209 32196	TDA1311AT/N2, DAC
7803 ©	4822 209 90496	M62475FP, SERVO PROCESSOR IC
7805	4822 209 32852	TDA7073A/N2, MOTOR DRIVER
7806	4822 209 32852	TDA7073A/N2, SERVO DRIVER