CD Stereo Radio Recorder

Service
Service
Service

AZ1050
AZ1055
all versions

Service Manual

COMPACT disc DIGITAL AUDIO

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

CLASS 1
LASER PRODUCT

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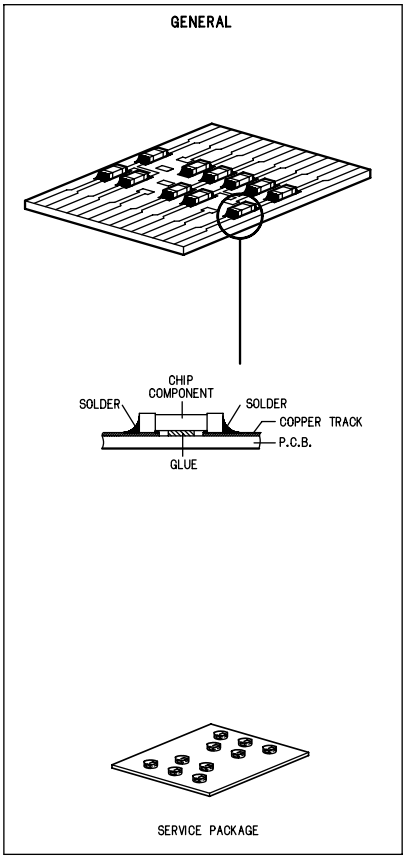
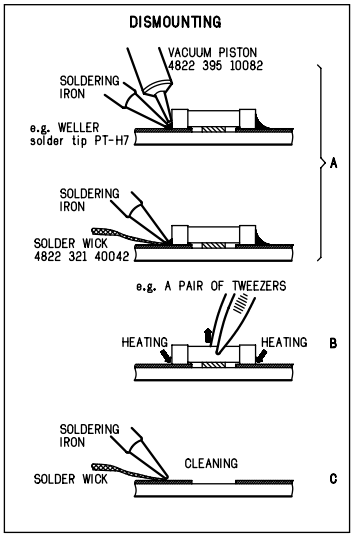
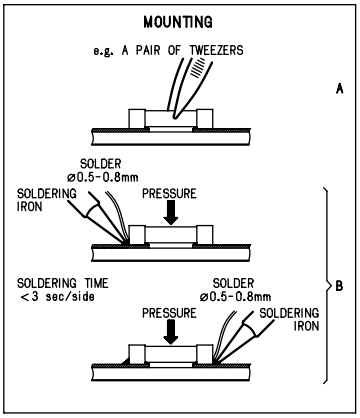
PCS 107 205

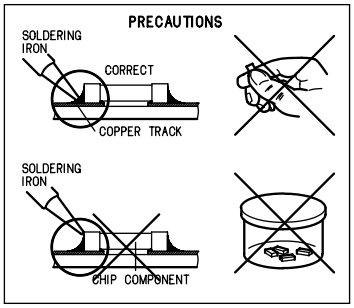
PHILIPS

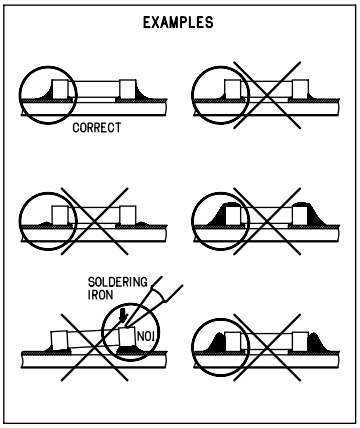
HANDLING CHIP COMPONENTS











© **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.

ESD

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

d **WARNUNG**
Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige 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.

ñ **WAARSCHUWING**
Alle IC´s en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen vermindern. 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.

i **AVVERTIMENTO**
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa delápparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

SAFETY

© 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 ⚠

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 Sicherheitsvor-schriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Original-ersatzteile zu verwenden.
Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

ñ Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkeliijke 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 ricambiago identici a quelli specificati.
Componenty di sicurezza sono marcati con ⚠

CLASS 1
LASER PRODUCT

© **DANGER**: Invisible laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.

s **Varning !**
Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

Advarsel !
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

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

© 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.

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

TECHNICAL SPECIFICATIONS

GENERAL

Mains voltage	-/00/05/10/14	:	230 V
	-/01/11	:	120 / 230 V
	-/17	:	120 V
Mains frequency	-/00/05/10/14	:	50 Hz
	-/01/11	:	50 / 60 Hz
	-/17	:	60 Hz
Battery	mains	:	9 V (R20 x 6)
	Remote	:	3V (R6 x 2)
Power consumption		:	5 W
Dimension (W x H x D)		:	435 x 252 x 170 mm
Weight		:	3.4 Kg

AMPLIFIER

Output power	mains	:	2 x 1.4 W
	battery	:	2 x 1.6 W
Speaker impedance		:	2 x 4 ohm
Frequency response		:	100 Hz - 10 kHz (±3dB)

TUNER - FM SECTION

Tuning range	:	87.5 - 108 MHz
IF frequency	:	10.7 MHz ± 0.2 MHz
Sensitivity	:	14 dBf at 26dB S/N
Selectivity	:	45 dB at 300kHz
IF rejection	:	65 dB
Image rejection	:	26 dB

TUNER - AM SECTION

Tuning range	MW	:	522 - 1607 kHz
	-/17	:	520 - 1730 kHz
IF frequency		:	468 kHz ± 3 kHz
Sensitivity	MW	:	1500 µV/m at 26dB S/N
Selectivity	MW	:	20 dB
IF rejection	MW	:	60 dB
Image rejection	MW	:	32 dB

AUDIO CASSETTE RECORDER

Number of tracks		:	2 stereo
Tape speed		:	4.76 cm/sec ± 3%
Wow & flutter		:	< 0.48 JIS UWTD
Fast wind/rewind C60		:	< 120 sec.
Frequency response	P/B	:	125 - 8000 Hz
S/N ratio		:	40 dB

COMPACT DISC

Frequency response		:	100 Hz - 10 kHz
S/N ratio		:	60 dB
Channel difference	1 kHz	:	< 3 dB
Channel crosstalk	1 kHz	:	40 dB
Laser wavelength		:	780 ± 20 nm
Laser light power		:	< 0.5 mW

SERVICE TOOLS

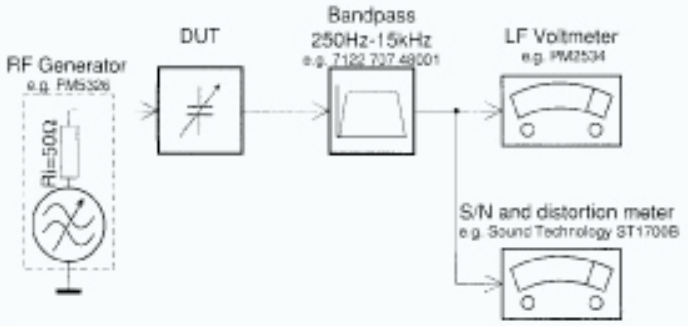
TORX T10 screwdriver with shaftlength 150mm.....4822 395 50423
TORX screwdriver set SBC 163.....4822 295 50145

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

Universal test cassette Fe SBC 420.....4822 397 30071

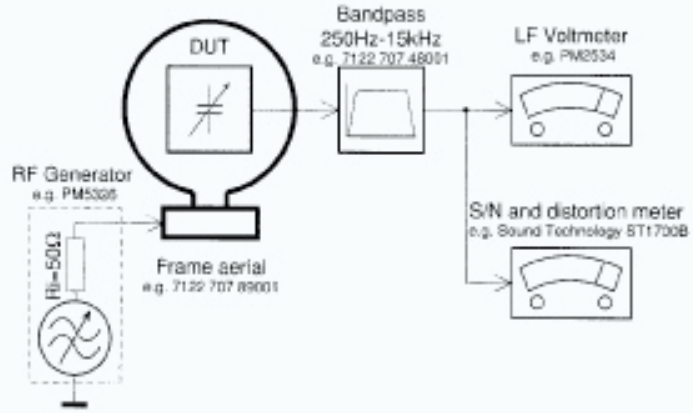
SERVICE MEASUREMENTS

Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

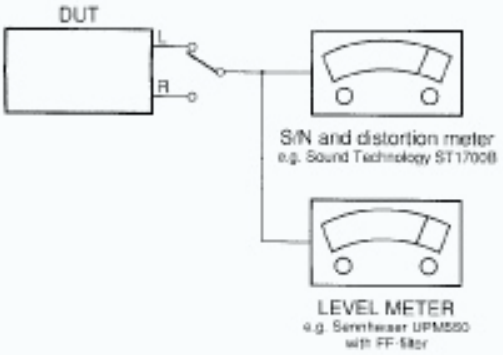
Tuner AM (MW,LW)



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).

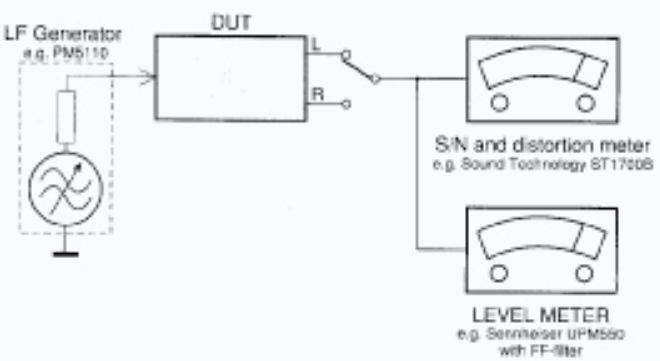
CD

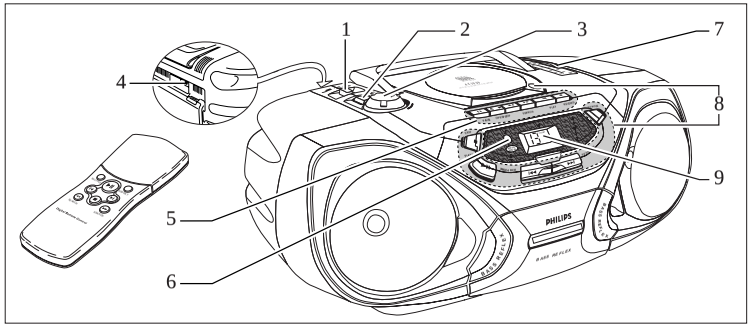
Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



RECORDER

Use Universal Test Cassette **Fe** SBC420 4822 397 30071





BASIC FUNCTIONS

1 POWER:
CD, TAPE, BAND ....selects the sound source
2 DBB.....enhances the bass
3 VOLUME .....adjusts the volume level
4 p.....3.5mm headphone socket (back of the set)

Note: Connecting the headphones will switch off the speakers.

5 **CASSETTE RECORDER**

PAUSE ; .....interrupts recording or playback
OPEN·STOP / 9 ..stops the tape and opens the cassette compartment
SEARCH 6 .....rewinds the tape
SEARCH 5 .....fast forwards the tape
PLAY 1 .....starts playback
RECORD 0 .....starts recording

6 .....Sensor for the infrared remote control

RADIO

7 TUNING .....tunes to radio stations
1 BAND: FM, MW...selects the wave band

8 **CD PLAYER**

OPEN • CLOSE .....opens the CD compartment
9 .....stops CD play and erases the program
2 ; .....starts and interrupts CD play
§ .....skips and searches forward
.....skips and searches backward
CD MODE.....selects the different CD playing modes and programs tracks

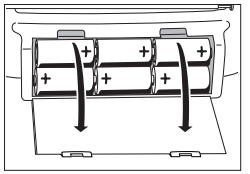
9 .....Display

REMOTE CONTROL

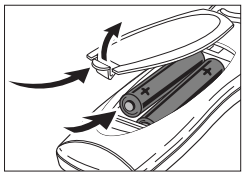
SHUFFLE .....plays CD tracks in random order
REPEAT .....repeats a track, the entire CD or the program
2 ; .....starts and interrupts CD play
¡ ™.....selects the beginning of the current, a previous or a subsequent track of a CD
9 .....stops CD play and erases the program
5 6 SEARCH.....searches backward/forward in a CD track

Batteries

For the set (optional)
Open the battery compartment of the set and insert 6 batteries, type **R20**, **UM-1** or **D**-cells (preferably alkaline).



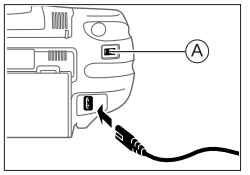
For the remote control (optional)
Open the battery compartment of the remote control and insert 2 batteries, type **R03**, **UM-4** or **AAA**-cells (preferably alkaline).



Remove batteries if they are flat or if the set is not going to be used for a long time.

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

Mains



1 Check whether the mains voltage as shown on the type plate corresponds to your local mains voltage. If it does not, consult your dealer or service organisation. ***The type plate is located on the bottom of the set.***

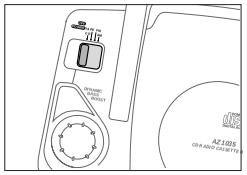
2 If the set is equipped with a VOLTAGE selector A , set this selector to the local mains voltage.

3 Connect the mains cable to the AC MAINS socket and the wall socket. This switches on the mains supply. ***The mains cable is inside the battery compartment.***

The battery supply will be switched off when the set is connected to the mains. To change over to battery supply, pull out the plug from the unit's AC MAINS socket.

To disconnect the set from the mains completely, remove the mains plug from the wall socket.

Switching the set on and off

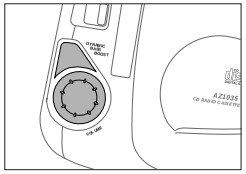


Set the POWER slider to the desired sound source:
CD, TAPE, or BAND (for radio).

The set is switched off when the POWER slider is set to OFF/TAPE and the keys of the tape deck are released.

Note: If you use batteries, switch the set off after use. This will avoid unnecessary power consumption.

Adjusting volume and sound

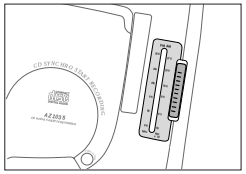


Adjust the volume using the VOLUME control.

Increase and decrease the bass level by pressing DBB.

The bass level can also be emphasised if you place the set against wall or shelf. Do not cover any vents; leave sufficient room around the unit for ventilation.

Radio – tuning to radio stations

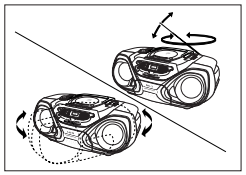


1 Set the POWER slider to FM or MW to select the desired wave band.

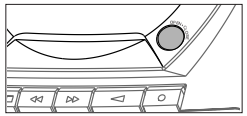
2 Tune to the desired radio station by using the TUNING wheel.

Improving RADIO reception
For **FM** stations, pull out the telescopic antenna. To improve the signal, incline and turn the antenna. Reduce its length if the signal is too strong (very close to a transmitter).

For **MW** stations, direct the built-in antenna by turning the whole set. The telescopic antenna is not needed.



Playing a CD

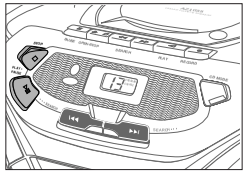


1 Set the POWER slider to CD.

2 Press / OPEN to open the CD compartment.

3 Insert an audio CD (printed side up) and close the CD compartment.
™ The CD player starts and scans the contents list of the CD. Then, the CD player stops. Display indication: the total number of tracks.

4 Press the 2; button to start CD play.
™ Display indication: the current track number.



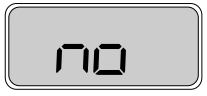
5 Press the 9 button to stop CD play.
™ Display indication: the total number of tracks.

You can interrupt CD play by pressing 2;. Continue CD play by pressing the button again.
™ Display indication: the current track number (flashing).

Note: CD play will also stop if:
– you open the CD compartment,
– the end of the CD is reached, or
– you move the POWER *slider.*

If you make a mistake when operating the CD player, or if the CD player cannot read the CD, the display shows E or no. (See "TROUBLESHOOTING".)

If you press 2; and there is no CD inserted, the display shows no.



Environmental information

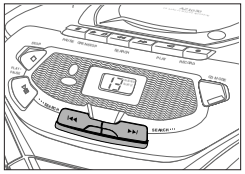
All redundant packing material has been omitted. We have done our utmost to make the packaging easily separable into three mono materials: cardboard (box), polystyrene foam (buffer) and polyethylene (bags, protective foam sheet).

Your set consists of materials which can be recycled if disassembled by a specialized company. Please observe the local regulations regarding the disposal of packing materials, exhausted batteries and old equipment.

Search backward and forward §

Selecting another track

Briefly press the or § button once/several times to skip to the beginning of the current, previous or subsequent track(s).



During CD play:

CD play continues automatically with the selected track.

When CD play is stopped:

Press 2 ; to start CD play.

™ Display indication: the selected track number.

Searching for a passage during CD play

1 Hold down the or § button to find a particular passage in a forward or backward direction.

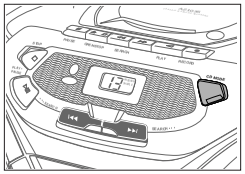
™ CD play continues at a low volume.

2 Release the button when you have reached the desired passage.

Note: In the different CD modes or when playing a program, searching is only possible within the particular track.

CD MODE: Shuffle and Repeat

1 During CD play press CD MODE repeatedly to cause the display to show the different playing modes.



™ **SHUFFLE**: All tracks of the CD (or program) are played in random order.

™ **SHUFFLE REPEAT ALL**: All tracks of the CD (or program) are played repeatedly in random order.

™ **REPEAT**: The current track is played repeatedly.

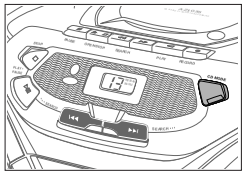
™ **REPEAT ALL**: The entire CD (or program) is played repeatedly.

2 After 2 seconds of flashing display indication, CD play starts in the chosen mode.

3 To return to normal CD play, press CD MODE until the display indication disappears.

CD MODE: Programming track numbers

You can select a number of tracks and store these in the memory in the desired sequence. You can store any track more than once. A maximum of 20 tracks can be stored in the memory.



1 When CD play is stopped, select the desired track with or §.

2 As soon as the number of the desired track is displayed, press CD MODE to store the track in the memory.

™ **PROGRAM** appears on the display. P lights up briefly, then the number of the stored track is shown.

3 Select and store all desired tracks in this way.

4 You can review your settings by pressing and holding CD MODE for more than 1 second.

™ The display shows all stored track numbers in sequence.

If you try to store more than 20 tracks, the display shows F.

Playing the program

Press 2 ; to play the program.

Erasing the program

From the stop position, press 9.

™ no lights up briefly, **PROGRAM** disappears and your program is erased.

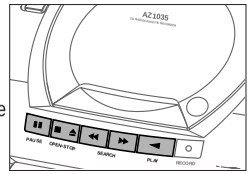
Note: The program will also be erased if you:

– interrupt the power supply,

– open the CD compartment, or

– move the POWER *slider.*

Playing a cassette



1 Set the POWER slider to TAPE.

2 Press OPEN·STOP / 9 to open the cassette compartment.

3 Insert a recorded cassette with the open side upwards and close the cassette compartment.

4 Press PLAY 1 to start playback.

5 Press 6 or 5 to rewind or fast forward the tape.

6 To stop the tape press OPEN·STOP / 9.

Note: The keys are released at the end of the tape.

General information on recording

Recording is permissible insofar as copyright or other rights of third parties are not infringed upon.

For recording on this set you should use a cassette of the type NORMAL (IEC type I). This deck is not suitable for recording on cassettes of the type CHROME (IEC type II) or METAL (IEC type IV).

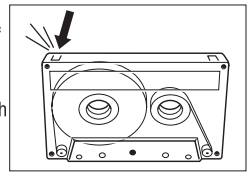
The recording level is set automatically. The controls VOLUME and DBB do not affect the recording.

At the very beginning and end of the tape, no recording will take place in the 7 seconds during which the leader tape passes the recorder heads.

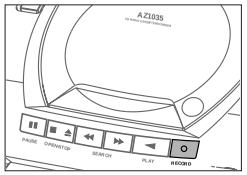
Protecting tapes from accidental erasure

Keep the cassette side to be protected in front of you and snap off the left tab. Now, recording on this side is no longer possible.

To record again on this side of the cassette, cover the opening with a piece of adhesive tape.



Recording from the CD player – CD synchro start



1 Set the POWER slider to CD.

2 Insert a CD and, if desired, program the track numbers.

3 Press OPEN·STOP / 9 to open the cassette compartment.

4 Insert a blank, unprotected, cassette and close the cassette compartment.

5 Press RECORD 0 to start recording.
™ Playing of the CD or program starts automatically.

6 For brief interruptions press PAUSE ;. Press the PAUSE ; key again to resume recording.

7 To stop recording, press OPEN·STOP / 9.

Note: the recording can be started from different positions:
– if the CD player is in pause mode, recording will start from this very position (use or §);
– if the CD player is in stop mode, recording will start from the beginning of the CD or program.

Recording from the radio

1 Tune to the desired radio station (see "RADIO").

2 Press OPEN·STOP / 9 to open the cassette compartment.

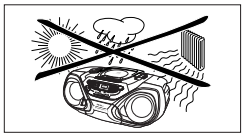
3 Insert a blank, unprotected, cassette and close the cassette compartment.

4 Press RECORD 0 to start recording.

5 For brief interruptions press PAUSE ;. To resume recording press the PAUSE ; key again.

6 To stop recording, press OPEN·STOP / 9.

General maintenance

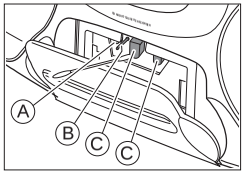


Do not expose the set, batteries, CDs, or tapes to humidity, rain, sand, or excessive heat (caused by heating equipment or direct sunlight).

The mechanical parts of the set contain self-lubricating bearings and must not be oiled or lubricated!

You can clean the set with a soft, slightly dampened, lint-free cloth. Do not use any cleaning agents as they may have a corrosive effect.

Tape deck maintenance



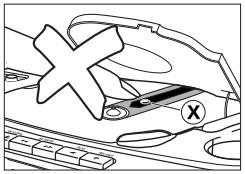
To ensure proper recording and playback quality, clean parts A, B and C after approximately 50 hours of operation. Use a cotton swab slightly moistened with alcohol or head-cleaner fluid.

Press PLAY 1 and clean the rubber pressure roller A.

Press PAUSE ; and clean the capstan B and the heads C.

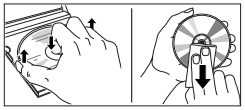
Note: Cleaning of the heads C can also be done by playing a cleaning tape once.

CD player and CD handling



The lens X of the CD player should never be touched. Always keep the CD compartment closed to avoid dust on the lens.

The lens may cloud over when the set is suddenly moved from cold to warm surroundings. Playing a CD is not possible then. Leave the CD player in a warm environment until the moisture evaporates.



To take the CD out of its box easily, press the centre spindle while lifting the CD. Always pick up the CD by the edge and put it back in its box after use.

To clean the CD, wipe it in a straight line from the center toward the edge using a soft, lint-free cloth. A cleaning agent may damage the disc!

Never write on a CD or attach a sticker to it.

This set complies with the radio interference requirements of the European Community

WARNING

Under no circumstance should you try to repair the set yourself as this will invalidate the guarantee.

If a fault occurs, first check the points listed below before taking the set for repair.

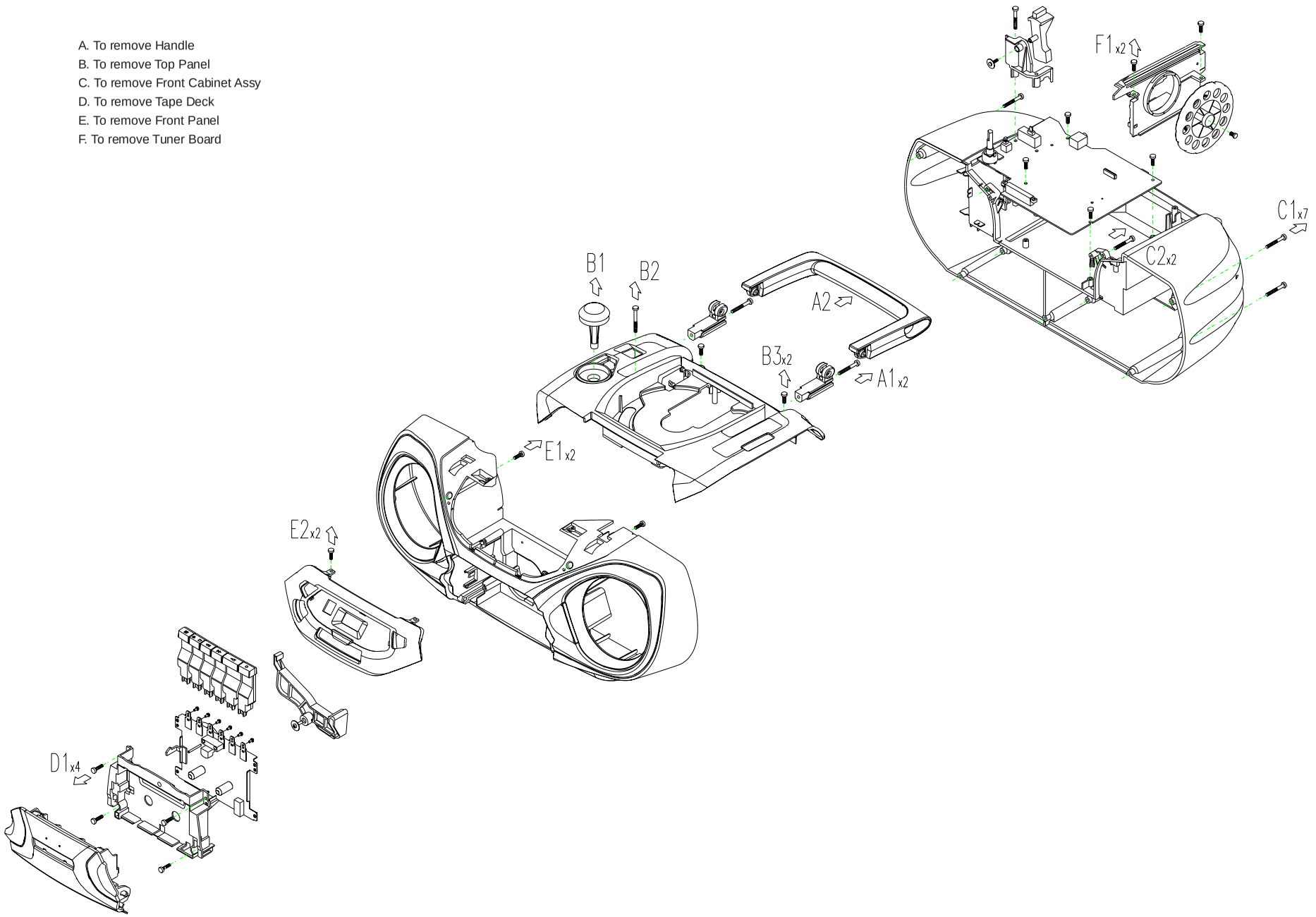
If you are unable to solve a problem by following these hints, consult your dealer or service center.

Problem	Possible cause	Solution
No sound, no power	VOLUME is not adjusted.	Adjust volume.
	Headphones are connected.	Disconnect headphones.
	Mains cable is not securely connected.	Connect mains cable properly.
	Batteries are flat.	Insert fresh batteries.
	Batteries are inserted incorrectly.	Insert batteries correctly.
	Trying to change over from mains to battery supply without removing the plug.	Remove the mains plug from the unit's AC MAINS socket.
No reaction to operation of any keys	Electrostatic discharge.	Disconnect the set from power supply, reconnect after a few seconds.
Poor radio reception	Weak radio signal.	Direct the antenna for optimum reception.
	Interference caused by electrical equipment like TVs, computers, engines, etc.	Keep the radio away from electrical equipment.
no or E indication	The CD is badly scratched or dirty.	Replace or clean the CD.
	No CD is inserted.	Insert a CD.
	The CD is inserted upside down.	Insert CD with label facing up.
	The laser lens is steamed up.	Wait until the lens has cleared.
The CD skips tracks	The CD is damaged or dirty.	Replace or clean the CD.
	SHUFFLE or PROGRAM is active.	Switch off SHUFFLE or PROGRAM.
Poor cassette sound quality	Dust and dirt on the heads, capstans or pressure rollers.	Clean heads, capstans, and pressure rollers.
	Use of unsuitable cassette types (METAL or CHROME) for recording.	Only use NORMAL type cassettes for recording.
Recording does not work	Cassette tab(s) may be snapped off.	Apply a piece of adhesive tape over the opening.
Remote control does not function properly	Batteries are inserted incorrectly.	Insert batteries correctly.
	Batteries are flat.	Insert fresh batteries.
	Distance to the set is too large.	Reduce distance.

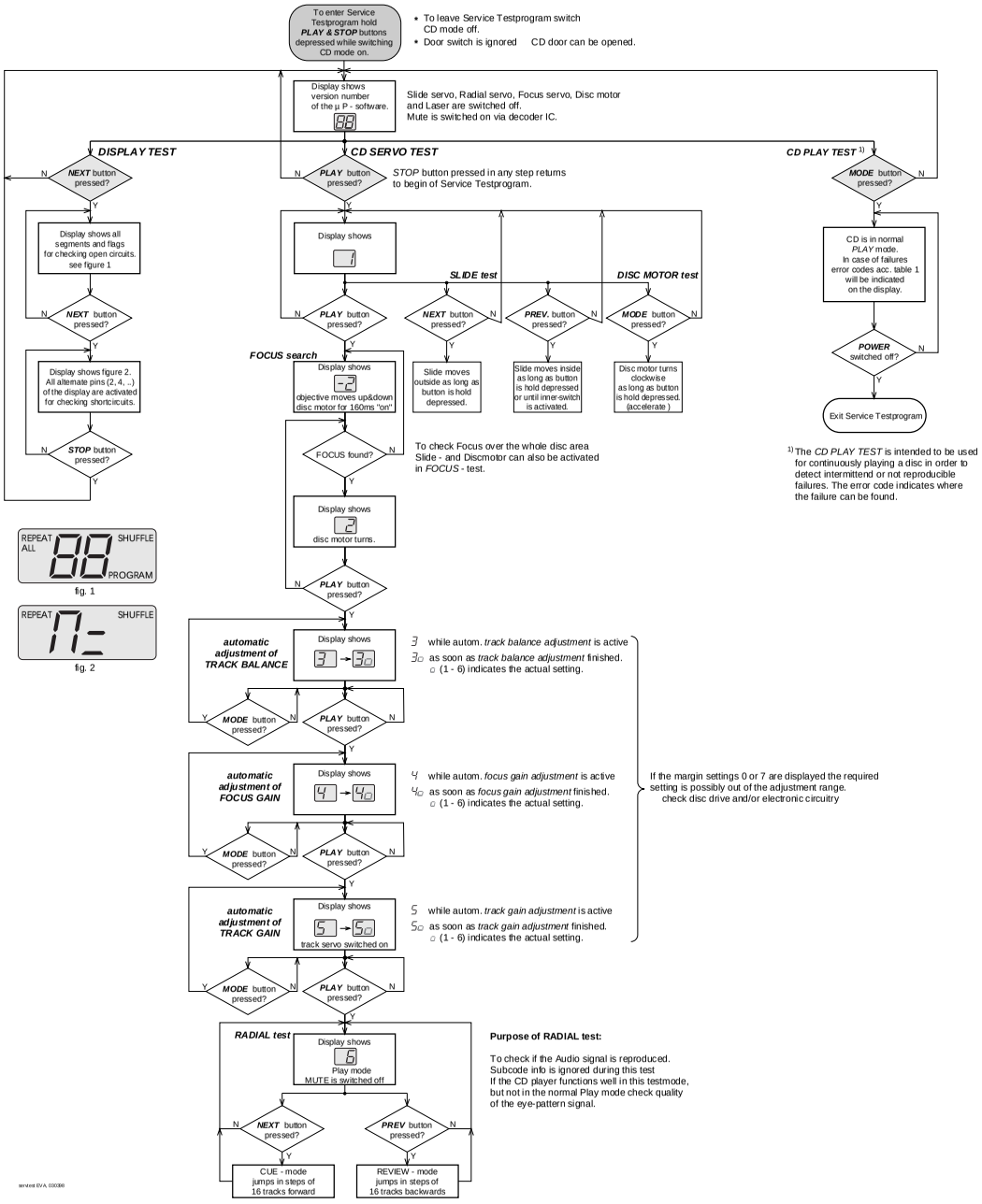
4-1

DISASSEMBLY DIAGRAM

A. To remove Handle
B. To remove Top Panel
C. To remove Front Cabinet Assy
D. To remove Tape Deck
E. To remove Front Panel
F. To remove Tuner Board



SERVICE TESTPROGRAM



4-2

CD ERROR codes

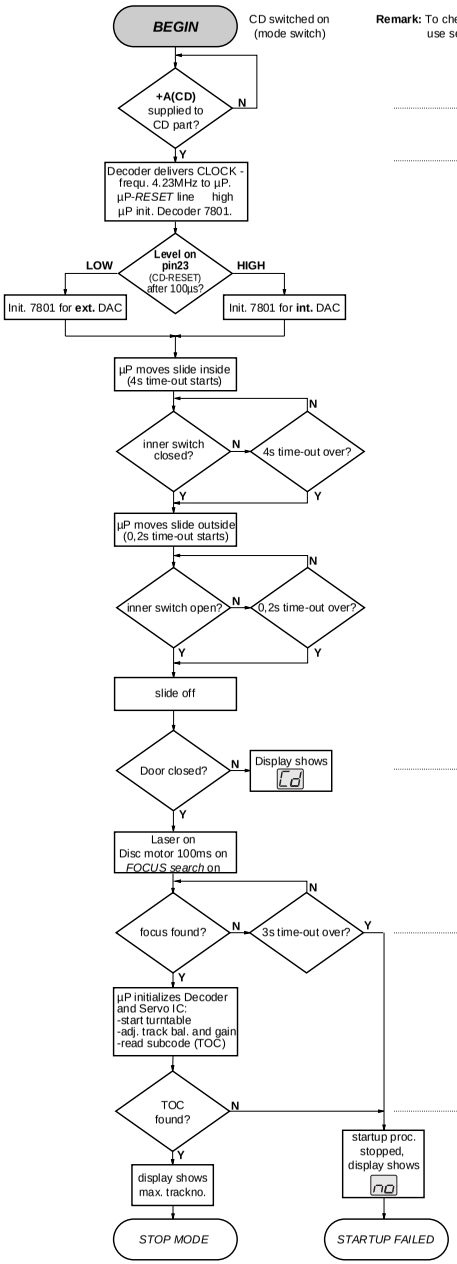
Error number	*Error description*	*Error type*
E0	**Focus Error** Triggered when the focus is lost for more than 250ms during playing the CD.	W
E2	**Slide-in error** Generated when the inner-switch did not close within approx. 4s when the pick up is moved inside. Inner-switch or slide motor problems.	W
E3	**Slide-out error** 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	**Jump error.** 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	**Subcode Error** No valid subcode for 300ms during *PLAY*.	W
E7	**PLL lock error** 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	**Focus Search Error** Triggered when the focus could not be found within 3s when starting up the CD.	F
F2	**Fatal Subcode Error** 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*)

CD STARTUP PROCEDURE



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

CDstartup BVA_080998

Abbreviations and Pin-descriptions of CD ICs

SERVO PROCESSOR M62475FP

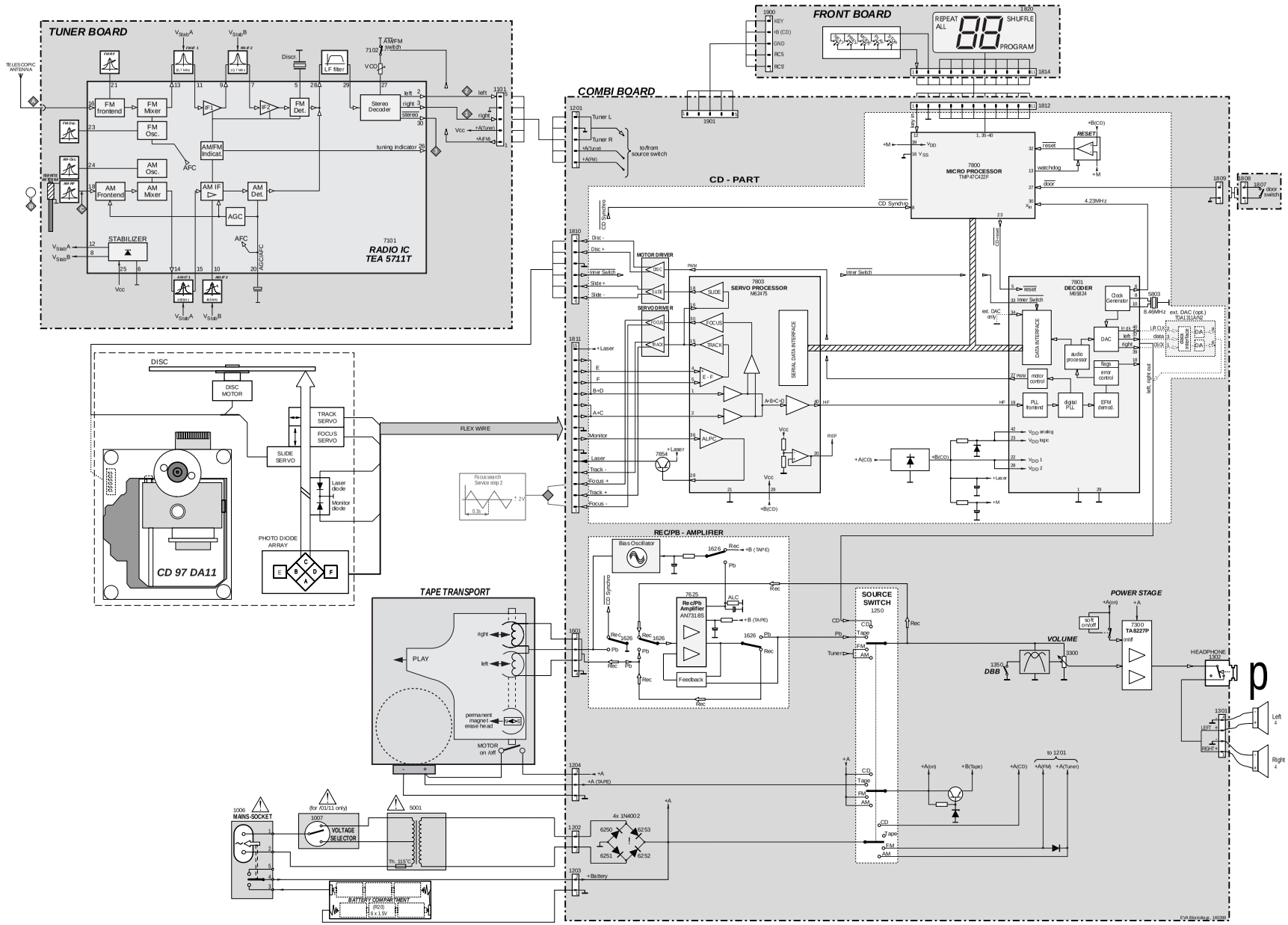
Pin	*Name*	*Direction*	*Description*
1-3	A, B, C	Diode array Servo processor	Current input (central photo diode signal input)
4-5	E, F	Diode array Servo processor	Current input (satellite photo diode signal input)
6	SGT	Servo processor Track error ampl. Input	Signal generator output to track servo, sends 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 side 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 *ADJUST LOGIC*
20	BIAS	Servo processor external electronic	Reference Voltage output Vcc/2 of internal BIAS-generator
21	GND	-	Ground connection pin (negative supply)
22	MLA/DIS	p Servo processor	Serial interface Microprocessor Latch control/DIScharge control for adjustment
23	JP1/SG	p Servo processor	Serial interface Jump control line/Signal Generator input line for adjustment
24	MCK	p Servo processor	Serial interface Clock input line
25	MSD	p Servo processor	Serial interface Data input line
26	D_{out}	Servo processor p	Serial interface Data output line
27	C_{LPF}	-	Pin for connection of Low Pass Filter capacitor of *ADJUST LOGIC*
28	I_{REF}	-	Reference current input
29	V_{CC}	-	Positive supply connection pin (4V - 5.5V)
30	FS_{OUT}	Servo processor Servo driver	Output of focus servo amplifier
31	FS -	-	Inverting input of focus serco 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 adjustment procedure
35	C_{FSR}	-	Charge capacitor for Focus Search triangle-generator
36	ALPC +	-	Non inverting input of Automatic Laser Power amplifier
37	ALPC -	-	Inverting input of Automatic Laser Power Control amplifier
38	$ALPC_{OUT}$	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

SERVO PROCESSOR M65824FP

Pin	*Name*	*Direction*	*Description*
1	Anal. V_{SS}	-	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	p Signal processor	System reset (low level = active)
6	C423	Signal processor 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_{DD}	-	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 (Pluse Width Modulation) output
28	DVDD2	-	Digital interface power supply 2
29	DVSS2	-	Digital system ground 2
30	MCK	p Signal processor	p interface shift Clock input
31	MSD	p Signal processor	p interface Serial Data I/O line
32	MLAB	p Signal processor	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_{DD}	-	Analog system power supply

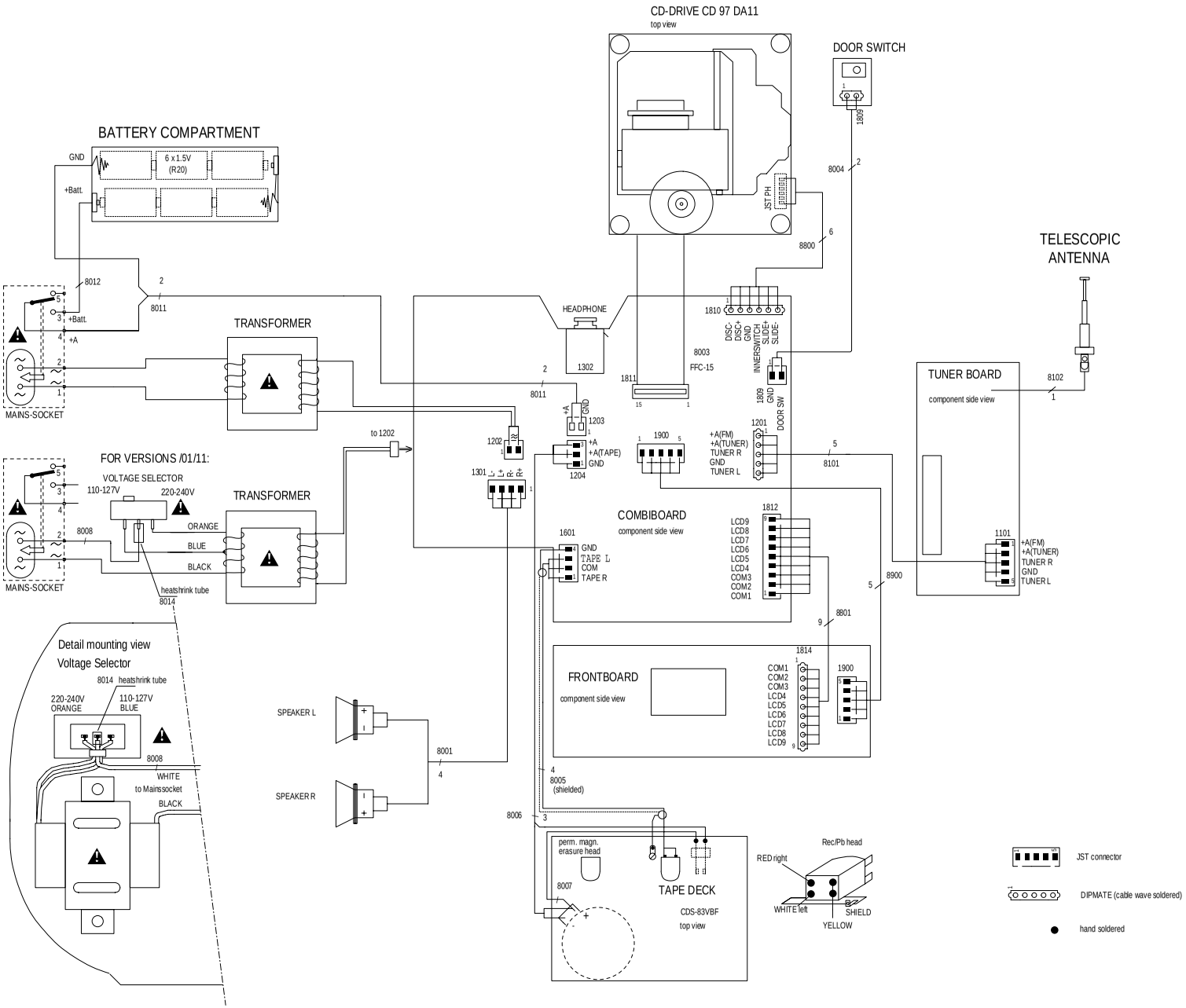
5-1

BLOCK DIAGRAM



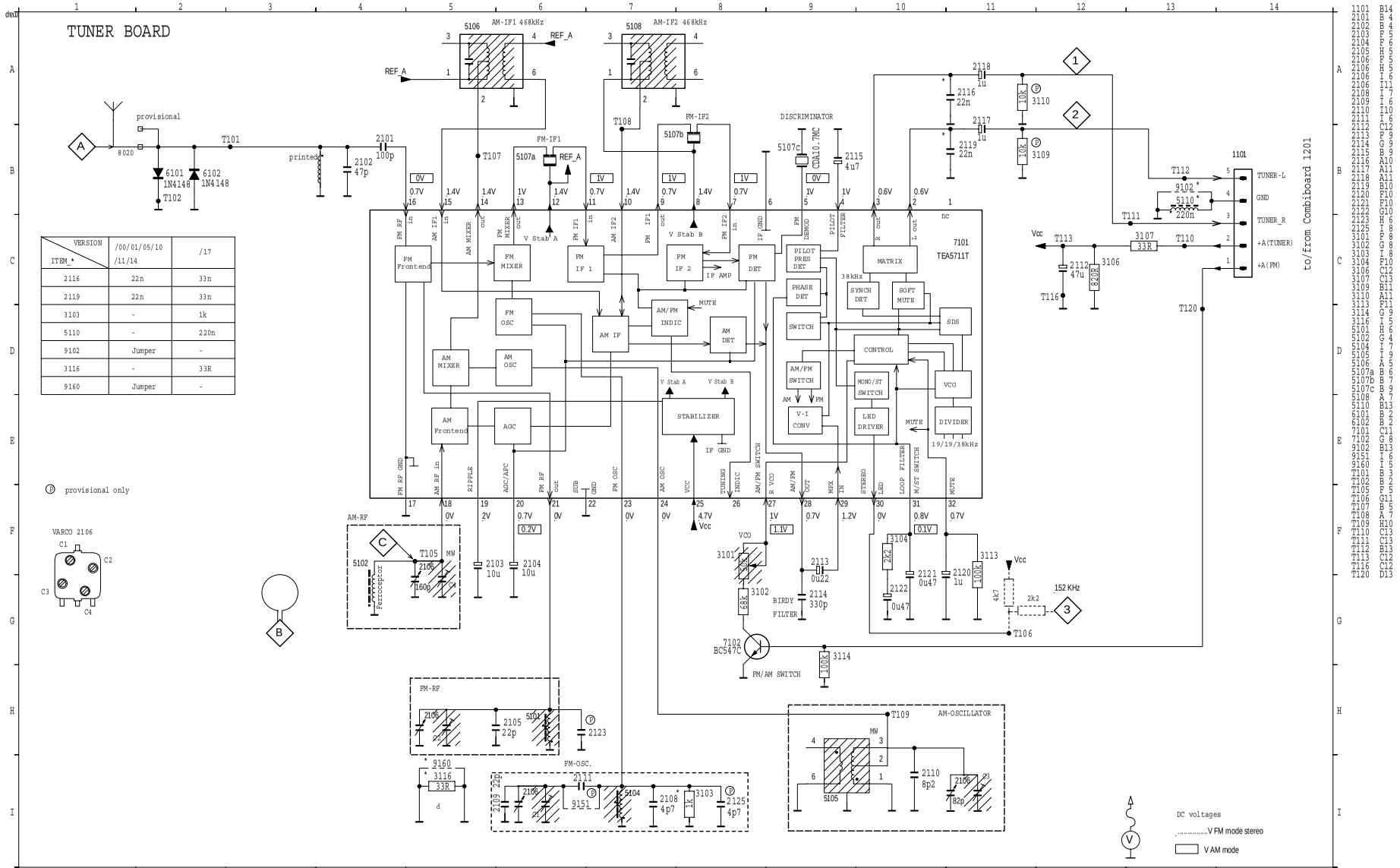
5-2

WIRING DIAGRAM



6-1

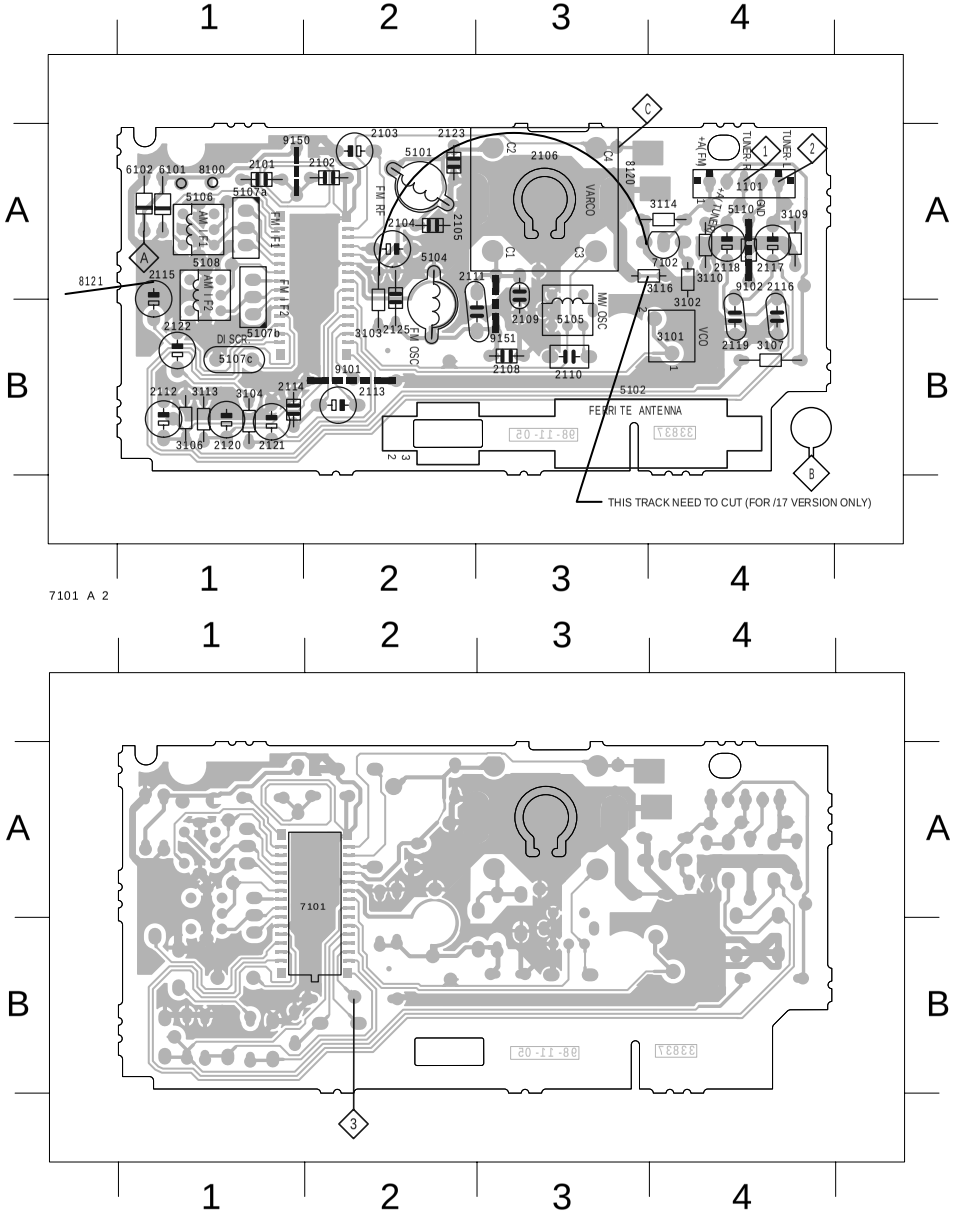
TUNER BOARD - CIRCUIT DIAGRAM



ITEM_* \ VERSION	/00/01/05/10 /11/14	/17
2116	22n	33n
2119	22n	33n
3103	-	1k
5110	-	220n
9102	Jumper	-
3116	-	33R
9160	Jumper	-

TUNER BOARD - LAYOUT DIAGRAM

1101 A 4	2106 A 3	2113 B 2	2119 B 4	3101 B 4	3109 A 4	5104 B 2	5108 A 1	9101 B 2
2101 A 1	2108 B 3	2114 B 1	2120 B 1	3102 A 4	3110 A 4	5105 B 3	5110 A 4	9102 A 4
2102 A 2	2109 A 3	2115 A 1	2121 B 1	3103 B 2	3113 B 1	5106 A 1	6101 A 1	9150 A 1
2103 A 2	2110 B 3	2116 B 4	2122 B 1	3104 B 1	3114 A 4	5107a A 1	6102 A 1	9151 B 3
2104 A 2	2111 B 3	2117 A 4	2123 A 2	3106 B 1	3116 A 4	5107b A 1	7102 A 4	
2105 A 2	2112 B 1	2118 A 4	2125 A 2	3107 B 4	5101 A 2	5107c B 1	8100 A 1	



TUNER ADJUSTMENT TABLE

Waverange	Input Frequency	Input	Set tuned to	Adjust	Measure on	Scope / Counter
OSCILLATOR						
FM 87,5 - 108 MHz	87,35 MHz 108,25 MHz	A f = ±500kHz V_{RF} = 100µV	lower band end upper band end	5104 2106 C1	1 or 2	f_o
MW 525 - 1607 kHz (530 - 1710 kHz) [1]	512 kHz (520 kHz) 1635 kHz (1730 kHz)	C f = ±30kHz V_{RF} = 100µV	lower band end upper band end	5105 2106 C3	1 or 2	f_o
FM - RF						
FM 87,5 - 108 MHz	87,5 MHz 108 MHz	A f = ±500kHz V_{RF} = 10µV	87,5 MHz 108 MHz	5101 2106 C2	1 or 2	max.
VCO						
FM	98 MHz	A continuous wave V_{RF} = 1 mV	98 MHz	3101	3 7101 pin 30 2k2 4k7 V_{CC}	152 ±1 kHz
AM - IF						
AM	468 kHz connect pin 24 of IC 7101 (AM Osc) with short wire to ground	C f = ±15kHz V_{RF} = 10mV	IC 7101 10 100nF 220R IC 7101 14 100nF 220R see remark 2)	5106 5108	1 or 2	max. f_o symmetric
AM -RF						
MW	560 kHz 1500 kHz	B f = ±30kHz V_{RF} as low as possible	560 kHz 1500 kHz	5102 (ferroceptor coil) 2106 C4	1 or 2	max. symmetric

repeat

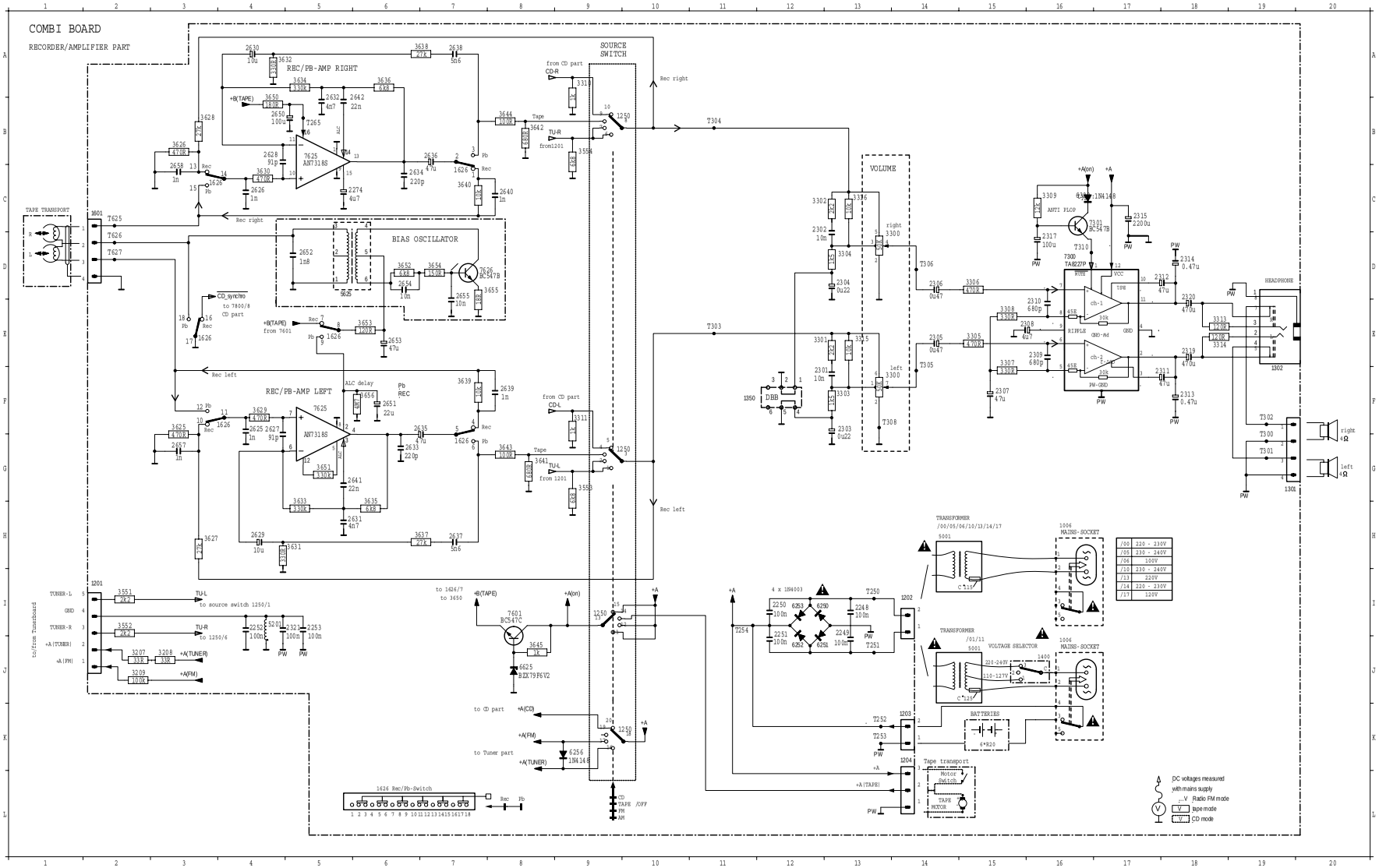
[1] for USA /17

[2] RC-network serves for damping the IF-filter while adjusting the other one.

7-1

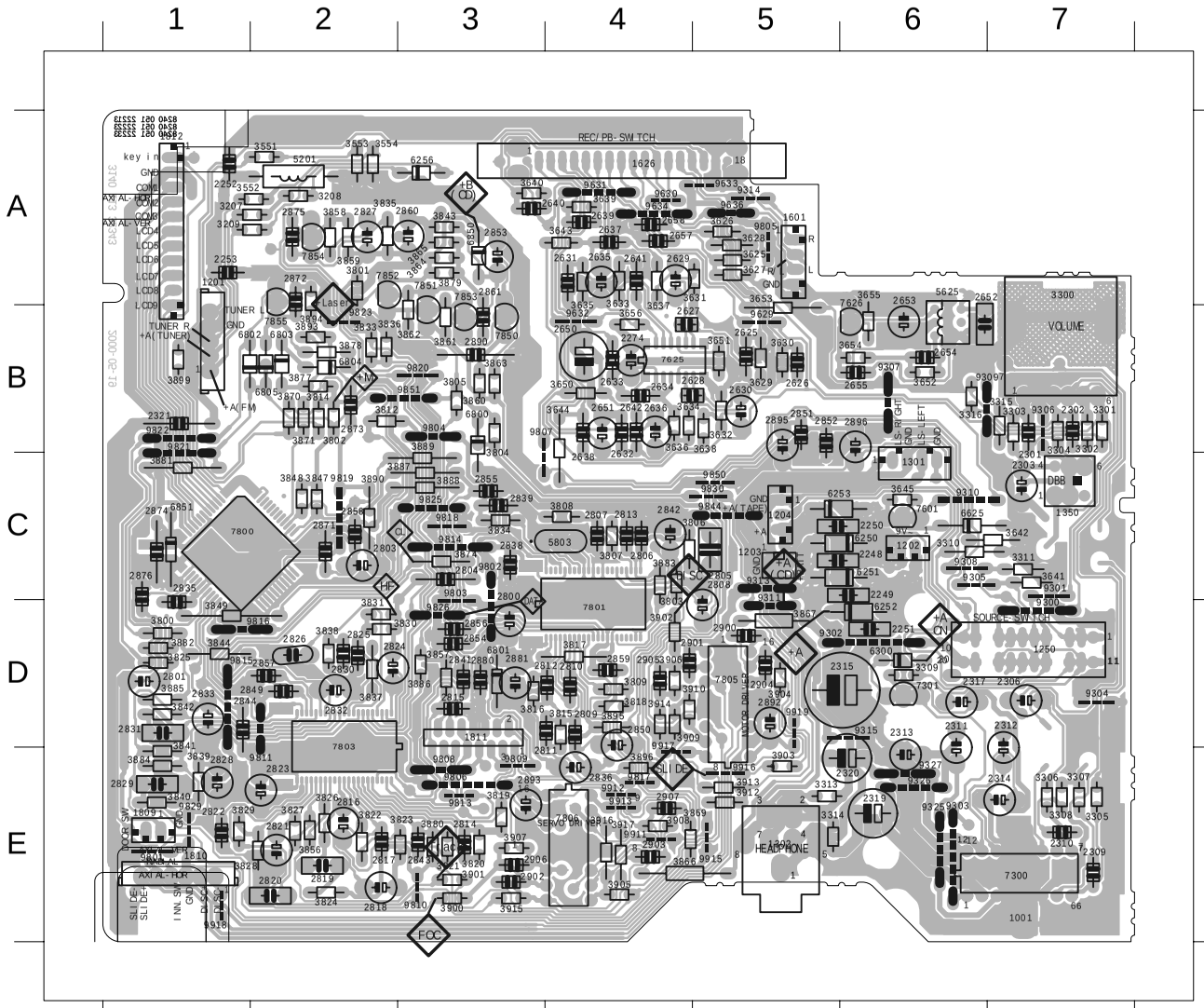
COMBI BOARD - CIRCUIT DIAGRAM

RECORDER / AMPLIFIER PART



COMBI BOARD (AZ1050) - LAYOUT DIAGRAM

7-2



1 2 3 4 5 6 7

A B C D E

This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

BC...

E
B
C

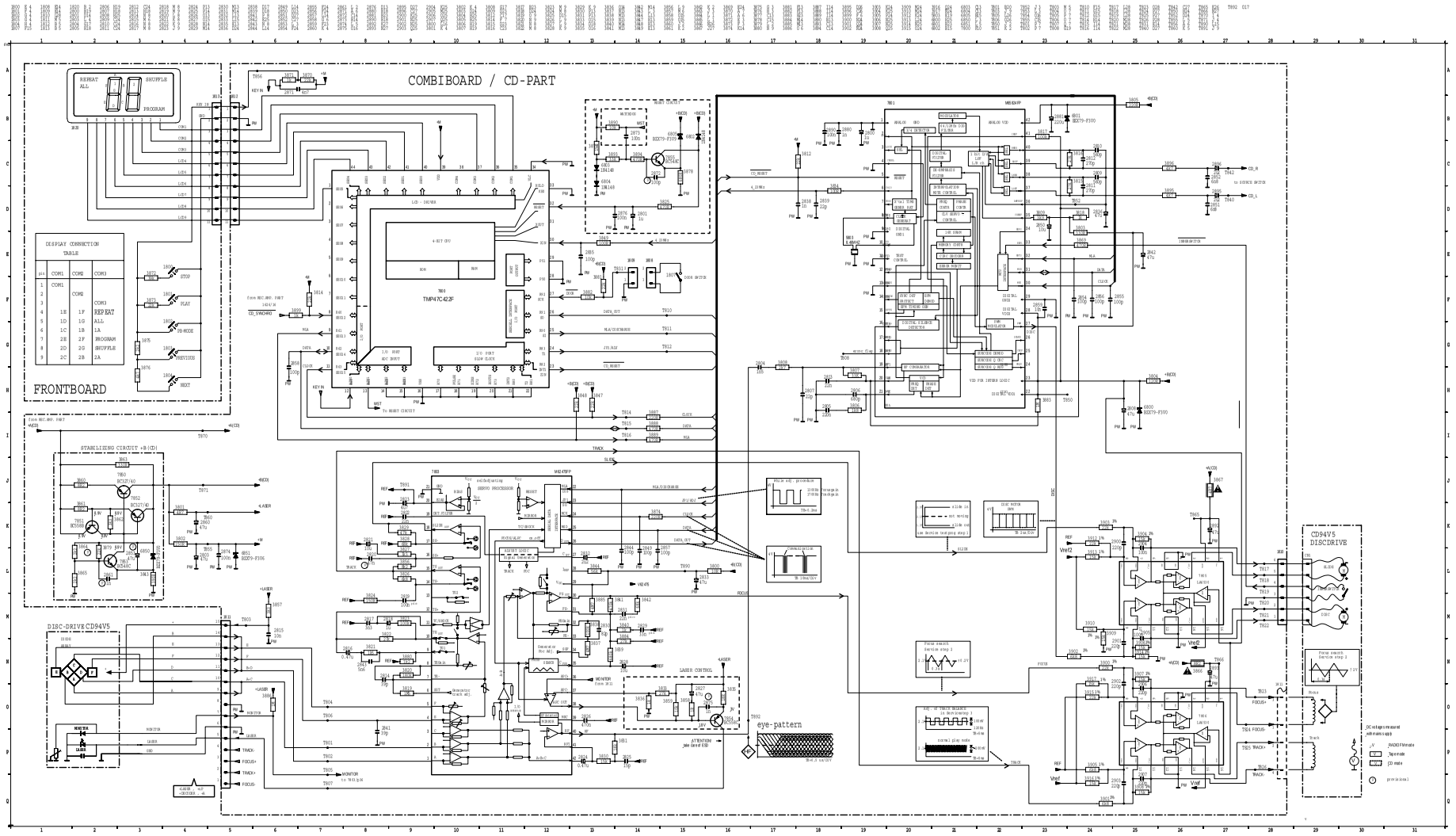
6250 , 6251 , 6252, 6253
Mounted raised by
silicon rubber sleeves

1201	B 1	2806	C 4	2905	D 4	3816	D 3	3901	E 3	9327	E 6								
1202	C 6	2807	C 4	2906	E 3	3817	D 4	3902	D 4	9629	B 5								
1203	C 5	2808	D 5	2907	E 4	3818	D 4	3903	E 5	9630	A 4								
1204	C 5	2809	D 4	3207	A 2	3819	E 3	3904	D 5	9631	A 4								
1250	D 7	2810	D 4	3208	A 2	3820	E 3	3905	E 4	9632	B 4								
1301	C 6	2811	D 4	3209	A 2	3821	E 3	3906	D 4	9633	A 5								
1302	E 5	2812	D 4	3300	B 7	3822	E 2	3907	E 3	9634	A 4								
1350	C 7	2813	C 4	3301	B 7	3823	E 3	3908	E 4	9636	A 5								
1601	A 5	2814	E 3	3302	B 7	3824	E 2	3909	D 4	9801	E 1								
1626	A 4	2815	D 3	3303	B 7	3825	D 1	3910	D 4	9802	D 3								
1809	E 1	2816	E 2	3304	B 7	3826	E 2	3912	E 5	9803	D 3								
1810	E 1	2817	E 2	3305	E 7	3827	E 2	3913	E 5	9804	B 3								
1811	D 3	2818	E 2	3306	E 7	3828	E 2	3914	D 4	9805	A 5								
1812	A 1	2819	E 2	3307	E 7	3829	E 1	3915	E 3	9806	E 3								
2248	C 5	2820	E 2	3308	E 7	3830	D 2	3916	E 4	9807	C 3								
2249	C 6	2821	E 2	3309	D 6	3831	D 2	3917	E 4	9808	E 3								
2250	C 5	2822	E 1	3310	C 6	3833	B 2	5201	A 2	9809	E 3								
2251	D 6	2823	E 2	3311	C 7	3834	C 3	5625	B 6	9810	E 3								
2252	A 1	2824	D 2	3313	E 5	3835	A 2	5803	C 4	9811	D 2								
2253	A 1	2825	D 2	3314	E 5	3836	B 2	6250	C 5	9813	E 3								
2274	B 4	2826	D 2	3315	B 7	3837	D 2	6251	C 5	9814	C 3								
2301	B 7	2827	A 2	3316	B 6	3838	D 2	6252	D 6	9815	D 1								
2302	B 7	2828	E 1	3551	A 2	3839	E 1	6253	C 5	9816	D 1								
2303	C 7	2829	E 1	3552	A 2	3840	E 1	6256	A 3	9817	E 4								
2306	D 7	2830	D 2	3553	A 2	3841	E 1	6300	D 6	9818	C 3								
2309	E 7	2831	D 1	3554	A 2	3842	D 1	6625	C 6	9819	C 2								
2310	E 7	2832	D 2	3625	A 5	3843	A 3	6800	B 3	9820	B 3								
2311	E 6	2833	D 1	3626	A 5	3844	D 1	6801	D 3	9821	C 1								
2312	E 7	2835	D 1	3627	A 5	3847	C 2	6802	B 1	9822	B 1								
2313	E 6	2836	E 4	3628	A 5	3848	C 2	6803	B 2	9823	B 2								
2314	E 7	2838	C 3	3629	B 5	3849	D 1	6804	B 2	9825	C 3								
2315	D 6	2839	C 3	3630	B 5	3856	E 2	6805	B 2	9826	D 3								
2317	D 6	2841	D 3	3631	A 5	3857	D 3	6850	A 3	9829	E 1								
2319	E 6	2842	C 4	3632	B 5	3858	A 2	6851	C 1	9830	C 5								
2320	E 6	2843	E 3	3633	A 4	3859	A 2	7300	E 7	9844	C 5								
2321	B 1	2844	D 1	3634	B 4	3860	B 3	7301	D 6	9850	C 5								
2625	B 5	2849	D 2	3635	A 4	3861	B 3	7601	C 6	9851	B 3								
2626	B 5	2850	D 4	3636	B 4	3862	B 3	7625	B 4	9911	E 4								
2627	B 4	2851	B 5	3637	A 4	3863	B 3	7626	B 6	9912	E 4								
2628	B 5	2852	B 5	3638	B 5	3864	A 3	7800	C 1	9913	E 4								
2629	A 4	2853	A 3	3639	A 4	3865	A 3	7801	D 4	9915	E 5								
2630	B 5	2854	D 3	3640	A 3	3866	E 4	7803	D 2	9916	E 5								
2631	A 4	2855	C 3	3641	C 7	3867	D 5	7805	D 5	9917	E 4								
2632	B 4	2856	D 3	3642	C 7	3869	E 4	7806	E 4	9918	E 1								
2633	B 4	2857	D 2	3643	A 4	3870	B 2	7850	B 3	9919	D 5								
2634	B 4	2858	C 2	3644	B 4	3871	B 2	7851	B 3										
2635	A 4	2859	D 4	3645	C 6	3874	C 3	7852	A 2										
2636	B 4	2860	A 3	3650	B 4	3877	B 2	7853	B 3										
2637	A 4	2861	B 3	3651	B 5	3878	B 2	7854	A 2										
2638	B 4	2871	C 2	3652	B 6	3879	A 3	7855	A 2										
2639	A 4	2872	A 2	3653	B 5	3880	E 3	9300	D 7										
2640	A 3	2873	B 2	3654	B 6	3881	C 1	9301	C 7										
2641	A 4	2874	C 1	3655	B 6	3882	D 1	9302	D 6										
2642	B 4	2875	A 2	3656	B 4	3883	C 4	9303	E 6										
2650	B 4	2876	C 1	3800	D 1	3884	E 1	9304	D 7										
2651	B 4	2880	D 3	3801	A 2	3885	D 1	9305	C 6										
2652	B 6	2881	D 3	3802	B 2	3886	D 3	9306	B 7										
2653	B 6	2890	B 3	3803	C 4	3887	C 3	9307	B 6										
2654	B 6	2892	D 5	3804	B 3	3888	C 3	9308	C 6										
2655	B 6	2893	E 3	3805	B 3	3889	C 3	9309	B 6										
2657	A 4	2895	B 5	3806	C 4	3890	C 2	9310	C 6										
2658	A 4	2896	B 6	3807	C 4	3893	B 2	9311	D 5										
2800	D 3	2900	D 5	3808	C 4	3894	A 2	9313	C 5										
2801	D 1	2901	D 4	3809	D 4	3895	D 4	9314	A 5										
2803	C 2	2902	E 3	3812	B 2	3896	E 4	9315	D 6										
2804	C 3	2903	E 4	3814	B 2	3899	B 1	9325	E 6										
2805	C 5	2904	D 5	3815	D 4	3900	E 3	9326	E 6										

7-3

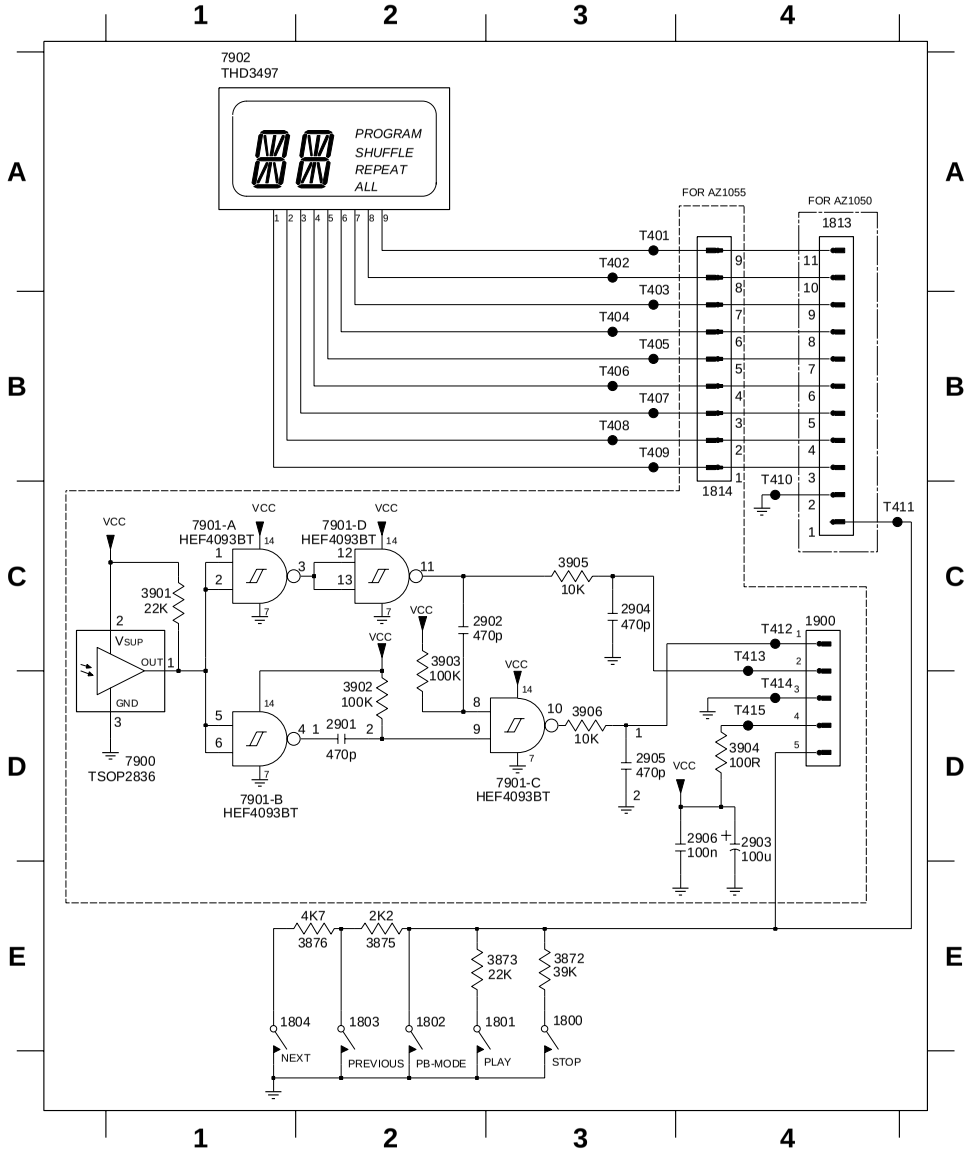
COMBI BOARD (AZ1050) - CIRCUIT DIAGRAM

CD PART

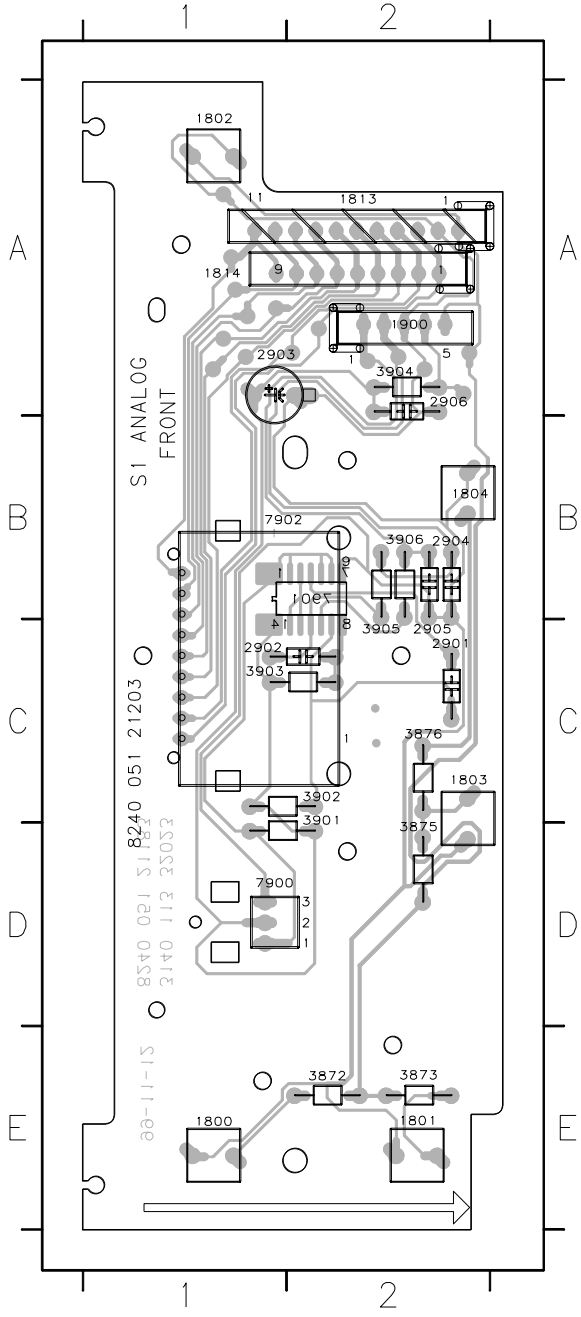


FRONT BOARD - CIRCUIT DIAGRAM

1800 E3	1813 A4	2903 D4	3873 E2	3903 D2	7901-A C1	T401 A3	T406 B3	T411 C4
1801 E3	1814 C4	2904 C3	3875 E2	3904 D4	7901-B D1	T402 A3	T407 B3	T412 C4
1802 E2	1900 C4	2905 D3	3876 E2	3905 C3	7901-C D3	T403 B3	T408 B3	T413 C4
1803 E2	2901 D2	2906 D4	3901 C1	3906 D3	7901-D C2	T404 B3	T409 B3	T414 D4
1804 E2	2902 C2	3872 E3	3902 D2	7900 D1	7902 A1	T405 B3	T410 C4	T415 D4



FRONT BOARD - LAYOUT DIAGRAM

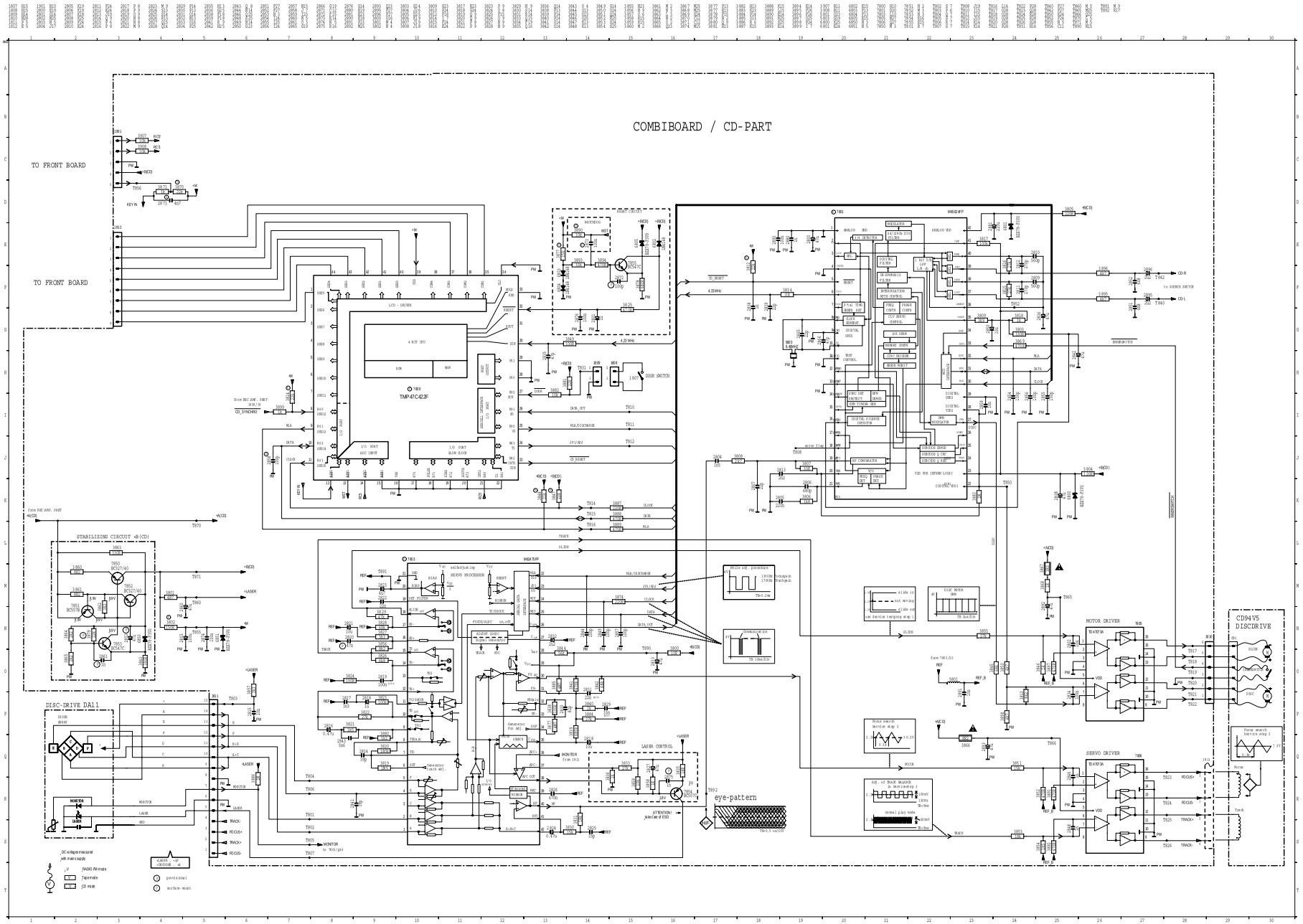


1800 E1
1801 E2
1802 A1
1803 C2
1804 B2
1813 A2
1814 A1
1900 A2
2901 C2
2902 C1
2903 A1
2904 B2
2905 C2
2906 A2
3872 E2
3873 E2
3875 D2
3876 C2
3901 C2
3902 C2
3903 C1
3904 A2
3905 C2
3906 B2
7900 D1
7901 B2
7902 B1

7-5

COMBI BOARD (AZ1055) - CIRCUIT DIAGRAM

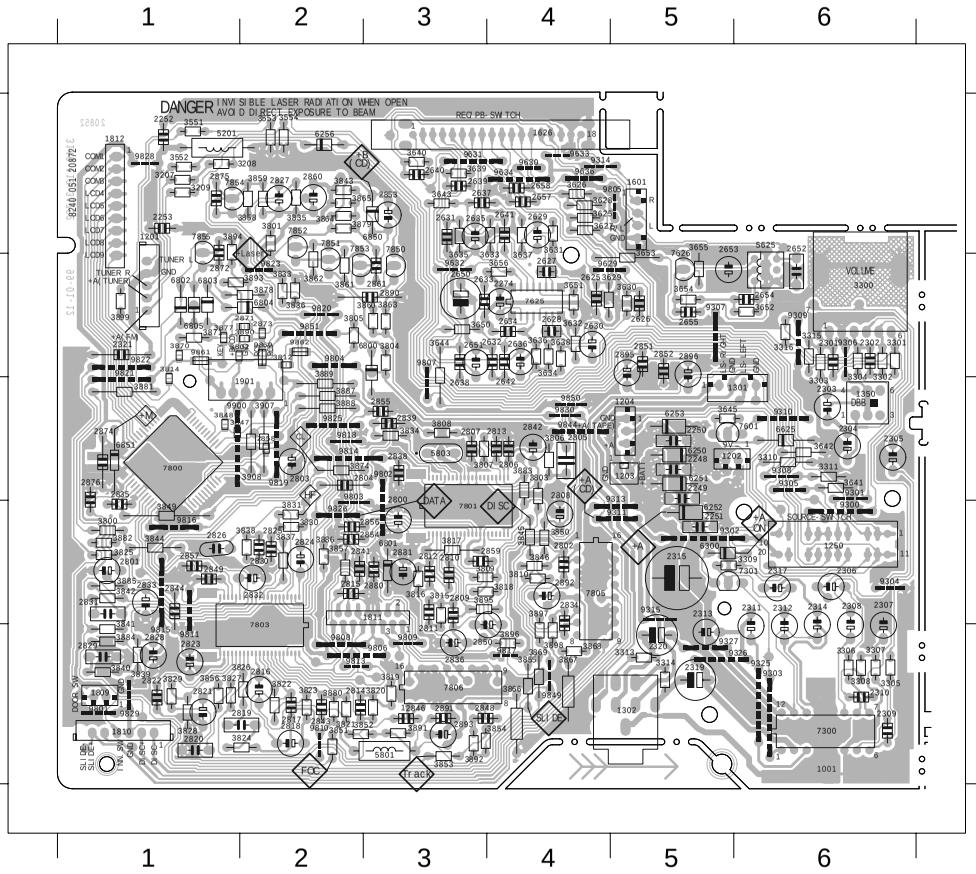
CD PART



7-6

7-6

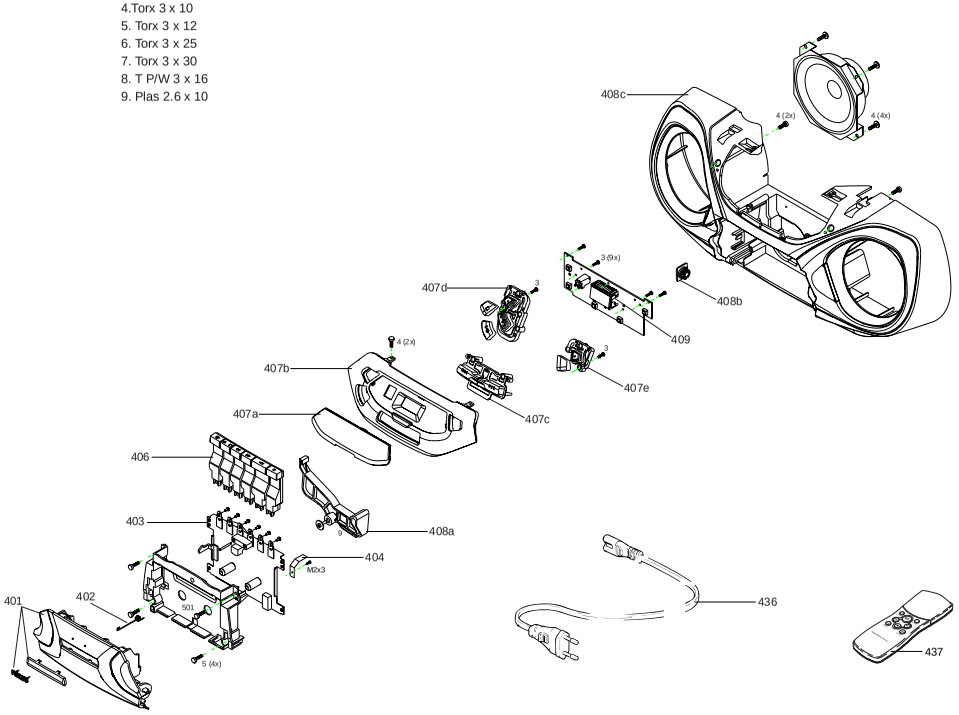
COMBI BOARD (AZ1055) - LAYOUT DIAGRAM

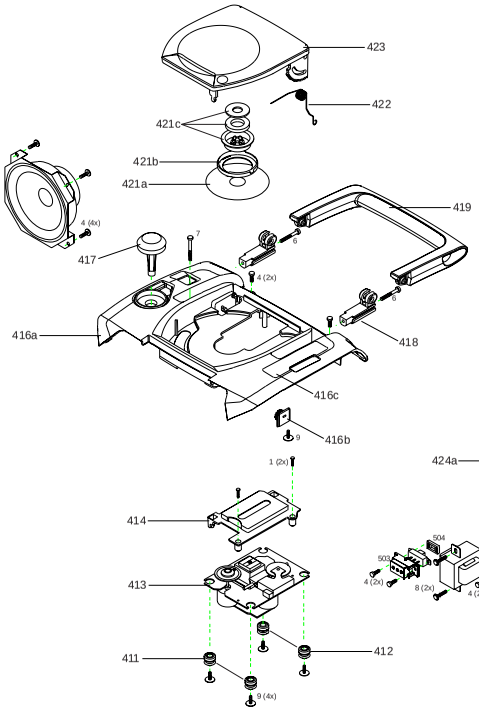


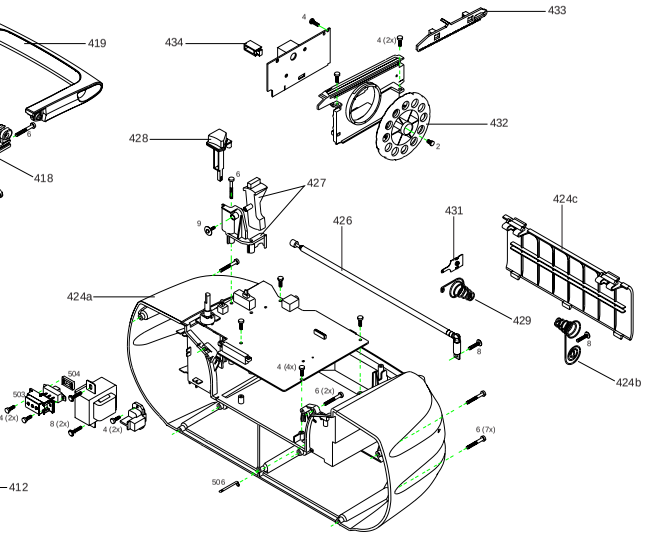
1201 B 1	2800 D 3	2891 E 3	3812 B 2	3885 D 1	9325 E 6		
1202 C 5	2801 D 1	2892 D 4	3814 C 1	3886 D 2	9326 E 5		
1203 C 5	2802 D 4	2893 E 3	3815 D 3	3887 C 2	9327 E 5		
1204 C 5	2803 C 2	2895 B 5	3816 D 3	3888 C 2	9629 B 4		
1250 D 6	2804 C 2	2896 B 5	3817 D 3	3889 C 2	9630 A 4		
1301 C 6	2805 C 4	3207 A 1	3818 D 3	3890 B 2	9631 A 3		
1302 E 5	2806 C 4	3208 A 1	3819 E 3	3891 E 3	9632 B 3		
1350 C 6	2807 C 3	3209 A 1	3820 E 3	3892 E 3	9633 A 4		
1601 A 5	2808 D 4	3300 B 6	3821 E 2	3893 B 1	9634 A 4		
1626 A 4	2809 D 3	3301 B 6	3822 E 2	3894 A 1	9636 A 4		
1809 E 1	2810 D 3	3302 B 6	3823 E 2	3895 D 3	9801 E 1		
1810 E 1	2811 D 3	3303 B 6	3824 E 2	3896 E 4	9902 D 3		
1811 D 3	2812 D 3	3304 B 6	3825 D 1	3897 E 4	9803 D 2		
1812 A 1	2813 C 4	3305 E 6	3826 E 2	3898 E 4	9804 B 2		
1901 C 2	2814 E 2	3306 E 6	3827 E 1	3899 B 1	9805 A 5		
2248 C 5	2815 D 2	3307 E 6	3828 E 1	3907 C 2	9806 E 2		
2249 C 5	2816 E 2	3308 E 6	3829 E 1	3908 C 2	9807 C 3		
2250 C 5	2817 E 2	3309 D 5	3830 D 2	5201 A 1	9808 E 2		
2251 D 5	2818 E 2	3310 C 6	3831 D 2	5625 B 6	9809 E 3		
2252 A 1	2819 E 2	3311 C 6	3833 B 2	5801 E 3	9810 E 2		
2253 A 1	2820 E 1	3313 E 5	3834 C 3	5803 C 3	9811 D 1		
2274 B 4	2821 E 1	3314 E 5	3835 A 2	6250 C 5	9813 E 2		
2301 B 6	2822 E 1	3315 B 6	3836 B 2	6251 C 5	9814 C 2		
2302 B 6	2823 E 1	3316 B 6	3837 D 2	6252 D 5	9815 D 1		
2303 C 6	2824 D 2	3551 A 1	3838 D 2	6253 C 5	9816 D 1		
2304 C 6	2825 D 2	3552 A 1	3839 E 1	6256 A 2	9817 E 4		
2305 C 6	2826 D 1	3553 A 2	3840 E 1	6300 D 5	9818 C 2		
2306 D 6	2827 A 2	3554 A 2	3841 E 1	6625 C 6	9819 C 2		
2307 E 6	2828 E 1	3625 A 4	3842 D 1	6800 B 3	9820 B 2		
2308 E 6	2829 E 1	3626 A 4	3843 A 2	6801 D 3	9821 C 1		
2309 E 6	2830 D 2	3627 A 4	3844 D 1	6802 B 1	9822 B 1		
2310 E 6	2831 D 1	3628 A 4	3845 D 4	6803 B 1	9823 B 2		
2311 E 6	2832 D 2	3629 B 4	3846 D 4	6804 B 2	9825 C 2		
2312 E 6	2833 D 1	3630 B 5	3847 C 1	6805 B 1	9826 D 2		
2313 E 5	2834 D 4	3631 A 4	3848 C 1	6850 A 3	9828 A 1		
2314 E 6	2835 D 1	3632 B 4	3849 D 1	6851 C 1	9829 E 1		
2315 D 5	2836 E 3	3633 A 4	3850 D 4	7300 E 6	9830 C 4		
2317 D 6	2838 C 3	3634 B 4	3851 E 2	7301 D 5	9844 C 4		
2319 E 5	2839 C 3	3635 A 3	3852 E 2	7601 C 5	9849 E 4		
2320 E 5	2841 D 2	3636 B 4	3853 E 3	7625 B 4	9850 C 4		
2321 B 1	2842 C 4	3637 A 4	3854 E 3	7626 B 5	9851 B 2		
2625 B 4	2843 E 2	3638 B 4	3855 E 4	7800 C 1	9860 B 2		
2626 B 5	2844 D 1	3639 A 3	3856 E 1	7801 D 3	9861 B 1		
2627 B 4	2846 E 3	3640 A 3	3857 D 2	7803 E 2	9862 B 2		
2628 B 4	2848 E 3	3641 C 6	3858 A 2	7805 D 4	9900 C 1		
2629 A 4	2849 D 1	3642 C 6	3859 A 2	7806 E 3			
2630 B 4	2850 E 4	3643 A 3	3860 B 3	7850 B 3			
2631 A 3	2851 B 5	3644 B 3	3861 B 2	7851 B 2			
2632 B 4	2852 B 5	3645 C 5	3862 B 2	7852 A 2			
2633 B 3	2853 A 3	3650 B 3	3863 B 3	7853 B 2			
2634 B 4	2854 D 2	3651 B 4	3864 A 2	7854 A 1			
2635 A 3	2855 C 3	3652 B 6	3865 A 2	7855 A 1			
2636 B 4	2856 D 2	3653 B 5	3866 E 4	9300 D 6			
2637 A 3	2857 D 1	3654 B 5	3867 E 4	9301 C 6			
2638 B 3	2858 C 2	3655 B 5	3868 E 4	9302 D 5			
2639 A 3	2859 D 3	3656 B 4	3869 E 4	9303 E 6			
2640 A 3	2860 A 2	3800 D 1	3870 B 1	9304 D 6			
2641 A 4	2861 B 3	3801 A 2	3871 B 1	9305 C 6			
2642 B 4	2871 B 2	3802 B 1	3874 C 2	9306 B 6			
2650 B 3	2872 A 1	3803 C 4	3877 B 1	9307 B 5			
2651 B 3	2873 B 2	3804 B 3	3878 B 2	9308 C 6			
2652 B 6	2874 C 1	3805 B 2	3879 A 2	9309 B 6			
2653 B 5	2875 A 1	3806 C 4	3880 E 2	9310 C 6			
2654 B 6	2876 C 1	3807 C 3	3881 C 1	9311 D 5			
2655 B 5	2880 D 3	3808 C 3	3882 D 1	9313 D 5			
2657 A 4	2881 D 3	3809 D 3	3883 C 4	9314 A 4			
2658 A 4	2890 B 3	3810 D 4	3884 E 1	9315 D 5			

EXPLODED VIEW DIAGRAM - CABINET

SCREW LIST
1. M2 x 5.5
2. M2.5 x 6
3.Torx 2 x 8
4.Torx 3 x 10
5. Torx 3 x 12
6. Torx 3 x 25
7. Torx 3 x 30
8. T P/W 3 x 16
9. Plas 2.6 x 10







MECHANICAL PARTSLIST - CABINET

401	3140 117 60730	Cass Door Assy (For AZ1050)	
401	3140 117 60800	Cass Door Assy (For AZ1055)	
402	4822 492 42709	Cass Door Spring	
403	4822 691 10612	Tape Deck Mechanism	
404	4822 492 11061	Spring Recording	
406	3140 114 36770	Keyset Cass	
407	3140 117 60770	Front Panel Assy (For AZ1050)	
407	3140 117 60810	Front Panel Assy (For AZ1055)	
408	3140 117 60920	Front Cab Assy (For AZ1050)	
408	3140 117 60700	Front Cab Assy (For AZ1055)	
409	3140 114 30280	Bracket LCD	
411	4822 529 10387	Damper Rubber (40 DEG)	
412	4822 529 10386	Damper Rubber (30 DEG)	
413	3103 309 05290	CD DA11N Drive Assy	
414	4822 442 01096	Cover CD	
416	3140 117 60860	Top Cabinet Assy (Not for -/17)	
416	3140 117 60720	Top Cabinet Assy (For -/17)	
417	3140 114 36780	Knob Volume	
418	4822 402 10856	Bracket Handle	
419	3140 114 36790	Handle	
421	3140 117 59800	Clamper Ring Assy	
422	3140 111 00750	Spring CD	
423	3140 114 37140	Door CD (For AZ1050)	
423	3140 114 37220	Door CD (For AZ1055)	
424	3140 117 60750	Rear Cabinet Assy	
426	4822 303 14038	Telescopic Aerial	
427	3140 117 60740	Knob Mode Assy	
428	3140 117 60760	Knob DBB Assy	
429	4822 492 51961	Spring Compression	
431	3140 111 21360	Contact Plate	

432	3140 114 36800	Wheel Tuning	
433	3140 114 29800	Pointer	
434	4822 256 90463	Ferrite Bar Holder	
436	4822 321 10249	Mains Cord (For -/00/01/11/14)	
436	2422 070 98148	Mains Cord (For -/10)	
436	2422 070 98152	Mains Cord (For -/17)	
437	3139 228 87280	Remote Control (For AZ1055)	
	3140 115 28230	Instr Manual (For AZ1050/00)	
	3140 115 28280	Instr Manual (For AZ1050/01/10/11)	
	3140 115 28240	Instr Manual (For AZ1050/14)	
	3140 115 28170	Instr Manual (For AZ1050/17)	
	3140 115 28250	Instr Manual (For AZ1055/00)	
	3140 115 28291	Instr Manual (For AZ1055/11)	
	3140 115 28260	Instr Manual (For AZ1055/14)	
	3140 115 28180	Instr Manual (For AZ1055/17)	

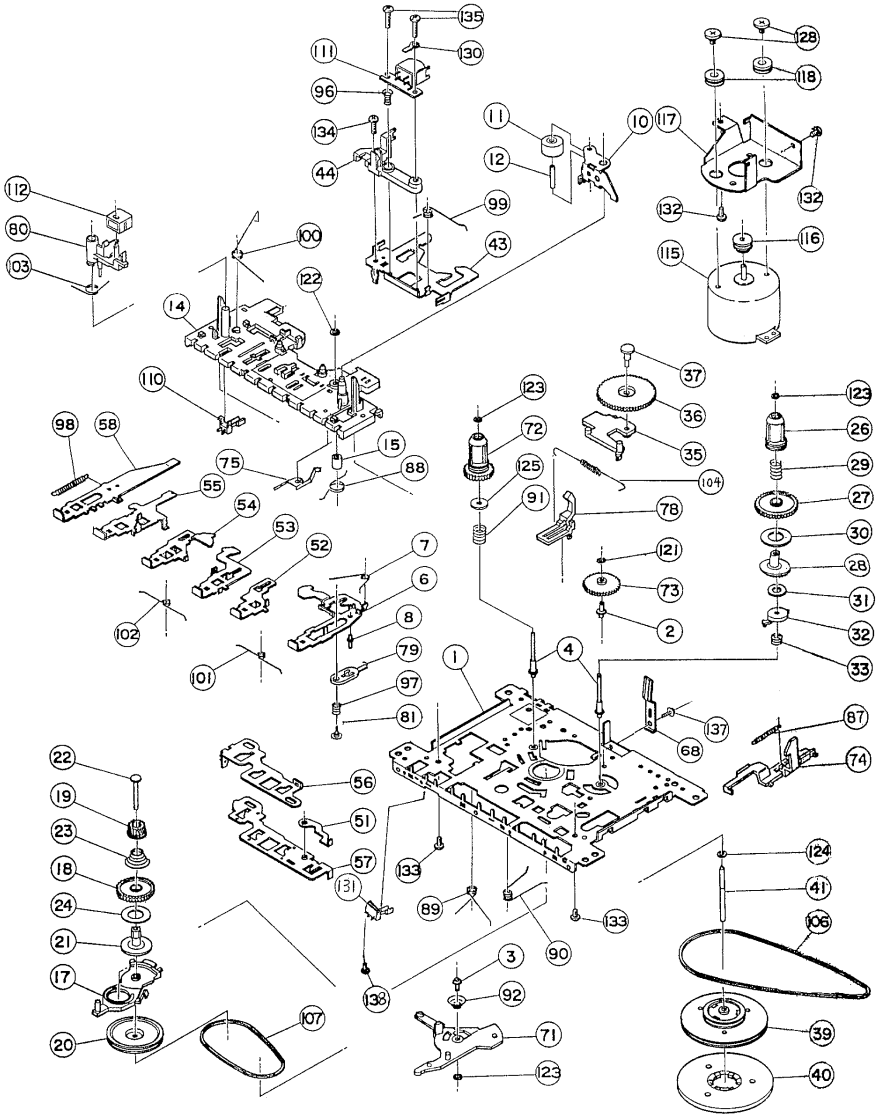
Note: Only these parts metioned in the list are normal service parts.

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	
110	4822 278 90721	Leaf Switch	
111	4822 249 30218	MS18R-AKONI	
112	4822 249 40306	E. Head	
115	4822 361 21565	Motor EG-530AD-9B	
116	4822 528 81497	Motor Pulley	

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

EXPLODED VIEW DIAGRAM - TAPE DECK



ELECTRICAL PARTSLIST - COMBI BOARD

- CAPACITIORS -

2101	4822 122 33195	100pF 10% 50V
2102	4822 122 33848	47pF 5%SL 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	Var Cpacitior
2108	4822 122 10465	4,7pF 10% 50V
2109	4822 122 32147	22pF 2% N470 100V
2110	4822 126 12229	8,2pF N750 50V
2112	4822 124 40433	47µF 20% 25V
2113	4822 124 40746	0,22µF 20% 63V
2114	4822 126 12787	330pF 10% Y5V 50V
2115	4822 124 40769	4,7µF 20% 100V
2116	4822 121 41856	22nF 5% 250V
2117	4822 124 21913	1µF 20% 63V
2118	4822 124 21913	1µF 20% 63V
2119	4822 121 41856	22nF 5% 250V
2120	4822 124 21913	1µF 20% 63V
2121	4822 124 41407	0,47µF 20% 63V
2122	4822 124 41407	0,47µF 20% 63V
2125	2020 561 90063	2,2pF 10% 50V
2248	5322 121 42386	100nF 5% 63V
2249	5322 121 42386	100nF 5% 63V
2250	5322 121 42386	100nF 5% 63V
2251	5322 121 42386	100nF 5% 63V
2252	2020 561 90365	100nF +80/-20% 50V
2253	2020 561 90365	100nF +80/-20% 50V
2274	4822 124 40769	4,7µF 20% 100V
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 40769	4,7µF 20% 100V
2309	4822 126 14316	680pF 10% 50V Y5P
2310	4822 126 14316	680pF 10% 50V Y5P
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 40207	100µF 20% 25V
2319	4822 124 80195	470µF 20% 10V
2320	4822 124 80195	470µF 20% 10V
2321	2020 561 90365	100nF +80/-20% 50V
2625	4822 122 33197	1nF 10% 50V
2626	4822 122 33197	1nF 10% 50V
2627	4822 126 13507	91pF 5% 50V

- CAPACITIORS -

2628	4822 126 13507	91pF 5% 50V
2629	4822 124 40248	10µF 20% 63V
2630	4822 124 40248	10µF 20% 63V
2631	4822 121 43856	4.7nF 5% 250V
2632	4822 121 43856	4.7nF 5% 250V
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 121 42469	5,6nF 5% 250V
2638	4822 121 42469	5,6nF 5% 250V
2639	4822 122 33197	1nF 10% 50V
2640	4822 122 33197	1nF 10% 50V
2641	4822 126 11585	22nF +80-20% Y5V 25V
2642	4822 126 11585	22nF +80-20% Y5V 25V
2650	4822 124 41584	100µF 20% 10V
2651	4822 124 81151	22µF 50V
2652	4822 121 10685	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 124 21913	1µF 20% 63V
2801	4822 124 21913	1µF 20% 63V
2802	4822 121 51387	10nF 20% 16V
2803	4822 124 40433	47µF 20% 25V (For Z1050)
2803	4822 124 41584	100µF 20% 10V (For AZ1055)
2804	4822 126 12878	1,5nF 10% 16V
2805	4822 121 42408	220nF 5% 63V
2806	4822 126 14316	680pF 10% 50V Y5P
2807	4822 122 33191	22pF 5% 50V
2808	4822 124 40433	47µF 20% 25V
2809	4822 122 10459	560pF 10% 50V
2810	4822 122 10459	560pF 10% 50V
2811	4822 126 12702	270pF 10% Y5P 50V
2812	4822 126 12702	270pF 10% Y5P 50V
2813	4822 126 12339	2,2nF 10% Y5R
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 21913	1µF 20% 63V
2819	5322 121 42386	100nF 5% 63V
2821	4822 124 40248	10µF 20% 63V
2822	4822 126 11585	22nF +80-20% Y5V 25V
2823	4822 124 40769	4,7µF 20% 100V
2824	4822 124 41407	0,47µF 20% 63V
2825	4822 122 10462	15pF 5% NP0
2826	4822 121 51252	470nF 5% 63V

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ELECTRICAL PARTSLIST - COMBI BOARD

- CAPACITIORS -

2827	4822 124 40433	47µF 20% 25V
2828	4822 124 40248	10µF 20% 63V
2829	5322 121 42489	33nF 5% 250V
2830	4822 122 10319	82pF 5% 50V
2831	4822 121 41856	22nF 5% 250V
2832	4822 124 22652	2,2µF 20% 50V
2833	4822 124 40433	47µF 20% 25V
2834	2020 561 90365	100nF +80/-20% 50V
2835	4822 122 33195	100pF 10% 50V
2836	4822 124 40433	47µF 20% 25V
2838	4822 122 33197	1nF 10% 50V
2839	4822 122 33191	22pF 5% 50V
2841	4822 126 13677	39pF 5% 50V
2842	4822 124 40433	47µF 20% 25V
2843	4822 126 13098	5,6nF 20% 16V
2844	4822 122 33195	100pF 10% 50V
2846	4822 122 33197	1nF 10% 50V
2848	4822 122 33197	1nF 10% 50V
2849	4822 122 33195	100pF 10% 50V
2850	4822 124 40248	10µF 20% 63V
2851	4822 126 13312	6.8nF 20% Y5R 16V
2852	4822 126 13312	6.8NF 20% Y5R 16V
2854	4822 122 33195	100pF 10% 50V
2855	4822 122 33195	100pF 10% 50V
2856	4822 122 33195	100pF 10% 50V
2857	4822 122 33195	100pF 10% 50V
2858	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	2020 561 90365	100nF +80/-20% 50V
2874	2020 561 90365	100nF +80/-20% 50V
2876	2020 561 90365	100nF +80/-20% 50V
2880	4822 122 33197	1nF 10% 50V
2881	4822 124 11912	220µF 20% 6,3V
2890	2020 561 90365	100nF +80/-20% 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 22652	2,2µF 20% 50V
2896	4822 124 22652	2,2µF 20% 50V
2900	4822 122 10466	220pF 10% 50V
2901	4822 122 10466	220pF 10% 50V
2902	4822 122 10466	220pF 10% 50V
2903	4822 122 10466	220pF 10% 50V
2904	2020 561 90365	100nF +80/-20% 50V
2905	2020 561 90365	100nF +80/-20% 50V
2906	4822 122 10466	220pF 10% 50V
2907	4822 122 10466	220pF 10% 50V

- RESISTORS -

3101	4822 100 20167	VR 50K 30% 0,1W
3102	4822 116 52297	68K 5% 0,5W
3104	4822 116 52256	2K2 5% 0,5W
3106	4822 116 52231	820R 5% 0,5W
3107	4822 116 52191	33R 5% 0,5W
3113	4822 116 52234	100K 5% 0,5W
3114	4822 116 52234	100K 5% 0,5W
3207	4822 116 52191	33R 5% 0,5W
3208	4822 116 52191	33R 5% 0,5W
3209	4822 116 52234	100K 5% 0,5W
3300	4822 101 11826	VR 50K 20% 0.025W
3301	4822 116 52256	2K2 5% 0,5W
3302	4822 116 52256	2K2 5% 0,5W
3303	4822 116 52243	1K5 5% 0,5W
3304	4822 116 52243	1K5 5% 0,5W
3305	4822 116 83883	470R 5% 0,5W
3306	4822 116 83883	470R 5% 0,5W
3307	4822 116 52219	330R 5% 0,5W
3308	4822 116 52219	330R 5% 0,5W
3309	4822 116 52238	12K 5% 0,5W
3310	4822 050 11002	1K 1% 0,4W
3311	4822 050 11002	1K 1% 0,4W
3313	4822 116 52206	120R 5% 0,5W
3314	4822 116 52206	120R 5% 0,5W
3315	4822 050 21003	10K 1% 0,6W
3316	4822 050 21003	10K 1% 0,6W
3551	4822 116 52256	2K2 5% 0,5W
3552	4822 116 52256	2K2 5% 0,5W
3553	4822 116 83961	6K8 5%
3554	4822 116 83961	6K8 5%
3625	4822 116 83883	470R 5% 0,5W
3626	4822 116 83883	470R 5% 0,5W
3627	4822 116 52264	27K 5% 0,5W
3628	4822 116 52264	27K 5% 0,5W
3629	4822 116 83883	470R 5% 0,5W
3630	4822 116 83883	470R 5% 0,5W
3631	4822 116 52219	330R 5% 0,5W
3632	4822 116 52219	330R 5% 0,5W
3633	4822 116 52272	330K 5% 0,5W
3634	4822 116 52272	330K 5% 0,5W
3635	4822 116 83961	6K8 5%
3636	4822 116 83961	6K8 5%
3637	4822 116 52264	27K 5% 0,5W
3638	4822 116 52264	27K 5% 0,5W
3639	4822 050 21003	10K 1% 0,6W
3640	4822 050 21003	10K 1% 0,6W
3641	4822 116 52228	680R 5% 0,5W
3642	4822 116 52228	680R 5% 0,5W
3643	4822 116 52175	100R 5% 0,5W
3644	4822 116 52175	100R 5% 0,5W

ELECTRICAL PARTSLIST - COMBI BOARD

- RESISTORS -

3645	4822 050 11002	1K	1%	0,4W	
3650	4822 116 52213	180R	5%	0,5W	
3651	4822 116 52272	330K	5%	0,5W	
3652	4822 116 83961	6K8	5%		
3653	4822 116 52206	120R	5%	0,5W	
3654	4822 116 83868	150R	5%	0,5W	
3655	4822 116 52184	18R	5%	0,5W	
3656	4822 111 30893	4M7	5%	0,2W	
3800	4822 116 52176	10R	5%	0,5W	
3801	4822 050 24708	4R7	1%	0,6W	
3802	4822 116 83868	150R	5%	0,5W	
3803	4822 116 52219	330R	5%	0,5W	
3804	4822 116 52206	120R	5%	0,5W	
3805	4822 116 83872	220R	5%	0,5W	
3806	4822 116 52249	1K8	5%	0,5W	
3807	4822 050 23303	33K	1%	0,6W	
3808	4822 116 52263	2K7	5%	0,5W	
3809	4822 116 52276	3K9	5%	0,5W	
3810	4822 116 52303	8K2	5%	0,5W	
3812	4822 116 52257	22K	5%	0,5W	
3814	4822 116 52257	22K	5%	0,5W	
3815	4822 116 52264	27K	5%	0,5W	
3816	4822 116 52264	27K	5%	0,5W	
3817	4822 116 52234	100K	5%	0,5W	
3818	4822 050 11002	1K	1%	0,4W	
3819	4822 117 11825	1M5	5%		
3820	4822 116 52252	180K	5%	0,5W	
3821	4822 116 52243	1K5	5%	0,5W	
3822	4822 116 52264	27K	5%	0,5W	
3823	4822 116 52234	100K	5%	0,5W	
3824	4822 116 83868	150R	5%	0,5W	
3825	4822 116 83883	470R	5%	0,5W	
3826	4822 116 83961	6K8	5%		
3827	4822 116 52269	3K3	5%	0,5W	
3828	4822 116 52297	68K	5%	0,5W	
3829	4822 116 83884	47K	5%	0,5W	
3830	4822 116 52244	15K	5%	0,5W	
3831	4822 116 52251	18K	5%	0,5W	
3833	4822 116 52264	27K	5%	0,5W	
3834	4822 116 52175	100R	5%	0,5W	
3835	4822 116 52184	18R	5%	0,5W	
3836	4822 050 11002	1K	1%	0,4W	
3837	4822 111 30893	4M7	5%	0,2W	
3838	4822 116 52234	100K	5%	0,5W	
3839	4822 116 52298	680K	5%	0,5W	
3840	4822 050 11002	1K	1%	0,4W	
3841	4822 116 52285	470K	5%	0,5W	
3842	4822 116 52297	68K	5%	0,5W	
3843	4822 116 83881	390R	5%	0,5W	
3844	4822 116 52291	56K	5%	0,5W	

- RESISTORS -

3847	4822 116 52257	22K	5%	0,5W	
3848	4822 116 52257	22K	5%	0,5W	
3849	4822 116 52175	100R	5%	0,5W	
3850	4822 116 52283	4K7	5%	0,5W	
3851	4822 116 52244	15K	5%	0,5W	
3852	4822 116 83883	470R	5%	0,5W	
3853	4822 116 52251	18K	5%	0,5W	
3854	4822 116 52243	1K5	5%	0,5W	
3855	4822 116 52264	27K	5%	0,5W	
3856	4822 116 52303	8K2	5%	0,5W	
3857	4822 116 52269	3K3	5%	0,5W	
3858	4822 116 80176	1R	5%	0,5W	
3859	4822 050 21003	10K	1%	0,6W	
3860	4822 117 12798	8R2	5%	0,25W	
3861	4822 117 12798	8R2	5%	0,25W	
3862	4822 116 52269	3K3	5%	0,5W	
3863	4822 116 52219	330R	5%	0,5W	
3864	4822 116 52256	2K2	5%	0,5W	
3865	4822 116 52256	2K2	5%	0,5W	
3866	4822 052 10828	8R2	5%	0,33W	
3867	4822 052 10478	4R7	5%	0,33W	
3869	4822 116 83883	470R	5%	0,5W	
3870	4822 116 52257	22K	5%	0,5W	
3871	4822 050 11002	1K	1%	0,4W	
3874	4822 116 83872	220R	5%	0,5W	
3877	4822 116 52244	15K	5%	0,5W	
3878	4822 116 52228	680R	5%	0,5W	
3880	4822 116 52207	1K2	5%	0,5W	
3881	4822 116 52257	22K	5%	0,5W	
3882	4822 050 21003	10K	1%	0,6W	
3883	4822 116 83866	1M	5%	0,5W	
3884	4822 116 52264	27K	5%	0,5W	
3885	4822 111 30893	4M7	5%	0,2W	
3886	4822 116 83866	1M	5%	0,5W	
3887	4822 116 83872	220R	5%	0,5W	
3888	4822 116 83883	470R	5%	0,5W	
3889	4822 116 83883	470R	5%	0,5W	
3890	4822 050 21003	10K	1%	0,6W	
3891	4822 116 83883	470R	5%	0,5W	
3892	4822 116 83883	470R	5%	0,5W	
3893	4822 050 23303	33K	1%	0,6W	
3894	4822 116 83883	470R	5%	0,5W	
3895	4822 116 52283	4K7	5%	0,5W	
3896	4822 116 52283	4K7	5%	0,5W	
3897	4822 116 83883	470R	5%	0,5W	
3898	4822 116 52283	4K7	5%	0,5W	
3899	4822 050 11002	1K	1%	0,4W	
3900	4822 050 12203	22K	1%	0,4W	
3901	4822 050 16802	6K8	1%	0,4W	
3902	4822 050 16802	6K8	1%	0,4W	

ELECTRICAL PARTSLIST - COMBI BOARD

- RESISTORS -

3903	4822 050 12203	22K	1%	0,4W	
3904	4822 050 11503	15K	1%	0,4W	
3905	4822 050 16802	6K8	1%	0,4W	
3906	4822 050 11503	15K	1%	0,4W	
3907	4822 050 11503	15K	1%	0,4W	(For AZ1050)
3907	4822 050 21003	10K	1%	0,6W	(For AZ1055)
3908	4822 050 11503	15K	1%	0,4W	(For AZ1050)
3908	4822 050 21003	10K	1%	0,6W	(For AZ1055)
3909	4822 050 11503	15K	1%	0,4W	
3910	4822 050 11503	15K	1%	0,4W	
3912	4822 050 12203	22K	1%	0,4W	
3913	4822 050 11503	15K	1%	0,4W	
3914	4822 050 11503	15K	1%	0,4W	
3915	4822 050 12203	22K	1%	0,4W	
3916	4822 050 11503	15K	1%	0,4W	
3917	4822 050 11503	15K	1%	0,4W	
9860	4822 051 20008	Jumper			
9861	4822 051 20008	Jumper			
9862	4822 051 20008	Jumper			

-COILS & FILTERS -

5101	4822 157 70513	Coil FM
5102	2422 535 94985	Coil 64µH 5%
5104	4822 157 11843	Coil MD7B-01F
5105	4822 157 71145	Coil 270µH
5106	4822 157 70499	Coil IFT AM
5107	4822 242 81154	Filter KMFC5058-Z
5108	4822 156 11146	Coil IFT AM
5201	4822 157 70826	Coil 2,4µH
5625	4822 157 10371	Coil Var 100kHz
5801	4822 157 70826	Coil 2,4µH
5803	4822 242 73557	Filter CST8,46MTW-TF01

-DIODES -

6101	4822 130 30621	Diode 1N4148
6102	4822 130 30621	Diode 1N4148
6250	4822 130 31878	Diode 1N4003G
6251	4822 130 31878	Diode 1N4003G
6252	4822 130 31878	Diode 1N4003G
6253	4822 130 31878	Diode 1N4003G
6256	4822 130 30621	Diode 1N4148
6300	4822 130 30621	Diode 1N4148
6625	4822 130 34167	Diode BZX79-B6V2
6800	4822 130 31881	Diode BZX79-B3V0
6801	4822 130 31881	Diode BZX79-B3V0
6802	4822 130 30621	Diode 1N4148
6803	4822 130 30621	Diode 1N4148
6804	4822 130 30621	Diode 1N4148
6805	3198 010 53980	Diode BZX79-B3V9

-DIODES -

6850	4822 130 31881	Diode BZX79-B3V0
6851	5322 130 34834	Diode BZX79-C3V6

-IC & TRANSISTORS -

7101	4822 209 32746	IC TEA5711T/N2
7102	4822 130 44503	Trans BC547C
7300	4822 209 31544	IC TA8227P
7301	4822 130 40959	Trans BC547B
7601	4822 130 44503	Trans BC547C
7625	9322 140 00668	IC AN7323S (For AZ1050)
7625	4822 209 32918	IC AN7318S (For AZ1055)
7626	4822 130 40959	Trans BC547B
7800	4822 209 15932	IC TMP47C422F (For AZ1050)
7800	4822 209 17363	IC TMP47C422F (For AZ1055)
7801	4822 209 16076	IC M65824FP/ES5.0
7803	4822 209 90496	IC M62475FP
7805	4822 209 32636	IC LA6531 (For AZ1050)
7805	4822 209 32852	IC TDA7073A/N2 (For AZ1055)
7806	4822 209 32636	IC LA6531 (For AZ1050)
7806	4822 209 32852	IC TDA7073A/N2 (For AZ1055)
7850	9322 003 63676	Trans TBC327-40
7851	4822 130 44568	Trans BC557B
7852	9322 003 63676	Trans TBC327-40
7853	4822 130 44503	Trans BC547C
7854	4822 130 42231	Trans BC557C
7855	4822 130 44503	Trans BC547C

-MISCELLANEOUS -

1002		4822 240 10248	Loudspeaker 4 Ohm 6 W
1003		4822 240 10248	Loudspeaker 4 Ohm 6 W
1006		4822 265 20318	Mains Socket
1007	⚠	4822 277 21794	Volt Selector (For -/01/11)
1102		2422 549 44211	Ferrite Bar 5x13x55
1250		4822 277 11739	Slide Switch
1302		2422 026 05076	Headphone Socket
1350		4822 276 12648	Push Switch
1626		4822 277 11504	Push Switch
1807		4822 276 13963	CD Door Switch
5001	⚠	3140 118 32680	Transformer (For -/00/14)
5001	⚠	4822 146 10875	Transformer (For -/01/11)
5001	⚠	3140 118 32690	Transformer (For -/10)
5001	⚠	3140 118 32700	Transformer (For -/17)
8003		4822 320 12637	Flexible Foil 15P

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

ELECTRICAL PARTSLIST - FRONT BOARD

- CAPACITIORS -

2901	4822 122 33519	470pF	10%	50V
2902	4822 122 33519	470pF	10%	50V
2903	4822 124 23432	100µF	20%	10V
2904	4822 122 33519	470pF	10%	50V
2905	4822 122 33519	470pF	10%	50V

- RESISTORS -

3872	4822 116 83882	39K	5%	0,5W
3873	4822 116 52257	22K	5%	0,5W
3875	4822 116 52256	2K2	5%	0,5W
3876	4822 116 52283	4K7	5%	0,5W
3901	4822 116 52257	22K	5%	0,5W
3902	4822 116 52234	100K	5%	0,5W
3903	4822 116 52234	100K	5%	0,5W
3904	4822 116 52175	100R	5%	0,5W
3905	4822 050 21003	10K	1%	0,6W
3906	4822 050 21003	10K	1%	0,6W

- MISCELLANEOUS -

1800	4822 276 13114	Push Switch
1801	4822 276 13114	Push Switch
1802	4822 276 13114	Push Switch
1803	4822 276 13114	Push Switch
1804	4822 276 13114	Push Switch
1820	9322 146 49682	LCD Display
7901	5322 209 11147	IC HEF4093BT
7900	9322 155 82667	IR Receiver TSOP2236 (For AZ1055)

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