

Service  
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**Service**



# Service Manual



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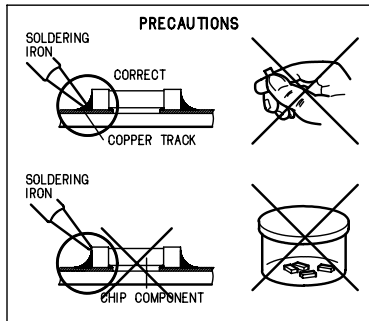
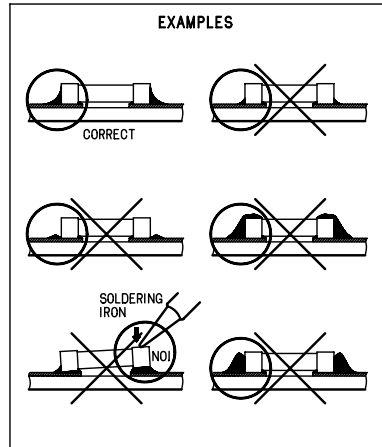
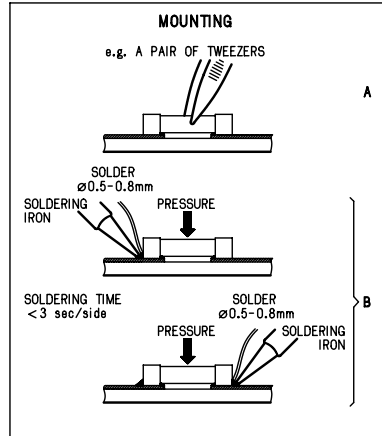
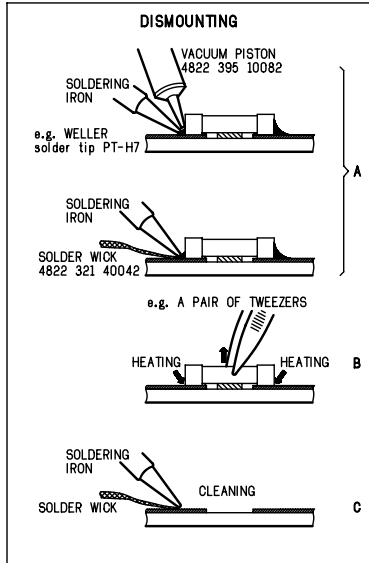
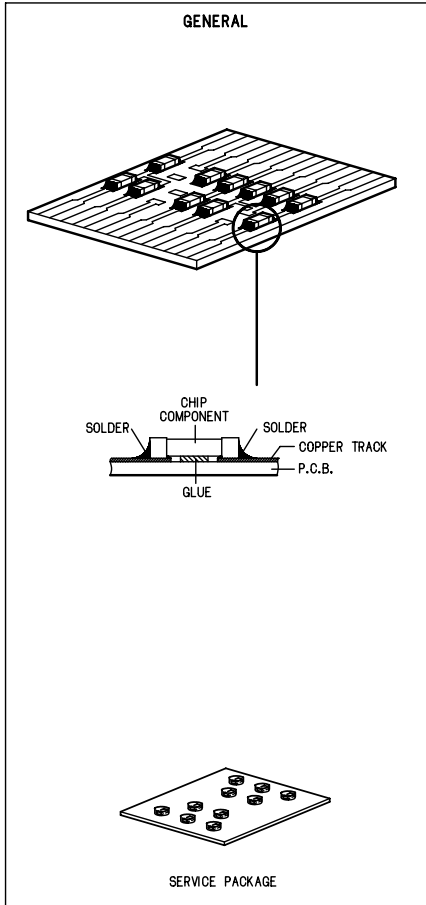
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# PHILIPS

# HANDLING CHIP COMPONENTS



**(GB) WARNING**  
 All ICs and many other semiconductors 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 wristband with resistance. Keep components and tools at this potential.



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

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

**(D) WARNUNG**  
 Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).  
 Unvorsichtige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.  
 Sorgen Sie dafür, daß Sie im Reparaturfall über ein Puls-armband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.  
 Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

**(I) AVVERTIMENTO**  
 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 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.

**(GB)**  
 Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.  
 Safety components are marked by the symbol ▲

## SAFETY



**(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.  
 Les composants de sécurité sont marqués ▲

**(D)**  
 Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden.  
 Sicherheitsbauteile sind durch das Symbol ▲ markiert.

**(NL)**  
 Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.  
 De Veiligheidsonderdelen zijn aangeduid met het symbool ▲

**(I)**  
 Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.  
 Componenti di sicurezza sono marcati con ▲

**(GB) DANGER:** Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.



**(S) Varning !**  
 Osynlig laserstråling när apparaten är öppnad och spårren är urkopplad. Betrakta ej strålen.

**(GB)**  
 After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.  
 The leakage current must not exceed 0.5mA.

**(DK) Advarsel !**  
 Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**(FIN) Varoitus !**  
 Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen !

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

## TECHNICAL SPECIFICATIONS

### GENERAL

Mains voltage	-/00/05/14	: 230 V
	-/10	: 240 V
	-/01	: 120 / 230 V
Mains frequency	-/00/05/10/14	: 50 Hz
	-/01	: 50 / 60 Hz
Battery		: 9 V (R14 x 6)
Power consumption		: 5 W
Dimension (W x H x D)		: 400 x 235 x 173mm
Weight		: 3 Kg

### AMPLIFIER

Output power	mains	: 2 x 1 W
	battery	: 2 x 1 W
Speaker impedance		: 2 x 8 ohm
Frequency response		: 70 Hz - 3 kHz ( $\pm 3$ dB)

### TUNER - FM SECTION

Tuning range		: 87.35 - 108.25 MHz
IF frequency		: 10.7 MHz $\pm$ 0.2 MHz
Sensitivity		: 17 dB at 26dB S/N
Selectivity		: 24 dB at 300kHz
IF rejection		: 65 dB
Image rejection		: 26 dB

### TUNER - AM SECTION

Tuning range		: 512 - 1635 kHz
IF frequency		: 468 kHz $\pm$ 3 kHz
Sensitivity		: 1500 $\mu$ V/m at 26dB S/N
Selectivity		: 20 dB
IF rejection		: 70 dB
Image rejection		: 32 dB

### CASSETTE RECORDER

Number of tracks		: stereo
Tape speed		: 4.76 cm/sec $\pm$ 3%
Wow & flutter		: < 0.35% JIS WTD
Fast wind/rewind C60		: 130 sec.
Frequency response	P/B	: 125 - 8000 Hz
S/N ratio		: 36 dB

### COMPACT DISC

S/N ratio		: 55 dB
Channel difference	1 kHz	: 2 dB
Channel crosstalk	1 kHz	: 40 dB
THD	1 kHz	: 0.2 %

## SERVICE TOOLS

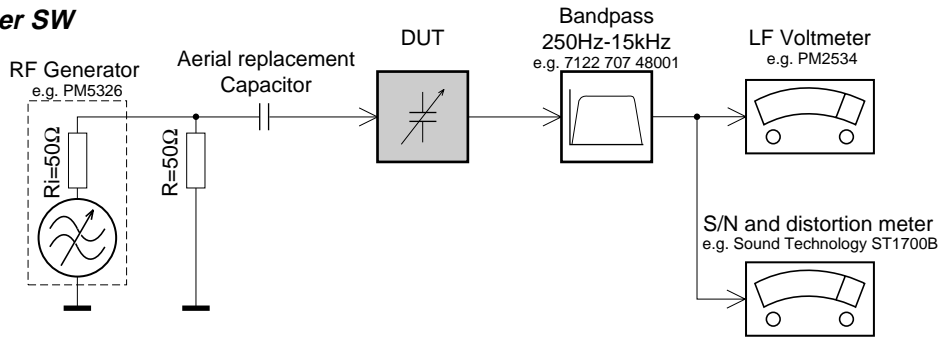
Audio signal disc SBC 429.....	4822 397 30184
Playability test disc SBC 444.....	4822 397 30245
Test disc 5 (disc without errors) +	
Test disc 5A (disc with dropout errors, black spots and fingerprints)	
SBC 426/426A.....	4822 397 30096
Burn in test disc (65 min. 1kHz signal at -30 dB level without "pause").....	4822 397 30155

## AVAILABLE ESD PROTECTION EQUIPMENT

anti-static table mat	large 1200x650x1.25mm	4822 466 10953
	small 600x650x1.25m	4822 466 10958
anti-static wristband		4822 395 10223
connection box (3 press stud connections, 1M $\Omega$ )		4822 320 11307
extendible cable (2m, 2M $\Omega$ , to connect wristband to connection box)		4822 320 11305
connecting cable (3m, 2M $\Omega$ , to connect table mat to connection box)		4822 320 11306
earth cable (1M $\Omega$ , to connect any product to mat or to connection box)		4822 320 11308
KIT ESD3 (combining all 6 prior products - small table mat)		4822 310 10671
wristband tester		4822 344 13999

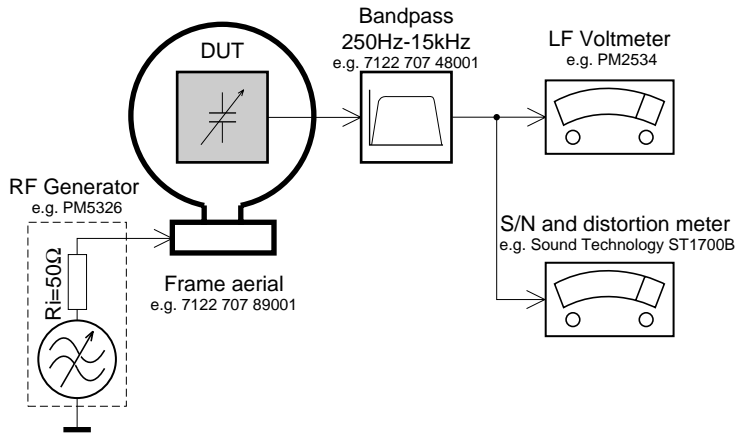
## SERVICE MEASUREMENT

### Tuner SW



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday«s cage. Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

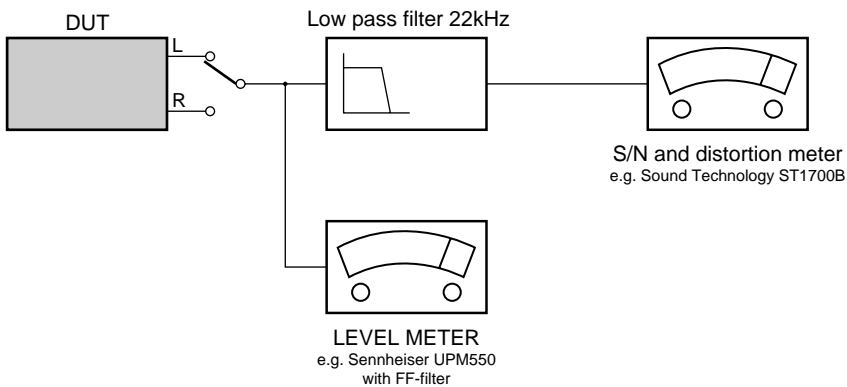
### Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday«s cage.

### CD

Use Audio Signal Disc SBC429 4822 397 30184 (replaces test disc 3)  
L.P.F. = 13<sup>th</sup> order filter 4822 395 30204



# CONNECTIONS AND CONTROLS

## Controls

### Top and front panels

- 1 **LIFT TO OPEN** – opens/ closes the CD door
- 2 **Source selector: CD, MW, FM, TAPE/OFF** – selects CD source of sound, tuner waveband or tape source of sound – power on/ off switch
- 3 **CASSETTE RECORDER: PAUSE II** – pauses recording or playback
- STOP•OPEN** ■▲ – stops the tape; opens the cassette door
- SEARCH** ◀◀ or ▶▶ – fast rewinds / winds the tape
- PLAY** ◀ – starts playback
- RECORD** ● – starts recording
- 4 **CD display** – shows the CD functions
- 5 **TUNING**
- 6 **PLAY•PAUSE** ▶II – starts or pauses CD playback
- 7 **STOP** ■ – stops CD playback
- 8 **SEARCH** ◀◀, ▶▶  
CD: skips or searches a passage/track backwards or forward
- 9 **DBB (Dynamic Bass Boost)** – enhances bass response
- 10 **REPEAT** – repeats a track/CD
- 11 **SHUFFLE** – plays all CD tracks in random order
- 12 **VOLUME** – adjusts volume level

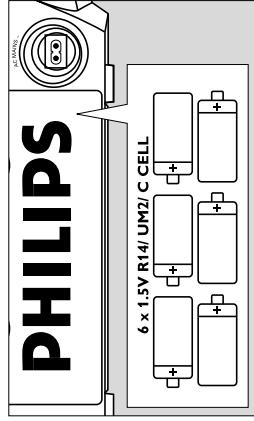
## Power Supply

### Back Panel

- 13 **Telescopic aerial** – to improve FM reception
- 14 **Battery door** – open to insert 6 x 1.5V R14/UMZ/ C-cell batteries
- 15 **AC MAINS** – inlet for mains lead

### Power Supply

Whenever convenient, use the power supply if you want to conserve battery life.

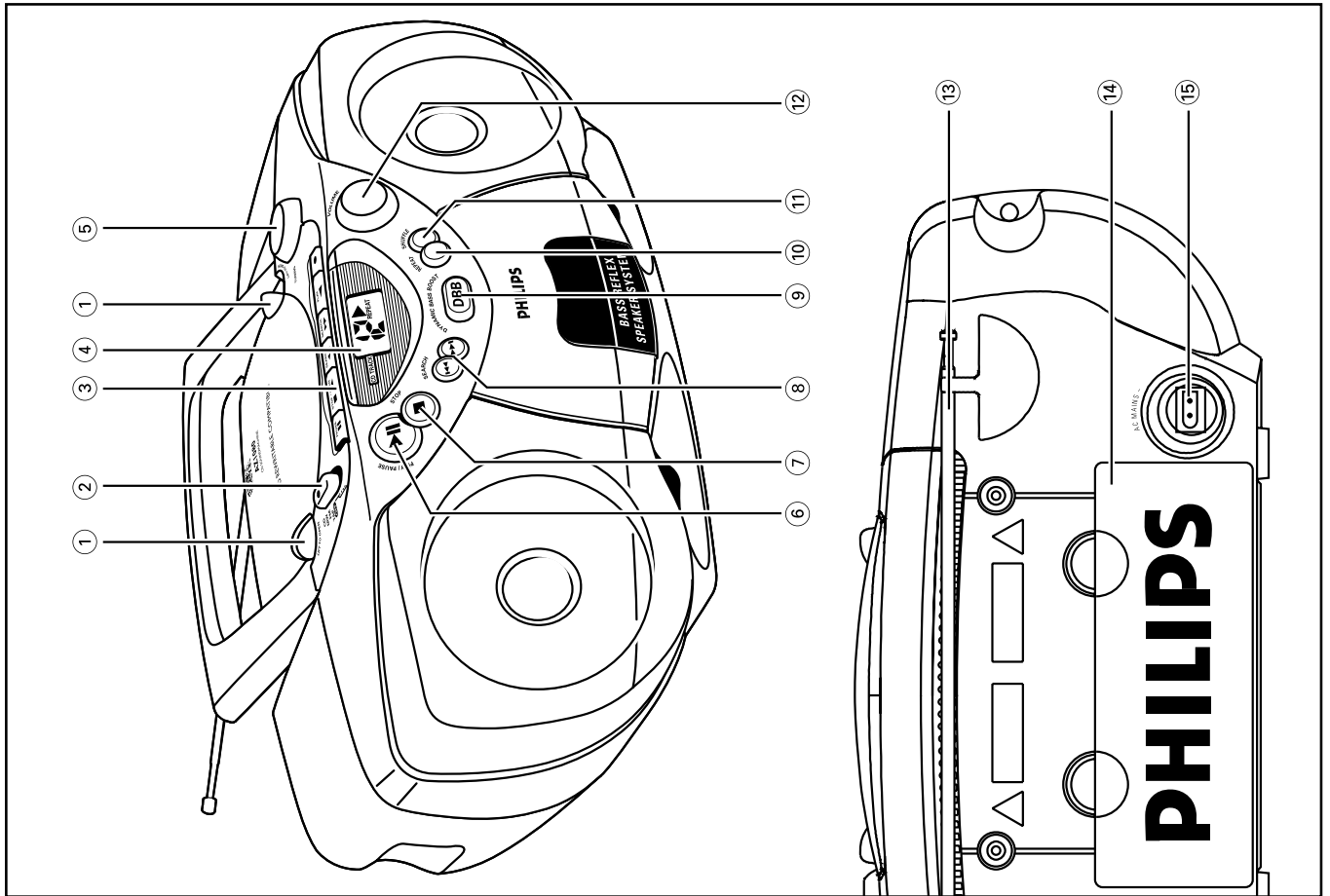


Make sure you remove the plug from the set and wall socket before inserting batteries.

### Batteries (not included)

- 1 Open the battery compartment and insert six batteries, type **R-14, UM-2** or **C-cells**, (preferably alkaline) with the correct polarity as indicated by the "+" and "-" symbols inside the compartment.
- 2 Close the compartment door, and make sure the batteries are firmly and correctly in place. The set is now ready to operate.

**Batteries contain chemical substances, so they should be disposed of properly.**



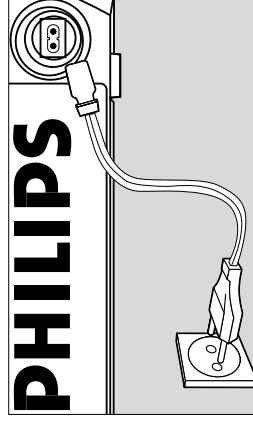
## Power Supply

Incorrect use of batteries can cause electrolyte leakage and will corrode the compartment or cause the batteries to burst. Therefore:

- Do not mix battery types: e.g. alkaline with carbon zinc. Only use batteries of the same type for the set.
- When inserting new batteries, do not try to mix old batteries with the new ones.
- Remove the batteries if the set is not to be used for a long time.

### Using AC Mains

- 1 Check if the mains voltage, as shown on the type plate located on the bottom of the set, corresponds to your local mains supply. If it does not, consult your dealer or service centre.

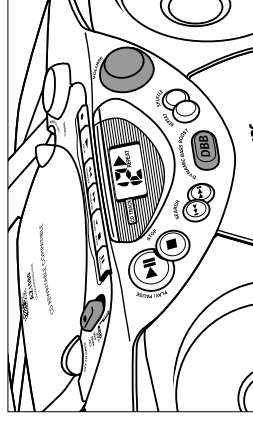


- 2 Connect the mains lead to the AC MAINS inlet and the wall socket. The mains supply is now connected and ready for use.
- 3 To switch off completely, unplug the mains lead from the wall socket.
- Unplug the mains lead from the wall socket to protect your set during heavy thunderstorms.

**The type plate is located on the bottom of the set.**

### Switching power on/off: Save energy

Whether you are using mains or battery supply, to avoid unnecessary energy consumption always adjust the source selector to **TAPE/OFF** and check if the cassette keys are released.



### General operation

- 1 To select your sound source adjust the source selector to **CD, MW, FM** or **TAPE/OFF**.
- 2 Adjust the sound with the **VOLUME** and **DBB** (Dynamic Bass Boost) controls.
- 3 To switch off the set, adjust the source selector to **TAPE/OFF** position and check the cassette keys are released.

## Troubleshooting

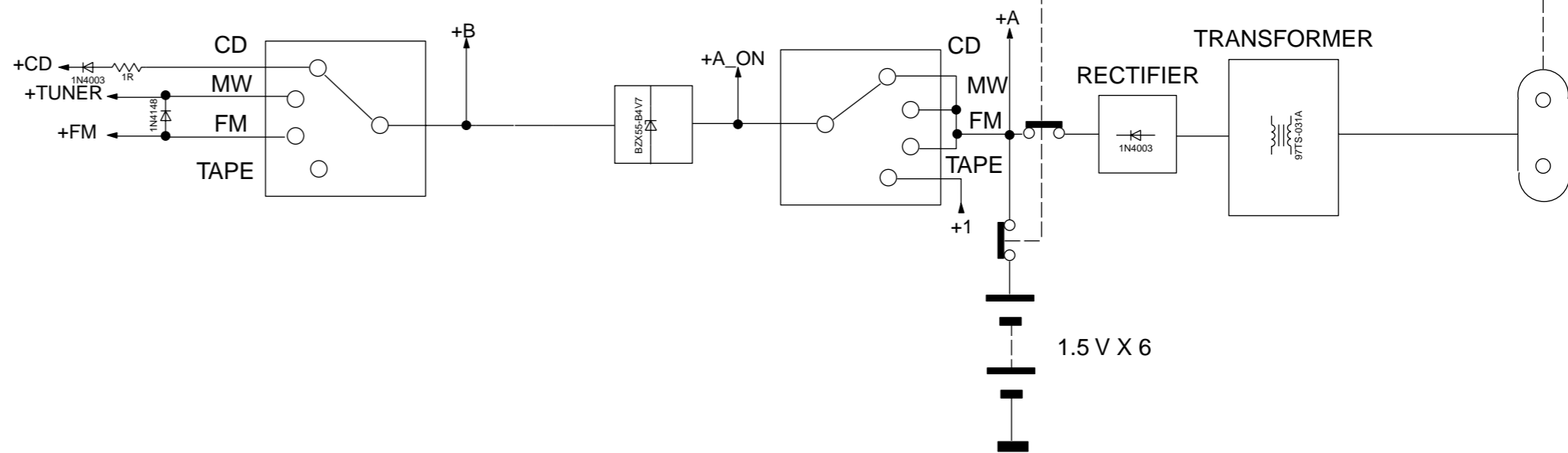
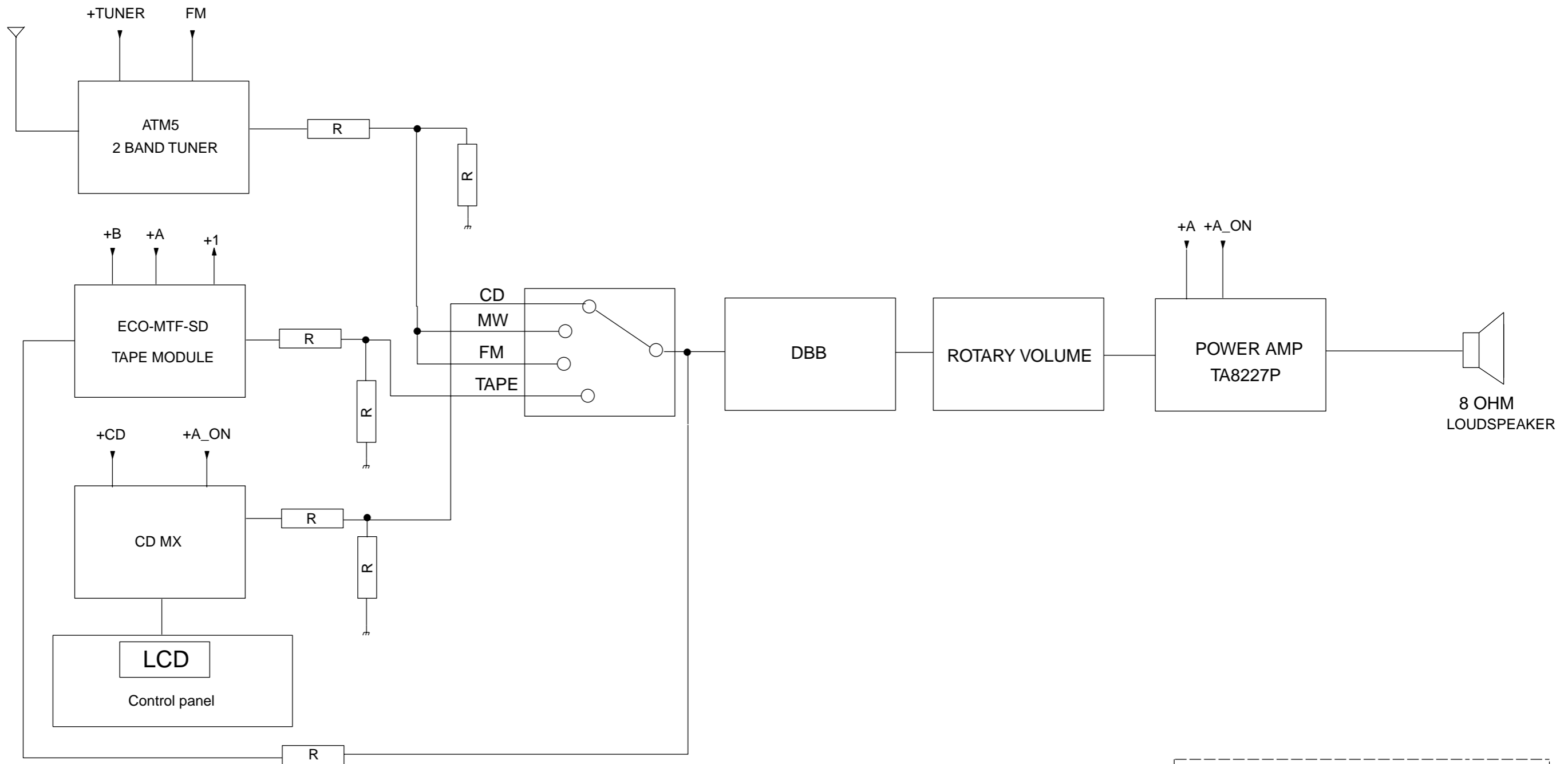
**If a fault occurs, first check the points listed below before taking the set for repair. Do not open the set as there is a risk of electric shock.**

**If you are unable to remedy a problem by following these hints, consult your dealer or service centre.**

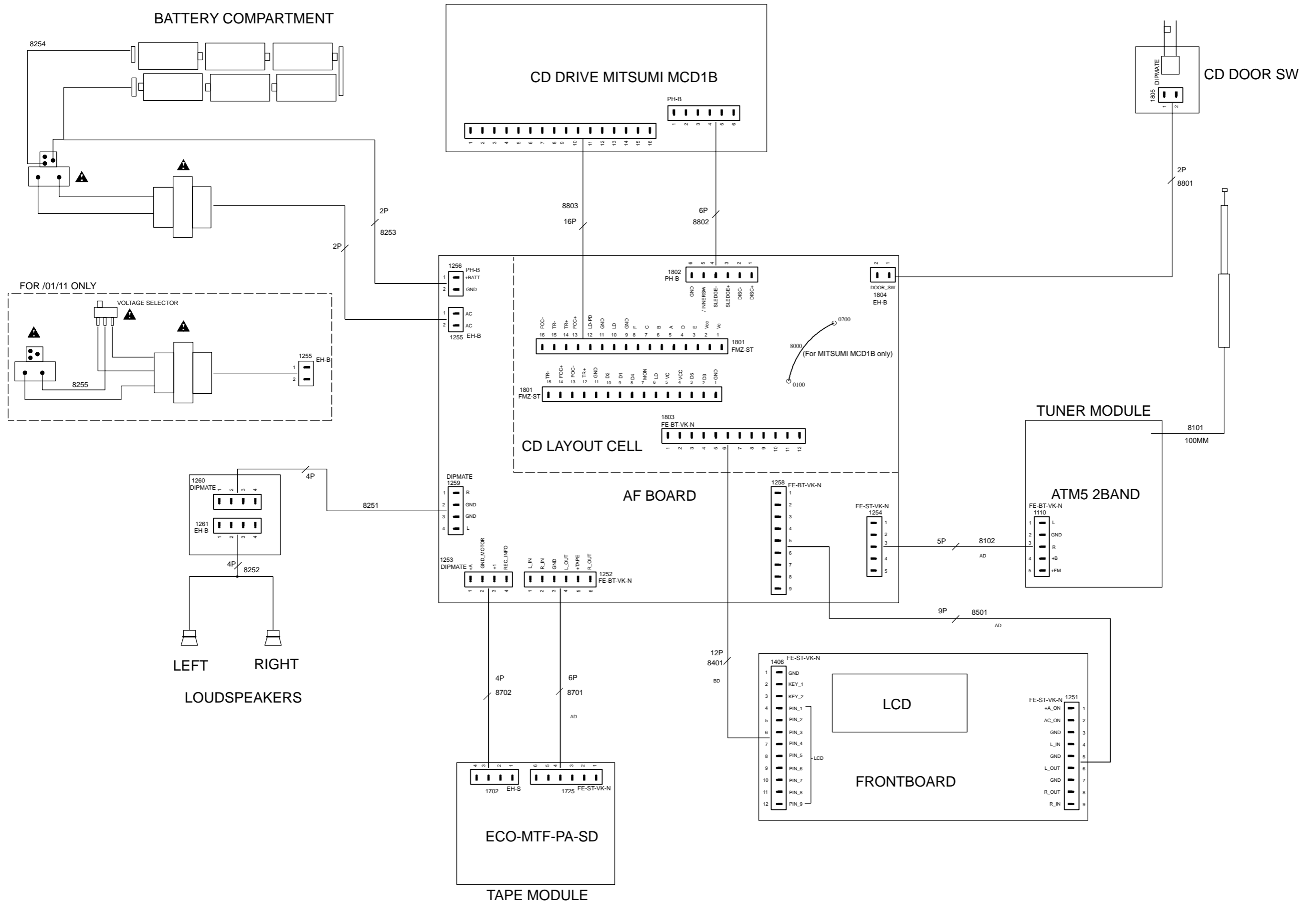
**WARNING: Under no circumstances should you try to repair the set yourself, as this will invalidate the guarantee.**

Problem	Solution
<b>No sound</b>	– Adjust the <b>VOLUME</b>
<b>No power</b>	– Mains lead not securely connected. Connect AC mains lead properly – Batteries exhausted /incorrectly inserted. Insert (fresh) batteries correctly
<b>Display does not function properly/ No reaction to operation of any of the controls</b>	– Electrostatic discharge Switch off and unplug the set. Reconnect after a few seconds.
<b>indication</b>	– No CD inserted, insert a CD – CD badly scratched/ dirty. Replace/ clean CD (see maintenance) – CD-R(W) is blank or the disc is not finalized. Use a finalized CD-R(W) – Laser lens steamed up. Wait until lens has cleared/acclimatized
<b>CD playback does not work</b>	– CD badly scratched/ dirty. Replace/ clean CD (see maintenance)
<b>The CD skips tracks</b>	– CD damaged or dirty. Replace or clean CD. – Shuffle is active. Quit shuffle mode
<b>Poor cassette sound quality</b>	– Dust and dirt on the heads, etc. Clean deck parts; see maintenance. – Use of incompatible cassette types (METAL or CHROME). Only use <b>NORMAL (IEC I)</b> for recording
<b>Recording does not work</b>	– Cassette tab(s) may be broken. Apply a piece of adhesive tape over the missing tab space.

### BLOCK DIAGRAM

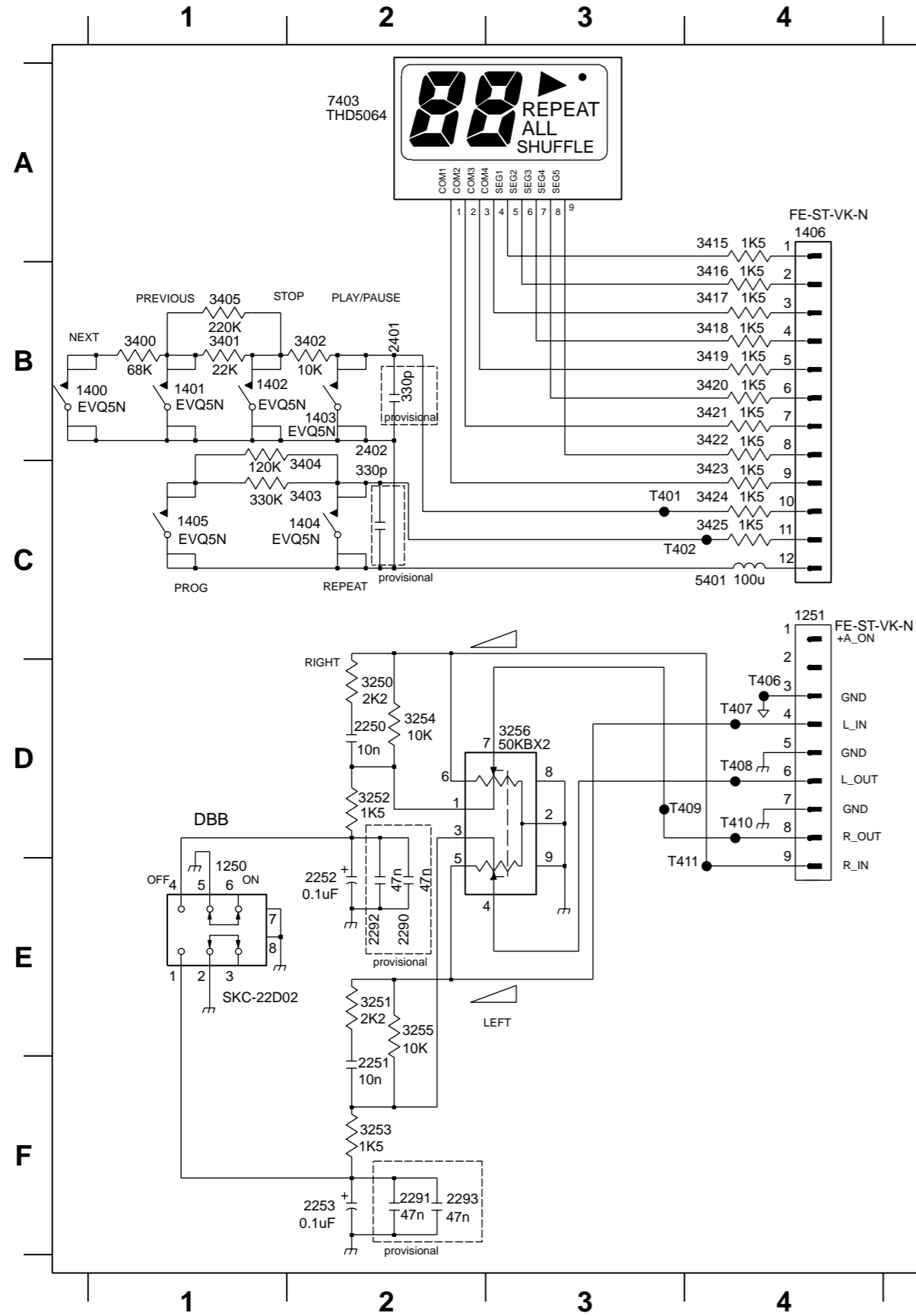


# WIRING DIAGRAM



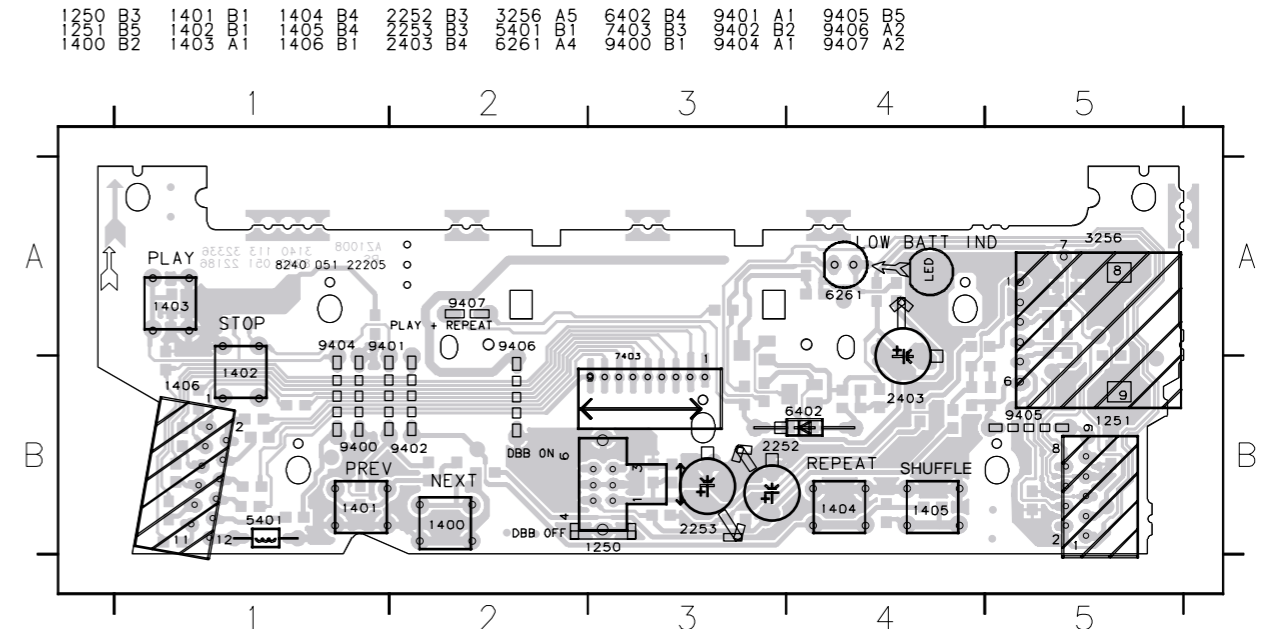


FRONT BOARD - CIRCUIT DIAGRAM

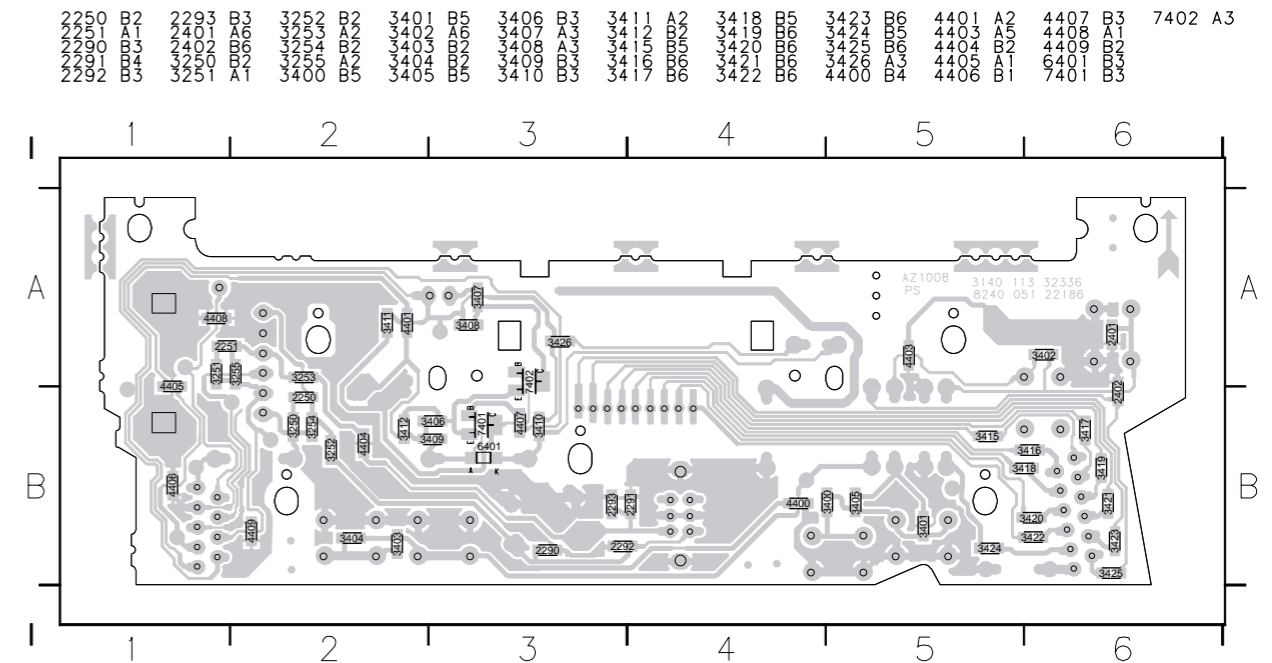


- 1250 E1
- 1251 C4
- 1400 B1
- 1401 B1
- 1402 B1
- 1403 B2
- 1404 C2
- 1405 C1
- 1406 A4
- 2250 D2
- 2251 F2
- 2252 E2
- 2253 F2
- 2290 E2
- 2291 F2
- 2292 E2
- 2293 F2
- 2401 B2
- 2402 C2
- 2403 F4
- 3250 D2
- 3251 E2
- 3252 D2
- 3253 F2
- 3254 D2
- 3255 E2
- 3256 D3
- 3400 B1
- 3401 B1
- 3402 B2
- 3403 C2
- 3404 C2
- 3405 B1
- 3406 F4
- 3407 E4
- 3408 E4
- 3409 F3
- 3410 E3
- 3411 E4
- 3412 F4
- 3415 A4
- 3416 B4
- 3417 B4
- 3418 B4
- 3419 B4
- 3420 B4
- 3421 B4
- 3422 B4
- 3423 C4
- 3424 C4
- 3425 C4
- 3426 E4
- 5401 C4
- 6261 E4
- 6401 F3
- 6402 F3
- 7401 E4
- 7402 F4
- 7403 A2
- 9407 E3
- T401 C3
- T402 C3
- T406 D4
- T407 D4
- T408 D4
- T409 D4
- T410 D4
- T411 E3
- T412 C3
- T413 C3

FRONT BOARD - LAYOUT DIAGRAM

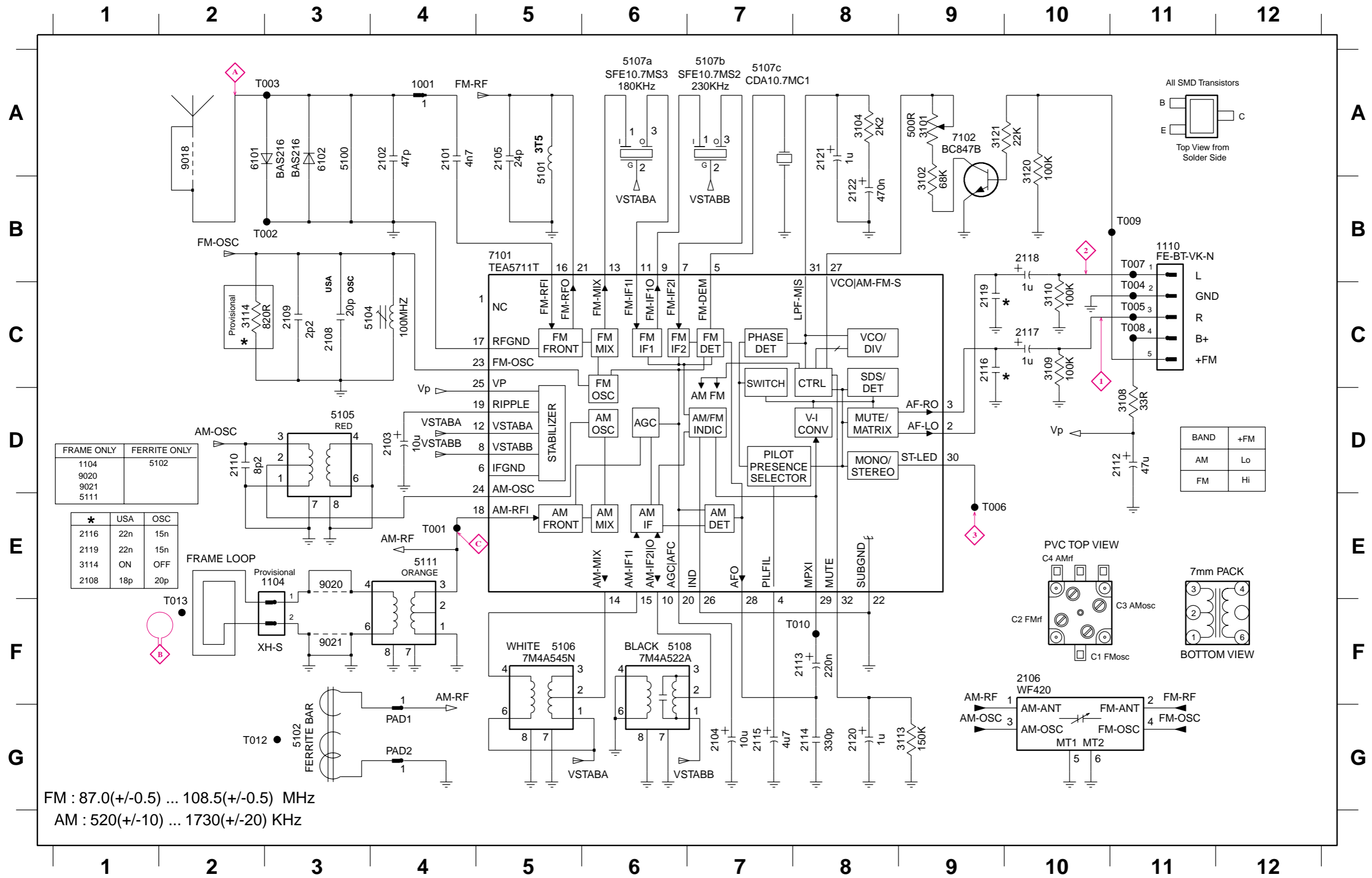


- 1250 B3
- 1251 B5
- 1400 B2
- 1401 B1
- 1402 B1
- 1403 A1
- 1404 B4
- 1405 B4
- 1406 B1
- 2252 B3
- 2253 B3
- 2403 B4
- 3256 A5
- 3401 B1
- 6261 A4
- 6402 B4
- 7403 B3
- 9400 B1
- 9401 A1
- 9402 B2
- 9404 A1
- 9405 B5
- 9406 A2
- 9407 A2



- 2250 B2
- 2251 A1
- 2290 B3
- 2291 B4
- 2292 B3
- 2293 B3
- 2401 B1
- 2402 B6
- 2403 B2
- 2404 B2
- 2405 B2
- 2406 B2
- 3252 B2
- 3253 A2
- 3254 B2
- 3255 A2
- 3256 B5
- 3401 B5
- 3402 A2
- 3403 A2
- 3404 B2
- 3405 B5
- 3406 B3
- 3407 A3
- 3408 A3
- 3409 B3
- 3410 B3
- 3411 A2
- 3412 B5
- 3413 B5
- 3414 B5
- 3415 B6
- 3416 B5
- 3417 B6
- 3418 B5
- 3419 B5
- 3420 B5
- 3421 B5
- 3422 B6
- 3423 B6
- 3424 B6
- 3425 B6
- 3426 B6
- 4401 A2
- 4402 A5
- 4403 B2
- 4404 B2
- 4405 A1
- 4406 B1
- 4407 B3
- 4408 A1
- 4409 B2
- 4410 B3
- 7402 A3

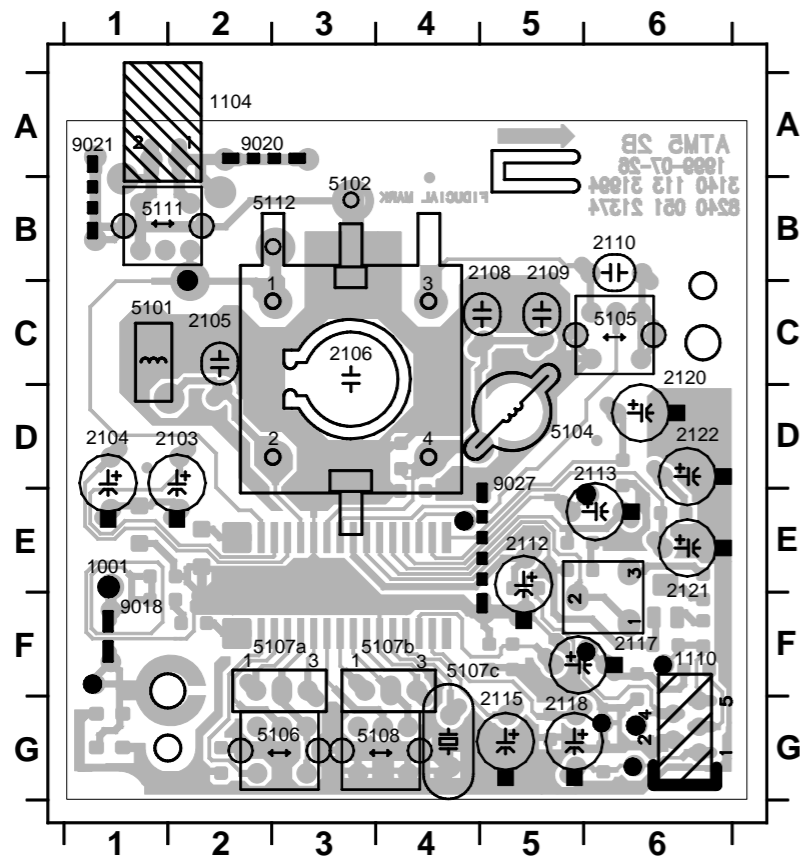
# TUNER BOARD (ATM-5) - CIRCUIT DIAGRAM



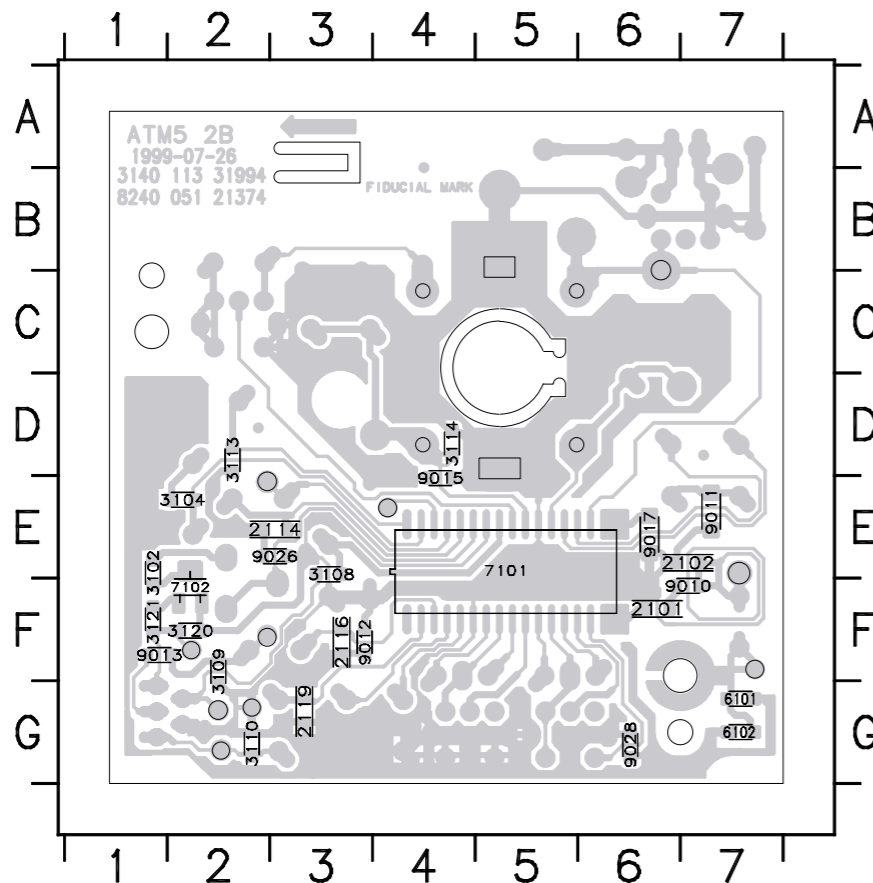
- 1001 A4
- 1104 E3
- 1110 B11
- 2101 A4
- 2102 A4
- 2103 D4
- 2104 G7
- 2105 A5
- 2106 F10
- 2108 C3
- 2109 C3
- 2110 D2
- 2112 D11
- 2113 F8
- 2114 G8
- 2115 G7
- 2116 C9
- 2117 C10
- 2118 B10
- 2119 C9
- 2120 G8
- 2121 A8
- 2122 B8
- 3101 A9
- 3102 B9
- 3104 A8
- 3108 D11
- 3109 C10
- 3110 C10
- 3113 G9
- 3114 C2
- 3120 A10
- 3121 A9
- 5100 A3
- 5101 A5
- 5102 G3
- 5104 C4
- 5105 D3
- 5106 F5
- 5107a A6
- 5107b A7
- 5107c A7
- 5108 F7
- 5111 E4
- 6101 A2
- 6102 A3
- 7101 B5
- 7102 A9
- 9018 A2
- 9020 E3
- 9021 F3
- T001 E4
- T002 B3
- T003 A3
- T004 B11
- T005 C11
- T006 E9
- T007 B11
- T008 C11
- T009 B11
- T010 F8
- T012 G2
- T013 F2

FM : 87.0(+/-0.5) ... 108.5(+/-0.5) MHz  
 AM : 520(+/-10) ... 1730(+/-20) KHz

TUNER BOARD (ATM-5) - LAYOUT DIAGRAM



- |      |     |       |     |
|------|-----|-------|-----|
| 1001 | E 1 | 5104  | D 5 |
| 1104 | A 2 | 5105  | C 6 |
| 1110 | F 6 | 5106  | G 3 |
| 2103 | D 2 | 5107a | F 3 |
| 2104 | D 1 | 5107b | F 4 |
| 2105 | C 2 | 5107c | F 4 |
| 2106 | C 3 | 5108  | G 4 |
| 2108 | B 5 | 5111  | B 1 |
| 2109 | B 5 | 5112  | B 3 |
| 2110 | B 6 | 9018  | F 1 |
| 2112 | E 5 | 9020  | A 2 |
| 2113 | D 6 | 9021  | A 1 |
| 2115 | G 5 | 9027  | D 5 |
| 2117 | F 6 |       |     |
| 2118 | G 5 |       |     |
| 2120 | C 6 |       |     |
| 2121 | E 6 |       |     |
| 2122 | D 6 |       |     |
| 3101 | F 6 |       |     |
| 5101 | C 1 |       |     |
| 5102 | B 3 |       |     |



- |      |     |
|------|-----|
| 2101 | F 6 |
| 2102 | E 7 |
| 2114 | E 3 |
| 2116 | F 3 |
| 2119 | G 3 |
| 3102 | E 1 |
| 3104 | E 1 |
| 3108 | E 3 |
| 3109 | F 2 |
| 3110 | G 2 |
| 3113 | D 2 |
| 3114 | D 4 |
| 3120 | F 2 |
| 3121 | F 1 |
| 6101 | F 7 |
| 6102 | G 7 |
| 7101 | E 5 |
| 7102 | E 2 |
| 9010 | E 7 |
| 9011 | E 7 |
| 9012 | F 3 |
| 9013 | F 1 |
| 9015 | D 4 |
| 9017 | E 6 |
| 9026 | E 3 |
| 9028 | G 6 |

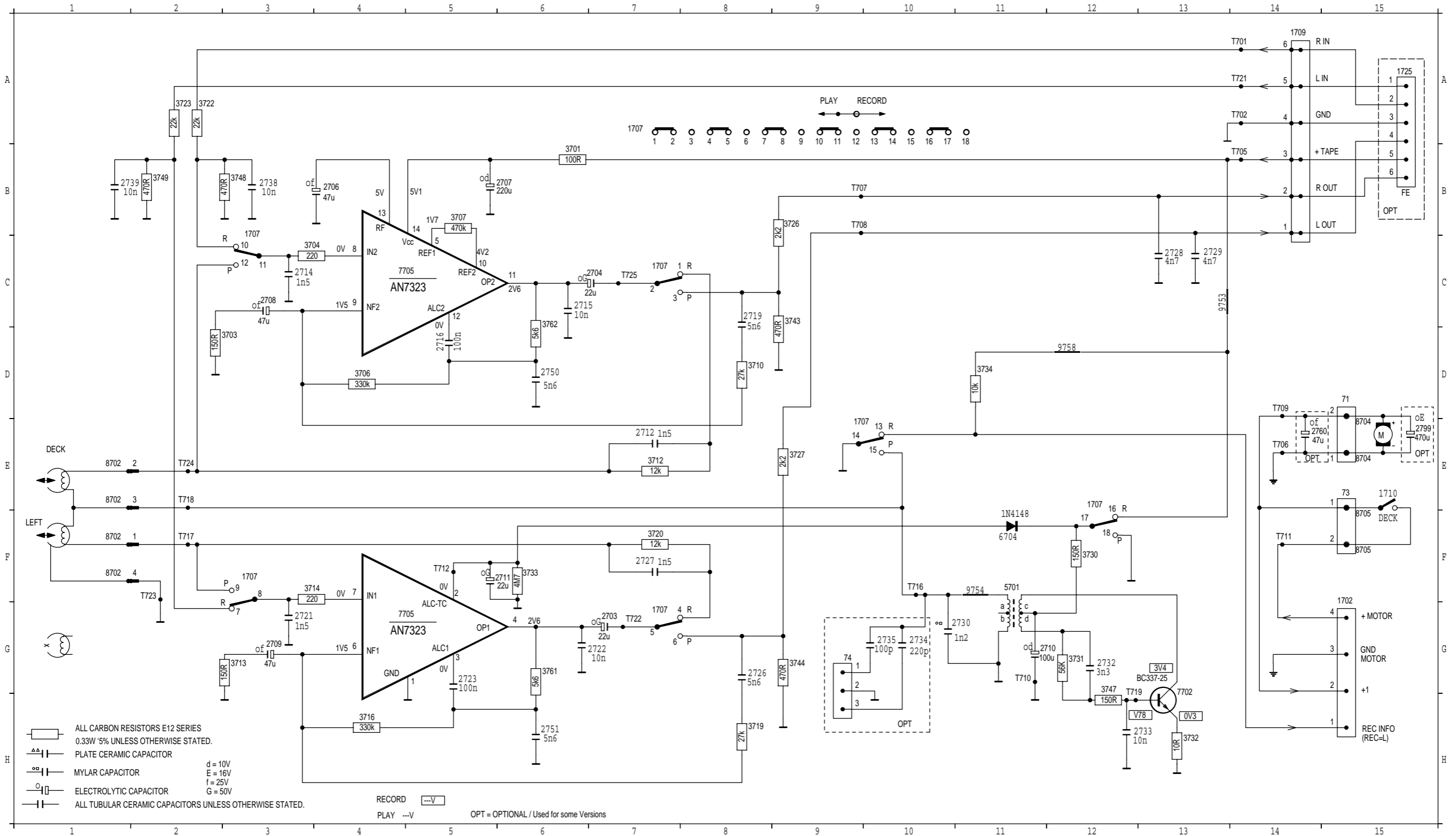
TUNER ADJUSTMENT TABLE

Waverange	Input Frequency	Input	Set tuned to	Adjust	Measure on	Scope / Counter
<b>OSCILLATOR</b>						
<b>FM</b> 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>MW</b> 525 - 1607 kHz (530 - 1710 kHz) <sup>1)</sup>	512 kHz (520 kHz)	<b>C</b>	lower band end	5105	<b>1</b> or <b>2</b>	
	1635 kHz (1730 kHz)	$\Delta f = \pm 30\text{kHz}$ $V_{RF} = 100\mu\text{V}$	upper band end	2106 C3		
<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>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>AM</b>	468 kHz	<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>	
	connect pin 24 of IC 7101 (AM Osc) with short wire to ground		IC 7101 14	5108		
<b>AM - RF</b>						
<b>MW</b>	560 kHz	<b>B</b>	560 kHz	5111	<b>1</b> or <b>2</b>	
	1500 kHz		1500 kHz	2106 C4		

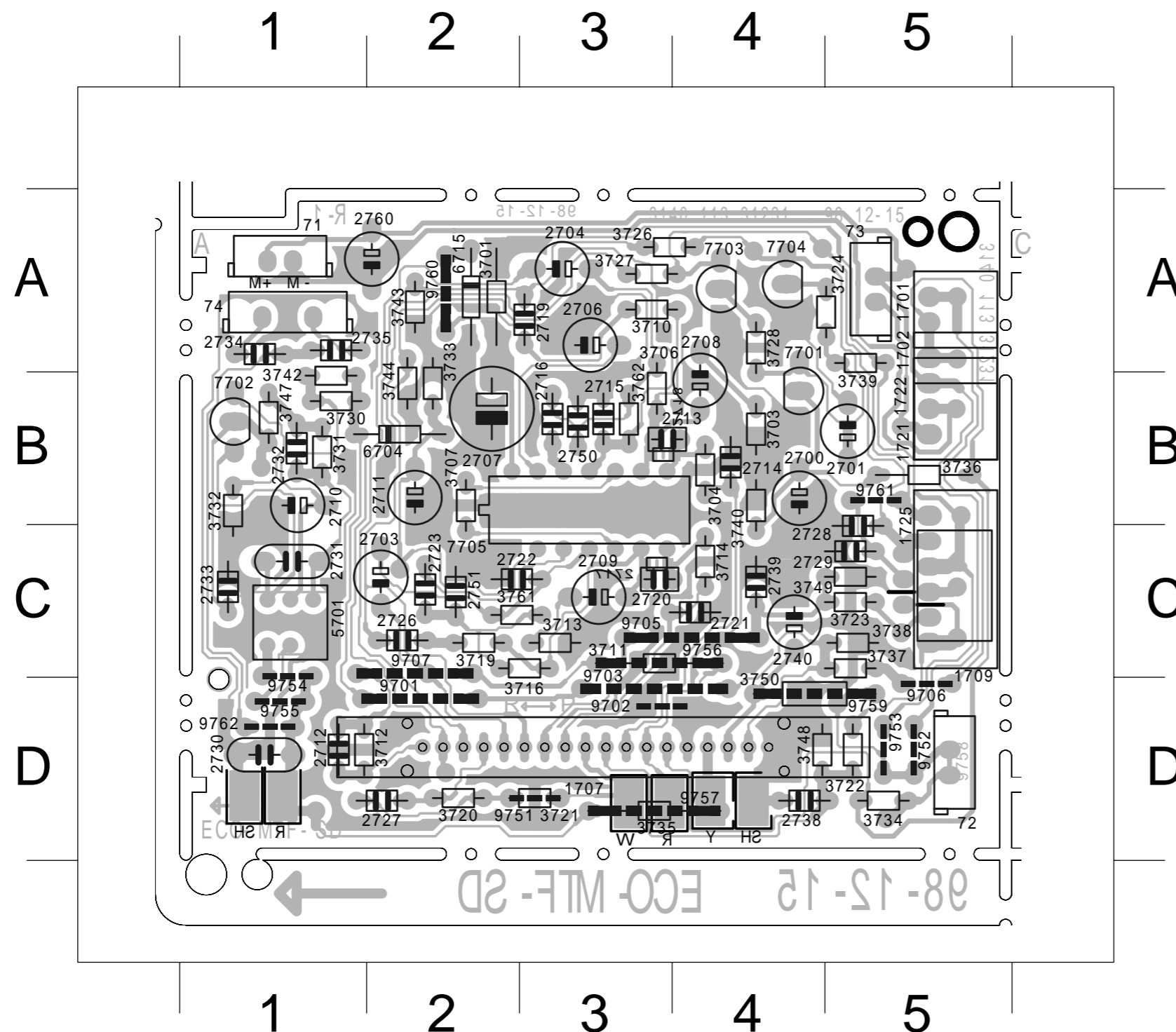
↑ repeat  
<sup>1)</sup> for USA /17  
<sup>2)</sup> RC-network serves for damping the IF-filter while adjusting the other one.

# RECORDER BOARD- CIRCUIT DIAGRAM

71	D15	1707	C 3	1709	A14	2706	B 4	2711	F 6	2719	C 8	2727	F 7	2733	H13	2750	D 6	3703	D 3	3712	E 7	3720	F 7	3730	F12	3743	C 9	3761	G 6	7705	G 4	8702	E 1	9753	C13	T705	B14	T710	G11	T718	E 2	T724	E 2
73	E15	1707	G 7	1710	E15	2707	B 6	2712	E 7	2721	G 3	2728	C13	2734	G10	2751	H 6	3704	C 3	3713	G 3	3722	A 2	3731	G12	3744	G 9	3762	D 6	7705	C 4	8704	E15	9754	F11	T706	E14	T711	F14	T719	H13	T725	C 7
74	G 9	1707	C 7	1725	A15	2708	C 3	2714	C 3	2722	G 7	2729	C13	2735	G10	2760	E14	3706	D 4	3714	F 3	3723	A 2	3732	H13	3747	G12	5701	F11	8702	F 1	8704	E15	9758	D12	T707	B10	T712	F 5	T721	A14		
1702	G15	1707	E 9	2703	G 7	2709	G 3	2715	C 6	2723	G 5	2730	G11	2738	B 3	2799	E15	3707	B 5	3716	H 4	3726	B 9	3733	F 6	3748	B 3	6704	F11	8702	F 1	8705	F15	T701	A14	T708	B10	T716	F10	T722	G 7		
1707	F 3	1707	E12	2704	C 7	2710	G12	2716	D 5	2726	G 8	2732	G12	2739	B 1	3701	B 6	3710	D 8	3719	H 8	3727	E 9	3734	D11	3749	B 2	7702	H13	8702	E 1	8705	F15	T702	A14	T709	D14	T717	F 2	T723	F 2		



**RECORDER BOARD - LAYOUT DIAGRAM**



71 A 1	2729 C 5	3733 B 2	9756 C 3
72 D 5	2730 D 1	3734 D 5	9757 D 3
73 A 5	2731 C 1	3735 D 3	9759 D 4
74 A 1	2732 B 1	3736 B 5	9760 A 2
1701 A 5	2733 C 1	3737 C 5	9761 B 5
1702 B 5	2734 A 1	3738 C 5	9762 D 1
1707 D 3	2735 A 1	3739 A 5	T701 C 5
1709 C 5	2738 D 4	3740 B 4	T702 C 5
1721 B 5	2739 C 4	3742 B 1	T705 B 5
1722 B 5	2740 C 4	3743 A 2	T706 B 5
1725 C 5	2750 B 3	3744 B 2	T709 A 5
2700 B 4	2751 C 2	3747 B 1	T710 C 1
2701 B 5	2760 A 2	3748 D 4	T711 B 5
2703 C 2	3701 A 2	3749 C 5	T712 C 2
2704 A 3	3703 B 4	3750 D 4	T713 A 5
2706 A 3	3704 B 4	3761 C 2	T714 D 5
2707 B 2	3706 B 3	3762 B 3	T715 D 5
2708 B 4	3707 B 2	5701 C 1	T716 D 1
2709 C 3	3710 A 3	6704 B 2	T719 B 1
2710 B 1	3711 C 3	6715 A 2	T720 A 5
2711 B 2	3712 D 1	7701 B 4	T721 C 5
2712 D 1	3713 C 3	7702 B 1	T722 C 2
2713 B 3	3714 C 4	7703 A 4	T725 D 2
2714 B 4	3716 C 3	7704 A 4	T7707 A 4
2715 B 3	3719 C 2	7705 B 3	T7708 A 4
2716 B 3	3720 D 2	9701 D 2	
2717 C 3	3721 D 3	9702 D 3	
2718 B 3	3722 D 5	9703 D 3	
2719 A 3	3723 C 5	9705 C 4	
2720 C 3	3724 A 5	9706 D 5	
2721 C 4	3726 A 3	9707 C 2	
2722 C 2	3727 A 3	9751 D 3	
2723 C 2	3728 A 4	9752 D 5	
2726 C 2	3730 B 1	9753 D 5	
2727 D 2	3731 B 1	9754 C 1	
2728 C 5	3732 B 1	9755 D 1	

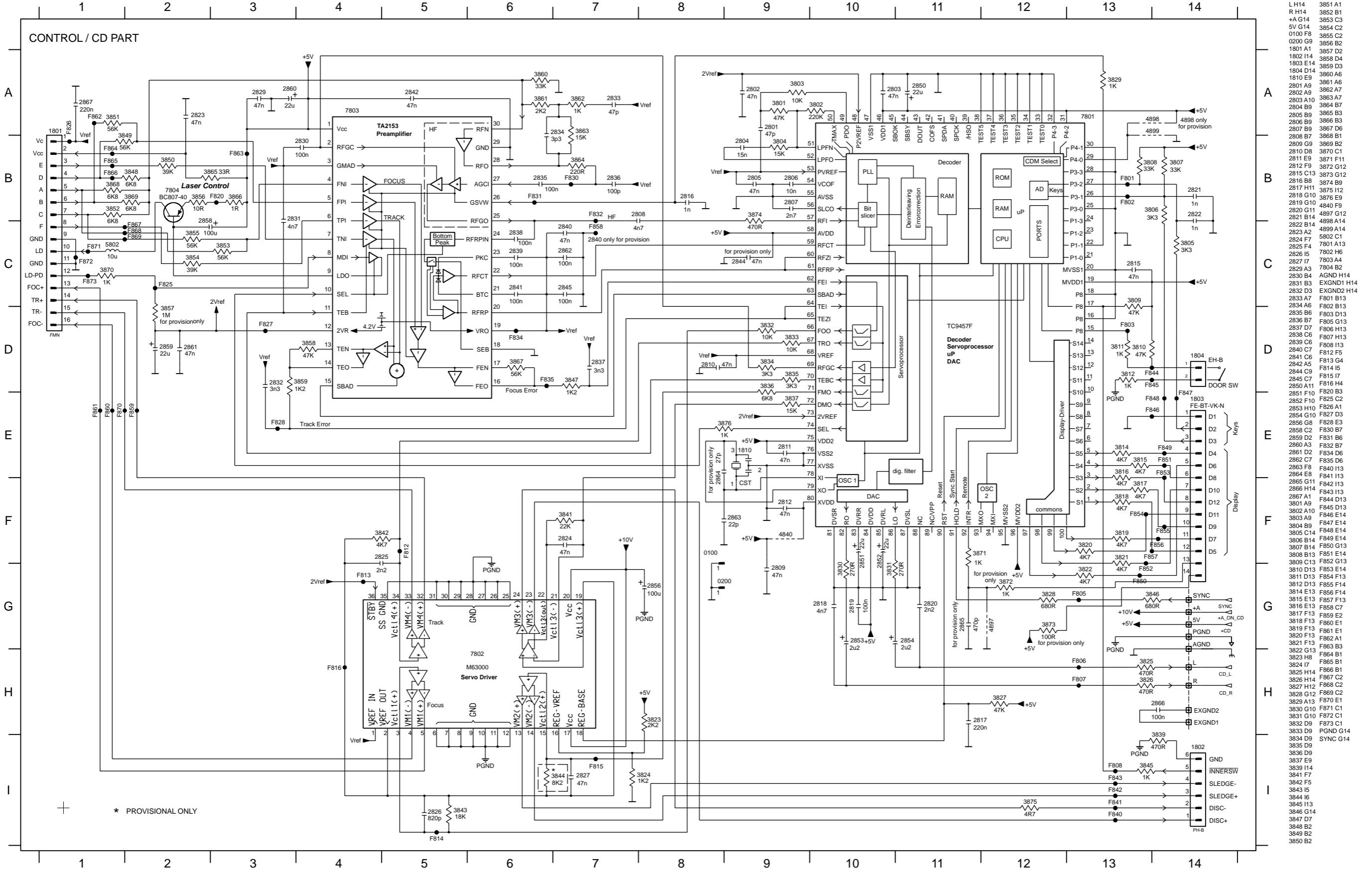
**CASSETTE ADJUSTMENT**

Adjustment	Cassette	SK ....	Deck 1	Measure on	Read on	Adjust with	Adjust to
Azimuth	10 kHz SBC420*	Tape	Play	H/P Jack	mV meter	Left hand Screw R/P head	max.
Motor Speed	3150 kHz SBC420*	Tape	Play	H/P Jack	Wow and flutter meter	Preset in motor	**a

\* SBC420 : 4822 397 30071

\*\*a The maximum permissible speed deviation is  $\pm 3\%$ .  
Moreover, the wow and flutter value can be read.

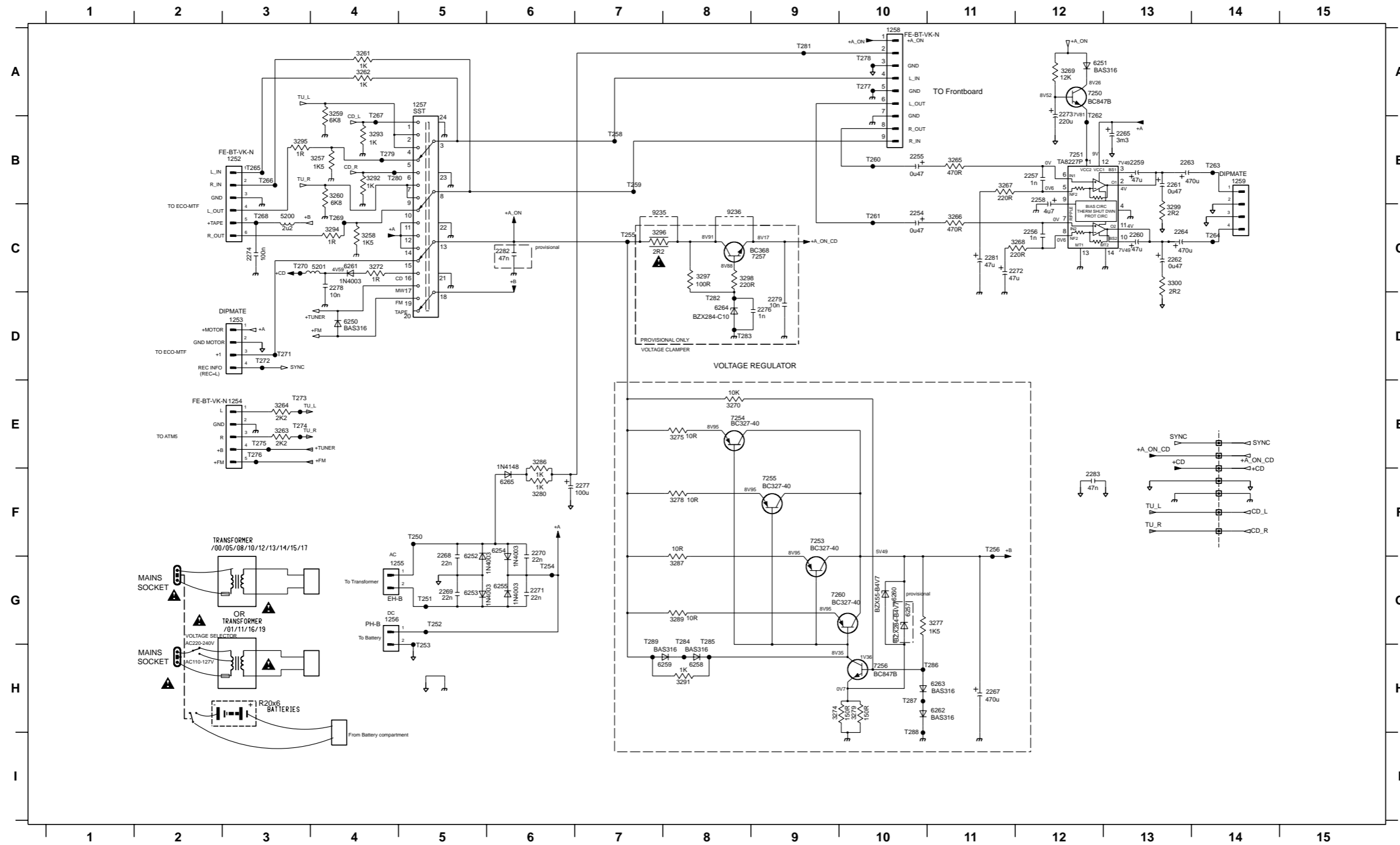
# COMBI BOARD (CONTRAL / CD PART) - CIRCUIT DIAGRAM



- LH14 3851 A1
- R H14 3852 B1
- +A G14 3853 C3
- 5V G14 3854 C2
- 0100 F8 3855 C2
- 0200 G9 3856 B2
- 1801 A1 3857 D2
- 1802 I14 3858 D4
- 1803 E14 3859 D3
- 1804 D14 3860 A6
- 1810 E9 3861 A6
- 2801 A9 3862 A7
- 2802 A9 3863 A7
- 2803 A10 3864 B7
- 2804 B9 3865 B3
- 2805 B9 3866 B3
- 2806 B9 3867 D6
- 2808 B7 3868 B1
- 2809 G9 3869 B2
- 2810 D8 3870 C1
- 2811 E9 3871 F11
- 2812 F9 3872 G12
- 2815 C13 3873 G12
- 2816 B8 3874 B9
- 2817 H11 3875 I12
- 2818 G10 3876 E9
- 2819 G10 3877 F9
- 2820 G11 4840 F9
- 2821 B14 4897 G12
- 2822 B14 4898 A14
- 2823 A2 4899 A14
- 2824 F7 7801 A13
- 2825 F4 7802 H6
- 2826 I5 7803 A4
- 2827 I7 7804 B2
- 2829 A3 7804 B2
- 2830 B4 AGND H14
- 2831 B3 EXGND1 H14
- 2832 D3 EXGND2 H14
- 2833 A7 F801 B13
- 2834 A6 F802 B13
- 2835 B6 F803 D13
- 2836 B7 F805 G13
- 2837 D7 F806 H13
- 2838 C6 F807 H13
- 2839 C6 F807 H13
- 2840 C7 F812 F5
- 2841 C6 F813 G4
- 2842 A5 F814 I5
- 2844 C9 F815 I7
- 2845 C7 F816 H4
- 2846 E8 F820 B3
- 2851 F10 F825 C2
- 2852 F10 F826 A1
- 2853 H10 F827 D3
- 2854 G10 F828 E3
- 2856 G8 F830 B7
- 2858 D2 F831 B6
- 2859 D2 F832 B7
- 2860 A3 F834 D6
- 2861 D2 F835 D6
- 2862 C7 F835 D6
- 2863 F8 F840 I13
- 2864 E8 F841 I13
- 2865 G11 F842 I13
- 2866 H14 F843 I13
- 2867 A1 F844 D13
- 2801 A9 F845 D13
- 3803 A9 F846 E14
- 3804 B9 F847 E14
- 3805 C14 F848 E14
- 3806 B14 F849 E14
- 3807 B14 F850 G13
- 3808 B13 F851 G13
- 3809 C13 F852 G13
- 3810 D13 F853 E14
- 3811 D13 F854 F13
- 3812 D13 F855 F14
- 3814 E13 F856 F14
- 3815 E13 F857 F13
- 3816 I13 F858 C7
- 3817 F13 F859 E2
- 3818 F13 F860 E1
- 3819 F13 F861 E1
- 3820 F13 F862 A1
- 3821 F13 F863 B3
- 3822 G13 F864 B1
- 3823 H8 F865 B1
- 3824 I7 F866 B1
- 3825 H14 F867 C2
- 3826 H14 F868 C2
- 3827 H12 F869 C2
- 3828 G12 F870 C1
- 3829 A13 F871 C1
- 3830 G10 F872 C1
- 3831 G10 F873 C1
- 3832 D9 F873 C1
- 3833 D9 PGND G14
- 3834 D9 F874 C1
- 3835 D9 SYNC G14
- 3836 D9
- 3837 E9
- 3839 I14
- 3841 F7
- 3842 F5
- 3843 I5
- 3844 I6
- 3845 I13
- 3846 G14
- 3847 D7
- 3848 B2
- 3849 B2
- 3850 B2

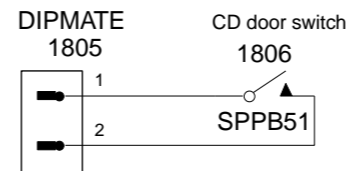
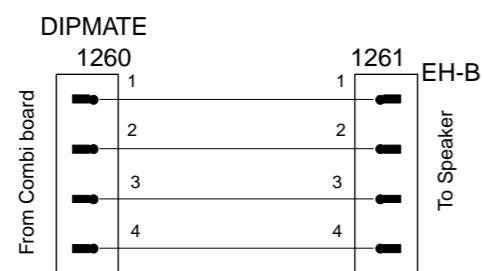
# COMBI BOARD (Audio part) - CIRCUIT DIAGRAM

LF14	1252 B3	1256 G5	2254 C10	2258 B12	2262 C13	2267 H11	2271 G6	2276 D9	2281 C11	3258 C4	3262 A4	3266 C11	3270 E8	3277 G10	3286 E6	3292 B4	3296 C7	3300 C13	6251 A12	6255 G6	6260 G10	6264 D8	7253 F9	7257 C9	AGND F14	T251 G5	T255 C7	T260 B10	T264 C14	T268 C3	T272 D3	T276 E3	T280 B4	T284 G8
RF14	1253 D3	1257 A5	2255 B10	2259 B13	2263 B13	2268 G5	2272 C11	2277 F6	2282 C6	3259 A4	3263 E3	3267 B11	3272 C4	3278 F8	3287 G8	3293 B4	3297 C8	5200 C3	6252 G6	6257 G10	6261 C4	6265 F6	7254 E8	7260 G10	PGND F14	T252 G5	T256 F11	T261 C10	T265 B3	T269 C4	T273 E3	T277 A10	T281 A9	T285 G8
+A E14	1254 E3	1258 A10	2256 C12	2260 C13	2264 C13	2269 G5	2273 B12	2278 C4	2283 F12	3260 B4	3264 E3	3268 C12	3274 H9	3279 H10	3289 G8	3294 C4	3298 C8	5201 C3	6253 G6	6258 H8	6262 H10	7250 A12	7255 F9	9235 C7	SYNC E14	T253 H5	T258 B7	T262 B12	T266 B3	T270 C4	T274 E3	T278 A10	T282 D8	T286 H11
5V E14	1255 G4	1259 B14	2257 B12	2261 B13	2265 B13	2270 F6	2274 C3	2279 D9	3257 B4	3261 A4	3265 B11	3269 A12	3275 E8	3280 F6	3291 H8	3295 B3	3299 C13	6250 D4	6254 F6	6259 H8	6263 H10	7251 B12	7256 H10	9236 C8	T250 F5	T254 G6	T259 B7	T263 B14	T267 B4	T271 D3	T275 E3	T279 B4	T283 D8	

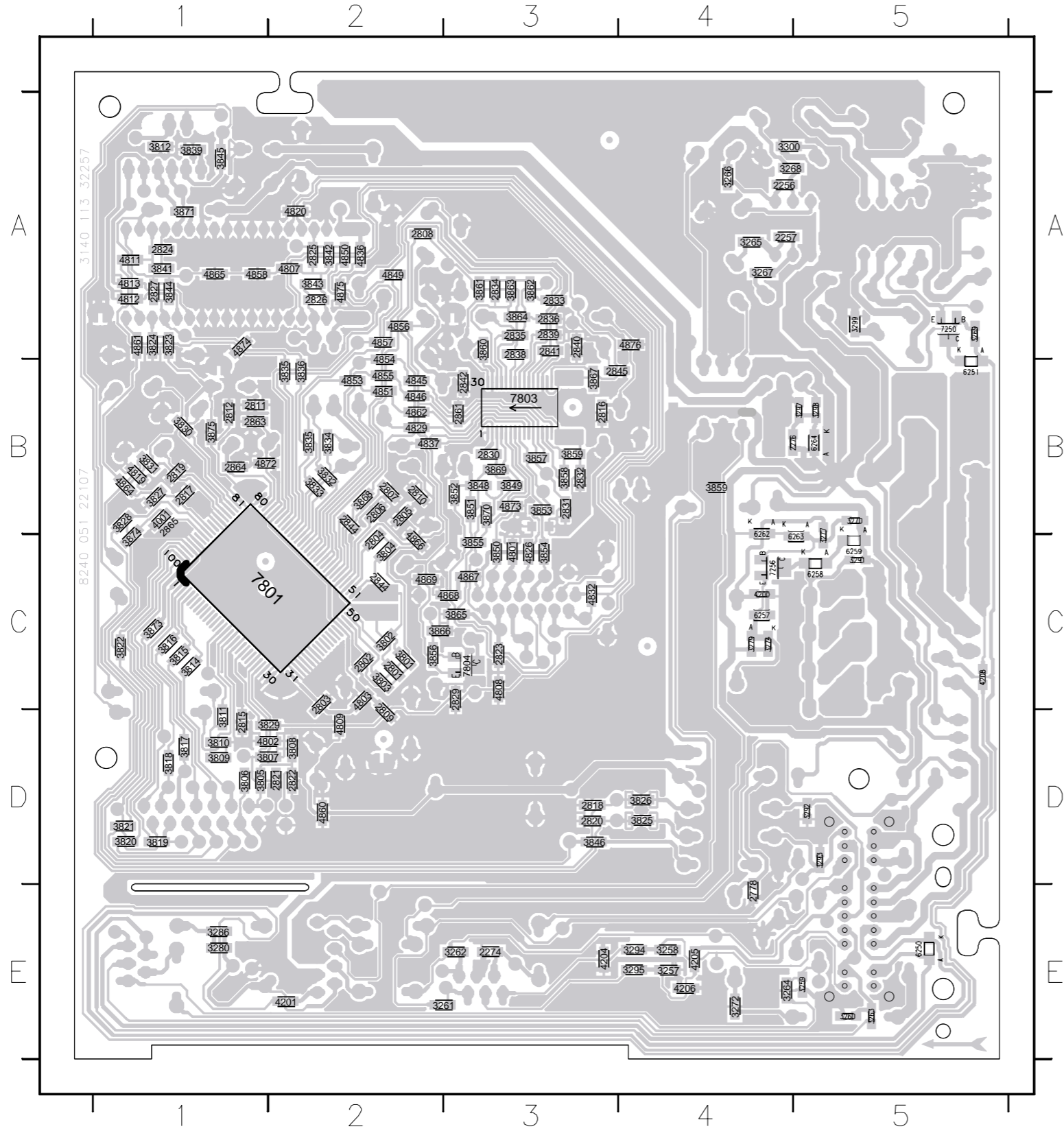


LOUDSPEAKER BOARD

CD DOOR SWITCH BOARD



# COMBI BOARD (Solder Side) - LAYOUT DIAGRAM

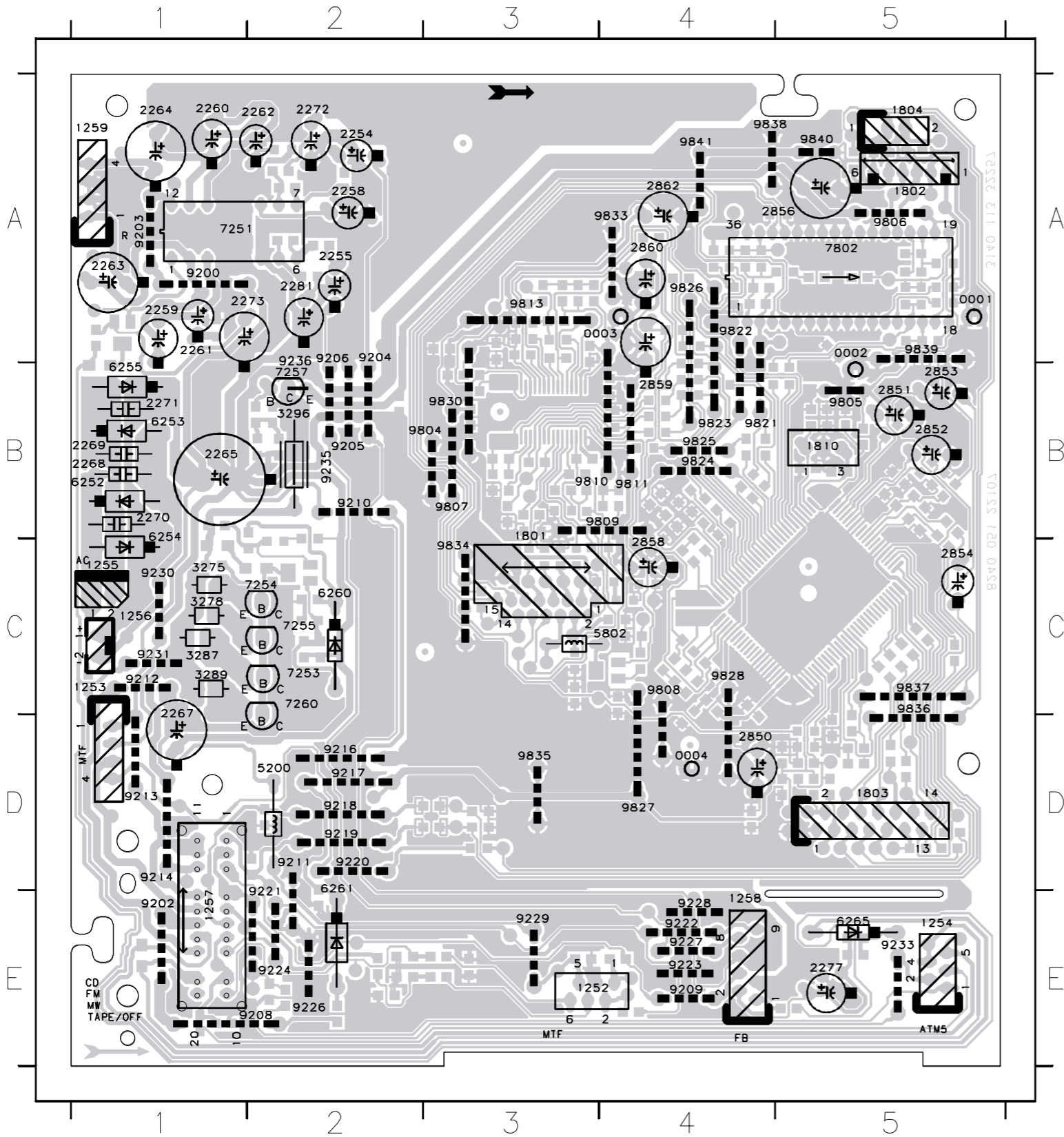


Legend for component designations:

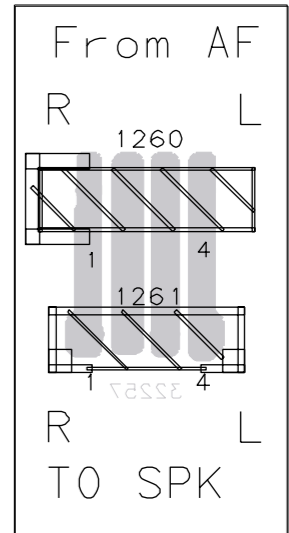
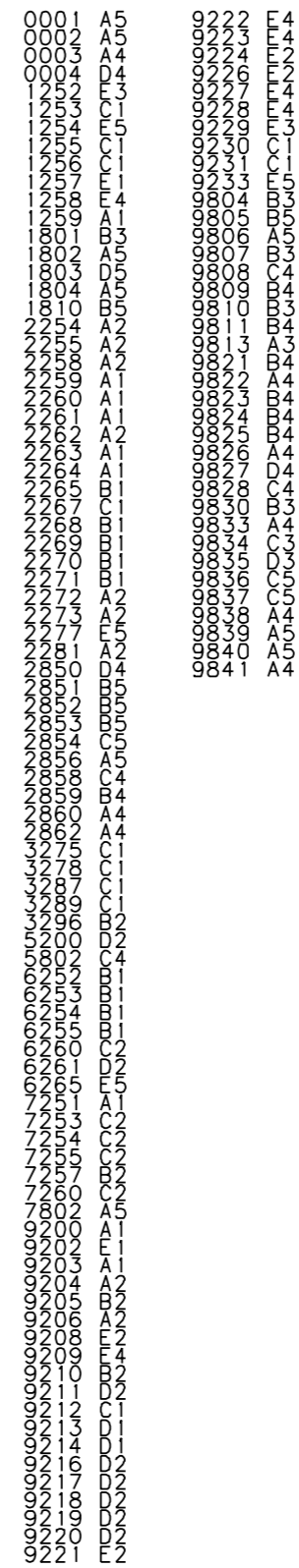
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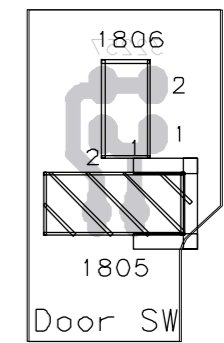
# COMBI BOARD (Componet Side) - LAYOUT DIAGRAM



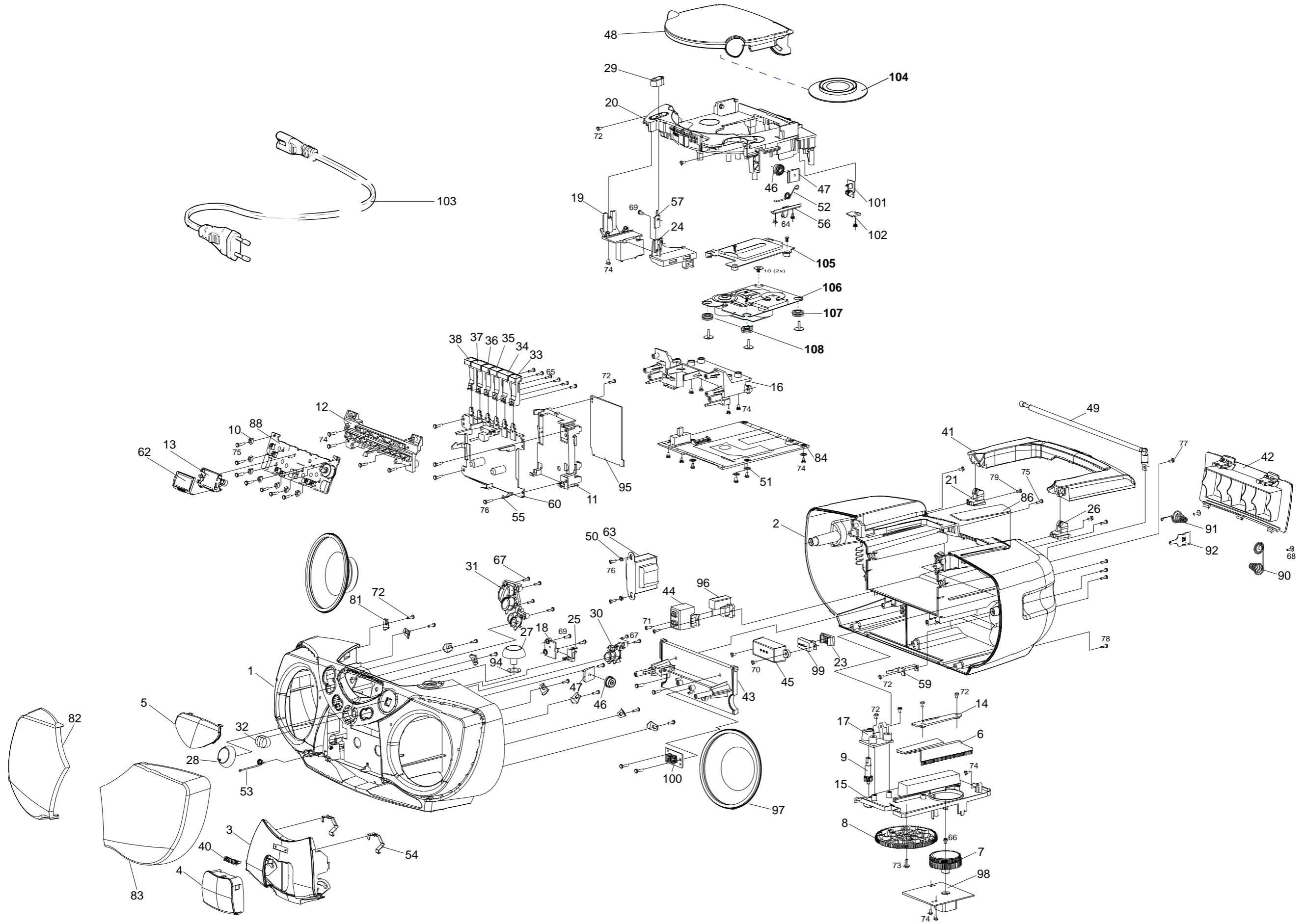
# LOUDSPEAKER BOARD - LAYOUT DIAGRAM



# CD DOOR SWITCH - LAYOUT DIAGRAM



# EXPLODED VIEW DIAGRAM - CABINET



**MECHANICAL PARTSLIST - CABINET**

**AZ1080**

3	3140 114 44770	Cass Door
4	3140 114 44760	Cass Door Lens
6	3140 114 38750	Pointer
7	3140 114 38760	Gear PVC
8	3140 114 38770	Gear Big
9	3140 114 38780	Gear Tuning Knob
11	3140 114 20430	Bracket ECO-MTF-SD
13	3140 114 38810	LCD Bracket
14	3140 114 38820	Pointer Holder
18	3140 114 38860	DBB Knob Plate
21	3140 114 38890	Handle Hinge Adaptor(L)
22	3140 114 32910	Ring
26	3140 114 38930	Handle Hinge Adaptor(R)
27	3140 114 44790	Tuning Knob
28	3140 114 44800	Volume Knob
29	3140 114 44740	Selector Knob
30	3140 114 44680	Repeat/Shuffle Key
31	3140 114 44690	Play/Stop/FF/Rew Key
32	3140 114 44700	DBBS Knob
33	3140 114 44810	Cass Knob(Record)
34	3140 114 44820	Cass Knob(Play)
35	3140 114 44830	Cass Knob(Rewind)
36	3140 114 44840	Cass Knob(F.FWD)
37	3140 114 44850	Cass Knob(Stop/Eject)
38	3140 114 44860	Cass Knob(Pause)
39	3140 114 29070	Clamper Ring
41	3140 114 44780	Handle
42	3140 114 39090	Battery Door
46	3140 114 32910	Cass Door Gear
47	3140 114 29070	Cass Door Gear Holder
48	3140 114 44730	CD Door
49	3140 118 71790	Rod Antenna
52	3140 111 00990	CD Door Spring
53	3140 111 01000	Cass Door Spring
54	3140 111 21780	Cass Tape Spring
60	3140 118 71104	Tape Deck
61	3103 309 05350	CD MCD1B Drive
89	3140 114 13902	Damper Rubber(35 DEG)
89	3140 114 13892	Damper Rubber(30 DEG)
90	3140 111 01010	Battery Sping"+,-"
91	3140 111 01020	Battery Sping"-"
92	3140 111 21850	Battery Contact Plate"+"
93	3103 307 68260	Magnet

**MECHANICAL PARTSLIST - TAPE DECK**

10	4822 528 70849	Pinch Roller Arm(B)
11	4822 528 70695	Pinch Roller Assy
74	4822 403 70968	Eject Hook(A)
106	4822 358 31325	Main Belt 45.2 x 1.2
107	4822 358 31124	Sub Belt 44.7 x 1.2

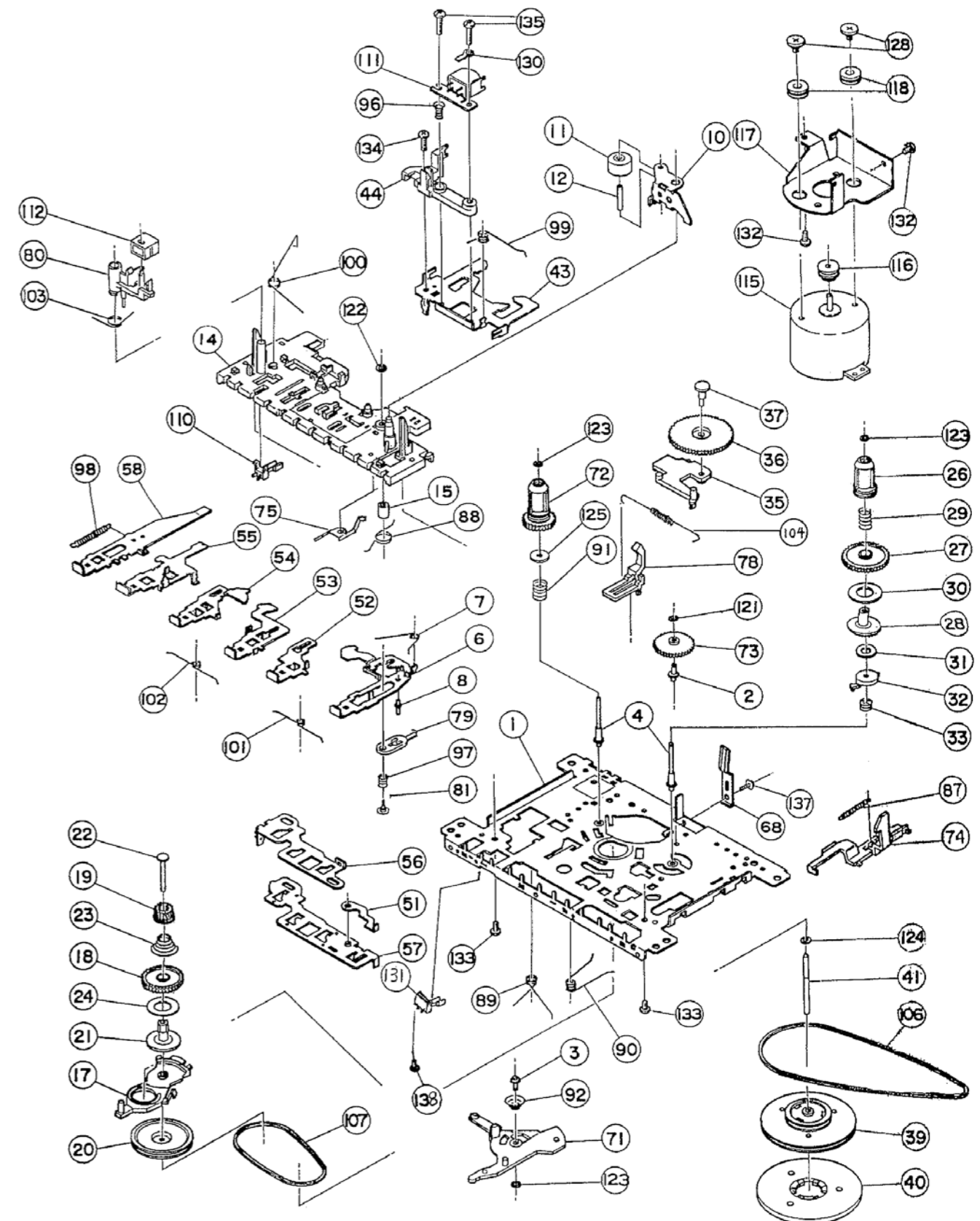
**AZ1081**

3	3140 114 45120	Cass Door
4	3140 114 44760	Cass Door Lens
6	3140 114 45080	Pointer
7	3140 114 38760	Gear PVC
8	3140 114 38770	Gear Big
9	3140 114 38780	Gear Tuning Knob
11	3140 114 20430	Bracket ECO-MTF-SD
13	3140 114 38810	LCD Bracket
14	3140 114 45660	Pointer Holder
18	3140 114 38860	DBB Knob Plate
21	3140 114 38890	Handle Hinge Adaptor(L)
22	3140 114 32910	Ring
26	3140 114 38930	Handle Hinge Adaptor(R)
27	3140 114 38940	Tuning Knob
28	3140 114 45140	Volume Knob
29	3140 114 38960	Selector Knob
30	3140 114 45030	Repeat/Shuffle Key
31	3140 114 45040	Play/Stop/FF/Rew Key
32	3140 114 44700	DBBS Knob
33	3140 114 39000	Cass Knob(Record)
34	3140 114 39010	Cass Knob(Play)
35	3140 114 39020	Cass Knob(Rewind)
36	3140 114 39030	Cass Knob(F.FWD)
37	3140 114 39040	Cass Knob(Stop/Eject)
38	3140 114 39050	Cass Knob(Pause)
39	3140 114 29070	Clamper Ring
41	3140 114 45130	Handle
42	3140 114 45060	Battery Door
46	3140 114 39140	Cass Door Gear
47	3140 114 39150	Cass Door Gear Holder
48	3140 114 45090	CD Door
49	3140 118 71790	Rod Antenna
52	3140 111 00990	CD Door Spring
53	3140 111 01000	Cass Door Spring
54	3140 111 21780	Cass Tape Spring
60	3140 118 71104	Tape Deck
61	3103 309 05350	CD MCD1B Drive
89	3140 114 13902	Damper Rubber(35 DEG)
89	3140 114 13892	Damper Rubber(30 DEG)
90	3140 111 01010	Battery Sping"+,-"
91	3140 111 01020	Battery Sping"-"
92	3140 111 21850	Battery Contact Plate"+"
93	3103 307 68260	Magnet

110	4822 278 90721	Leaf Switch
111	4822 249 30218	MS18R-AKONI
112	4822 249 40306	E.Head
115	4822 361 21656	EG-530AD-9B
	4822 528 11189	Pinch Roller Assy

**Note: Only these parts mentioned in the list are normal service parts.**

**EXPLODED VIEW DIAGRAM - TAPE DECK**



**ELECTRICAL PARTSLIST - FRONT BOARD****- MISCELLANEOUS -**

1250	9965 000 07513	SLIDE-SWITCH 2P2T
1251	4822 267 10956	CONNECTOR 7-PINS
1400	2422 128 02997	SWITCH-TACT
1401	2422 128 02997	SWITCH-TACT
1402	2422 128 02997	SWITCH-TACT
1403	2422 128 02997	SWITCH-TACT
1404	2422 128 02997	SWITCH-TACT
1405	2422 128 02997	SWITCH-TACT
1406	4822 267 51453	CONNECTOR 12-PINS
7403	3140 110 51580	DISPLAY, LCD

**- CAPACITORS -**

2250	5322 126 11583	10nF 10% X7R 50V
2251	5322 126 11583	10nF 10% X7R 50V
2290	3198 017 34730	47nF 10% X7R 16V
2291	3198 017 34730	47nF 10% X7R 16V
2292	3198 017 34730	47nF 10% X7R 16V
2293	3198 017 34730	47nF 10% X7R 16V

**- RESISTORS -**

3250	4822 051 30222	2,2K 5% 0,062W
3251	4822 051 30222	2,2K 5% 0,062W
3252	4822 051 30152	1,5K 5% 0,062W
3253	4822 051 30152	1,5K 5% 0,062W
3254	4822 051 30103	10K 5% 0,062W
3255	4822 051 30103	10K 5% 0,062W
3256	2120 354 90029	POTM CAR LIN 50KX2
3400	4822 051 30683	68K 5% 0,062W
3401	4822 051 30223	22K 5% 0,062W
3402	4822 051 30103	10K 5% 0,062W
3403	4822 051 30334	330K 5% 0,062W
3404	4822 051 30333	33K 5% 0,062W
3405	4822 117 12891	220K 1%
3415	4822 051 30152	1,5K 5% 0,062W
3416	4822 051 30152	1,5K 5% 0,062W
3417	4822 051 30152	1,5K 5% 0,062W
3418	4822 051 30152	1,5K 5% 0,062W
3419	4822 051 30152	1,5K 5% 0,062W
3420	4822 051 30152	1,5K 5% 0,062W
3421	4822 051 30152	1,5K 5% 0,062W
3422	4822 051 30152	1,5K 5% 0,062W
3423	4822 051 30152	1,5K 5% 0,062W
3424	4822 051 30152	1,5K 5% 0,062W
3425	4822 051 30152	1,5K 5% 0,062W
4400	4822 051 30008	OR JUMPER (0603)

**- RESISTORS -**

4401	4822 051 30008	OR JUMPER (0603)
4403	4822 051 30008	OR JUMPER (0603)
4404	4822 051 30008	OR JUMPER (0603)
4405	4822 051 30008	OR JUMPER (0603)
4406	4822 051 30008	OR JUMPER (0603)
4407	4822 051 30008	OR JUMPER (0603)
4408	4822 051 30008	OR JUMPER (0603)
4409	4822 051 30008	OR JUMPER (0603)

**- COILS & FILTERS -**

5401	4822 157 11228	100μH 5%
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**Note: Only these parts mentioned in the list are normal service parts.**

**ELECTRICAL PARTSLIST - TUNER BOARD (ATM5-2B)****- MISCELLANEOUS -**

1110	4822 267 10954	CONNECTOR 5-PINS
1201	2422 549 44211	FERRITE BAR 5X13X55

**- CAPACITORS -**

2101	4822 126 13193	4,7nF 10% X7R 63V
2102	4822 122 33777	47pF 5% NP0 63V
2103	4822 124 40248	10μF 20% 63V
2104	4822 124 40248	10μF 20% 63V
2105	4822 126 12814	24pF 5% N220 50V
2106	4822 125 50681	VARIABLE CAP.
2108	2020 552 92746	20pF 5% N1000 50V
2109	2020 552 95949	2,2pF 0.25% N1000 50V
2110	4822 126 12229	8,2pF 1% N750 50V
2112	4822 124 40433	47μF 20% 25V
2113	4822 124 40746	0,22μF 20% 63V
2114	4822 126 14241	330pF 5% NPO 50V
2115	4822 124 40769	4,7μF 20% 100V
2116	3198 017 31530	15nF 10% X7R 50V
2117	4822 124 21913	1μF 20% 63V
2118	4822 124 21913	1μF 20% 63V
2119	3198 017 31530	15nF 10% X7R 50V
2120	4822 124 21913	1μF 20% 63V
2121	4822 124 21913	1μF 20% 63V
2122	4822 124 41407	0,47μF 20% 63V

**- RESISTORS -**

3101	4822 100 20167	50K 30% LIN 0,1W
3102	4822 051 30683	68K 5% 0,062W
3104	4822 051 30222	2,2K 5% 0,062W
3108	4822 051 20339	33R 5% 0,1W
3109	4822 117 13632	100K 1% 0,62W
3110	4822 117 13632	100K 1% 0,62W
3113	4822 051 30154	150K 5% 0,062W
3120	4822 117 13632	100K 1% 0,62W
3121	4822 051 30223	22K 5% 0,062W
9010	4822 051 30008	OR JUMPER (0603)
9011	4822 051 20008	OR JUMPER (0805)
9012	4822 051 30008	OR JUMPER (0603)
9013	4822 051 30008	OR JUMPER (0603)
9015	4822 051 30008	OR JUMPER (0603)
9017	4822 051 20008	OR JUMPER (0805)
9018	4822 051 20008	OR JUMPER (0805)
9026	4822 051 30008	OR JUMPER (0603)

**- COILS & FILTERS -**

5101	4822 157 70513	FM RF COIL
5102	2422 535 94985	MW ANT. COIL
5104	3103 308 20990	FM OSC COIL
5105	4822 157 71145	MW OSC COIL
5106	4822 157 70499	AM IFT WHITE
5107	4822 242 81154	CER FILTER KMFC5058-Z
5108	4822 156 11146	AM IFT BLACK

**- DIODES -**

6101	4822 130 83757	MCL4148
6102	4822 130 83757	MCL4148

**- TRANSISTOR & IC -**

7101	4822 209 32746	TEA5711T/N2
7102	5322 130 60159	BC846B

**Note: Only these parts mentioned in the list are normal service parts.**

**ELECTRICAL PARTSLIST - RECORDER BOARD (ECO-MTF)****- MISCELLANEOUS -**

1707	4822 277 11504	PUSH SWITCH 6P2T
1725	4822 265 11207	CONNECTOR 6-PINS

**- CAPACITORS -**

2703	4822 124 81151	22µF 20% 50V
2704	4822 124 81151	22µF 20% 50V
2706	4822 124 40433	47µF 20% 25V
2707	4822 124 40196	220µF 20% 16V
2708	4822 124 40433	47µF 20% 25V
2709	4822 124 40433	47µF 20% 25V
2710	4822 124 41584	100µF 20% 10V
2711	4822 124 81151	22µF 20% 50V
2712	4822 126 12878	1,5nF 10% 16V
2714	4822 126 12878	1,5nF 10% 16V
2715	4822 121 51387	10nF 20% 16V
2716	2020 561 90365	100nF +80-20% Y5V 50V
2719	4822 126 13098	5,6nF 20% 16V
2721	4822 126 12878	1,5nF 10% 16V
2722	4822 121 51387	10nF 20% 16V
2723	2020 561 90365	100nF +80-20% Y5V 50V
2726	4822 126 13098	5,6nF 20% 16V
2727	4822 126 12878	1,5nF 10% 16V
2728	4822 126 11714	4,7nF 20% 50V
2729	4822 126 11714	4,7nF 20% 50V
2730	2020 300 90561	1,2nF 10% 50V
2732	4822 122 10577	3,3nF 10% 16V
2733	4822 121 51387	10nF 20% 16V
2738	4822 121 51387	10nF 20% 16V
2739	4822 121 51387	10nF 20% 16V
2750	4822 126 13098	5,6nF 20% 16V
2751	4822 126 13098	5,6nF 20% 16V

**- RESISTORS -**

3701	4822 116 52175	100R 5% 0,5W
3703	4822 116 83868	150R 5% 0,5W
3704	4822 116 83872	220R 5% 0,5W
3706	4822 116 52272	330K 5% 0,5W
3707	4822 116 52285	470K 5% 0,5W
3710	4822 116 52264	27K 5% 0,5W
3712	4822 116 52238	12K 5% 0,5W
3713	4822 116 83868	150R 5% 0,5W
3714	4822 116 83872	220R 5% 0,5W
3716	4822 116 52272	330K 5% 0,5W
3719	4822 116 52264	27K 5% 0,5W
3720	4822 116 52238	12K 5% 0,5W
3722	4822 116 52257	22K 5% 0,5W
3723	4822 116 52257	22K 5% 0,5W
3726	4822 116 52256	2,2K 5% 0,5W

**- RESISTORS -**

3727	4822 116 52256	2,2K 5% 0,5W
3730	4822 116 83868	150R 5% 0,5W
3731	4822 116 52291	56K 5% 0,5W
3732	4822 116 52182	15R 5% 0,5W
3733	4822 111 30893	4,7M 5% 0,2W
3734	4822 050 21003	10K 1% 0,6W
3743	4822 116 83883	470R 5% 0,5W
3744	4822 116 83883	470R 5% 0,5W
3747	4822 116 83868	150R 5% 0,5W
3748	4822 116 83883	470R 5% 0,5W
3749	4822 116 83883	470R 5% 0,5W
3761	4822 116 52289	5,6K 5% 0,5W
3762	4822 116 52289	5,6K 5% 0,5W

**- COILS & FILTERS -**

5701	4822 157 10371	BIAS OSC COIL
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**- DIODES -**

6704	4822 130 30621	1N4148
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**- TRANSISTOR & IC -**

7702	4822 130 40981	BC337-25
7705	4822 209 17498	AN7323

**Note: Only these parts mentioned in the list are normal service parts.**

**ELECTRICAL PARTSLIST - COMBI BOARD (CD PART)****- MISCELLANEOUS -**

1801	2422 025 17389	CONNECTOR 16-PINS
1803	4822 267 10732	CONNECTOR 12-PINS
1806	4822 276 12889	MICRO SWITCH

**- CAPACITORS -**

2801	4822 122 33777	47pF 5% NP0 63V
2802	3198 024 44730	47nF 20% Y5V 50V
2803	3198 024 44730	47nF 20% Y5V 50V
2804	3198 017 31530	15nF 10% X7R 50V
2805	3198 024 44730	47nF 20% Y5V 50V

2806	5322 126 11583	10nF 10% X7R 50V
2807	4822 122 32627	2,7nF 10% X7R 50V
2808	5322 126 10223	4,7nF 10% X7R 63V
2809	3198 024 44730	47nF 20% Y5V 50V
2810	3198 024 44730	47nF 20% Y5V 50V

2811	3198 024 44730	47nF 20% Y5V 50V
2812	3198 024 44730	47nF 20% Y5V 50V
2815	3198 024 44730	47nF 20% Y5V 50V
2816	3198 016 31020	1nF 10% NP0 25V
2817	4822 126 13879	220nF +80-20% 16V

2818	4822 126 13193	4,7nF 10% X7R 63V
2819	4822 126 14585	100nF 10% X7R 50V
2820	4822 126 14238	2,2nF 10% X7R 50V
2821	5322 126 11578	1nF 10% X7R 50V
2822	3198 016 31020	1nF 10% NP0 25V

2823	3198 024 44730	47nF 20% Y5V 50V
2824	3198 024 44730	47nF 20% Y5V 50V
2825	4822 122 33127	2,2nF 10% X7R 63V
2826	3198 016 38210	820pF 5% NP0 25V
2827	4822 126 13751	47nF 10% X7R 63V

2829	3198 024 44730	47nF 20% Y5V 50V
2830	2238 586 59812	100nF +80-20% Y5V 50V
2831	4822 126 13193	4,7nF 10% X7R 63V
2832	5322 126 11579	3,3nF 10% X7R 63V
2833	4822 126 13692	47pF 1% NP0 63V

2834	3198 016 33380	3,3pF 1% NP0 50V
2835	4822 126 14585	100nF 10% X7R 50V
2836	5322 122 32531	100pF 5% NP0 50V
2837	5322 126 11579	3,3nF 10% X7R 63V
2838	2238 586 59812	100nF +80-20% Y5V 50V

2839	4822 126 14585	100nF 10% X7R 50V
2841	4822 126 14585	100nF 10% X7R 50V
2842	3198 024 44730	47nF 20% Y5V 50V
2845	2238 586 59812	100nF +80-20% Y5V 50V
2850	4822 124 81151	22µF 20% 50V

2851	4822 124 81151	22µF 20% 50V
2852	4822 124 81151	22µF 20% 50V
2853	4822 124 22652	2,2µF 20% 50V
2854	4822 124 22652	2,2µF 20% 50V
2856	4822 124 40207	100µF 20% 25V

**- CAPACITORS -**

2858	4822 124 40207	100µF 20% 25V
2859	4822 124 81151	22µF 20% 50V
2860	4822 124 81151	22µF 20% 50V
2861	4822 126 13751	47nF 10% X7R 63V
2862	2238 586 59812	100nF +80-20% Y5V 50V

2863	4822 122 33761	22pF 5% NP0 50V
2866	2238 586 59812	100nF +80-20% Y5V 50V
2867	4822 126 13879	220nF +80-20% 16V

**- RESISTORS -**

3801	4822 117 12925	47K 1% 0,063W
3802	4822 117 12891	220K 1%
3803	4822 051 30103	10K 5% 0,062W
3804	4822 051 30153	15K 5% 0,062W
3805	4822 051 30332	3,3K 5% 0,062W

3806	4822 051 30332	3,3K 5% 0,062W
3807	4822 051 30333	33K 5% 0,062W
3808	4822 051 30333	33K 5% 0,062W
3809	4822 117 12925	47K 1% 0,063W
3810	4822 117 12925	47K 1% 0,063W

3811	4822 051 30102	1K 5% 0,062W
3812	4822 051 30102	1K 5% 0,062W
3814	4822 051 30472	4,7K 5% 0,062W
3815	4822 051 30472	4,7K 5% 0,062W
3816	4822 051 30472	4,7K 5% 0,062W

3817	4822 051 30472	4,7K 5% 0,062W
3818	4822 051 30472	4,7K 5% 0,062W
3819	4822 051 30472	4,7K 5% 0,062W
3820	4822 051 30472	4,7K 5% 0,062W
3821	4822 051 30472	4,7K 5% 0,062W

3822	4822 051 30472	4,7K 5% 0,062W
3823	4822 117 11449	2,2K 5% 0,1W
3824	4822 051 20122	1,2K 5% 0,1W
3825	4822 051 30183	18K 5% 0,062W
3826	4822 051 30183	18K 5% 0,062W

3827	4822 117 10834	47K 1% 0,1W
3828	4822 051 30681	680R 5% 0,062W
3829	4822 051 10102	1K 2% 0,25W
3830	4822 117 11504	270R 1% 0,1W
3831	4822 051 30271	270R 5% 0,062W

3832	4822 117 10833	10K 1% 0,1W
3833	4822 117 10833	10K 1% 0,1W
3834	4822 051 30332	3,3K 5% 0,062W
3835	4822 051 30332	3,3K 5% 0,062W
3836	4822 117 11507	6,8K 1% 0,1W

3837	4822 116 83933	15K 1% 0,1W
3839	4822 051 30471	470R 5% 0,062W
3841	4822 051 30223	22K 5% 0,062W
3842	4822 051 20332	3,3K 5% 0,1W
3843	4822 051 30183	18K 5% 0,062W

**ELECTRICAL PARTSLIST - COMBI BOARD (CD PART)****- RESISTORS -**

3844	4822 051 20822	8,2K 5% 0,1W
3845	4822 051 10102	1K 2% 0,25W
3846	4822 117 10361	680R 1% 0,1W
3847	4822 117 11817	1,2K 1% 0,063W
3848	4822 051 30682	6,8K 5% 0,062W
3849	4822 117 11148	56K 1% 0,1W
3850	4822 051 20273	27K 5% 0,1W
3851	4822 117 11148	56K 1% 0,1W
3852	4822 051 30682	6,8K 5% 0,062W
3853	4822 051 30563	56K 5% 0,062W
3854	4822 051 20273	27K 5% 0,1W
3855	4822 051 30563	56K 5% 0,062W
3856	4822 051 20109	10R 5% 0,1W
3858	4822 117 12925	47K 1% 0,063W
3859	4822 117 11817	1,2K 1% 0,063W
3860	4822 051 30333	33K 5% 0,062W
3861	4822 051 30222	2,2K 5% 0,062W
3862	4822 051 30102	1K 5% 0,062W
3863	4822 051 30153	15K 5% 0,062W
3864	4822 051 30221	220R 5% 0,062W
3865	4822 051 30339	33R 5% 0,062W
3866	4822 117 12917	1R 5% 0,062W
3867	4822 051 30563	56K 5% 0,062W
3868	4822 051 30682	6,8K 5% 0,062W
3869	4822 051 30682	6,8K 5% 0,062W
3870	4822 051 10102	1K 2% 0,25W
3871	4822 051 30102	1K 5% 0,062W
3874	4822 051 30471	470R 5% 0,062W
3875	4822 117 13608	4,7R 5% 0,062W
3876	4822 051 10102	1K 2% 0,25W
4801	4822 051 20008	0R JUMPER (0805)
4802	4822 051 20008	0R JUMPER (0805)
4803	4822 051 30008	0R JUMPER (0603)
4807	4822 051 20008	0R JUMPER (0805)
4809	4822 051 20008	0R JUMPER (0805)
4810	4822 051 20008	0R JUMPER (0805)
4811	4822 051 20008	0R JUMPER (0805)
4812	4822 051 20008	0R JUMPER (0805)
4813	4822 051 20008	0R JUMPER (0805)
4819	4822 051 20008	0R JUMPER (0805)
4820	4822 051 20008	0R JUMPER (0805)
4825	4822 051 20008	0R JUMPER (0805)
4836	4822 051 20008	0R JUMPER (0805)
4837	4822 051 20008	0R JUMPER (0805)
4840	4822 051 30008	0R JUMPER (0603)
4845	4822 051 20008	0R JUMPER (0805)
4846	4822 051 20008	0R JUMPER (0805)
4849	4822 051 30008	0R JUMPER (0603)
4850	4822 051 20008	0R JUMPER (0805)
4851	4822 051 20008	0R JUMPER (0805)

**- RESISTORS -**

4853	4822 051 20008	0R JUMPER (0805)
4854	4822 051 20008	0R JUMPER (0805)
4855	4822 051 20008	0R JUMPER (0805)
4856	4822 051 20008	0R JUMPER (0805)
4857	4822 051 20008	0R JUMPER (0805)
4858	4822 051 30008	0R JUMPER (0603)
4860	4822 051 30008	0R JUMPER (0603)
4861	4822 051 20008	0R JUMPER (0805)
4862	4822 051 20008	0R JUMPER (0805)
4864	4822 051 20008	0R JUMPER (0805)
4865	4822 051 30008	0R JUMPER (0603)
4866	4822 051 20008	0R JUMPER (0805)
4870	4822 051 30008	0R JUMPER (0603)
4872	4822 051 20008	0R JUMPER (0805)
4874	4822 051 20008	0R JUMPER (0805)
4875	4822 051 20008	0R JUMPER (0805)
4876	4822 051 20008	0R JUMPER (0805)
4877	4822 051 20008	0R JUMPER (0805)
4881	4822 051 20008	0R JUMPER (0805)
4882	4822 051 20008	0R JUMPER (0805)
4883	4822 051 20008	0R JUMPER (0805)
4884	4822 051 20008	0R JUMPER (0805)
4885	4822 051 20008	0R JUMPER (0805)
4897	4822 051 30008	0R JUMPER (0603)
4899	4822 051 30008	0R JUMPER (0603)

**- COILS & FILTERS -**

1810	4822 242 81865	CER. FTR CST16,93MXW0C3
5802	4822 157 11706	10µH 5%

**- IC & TRANSISTORS -**

7801	3103 308 84310	TC9457F-014-907B
7802	9322 158 56682	M63000SP
7803	9322 171 88668	TA2153FN
7804	5322 130 60123	BC807-40

**Note: Only these parts mentioned in the list are normal service parts.**

**ELECTRICAL PARTSLIST - COMBI BOARD (AUDIO PART)****- COILS & MISCELLANEOUS -**

1252	4822 267 10731	CONNECTOR 6-PINS
1254	4822 267 10958	CONNECTOR 5-PINS
1257	2422 127 00538	SWITCH-SLIDE 4P4T
1258	4822 267 10953	CONNECTOR 7-PINS
5200	4822 157 62552	2,2µH 10%
5201	4822 157 11411	FER. BEAD 100MHZ

**- CAPACITORS -**

2254	4822 124 41407	0,47µF 20% 63V
2255	4822 124 41407	0,47µF 20% 63V
2256	5322 126 11578	1nF 10% X7R 50V
2257	5322 126 11578	1nF 10% X7R 50V
2258	4822 124 40769	4,7µF 20% 100V
2259	4822 124 40433	47µF 20% 25V
2260	4822 124 40433	47µF 20% 25V
2261	4822 124 41407	0,47µF 20% 63V
2262	4822 124 41407	0,47µF 20% 63V
2263	4822 124 80195	470µF 20% 10V
2264	4822 124 80195	470µF 20% 10V
2265	4822 124 40784	3300µF 20% 16V
2267	4822 124 80195	470µF 20% 10V
2268	4822 126 11585	22nF +80-20% Y5V 25V
2269	4822 126 11585	22nF +80-20% Y5V 25V
2270	4822 126 11585	22nF +80-20% Y5V 25V
2271	4822 126 11585	22nF +80-20% Y5V 25V
2272	4822 124 40433	47µF 20% 25V
2273	4822 124 40196	220µF 20% 16V
2274	2238 586 59812	100nF +80-20% Y5V 50V
2278	5322 126 11583	10nF 10% X7R 50V
2281	4822 124 40433	47µF 20% 25V
2283	3198 024 44730	47nF 20% Y5V 50V

**- RESISTORS -**

3257	4822 051 30152	1,5K 5% 0,062W
3258	4822 051 30152	1,5K 5% 0,062W
3259	4822 051 30682	6,8K 5% 0,062W
3260	4822 051 30682	6,8K 5% 0,062W
3261	4822 051 30102	1K 5% 0,062W
3262	4822 051 30102	1K 5% 0,062W
3263	4822 051 30222	2,2K 5% 0,062W
3264	4822 051 30222	2,2K 5% 0,062W
3265	4822 051 30471	470R 5% 0,062W
3266	4822 051 30471	470R 5% 0,062W
3267	4822 051 30221	220R 5% 0,062W
3268	4822 051 30221	220R 5% 0,062W
3269	4822 051 30123	12K 5% 0,062W
3270	4822 051 30103	10K 5% 0,062W
3272	4822 117 12917	1R 5% 0,062W

**- RESISTORS -**

3274	4822 051 30151	150R 5% 0,062W
3275	4822 116 52176	10R 5% 0,5W
3277	4822 051 30152	1,5K 5% 0,062W
3278	4822 116 52176	10R 5% 0,5W
3279	4822 051 30151	150R 5% 0,062W
3287	4822 116 52176	10R 5% 0,5W
3289	4822 116 52176	10R 5% 0,5W
3291	4822 051 30102	1K 5% 0,062W
3292	4822 051 30102	1K 5% 0,062W
3293	4822 051 30102	1K 5% 0,062W
3294	4822 117 12917	1R 5% 0,062W
3295	4822 117 12917	1R 5% 0,062W
3299	4822 051 20228	2,2R 5% 0,1W
3300	4822 051 20228	2,2R 5% 0,1W
4200	4822 051 30008	OR JUMPER (0603)
4201	4822 051 30008	OR JUMPER (0603)
4204	4822 051 30008	OR JUMPER (0603)
4205	4822 051 30008	OR JUMPER (0603)
4206	4822 051 30008	OR JUMPER (0603)
4208	4822 051 30008	OR JUMPER (0603)
4209	4822 051 30008	OR JUMPER (0603)

**- DIODES -**

6250	4822 130 11397	BAS316
6251	4822 130 11397	BAS316
6252	4822 130 31878	1N4003G
6253	4822 130 31878	1N4003G
6254	4822 130 31878	1N4003G
6255	4822 130 31878	1N4003G
6258	4822 130 11397	BAS316
6259	4822 130 11397	BAS316
6260	4822 130 34174	BZX79-B4V7
6261	4822 130 31878	1N4003G
6262	4822 130 11397	BAS316
6263	4822 130 11397	BAS316

**- IC & TRANSISTORS -**

7250	5322 130 60159	BC846B
7251	4822 209 31544	TA8227P
7253	4822 130 41327	BC327-40
7254	4822 130 41327	BC327-40
7255	4822 130 41327	BC327-40
7256	5322 130 60159	BC846B



**ELECTRICAL PARTSLIST - MISCELLANEOUS****- MISCELLANEOUS -**

1005	2422 264 00428	LOUDSPEAKER 8R 3W
1006	2422 264 00428	LOUDSPEAKER 8R 3W
1007	⚠ 3140 118 33100	TRANSF. MAINS 230V
1007	⚠ 3140 118 33110	TRANSF. MAINS 110/220V
1009	⚠ 2422 030 00333	MAINS SOCKET
1009	⚠ 4822 265 20318	MAINS SOCKET (/05)
1011	⚠ 4822 277 21794	VOLTAGE SELECTOR SW.
8102	3139 110 35690	FFC FOIL 05P/140/05P AD
8401	3139 110 35680	FFC FOIL 12P/340/12P BD
8501	4822 320 12752	FFC FOIL 7P/180/7P
8701	3139 110 35210	FFC FOIL 6P/80/6P AD
8803	3103 308 92890	FFC FOIL 16P/80/16P BD

**Note: Only these parts mentioned in the list are normal service parts.**