

Service  
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# Service Manual

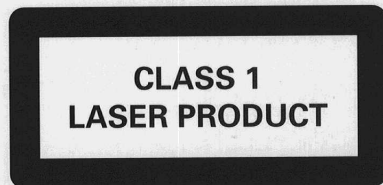


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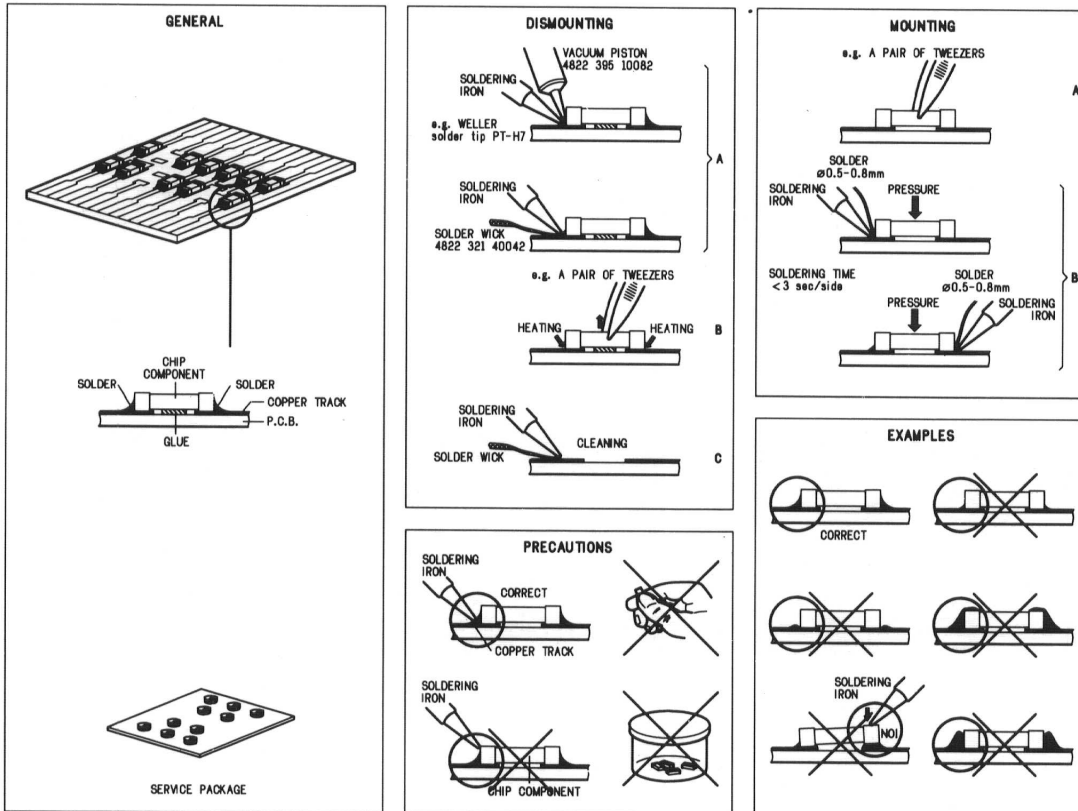
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Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

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## 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 wrist wrap with resistance. Keep components and tools at this potential.

**(F) ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.

Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le braceleterti d'une résistance de sécurité.

Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

Anti-static table mat large 1200x650x1.25mm  
small 600x650x1.25mm

Anti-static wrist band  
Connection box (1MΩ)  
Extendible cable (to connect wrist band to conn. box)  
Connecting cable (to connect table mat to conn. box)  
Earth cable (to connect any product to mat or box)  
Complete kit ESD3 (combining all above products)  
Wristband tester

4822 466 10953  
4822 466 10958  
4822 395 10223  
4822 320 11307  
4822 320 11305  
4822 320 11306  
4822 320 11308  
4822 310 10671  
4822 344 13999

**ESD****(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 Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.

Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

**(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 those symbol. ⚠

**(S) Varning !**

Osynlig laserstrålning när apparaten är öppnad och spårnen är urkopplad. Betrakta ej strålen.

**(DK) Advarsel !**

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**(SF) Varoitus !**

Avatussa laitteessa ja suojauslaitteiden ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

**(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.

**(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 cautela alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.

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

**(GB) WARNING**

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

**(F) ATTENTION**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

**(D) WARNUNG**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Original-ersatzteile zu verwenden.

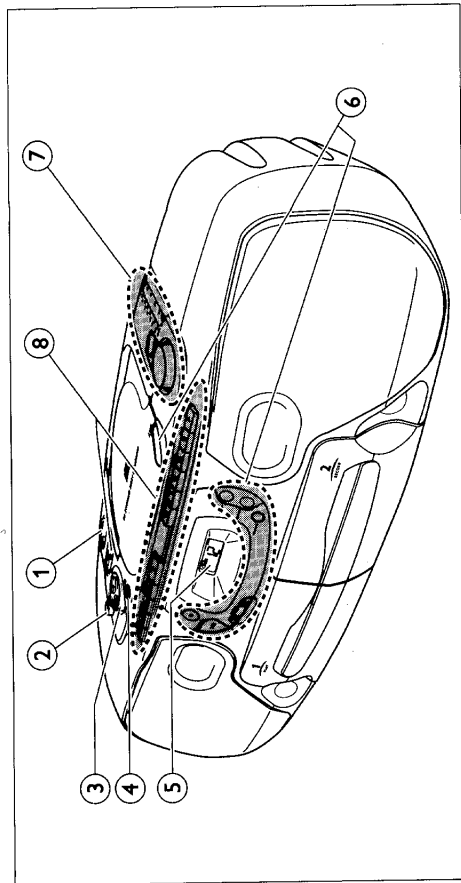
**(NL) WAARSCHUWING**

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

**(I) AVVERTIMENTO**

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.

# CONNECTIONS AND CONTROLS



## BASIC FUNCTIONS

- ① **POWER:**  
CD, TUNER, TAPE...selects the sound source
- ② **DBB**.....enhances the bass frequencies
- ③ **VOLUME**.....adjusts the volume level
- ④ **⌚**.....3.5 mm headphone socket

*Note: Inserting the plug will switch off the speakers.*

- ⑤ **Display**.....Window for showing different CD playing modes

## ⑥ CD PLAYER

- △ **OPEN**.....opens the CD lid
- STOP □**.....stops CD play and erases the program
- PLAY-PAUSE ▷|◁**.....starts and interrupts CD play
- SEARCH ⏪ ⏩**.....skips and searches forward and backward
- PROGRAM**.....programs track numbers and reviews the program
- SHUFFLE**.....plays CD tracks in random order
- REPEAT**.....repeats a track, the entire CD or the program

## ⑦ RADIO

- TUNING**.....tunes to radio stations
- BAND**.....selects the wave band

## ⑧ DOUBLE DECK CASSETTE RECORDER

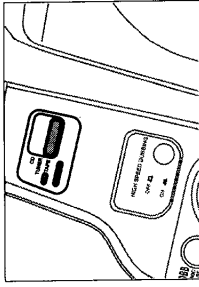
- PAUSE ||**.....interrupts recording or playback
- STOP-OPEN □△**.....stops the tape and opens the cassette compartment
- SEARCH ⏪**.....rewinds the tape
- SEARCH ▷**.....fast forwards the tape
- PLAY <**.....starts playback
- RECORD ○**.....(only for deck 2) starts recording
- HIGH SPEED DUBBING**.....copies a cassette at high speed

## Switching on and off

Set the POWER slider to the desired sound source: CD, TUNER, or TAPE.

The set is switched off when the POWER slider is in position OFF/TAPE and the keys of both tape decks are released.

*Note: If you run the set on batteries, always be sure to switch the set off after use. This will avoid unnecessary power consumption.*



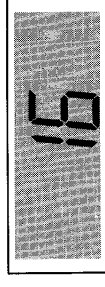
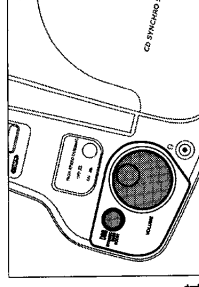
## Adjusting volume and sound

Adjust the volume using the VOLUME control.

→ Display indication: Volume level from 0 to 32.

Increase and decrease the bass level by pressing DBB.

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



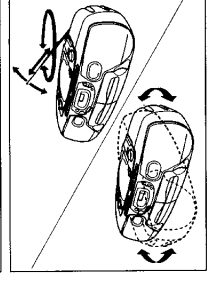
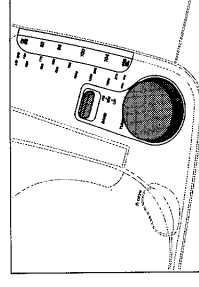
## Radio – tuning to radio stations

- 1 Set the POWER slider to TUNER.
- 2 Select the wave band by using the BAND selector.
- 3 Tune to the desired radio station by using the TUNING knob.

## Improving RADIO reception

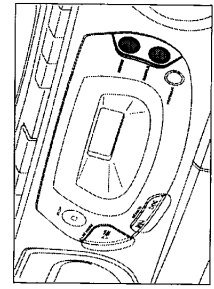
For **FM**, pull out the telescopic antenna. To improve the signal, incline and turn the antenna. Reduce its length if the signal is too strong (very close to a transmitter).

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

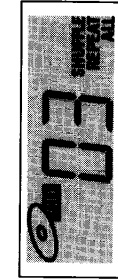


# CONNECTIONS AND CONTROLS

## Different playing modes: SHUFFLE / REPEAT

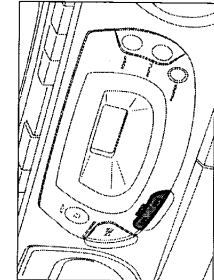


- SHUFFLE – Playing in random order**
- 1 Press SHUFFLE before or during CD play.
    - All the tracks of the CD (or program if available) will now be played in random order.
  - 2 Press SHUFFLE again to return to normal CD play.
- REPEAT – Repeating the entire CD or one track of the CD**
- 1 Before or during CD play, press REPEAT repeatedly to cause the display to show the different repeating modes.
    - **REPEAT**: the current track is played repeatedly.
    - **REPEAT ALL**: the entire CD or program is played repeatedly.
  - 2 Press REPEAT until the display indication disappears to return to normal CD play.



*Note: You can activate the different playing modes at the same time, e. g. you can repeatedly play the entire CD or program in random order (SHUFFLE REPEAT ALL).*

## Search backward and forward



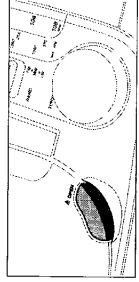
- Selecting another track**
- Briefly press the SEARCH ◀◀ or ▶▶ button once/several times to skip to the beginning of the current/previous or subsequent track(s).
- During play:*  
CD play continues automatically with the selected track.
- From stop position:*  
Press PLAY-PAUSE ▷|| to start CD play.
- Display indication: the selected track number.

## Searching for a passage during CD play

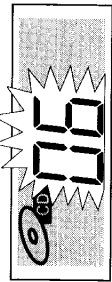
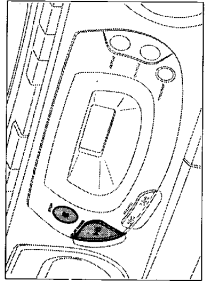
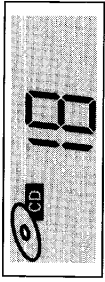
- 1 Hold down the SEARCH ◀◀ or ▶▶ button to find a particular passage in a forward or backward direction.
  - CD play continues at a low volume.
- 2 Release the button when you have reached the desired passage.

*Note: In the SHUFFLE and REPEAT modes or when playing a program, searching is only possible within the particular track.*

## Playing a CD



- 1 Set the POWER slider to CD.
- 2 Press △ OPEN to open the lid.
- 3 Insert an audio CD (printed side up) and close the lid.
  - 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 PLAY-PAUSE ▷|| button to start CD play.
  - Display indication: the current track number.
- 5 Press the STOP □ button to stop CD play.
  - Display indication: the total number of tracks.

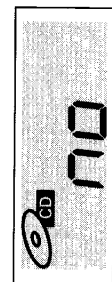
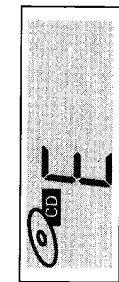


You can interrupt CD play by pressing PLAY-PAUSE ▷||. Continue CD play by pressing the button again.

- Display indication: the current track number flashes.

*Note: CD play will also stop if:*

- you open the lid,
- the end of the CD is reached, or
- you move the POWER slider to TUNER or TAPE.



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

If you press PLAY-PAUSE ▷|| and there is no CD inserted the display shows no.

# CONNECTIONS AND CONTROLS

## Programming track numbers

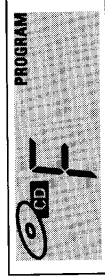
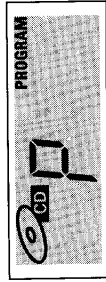
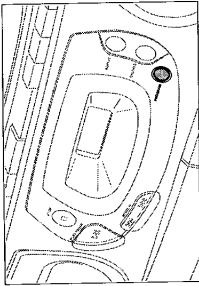
You can select a number of tracks and store these in the memory in the desired sequence. You can store any track more than once. At maximum of 20 tracks can be stored in the memory.

- 1 Select the desired track with SEARCH ◀◀ or ▶▶.
- 2 As soon as the number of the desired track is displayed, press the PROGRAM button to store the track in the memory.  
→ PROGRAM appears in the display and P lights up briefly. Then, the number of the stored track is shown.
- 3 Select and store all desired tracks in this way.

You can review your settings by pressing the PROGRAM button for more than 2 seconds.

→ The display shows all stored track numbers in sequence.

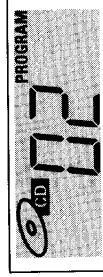
If you try to store more than 20 tracks the display shows F.



## Playing the program

If you have selected the tracks in the stop position, press PLAY-PAUSE ▷|||.

If you have selected the tracks during CD play, first press STOP □, then press PLAY-PAUSE ▷|||.



## Erasing the program from the stop position

From the stop position, press STOP □.

→ P 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 lid, or
- move the POWER slider to TUNER or TAPE.

## Playing a cassette

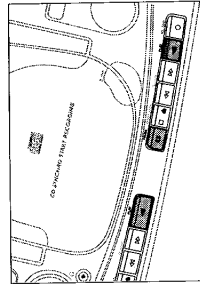
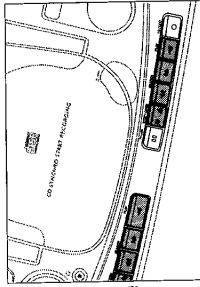
- 1 Set the POWER slider to TAPE.
- 2 Press STOP-OPEN □◀ to open a cassette compartment.
- 3 Insert a recorded cassette with the open side upwards and close the cassette compartment.
- 4 Press PLAY ◀ to start playback.
- 5 By pressing ◀◀ or ▶▶ fast winding of the tape is possible in both directions.
- 6 To stop the tape press STOP-OPEN □◀.

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

## Continuous play – deck 1 followed by deck 2






- 1 Set the POWER slider to TAPE.
- 2 Press STOP-OPEN □◀ on both cassette compartments to open them.
- 3 Insert recorded cassettes in both cassette compartments and close them.
- 4 Press PLAY ◀ on deck 1.  
→ Playback starts on deck 1.
- 5 Press PAUSE ||| and PLAY ◀ on deck 2.  
→ As soon as deck 1 stops, PAUSE ||| will be released on deck 2 and playback starts there.
- 6 Press STOP-OPEN □◀ on both tape decks to stop playback completely.

Note: Playback on deck 2 will also start if you press STOP-OPEN □◀ on deck 1 to stop playback there.





# CONNECTIONS AND CONTROLS






## Recording from the CD player – CD synchro start

- 1 Set the POWER slider to CD.
- 2 Insert a CD and, if desired, program track numbers.
- 3 Press STOP-OPEN  for deck 2 to open this cassette compartment.
- 4 Insert a blank, unprotected cassette and close the cassette compartment.
- 5 Press RECORD  to start recording.
  - Playing of the CD or program starts automatically. It is not necessary to start the CD player separately.
- 6 For brief interruptions press PAUSE . Press the PAUSE  key again to resume recording.
- 7 To stop recording, press STOP-OPEN .

*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 SEARCH  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 Set the POWER slider to TUNER.
- 2 Tune to the desired radio station (see chapter "RADIO").
- 3 Press STOP-OPEN  for deck 2 to open this cassette compartment.
- 4 Insert a blank, unprotected cassette and close the cassette compartment.
- 5 Press RECORD  to start recording
- 6 For brief interruptions press PAUSE . To resume recording press the PAUSE  key again.
- 7 To stop recording, press STOP-OPEN .

## General information on recording

### Important!

### Recording is only possible on tape deck 2.

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).

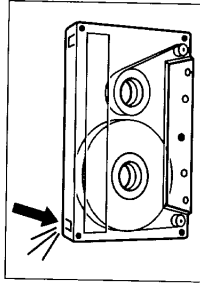
The recording level is set automatically. The VOLUME and DBB controls do not affect the recording.

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.

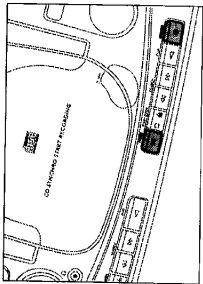
To record again on this side of the cassette, cover the aperture with a piece of adhesive tape.



### 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.*



## CONNECTIONS AND CONTROLS









### Dubbing – Copying from tape deck 1 to deck 2

When dubbing, it is recommended to use full batteries or to connect the set to the mains.

- 1 Set the POWER slider to TAPE.
- 2 Set the HIGH SPEED DUBBING button to:
  - for high speed dubbing,
  - for normal speed dubbing.

Notes: – Do not press the HIGH SPEED DUBBING button during dubbing.

– Dubbing at normal speed will take longer but results in a better sound quality.

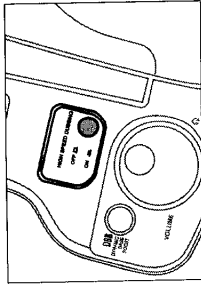
- 3 Press STOP-OPEN  on both cassette compartments to open them.
- 4 Insert the cassette to be copied into deck 1.
- 5 Insert a blank, unprotected cassette into deck 2 and close both cassette compartments.
- 6 Press PAUSE  and then RECORD  on deck 2. •
- 7 Press PLAY  on deck 1.
  - The PAUSE  key on deck 2 is released and dubbing starts automatically.
- 8 For brief interruptions, press PAUSE  on deck 2. To resume recording, press the PAUSE  key again.
- 9 To stop dubbing, press STOP-OPEN  on both tape decks.

### WARNING

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

**Under no circumstance should you try to repair the set yourself as this will invalidate the guarantee.** If you are unable to solve a problem by following these hints, consult your dealer or service center.

Problem	Possible cause	Solution
<b>No sound, no power</b>	VOLUME is not adjusted.	Adjust volume.
	Headphone is connected.	Disconnect headphone.
	Mains cable is not securely connected.	Connect mains cable properly.
	Batteries are flat.	Insert fresh batteries.
	Batteries are inserted incorrectly.	Insert batteries correctly.
<b>No reaction to operation of any keys</b>	Trying to change over from mains to battery supply without removing the plug.	Remove the mains plug from the unit's AC MAINS inlet.
	Electrostatic discharge.	Disconnect the set from power supply, reconnect after a few seconds.
<b>Poor radio reception</b>	Weak radio signal.	Direct the antenna for optimum reception.
<b>no or E indication</b>	Interference caused by vicinity of electrical equipment like TVs, computers, engines, etc..	Keep the radio away from electrical equipment.
	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 upwards.
<b>The CD skips tracks</b>	The laser lens is steamed up.	Wait until the lens has cleared.
	The CD is damaged or dirty.	Replace or clean the CD.
	<b>SHUFFLE</b> or <b>PROGRAM</b> is active.	Switch off <b>SHUFFLE</b> or <b>PROGRAM</b> play.
<b>Poor cassette sound quality</b>	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.
<b>Recording does not work</b>	Cassette tab(s) may be snapped off.	Apply a piece of adhesive tape over the aperture.



# SPECIFICATIONS

## GENERAL

Mains voltage	-/00/14	: 230 V
	-/01/11	: 120/230 V
	-/05	: 240 V
Mains frequency	-/17	: 120 V
	-/00/05/14	: 50 Hz
	-/01/11	: 50/60 Hz
	-/17	: 60 Hz
Power consumption		: 15 W
Dimension (W x H x D)		: 540 x 175 x 250 mm
Weight		: 5 Kg

## AMPLIFIER

Output power	mains	: 2 x 2 W
	battery	: 2 x 2 W
Speaker impedance		: 2 x 4 ohm
Frequency response		: 100 Hz - 100 KHz

## AUDIO/CASSETTE

Tape speed		: 4.76 cm/s $\pm$ 3%
Wow & flutter		: < 0.48 JIS UWTD
Fast-wind time (C60)		: < 110 sec.
Frequency response	P/B	: 250 - 6300 Hz
	High speed dubbing	: 125 - 8000 Hz
S/N ratio		: 40dB
Erase ratio		: > 50 dB
Bias frequency		: 73 $\pm$ 1.5 KHz

## COMPACT DISC

Frequency response	$\pm$ 3dB	: 30 - 16 KHz
Signal/hiss ratio		: > 80 dB
Distortion	at 1KHz	: < 0.5 %
Channel difference	at 1KHz	: > 2 dB
Channel crosstalk	at 1KHz	: > 50 dB
Laser wavelength		: 780 $\pm$ 20 nm
Laser light power		: < 0.3 mW

## TUNER - FM section

Tuning range		: 87.5 - 108 MHz
IF frequency		: 10.7 $\pm$ 0.2 MHz
Sensitivity		: < 22 dBf at 26dB S/N
Selectivity		: > 20 dB at 300KHz B.W.
IF rejection		: > 50 dB
Image rejection		: > 20 dB

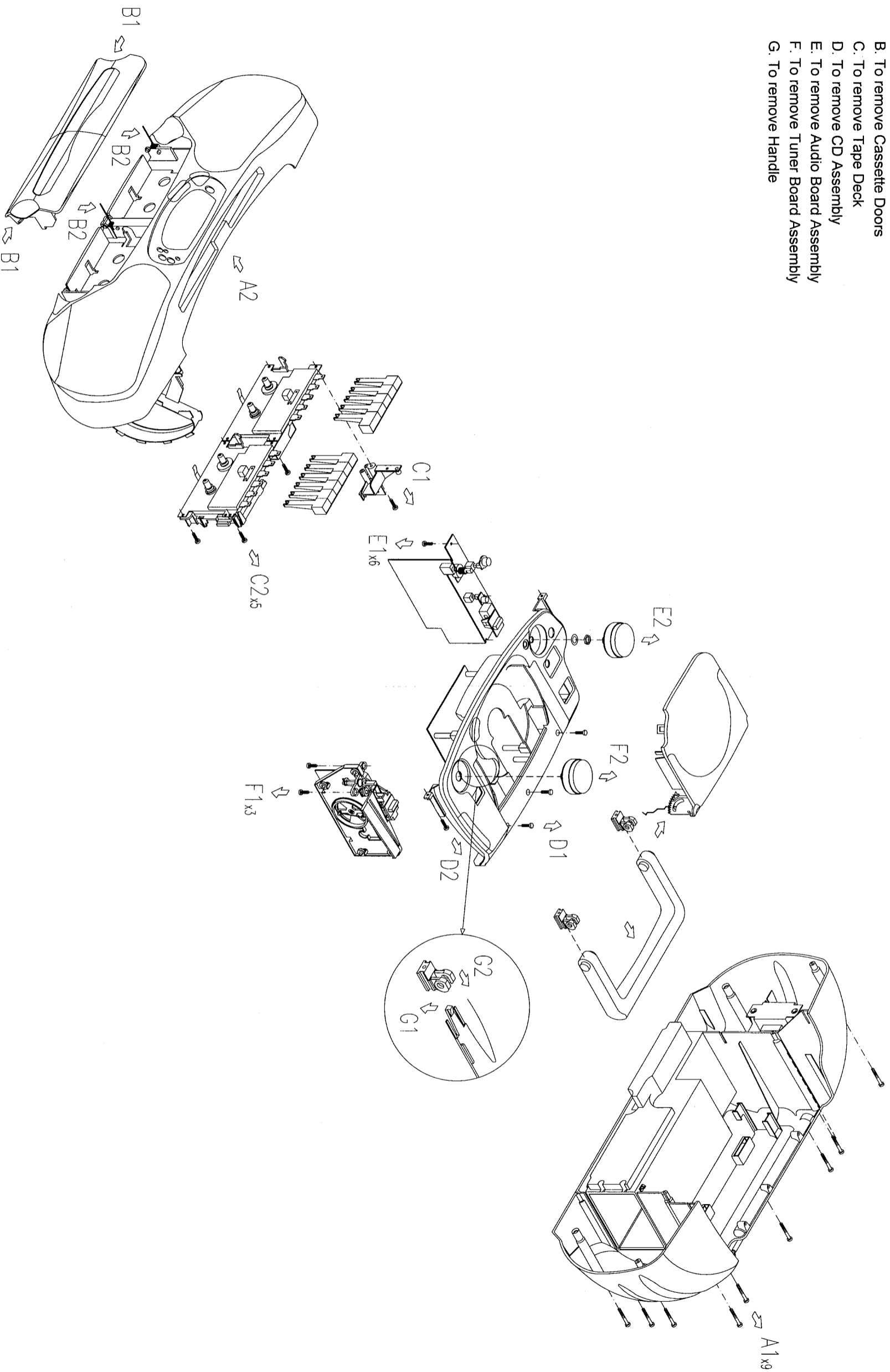
## TUNER - AM section

Tuning range	MW	: 522 - 1607 KHz
	-/17	: 520 - 1730 KHz
	LW	: 148.5 - 284 KHz
IF frequency		: 468 $\pm$ 3 KHz
Sensitivity	MW	: < 4000 $\mu$ V/m at 26dB S/N
	LW	: < 6000 $\mu$ V/m at 26dB S/N
Selectivity	MW	: > 16 dB
	LW	: > 20 dB
IF rejection	MW	: > 24 dB
	LW	: > 26 dB
Image rejection	MW	: > 28 dB
	LW	: > 30 dB

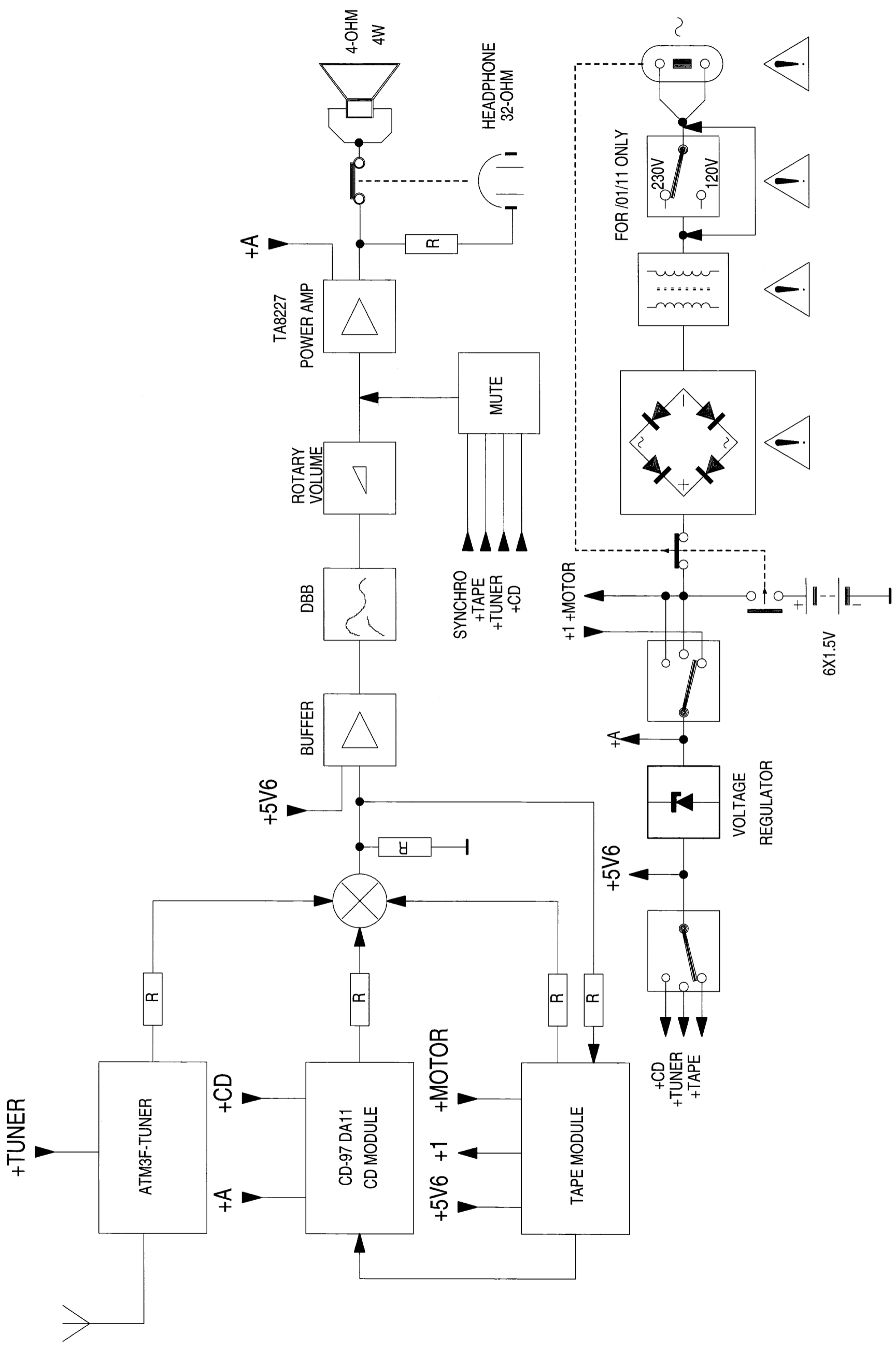


**DISASSEMBLY DIAGRAM**

- A. To remove Front Cabinet Assembly
- B. To remove Cassette Doors
- C. To remove Tape Deck
- D. To remove CD Assembly
- E. To remove Audio Board Assembly
- F. To remove Tuner Board Assembly
- G. To remove Handle



**BLOCK DIAGRAM**

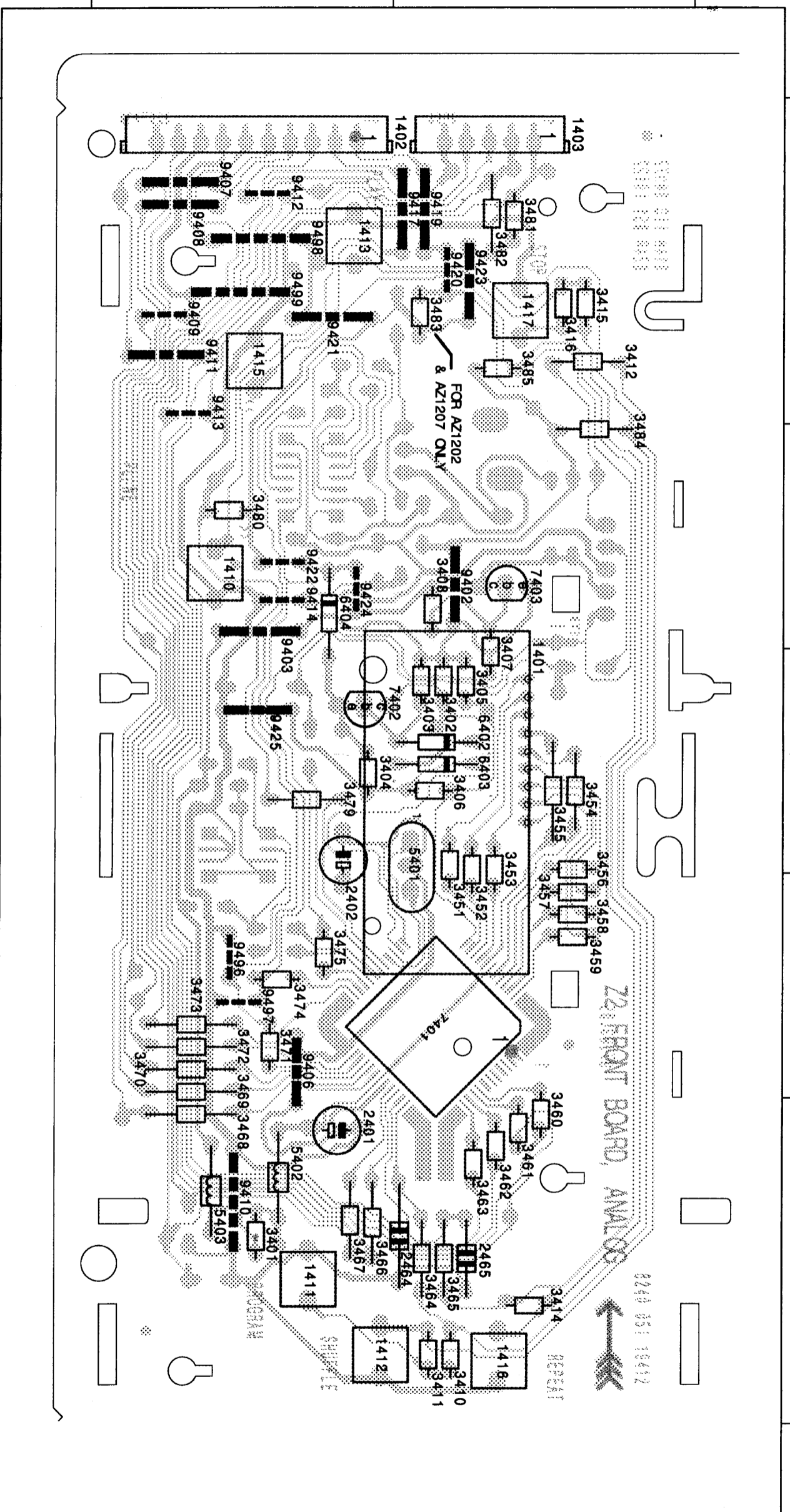






FRONT BOARD - LAYOUT DIAGRAM

1401 A 3	1415 B 1	3401 B 5	3408 A 2	3451 A 3	3458 A 4	3465 A 5	3472 B 4	3482 A 1	8402 A 3	9403 B 2	9412 B 1	9422 B 2	9499 B 1
1402 B 1	1416 A 5	3402 A 3	3410 A 5	3452 A 3	3459 A 4	3466 B 5	3473 B 4	3483 A 1	8403 A 3	9406 B 4	9413 B 1	9423 A 1	
1403 A 1	1417 A 1	3403 A 3	3411 A 5	3453 A 3	3460 A 5	3467 B 5	3474 B 4	3484 A 2	8404 B 2	9407 B 1	9414 B 2	9424 B 2	
1410 B 2	2401 B 5	3404 B 3	3412 A 1	3454 A 3	3461 A 5	3468 B 5	3475 B 4	3485 A 1	7401 A 4	9408 B 1	9417 A 1	9425 B 3	
1411 B 5	2402 B 3	3405 A 3	3414 A 5	3455 A 3	3462 A 5	3469 B 4	3479 B 3	5401 A 3	7402 B 3	9409 B 1	9419 A 1	9426 B 4	
1412 B 5	2464 A 5	3406 A 3	3415 A 1	3456 A 3	3463 A 5	3470 B 4	3480 B 2	5402 B 5	7403 A 2	9410 B 5	9420 A 1	9497 B 4	
1413 B 1	2465 A 5	3407 A 3	3416 A 1	3457 A 4	3464 A 5	3471 B 4	3481 A 1	5403 B 5	9402 A 2	9411 B 1	9421 B 1	9498 B 1	

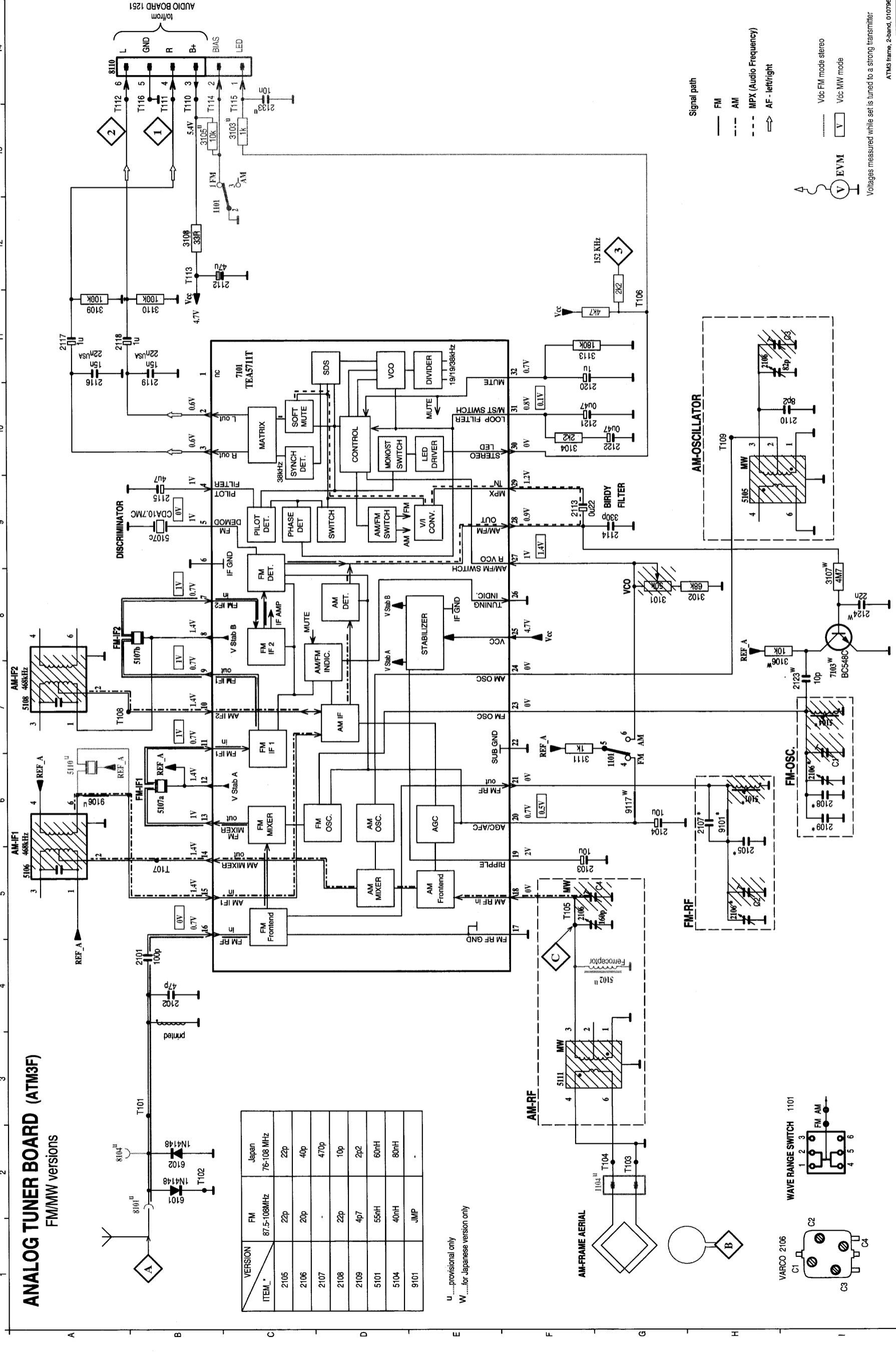


A B  
1 2 3 4 5  
A B

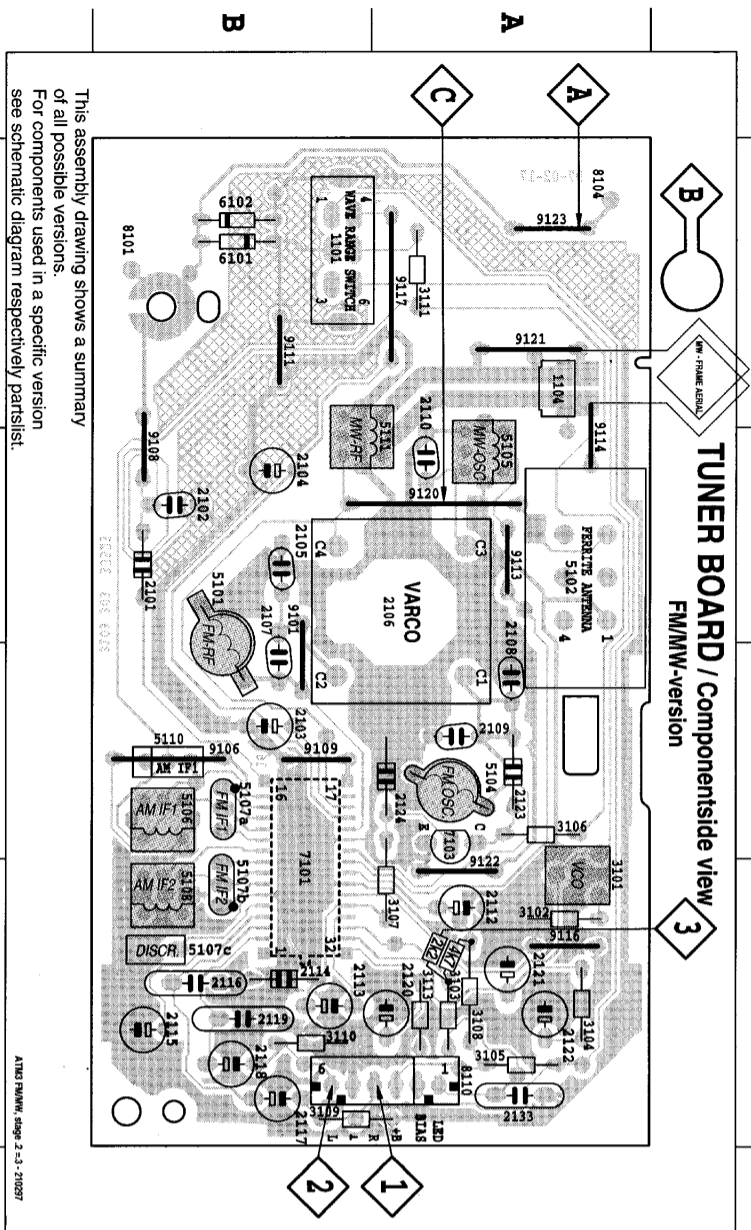
# ANALOG TUNER BOARD (ATM3F)

## FM/MW versions

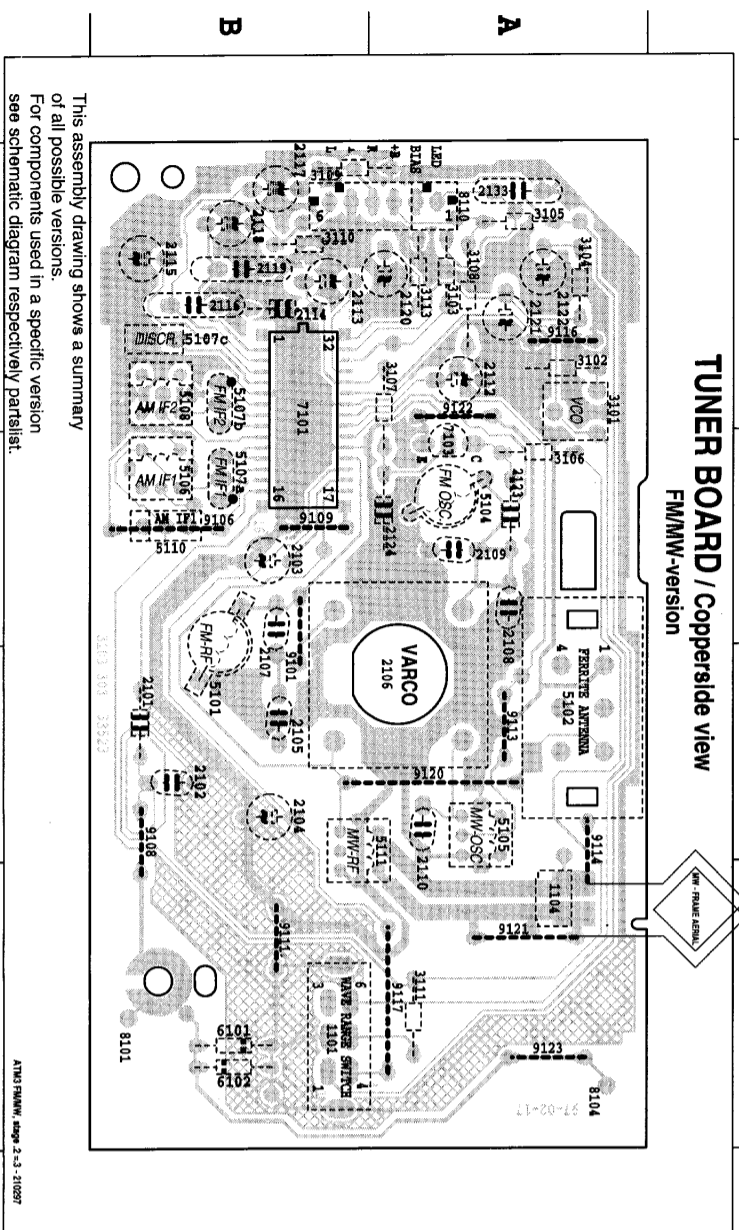
- 1101 B12
- 1101 G6
- 1104 G2
- 2101 B4
- 2102 B4
- 2103 F5
- 2104 G6
- 2105 H5
- 2106 H1
- 2106 H5
- 2106 F5
- 2107 H6
- 2108 H6
- 2109 H6
- 2110 H0
- 2112 B12
- 2113 F9
- 2114 G9
- 2115 B9
- 2116 A1
- 2117 A1
- 2118 A1
- 2119 B1
- 2120 F10
- 2121 F10
- 2122 G10
- 2123 I7
- 2124 I8
- 3103 C13
- 3103 G8
- 3102 H8
- 3103 C13
- 3104 F10
- 3105 B13
- 3106 I8
- 3107 I8
- 3108 B12
- 3109 A11
- 3110 B11
- 3111 F6
- 3113 F11
- 5101 H6
- 5102 G4
- 5104 I7
- 5105 I9
- 5106 A5
- 5107a B6
- 5107b B8
- 5107c B9
- 5108 A7
- 5110 A6
- 5111 F3
- 6101 B2
- 6102 B2
- 7101 C1
- 7103 I7
- 8101 A2
- 8104 A2
- 8110 A4
- 9101 H4
- 9106 A6
- 9117 G6



1101 B 1	2106 A 2	2114 B 4	2121 A 4	3103 A 4	3110 B 4	5106 B 3	6101 B 1	9101 B 3	9116 A 4
1104 A 1	2107 B 3	2115 B 4	2122 A 4	3104 A 4	3111 A 1	5107A B 3	6102 B 1	9106 B 3	9117 A 1
2101 B 2	2108 A 3	2116 B 4	2123 A 3	3105 A 4	3113 A 4	5107B B 4	7101 A 3	9108 B 2	9120 A 2
2102 B 3	2109 A 2	2117 B 4	2124 A 3	3106 A 3	3101 B 3	5107C B 4	7103 A 3	9109 B 3	9121 A 1
2103 B 3	2110 A 2	2118 B 4	2125 A 4	3107 A 2	3108 B 1	5108 B 4	8101 B 1	9111 B 1	9122 A 4
2104 B 2	2112 A 4	2119 B 4	3101 A 4	3108 A 4	3104 A 3	5110 B 3	8104 A 1	9113 A 2	9123 A 1
2105 B 2	2113 B 4	2120 A 4	3102 A 4	3109 B 4	5105 A 2	5111 B 2	8110 A 4	9114 A 2	



1101 B 1	2106 A 2	2114 B 4	2121 A 4	3103 A 4	3110 B 4	5106 B 3	6101 B 1	9101 B 3	9116 A 4
1104 A 1	2107 B 3	2115 B 4	2122 A 4	3104 A 4	3111 A 1	5107A B 3	6102 B 1	9106 B 3	9117 A 1
2101 B 2	2108 A 3	2116 B 4	2123 A 3	3105 A 4	3113 A 4	5107B B 4	7101 A 3	9108 B 2	9120 A 2
2102 B 2	2109 A 2	2117 B 4	2124 A 3	3106 A 3	3101 B 3	5107C B 4	7103 A 3	9109 B 3	9121 A 1
2103 B 3	2110 A 2	2118 B 4	2125 A 4	3107 A 2	3108 B 1	5108 B 4	8101 B 1	9111 B 1	9122 A 4
2104 B 2	2112 A 4	2119 B 4	3101 A 4	3108 A 4	3104 A 3	5110 B 3	8104 A 1	9113 A 2	9123 A 1
2105 B 2	2113 B 4	2120 A 4	3102 A 4	3109 B 4	5105 A 2	5111 B 2	8110 A 4	9114 A 2	



**TUNER ADJUSTMENT TABLE ( ATM3 FM/AM - versions with AM-frame aerial )**

Waverange	Input Frequency	Input	Set tuned to	Adjust	Measure on	Scope / Counter
<b>OSCILLATOR</b>						
FM 87,5 - 108 MHz	87,35 MHz 108,25 MHz	A $\Delta f = \pm 500\text{KHz}$ $V_{RF} = 100\mu\text{V}$	lower band end	5104	1 or 2	
			upper band end	2106 C1		
MW 525 - 1607 KHz (530 - 1710 KHz) 1)	512 KHz (520 KHz) 1635 KHz (1730 KHz)	C $\Delta f = \pm 30\text{KHz}$ $V_{RF} = 100\mu\text{V}$	lower band end	5105	1 or 2	
			upper band end	2106 C3		
<b>FM - RF</b>						
FM 87,5 - 108 MHz	87,5 MHz 108 MHz	A $\Delta f = \pm 500\text{KHz}$ $V_{RF} = 10\mu\text{V}$	87,5 MHz	5101	1 or 2	
			108 MHz	2106 C2		
<b>VCO</b>						
FM	98 MHz	A continuous wave $V_{RF} = 1\text{ mV}$	98 MHz	3101	3 	152 ±1 KHz
<b>AM - IF</b>						
AM	468 KHz	C $\Delta f = \pm 15\text{KHz}$ $V_{RF} = 10\text{mV}$	5106	5106	1 or 2 	
<b>AM - RF</b>						
AM	560 KHz 1500 KHz	B $\Delta f = \pm 30\text{KHz}$ $V_{RF}$ as low as possible	560 KHz	5111	1 or 2	
			1500 KHz	2106 C4		

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

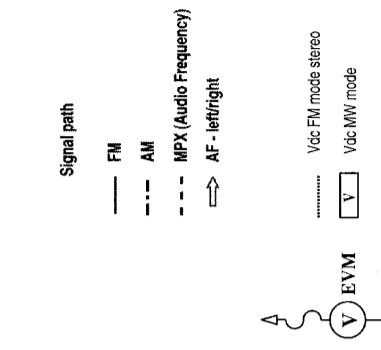
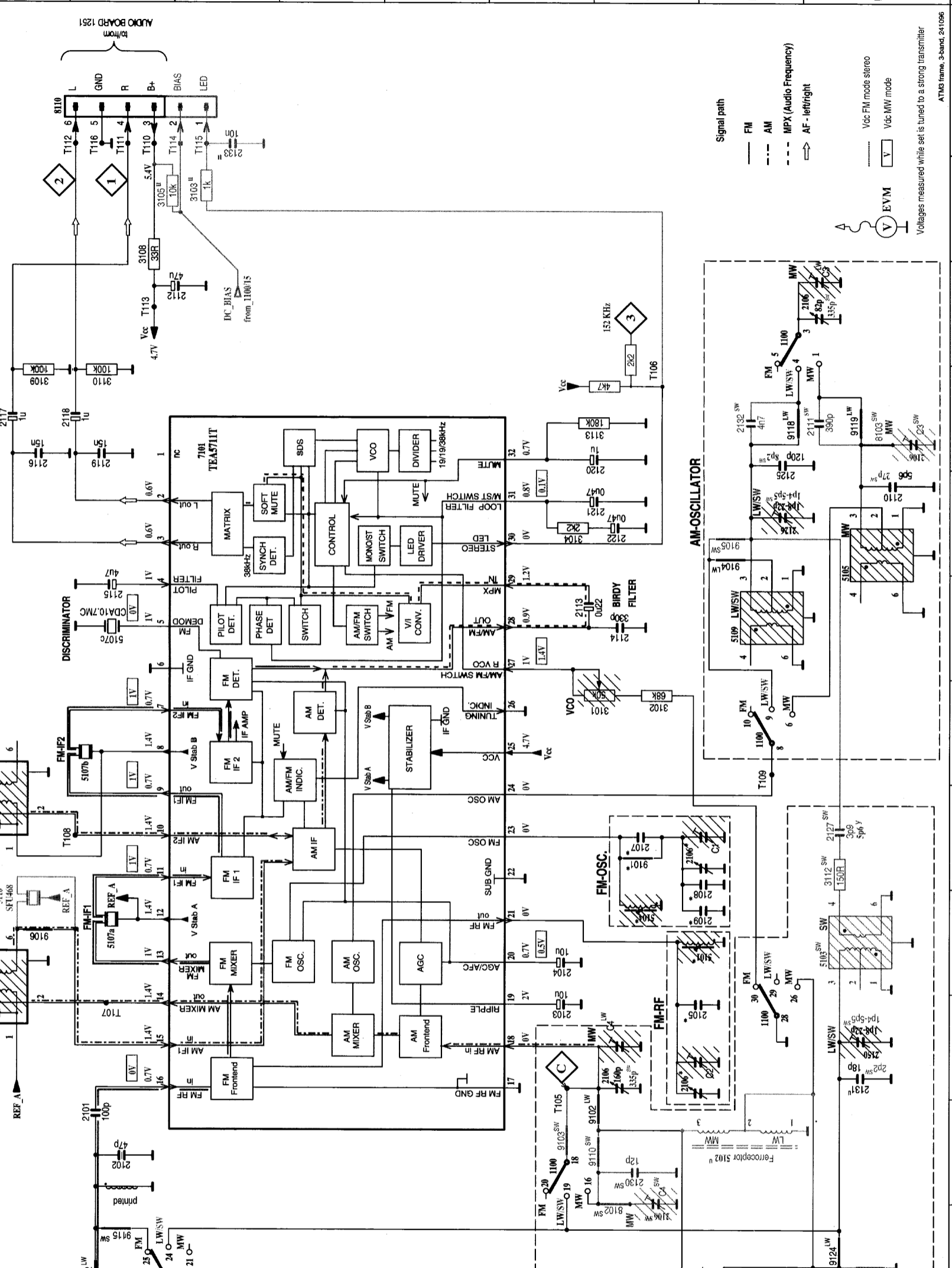
1000 H2  
1006 H6  
1006 H2  
1006 F4  
1006 B3  
1006 H5  
1004 H1  
2101 B4  
2102 B4  
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2104 F6  
2105 G5  
2106 G5  
2106 G5  
2106 H2  
2106 H5  
2106 H1  
2107 G7  
2107 G3  
2108 H6  
2108 H6  
2110 H0  
2111 H1  
2112 B12  
2113 F9  
2114 G9  
2115 B9  
2116 A11  
2117 A11  
2118 B11  
2119 B11  
2120 F10  
2121 F10  
2122 G10  
2125 H10  
2126 H10  
2127 I7  
2300 G4  
2311 I5  
2332 H11  
2333 C14  
2350 I5  
3010 G8  
3010 G8  
3002 G8  
3002 G8  
3004 F10  
3004 F10  
3008 B13  
3008 B13  
3008 A11  
3100 B11  
3102 I7  
3112 I7  
3113 F11  
3101 H6  
3101 H6  
5002 G6  
5002 G6  
5005 A5  
5005 A5  
5007 B8  
5007 B8  
5007 B9  
5007 B9  
5008 A7  
5008 A7  
5109 H9  
5110 A6  
5110 A6  
5111 G2  
5112 I2  
5121 I2  
6102 B2  
6102 B2  
7101 C11  
8101 B2  
8102 G3  
8103 I11  
8104 A2  
8104 A2  
9101 G7  
9102 G4  
9103 F4  
9104 H10  
9105 H10  
9106 A6  
9106 A6  
9110 G4  
9112 B3  
9115 B3  
9118 H11  
9119 I11  
9124 I3  
9125 I3  
9128 B3  
9130 H1

# ANALOG TUNER BOARD (ATM3F)

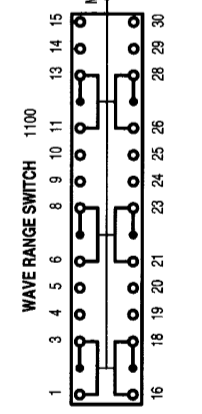
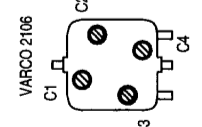
FM/LW/MW and FM/SW/MW versions

VERSION	FM	EAST EUROPE
2105	87.5-108MHz	65-108 MHz
2106	22p	8p2
2107	20p	40p
2108	22p	380p
2109	4p7	5p6
5101	55nH	2p2
5104	40nH	91nH
9101	JMP	72nH

u .....provisional only  
y .....value for SW-EU (5.9-18.1MHz)  
SW .....only for FM/SW/MW version  
LW .....only for FM/LW/MW version

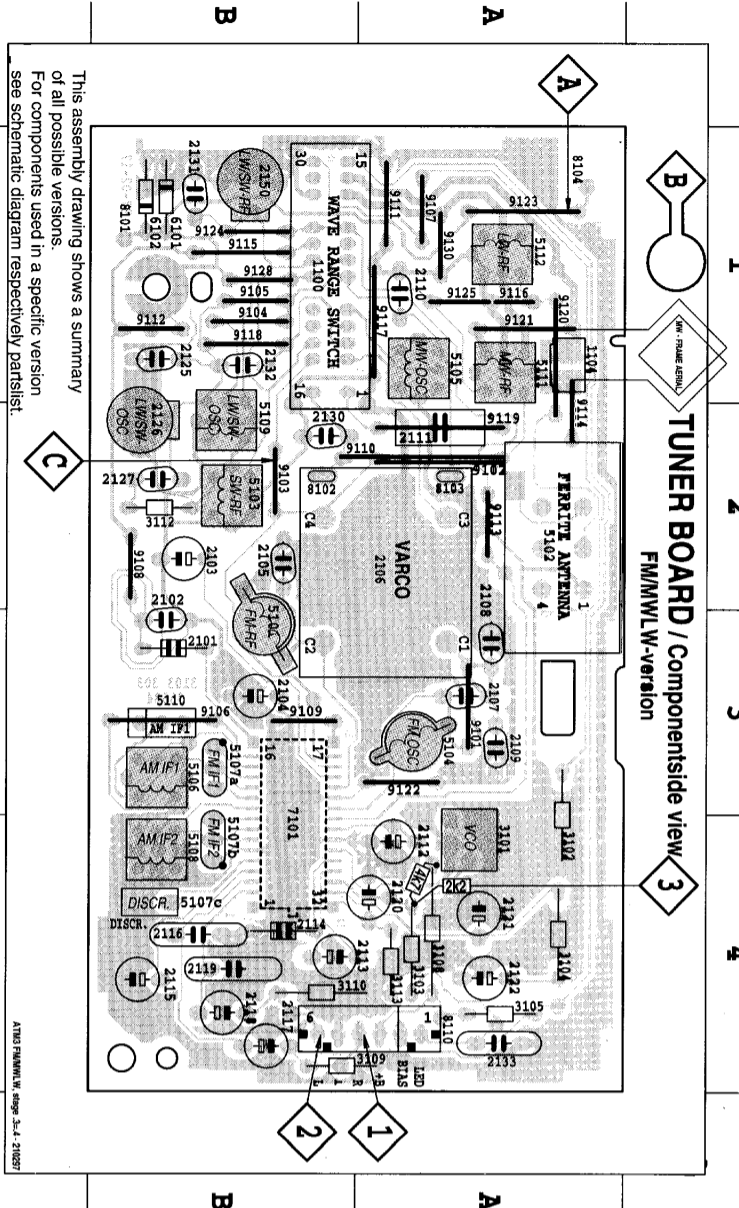


Voltages measured while set is tuned to a strong transmitter  
ATM3 frame, 3-band, 241086

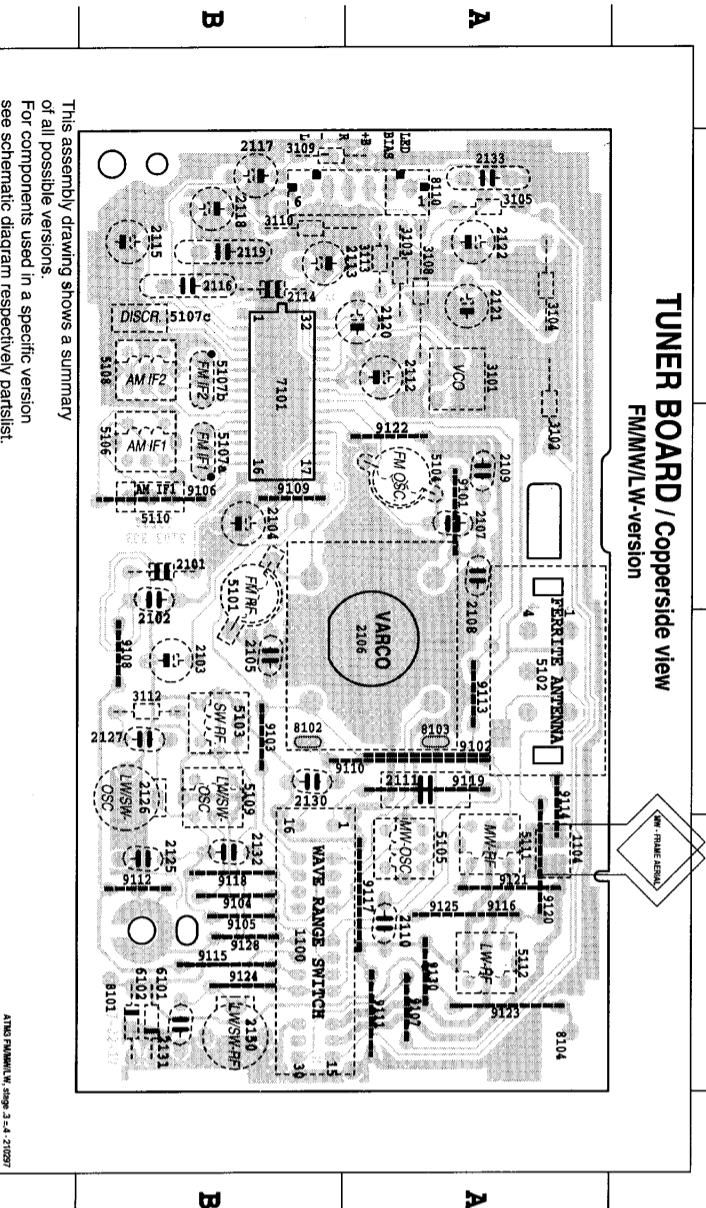




2107 A 3	2108 A 3	2117 B 4	2130 B 2	3105 A 4	5104 A 3	5111 A 1	8110 A 4	9109 B 3	9118 B 1	9130 A 1
2107 A 2	2115 B 4	2127 B 2	3104 A 4	5109 B 2	5110 B 3	8104 A 1	9108 B 2	9117 A 1	9125 A 1	
2106 A 3	2115 B 4	2127 B 2	3104 A 4	5109 B 2	5110 B 3	8104 A 1	9108 B 2	9117 A 1	9125 A 1	
2106 A 2	2115 B 4	2127 B 2	3104 A 4	5109 B 2	5110 B 3	8104 A 1	9108 B 2	9117 A 1	9125 A 1	
2105 B 2	2114 B 4	2122 A 1	3103 A 3	5108 B 1	5109 B 2	8105 B 1	9105 B 1	9114 A 2	9124 B 1	
2105 B 1	2114 B 4	2122 A 1	3103 A 3	5108 B 1	5109 B 2	8105 B 1	9105 B 1	9114 A 2	9124 B 1	
2104 B 2	2113 B 4	2122 A 1	3101 A 3	5107 B 3	5107 B 4	8101 B 1	9105 B 1	9114 A 2	9123 A 1	
2104 B 1	2113 B 4	2122 A 1	3101 A 3	5107 B 3	5107 B 4	8101 B 1	9105 B 1	9114 A 2	9123 A 1	
2103 B 2	2112 A 4	2121 A 4	2150 B 1	5112 B 2	5107 B 3	7101 B 4	9104 B 1	9113 A 2	9122 A 1	
2103 B 1	2112 A 4	2121 A 4	2150 B 1	5112 B 2	5107 B 3	7101 B 4	9104 B 1	9113 A 2	9122 A 1	
2102 B 3	2111 A 2	2120 A 4	2132 B 1	3109 B 4	5107 A 3	6102 B 1	9103 B 1	9112 B 1	9121 A 1	
2102 B 2	2111 A 2	2120 A 4	2132 B 1	3109 B 4	5107 A 3	6102 B 1	9103 B 1	9112 B 1	9121 A 1	
2101 B 3	2110 A 1	2119 B 4	2132 B 1	3109 B 4	5106 B 3	6101 B 1	9102 A 2	9111 A 1	9120 A 1	
2101 B 1	2109 A 3	2118 B 4	2131 B 1	3108 A 4	5105 A 3	5112 A 1	9101 A 3	9110 A 2	9119 A 2	
2100 B 1	2108 A 3	2117 B 4	2130 B 2	3105 A 4	5104 A 3	5111 A 1	8110 A 4	9109 B 3	9118 B 1	



2107 B 1	2108 A 3	2117 B 4	2130 B 2	3105 A 4	5104 A 3	5111 A 1	8110 A 4	9109 B 3	9118 B 1	9130 A 1
2107 B 1	2108 A 3	2117 B 4	2130 B 2	3105 A 4	5104 A 3	5111 A 1	8110 A 4	9109 B 3	9118 B 1	9130 A 1
2106 A 2	2115 B 4	2127 B 2	3104 A 4	5109 B 2	5110 B 3	8104 A 1	9108 B 2	9117 A 1	9125 A 1	
2106 A 1	2115 B 4	2127 B 2	3104 A 4	5109 B 2	5110 B 3	8104 A 1	9108 B 2	9117 A 1	9125 A 1	
2105 B 2	2114 B 4	2122 A 1	3103 A 3	5108 B 1	5109 B 2	8105 B 1	9105 B 1	9114 A 2	9124 B 1	
2105 B 1	2114 B 4	2122 A 1	3103 A 3	5108 B 1	5109 B 2	8105 B 1	9105 B 1	9114 A 2	9124 B 1	
2104 B 2	2113 B 4	2122 A 1	3101 A 3	5107 B 3	5107 B 4	8101 B 1	9105 B 1	9114 A 2	9123 A 1	
2104 B 1	2113 B 4	2122 A 1	3101 A 3	5107 B 3	5107 B 4	8101 B 1	9105 B 1	9114 A 2	9123 A 1	
2103 B 2	2112 A 4	2121 A 4	2150 B 1	5112 B 2	5107 B 3	7101 B 4	9104 B 1	9113 A 2	9122 A 1	
2103 B 1	2112 A 4	2121 A 4	2150 B 1	5112 B 2	5107 B 3	7101 B 4	9104 B 1	9113 A 2	9122 A 1	
2102 B 3	2111 A 2	2120 A 4	2132 B 1	3109 B 4	5107 A 3	6102 B 1	9103 B 1	9112 B 1	9121 A 1	
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2101 B 1	2109 A 3	2118 B 4	2131 B 1	3108 A 4	5105 A 3	5112 A 1	9101 A 3	9110 A 2	9119 A 2	
2100 B 1	2108 A 3	2117 B 4	2130 B 2	3105 A 4	5104 A 3	5111 A 1	8110 A 4	9109 B 3	9118 B 1	



**TUNER ADJUSTMENT TABLE ( ATM3 FM/LW/MW- versions with AM-frame aerial )**

Waverange	Input Frequency	Input	Set tuned to	Adjust	Measure on	Scope / Counter
<b>OSCILLATOR</b>						
<b>FM</b> 87,5 - 108 MHz (65 - 108 MHz) <sup>1)</sup>	87,35 MHz (64,7 MHz)	<b>A</b>	lower band end upper band end	5104 2106 C-1	<b>1</b> OR <b>2</b>	
<b>MW</b> 525 - 1607 KHz (530 - 1710 KHz) <sup>2)</sup>	512 KHz (520 KHz)	<b>C</b>	lower band end upper band end	5105 2106 C3	<b>1</b> OR <b>2</b>	
<b>LW</b> <sup>3)</sup> 148,5 - 284 KHz	147 KHz	$\Delta f = \pm 30\text{KHz}$ $V_{RF} = 100\mu\text{V}$	lower band end upper band end	5109 2126	<b>1</b> OR <b>2</b>	
<b>FM - RF</b>						
<b>FM</b> 87,5 - 108 MHz (65 - 108 MHz) <sup>1)</sup>	87,5 MHz (65 MHz)	<b>A</b>	87,5 MHz (65 MHz)	5101 2106 C2	<b>1</b> OR <b>2</b>	
<b>VCO</b>						
<b>FM</b> 98 MHz	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 100nF IC 7101 14 100nF see remark 4)	5106 5108	<b>1</b> OR <b>2</b>	
<b>AM - RF</b>						
<b>MW</b>	560 KHz	<b>B</b>	560 KHz	5111 2106 C4	<b>1</b> OR <b>2</b>	
<b>LW</b> <sup>3)</sup>	170 KHz	$\Delta f = \pm 30\text{KHz}$ $V_{RF}$ as low as possible	170 KHz	5112 2150	<b>1</b> OR <b>2</b>	

repeat  
<sup>1)</sup> for East Europe /14    <sup>2)</sup> for USA /17    <sup>3)</sup> LW not for all versions  
<sup>4)</sup> RC-network serves for damping the IF-filter while adjusting the other one.













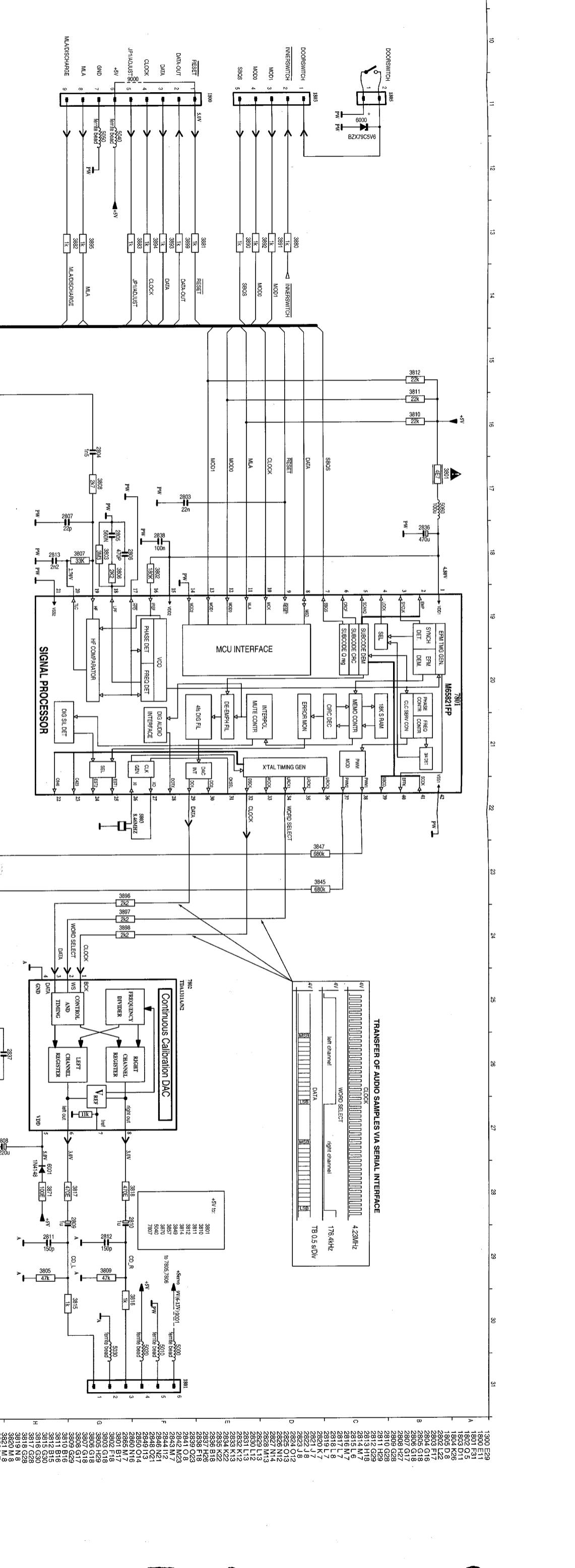
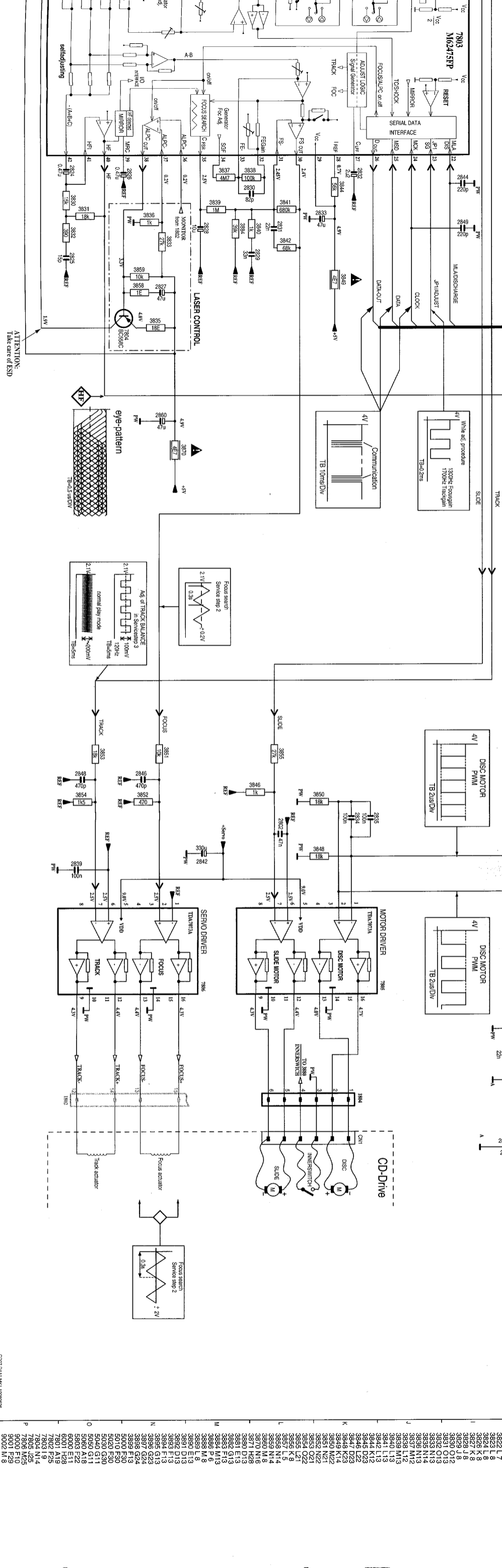






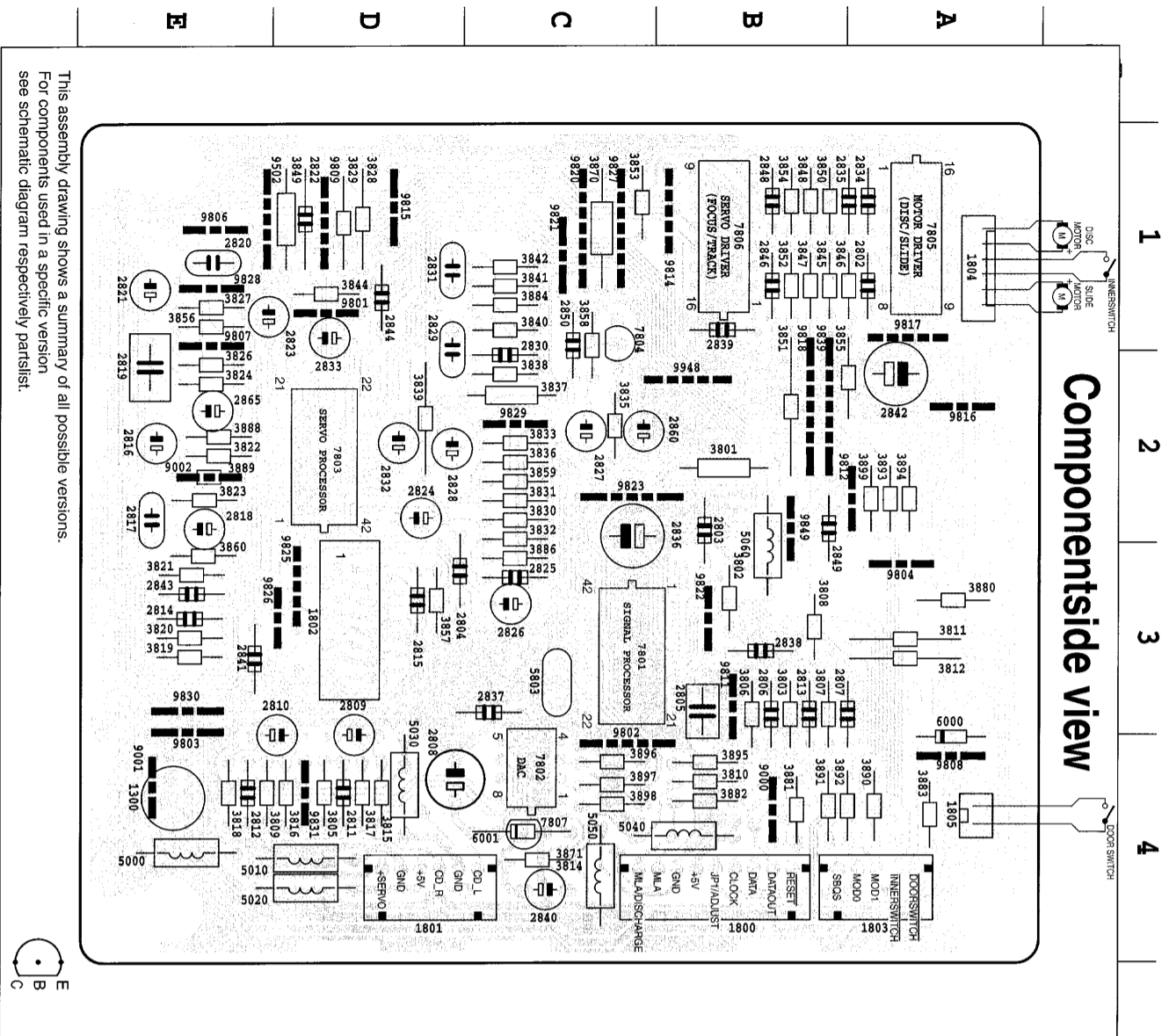


10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

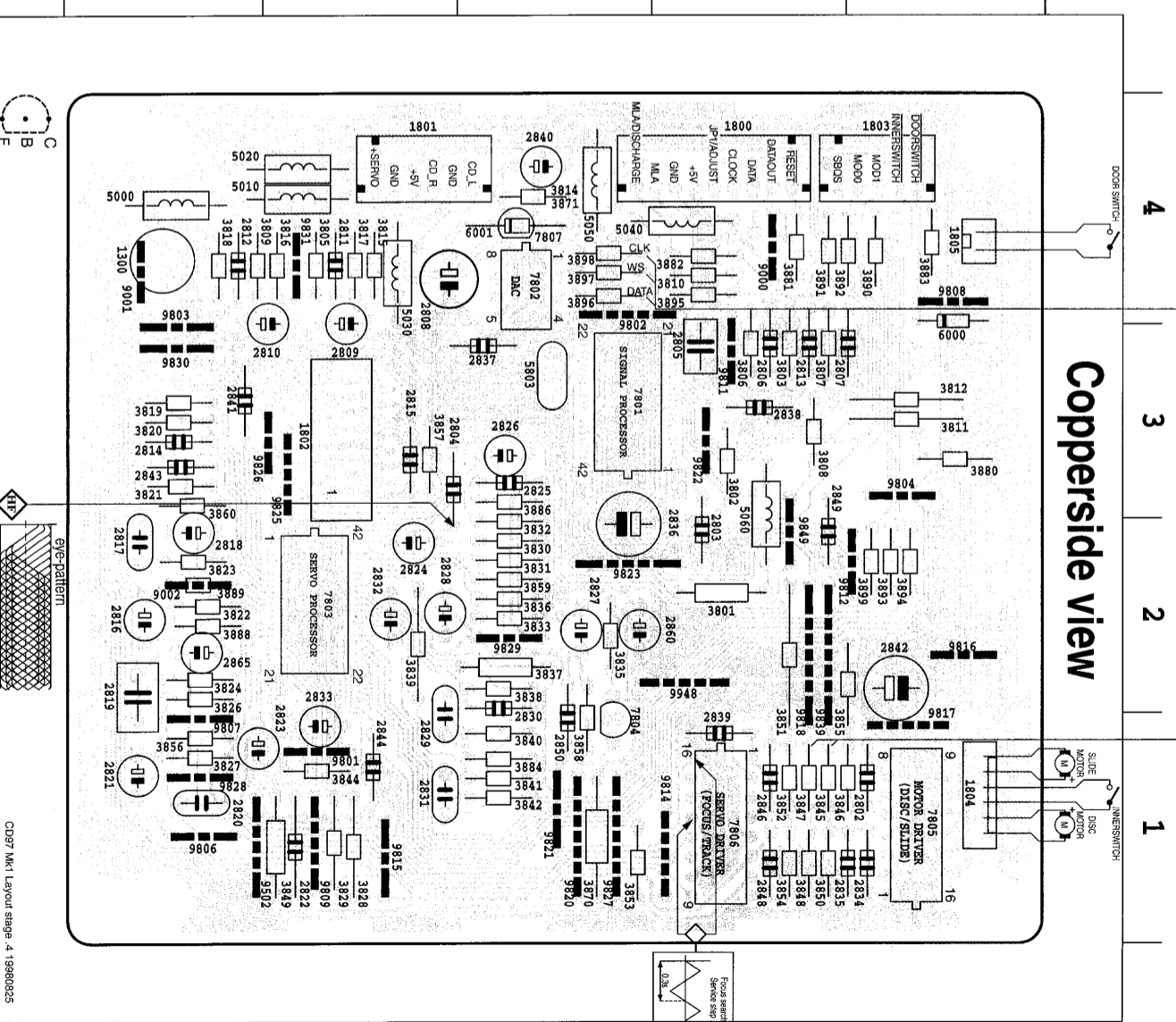


1900 E29 1800 E11 1801 F11 1803 D11 1804 K26 1805 D18 1806 F12 1807 G16 1808 G16 1809 G18 1810 G18 1811 G18 1812 G18 1813 G18 1814 G18 1815 G18 1816 G18 1817 G18 1818 G18 1819 G18 1820 G18 1821 G18 1822 G18 1823 G18 1824 G18 1825 G18 1826 G18 1827 G18 1828 G18 1829 G18 1830 G18 1831 G18 1832 G18 1833 G18 1834 G18 1835 G18 1836 G18 1837 G18 1838 G18 1839 G18 1840 G18 1841 G18 1842 G18 1843 G18 1844 G18 1845 G18 1846 G18 1847 G18 1848 G18 1849 G18 1850 G18 1851 G18 1852 G18 1853 G18 1854 G18 1855 G18 1856 G18 1857 G18 1858 G18 1859 G18 1860 G18 1861 G18 1862 G18 1863 G18 1864 G18 1865 G18 1866 G18 1867 G18 1868 G18 1869 G18 1870 G18 1871 G18 1872 G18 1873 G18 1874 G18 1875 G18 1876 G18 1877 G18 1878 G18 1879 G18 1880 G18 1881 G18 1882 G18 1883 G18 1884 G18 1885 G18 1886 G18 1887 G18 1888 G18 1889 G18 1890 G18 1891 G18 1892 G18 1893 G18 1894 G18 1895 G18 1896 G18 1897 G18 1898 G18 1899 G18 1900 F10 9001 F29 9002 M18

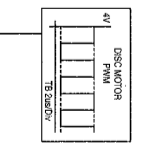
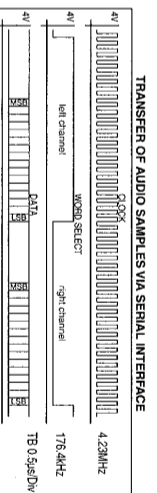




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1800	B 4	3808	B 3	3892	A 4
1801	D 4	3809	E 4	3893	A 2
1802	D 3	3810	B 4	3894	A 2
1803	A 4	3811	A 3	3895	B 4
1804	A 1	3812	A 3	3896	C 4
1805	A 4	3814	C 4	3897	C 4
2802	A 1	3815	D 4	3898	C 4
2803	B 2	3816	D 4	3899	A 2
2804	D 3	3817	D 4	5000	E 4
2805	B 3	3818	E 4	5010	D 4
2806	B 3	3819	E 3	5020	D 4
2807	A 3	3820	E 3	5030	D 4
2808	D 4	3821	E 3	5040	B 4
2809	D 4	3822	E 2	5050	C 4
2810	D 4	3823	E 2	5060	B 3
2811	D 4	3824	E 2	5803	C 3
2812	D 4	3825	E 2	6000	A 4
2813	B 3	3827	E 1	6001	C 4
2814	E 3	3828	D 1	7802	C 4
2815	D 3	3829	D 1	7804	C 1
2816	D 3	3830	C 2	7805	A 1
2817	E 2	3831	C 2	7806	B 1
2818	E 2	3832	C 2	7807	C 4
2819	E 2	3833	C 2	9000	B 4
2820	E 1	3835	C 2	9001	E 4
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2823	E 1	3838	C 2	9801	D 1
2824	D 2	3839	D 2	9802	C 4
2825	C 3	3840	C 1	9803	E 3
2826	C 3	3841	C 1	9804	A 3
2827	C 2	3842	C 1	9806	E 1
2828	D 2	3844	D 1	9807	E 1
2829	D 1	3845	B 1	9808	A 4
2830	C 2	3846	A 1	9809	D 1
2831	D 1	3847	B 1	9811	B 2
2832	D 2	3848	B 1	9812	A 2
2833	D 2	3849	D 1	9814	B 2
2834	A 1	3850	D 1	9815	D 1
2835	A 1	3851	B 2	9816	A 2
2836	C 2	3852	C 1	9817	A 1
2837	C 3	3853	C 1	9818	B 2
2838	B 3	3854	B 1	9820	C 1
2839	B 3	3855	A 2	9821	C 1
2840	C 4	3856	A 2	9822	B 3
2841	A 2	3857	D 3	9823	C 2
2842	A 2	3858	C 1	9825	D 3
2843	E 3	3859	C 2	9826	D 3
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2845	B 1	3870	C 1	9828	E 1
2846	B 1	3871	C 4	9829	C 2
2847	B 1	3880	A 3	9830	E 3
2848	B 2	3881	B 4	9831	D 4
2849	C 1	3882	B 4	9839	B 2
2850	C 1	3883	A 4	9849	B 2
2851	C 2	3884	C 1	9948	B 2
2852	C 2	3885	C 3	7801	C 3
2853	D 4	3888	E 2	7803	D 2
2854	D 4	3889	E 2		
3806	B 3	3890	A 4		



1300	E 4	3807	B 3	3891	B 4
1800	B 4	3808	B 3	3892	A 4
1801	D 4	3809	E 4	3893	A 2
1802	D 3	3810	B 4	3894	A 2
1803	A 4	3811	A 3	3895	B 4
1804	A 1	3812	A 3	3896	C 4
1805	A 4	3814	C 4	3897	C 4
2802	A 1	3815	D 4	3898	C 4
2803	B 2	3816	D 4	3899	A 2
2804	D 3	3817	D 4	5000	E 4
2805	B 3	3818	E 4	5010	D 4
2806	B 3	3819	E 3	5020	D 4
2807	A 3	3820	E 3	5030	D 4
2808	D 4	3821	E 3	5040	B 4
2809	D 4	3822	E 2	5050	C 4
2810	D 4	3823	E 2	5060	B 3
2811	D 4	3824	E 2	5803	C 3
2812	D 4	3825	E 2	6000	A 4
2813	B 3	3827	E 1	6001	C 4
2814	E 3	3828	D 1	7802	C 4
2815	D 3	3829	D 1	7804	C 1
2816	D 3	3830	C 2	7805	A 1
2817	E 2	3831	C 2	7806	B 1
2818	E 2	3832	C 2	7807	C 4
2819	E 2	3833	C 2	9000	B 4
2820	E 1	3835	C 2	9001	E 4
2821	E 1	3836	C 2	9002	E 2
2822	D 1	3837	C 2	9502	E 1
2823	E 1	3838	C 2	9801	D 1
2824	D 2	3839	D 2	9802	C 4
2825	C 3	3840	C 1	9803	E 3
2826	C 3	3841	C 1	9804	A 3
2827	C 2	3842	C 1	9806	E 1
2828	D 2	3844	D 1	9807	E 1
2829	D 1	3845	B 1	9808	A 4
2830	C 2	3846	A 1	9809	D 1
2831	D 1	3847	B 1	9811	B 2
2832	D 2	3848	B 1	9812	A 2
2833	D 2	3849	D 1	9814	B 2
2834	A 1	3850	D 1	9815	D 1
2835	A 1	3851	B 2	9816	A 2
2836	C 2	3852	C 1	9817	A 1
2837	C 3	3853	C 1	9818	B 2
2838	B 3	3854	B 1	9820	C 1
2839	B 3	3855	A 2	9821	C 1
2840	C 4	3856	A 2	9822	B 3
2841	A 2	3857	D 3	9823	C 2
2842	A 2	3858	C 1	9825	D 3
2843	E 3	3859	C 2	9826	D 3
2844	D 1	3860	E 3	9827	C 1
2845	B 1	3870	C 1	9828	E 1
2846	B 1	3871	C 4	9829	C 2
2847	B 1	3880	A 3	9830	E 3
2848	B 2	3881	B 4	9831	D 4
2849	C 1	3882	B 4	9839	B 2
2850	C 1	3883	A 4	9849	B 2
2851	C 2	3884	C 1	9948	B 2
2852	C 2	3885	C 3	7801	C 3
2853	D 4	3888	E 2	7803	D 2
2854	D 4	3889	E 2		
3806	B 3	3890	A 4		



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

1 2 3 4  
A B C D E

1 2 3 4  
A B C D E

1 2 3 4  
A B C D E

# CD - SERVICE TESTPROGRAM

- STOP button pressed in any step returns to begin of Service Testprogram.
- To leave Service Testprogram switch CD mode off.
- Door switch is ignored → CD door can be opened.
- Volume up/down buttons function independently of the service testprogram.

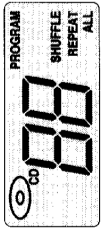
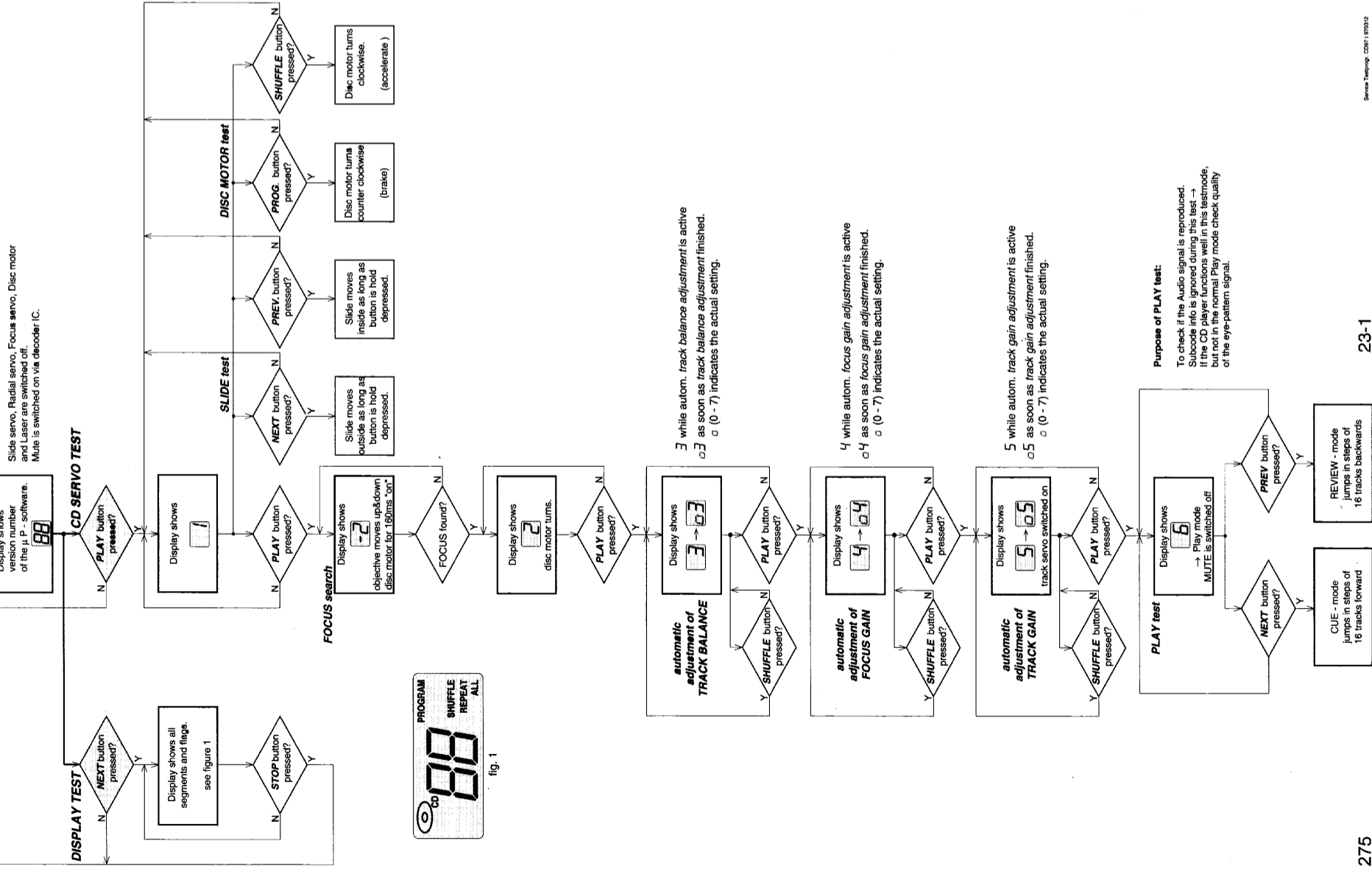
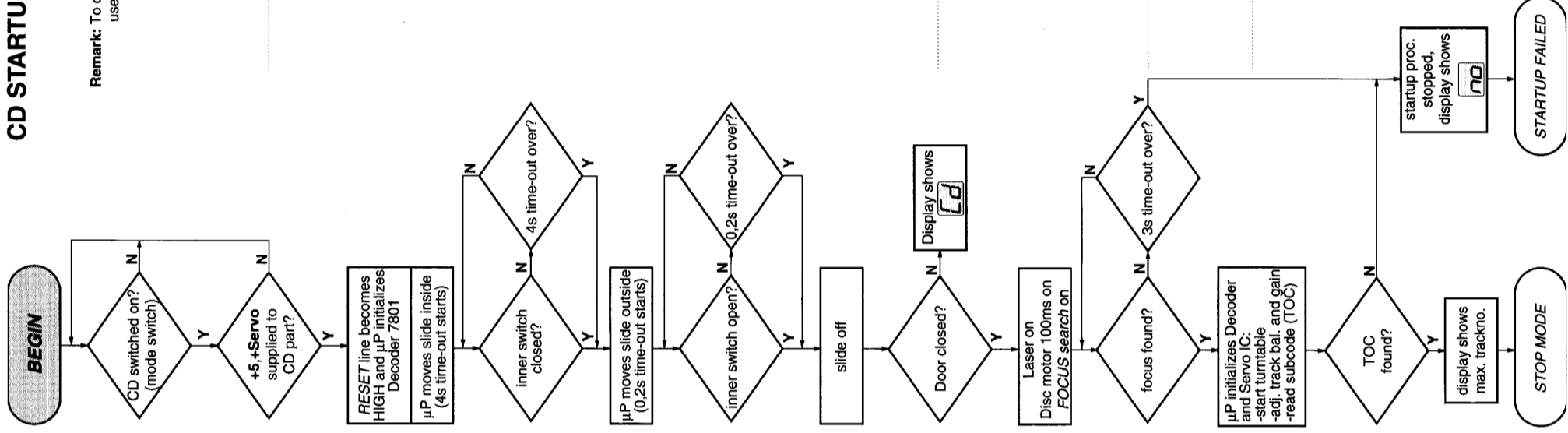


fig. 1

# CD STARTUP - PROCEDURE

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

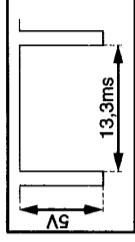
- Battery empty?
- check +5 and +Servo



check: - door switch

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

check: - Motor control pin 37/38 of Decoder 7801 and Disc Motor driver 7805 - HF Signal - Signal on pin7 of Decoder 7801



## Abbreviations and Pin-descriptions of CD ICs

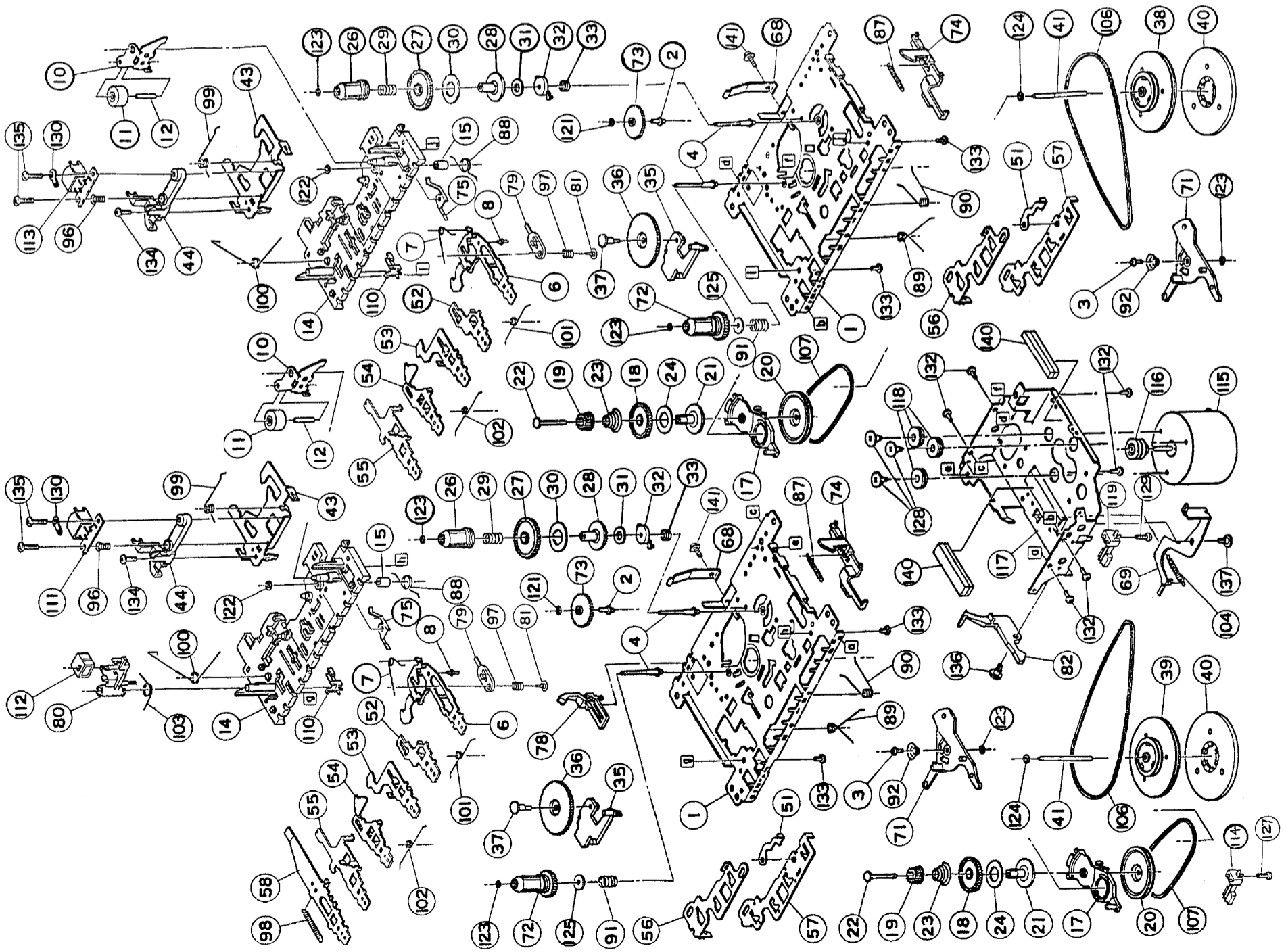
### SERVO PROCESSOR M62475FP

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 servo	Signal generator output to track servo, sends 1700Hz for adjustment procedure
7	TE -	-	Inverting input of tracker 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 +	not connected	Non inverting input of track servo amplifier
13	TG2	-	Track Gain 2 - switch: controls the gain of the track servo amplifier
14	TS -	-	Inverting input of track servo amplifier
15	TS out	Servo processor → Servo driver	Output of track servo amplifier
16	SS +	-	Non inverting input of slide servo amplifier
17	SS -	-	Inverting input of slide servo amplifier
18	Slide out	Servo processor → Motor driver	Output of slide servo amplifier
19	DETFILL	-	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	µP → Servo processor	Serial interface Microprocessor Latch control / DIScharge control for adjustment
23	JP1/SG	µP → Servo processor	Serial interface Jump control line / Signal Generator input line for adjustment
24	MCK	µP → Servo processor	Serial interface Clock input line
25	MSD	µP → Servo processor	Serial interface Data input line
26	Dout	Servo processor → µP	Pin for connection of Low Pass Filter capacitor for ADJUST LOGIC
27	CLPF	-	Reference current input
28	IREF	-	Positive supply connection pin ( 4V - 5.5V )
29	VCC	-	Output of focus servo amplifier
30	FSout	Servo processor → Servo driver	Inverting input of focus servo amplifier
31	FS -	-	Gain control pin of focus error amplifier
32	FEGain	-	Inverting input of focus error amplifier
33	FE -	-	Signal generator output to focus servo, sends 1300Hz for adjust. procedure
34	SGF	Servo processor → Focus servo	Charge capacitor for Focus Search triangle-generator
35	CFSR	-	Non inverting input of Automatic laser Power Control amplifier
36	APC +	-	Inverting input of Automatic laser Power Control amplifier
37	APC -	-	Output of Automatic laser Power Control amplifier
38	APC out	Servo processor → Laser driver	Connection pin for capacitor of Mirror detector
39	MRC	-	Output of HF amplifier
40	HF	Servo processor → Decoder	Inverting input of HF amplifier
41	HFI	-	Sum output of amplified A, B and C input ( central photo diode signal input )
42	ABC	-	to external ac-coupling capacitor

### SIGNAL PROCESSOR M65821FP

Pin	Name	Direction	Description
1	VDD1	-	+supply for signal processor
2	EMP	not connected	Emphasis flag output
3	SYCLK	not connected	Frame synchronize output
4	LOCK	not connected	Low disc rotation detect output
5	SCAND	not connected	Subcode sync signal detection
6	CRCF	not connected	Subcode Q CRC check flag output
7	SBQS	Signal processor → µP	Interrupt signal to read out subcode Q data
8	MSD	µP ↔ Signal processor	Data line
9	RESET	Reset circuit → Signal processor	System reset
10	MCK	µP → Signal processor	Clock input
11	MLA	µP → Signal processor	Latch clock input
12-14	MODx	µP → Signal processor	Mode setting inputs (0,1,2)
15	VDD2	-	+supply for data slicer and VCO
16	IREF	-	Current reference
17	HFD	-	HF signal detect
18	LPF	-	PLL loop filter
19	HF	Servo processor → Signal processor	HF signal input
20	TLC	-	Output from slice level control
21	VSS2	-	Ground
22	C846	not connected	8.4672MHz clock output
23	C423	Signal processor → µP	4.2336MHz clock output
24	EST2	not connected	Error monitor output2
25	EST1	not connected	Error monitor output1
26	XI	not connected	Crystal oscillator input
27	XO	X-Tail → Signal processor	Crystal oscillator output
28	DOTX	Signal processor → X-Tail	Output of digital interface
29	DO1	not connected	Serial data output to DAC
30	DO2	Signal processor → DAC	Serial data output to Dual DAC
31	CKSEL	not connected	Crystal selector input; H=8MHz, L=16MHz
32	DSCK	Signal processor → DAC	Data shift clock
33	WDCK	Signal processor → DAC	Word clock
34	LRCK1	Signal processor → DAC	Left/Right clock
35-36	not used	-	-
37	PWM1	Signal processor → Motor driver	Disc motor driving ( Pulse Width Modulation ) output1
38	PWM2	Signal processor → Motor driver	Disc motor driving ( Pulse Width Modulation ) output2
39-41	not used	-	-
42	VSS1	GND	Digital system ground

**EXPLODED VIEW DIAGRAM - TAPE DECK (CD-83-WV)**



**MECHANICAL PARTSLIST - CABINET**

401	314011430700	Front Panel	443	482253212798	Pressure Ring Assy
402	314011430710	Lens CD	444	314011430620	Door CD
403	482238111874	Window LCD	446	482241012335	Knob Band
404	314011430680	Lens Door (L)	447	482246410294	Frame Tuning
406	314011430690	Lens Door (R)	448	482249240854	Torsion Spring
407	314011430660	Cassette Door (L)	449	482252840208	Drum
408	314011430670	Cassette Door (R)	451	482252880907	Pulley Pom
409	482249242709	Spring Door	452	482245010322	Pointer
411	314011758770	Front Cabinet Assy	453	482252910386	Damper Rubber (30 DEG)
412	314011430720	Keyset 1 - CD	454	482269110747	CD Drive Assy CD97 DA11
413	482224010248	Loudspeaker 6W	456	482252910322	Damper Assy
414	482240210722	Bracket LCD	457	314011430740	Lens Tuning (For -/00)
416	482253212797	PCB Spacer	457	314011430750	Lens Tuning (For -/11)
417	482269110591	Tape Deck Mechanism	457	314011430760	Lens Tuning (For -/14)
418	314011430590	Cassette Knob (R)	458	482241012334	Knob Tuning
419	314011430580	Cassette Knob (L)	459	482240210724	Bracket Handle
421	482240410928	PCB Support	461	482249810728	Handle
422	482249211061	Spring Recording	462	314011100650	Spring CD
423	482240210126	Lever Recording	463	314011430570	Cabinet Rear
424	314011430730	Keyset 2 - CD	464	482226520318	Socket Mains
426	482252910322	Damper Assy	466	482249251733	Spring Compression
427	482224010248	Loudspeaker 6W	467	482249251961	Spring Compression
428	482252910387	Damper Rubber (40 DEG)	468	482229080313	Contact plate
429	482241012337	Knob DBB	469	314011430610	Battery Door
431	314011430600	Knob Hi Sp Dubbing	471	482230314038	Telescopic Aerial
432	482241012336	Knob Mode			Cover CD
434	482240210723	Lever Eject			Mains Cord
436	482249211058	Spring Eject			Instruction Manual (For -/00)
437	314011430630	Tray CD (For -/00)			Instruction Manual (For -/11)
437	314011430640	Tray CD (For -/11)			Instruction Manual (For -/14)
437	314011430650	Tray CD (For -/14)			
438	482241012332	Knob Volume			
439	482241012339	Knob Open			
441	482253560096	Disc			
442	482240261508	Bracket CD			

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

**MECHANICAL PARTSLIST - TAPE DECK**

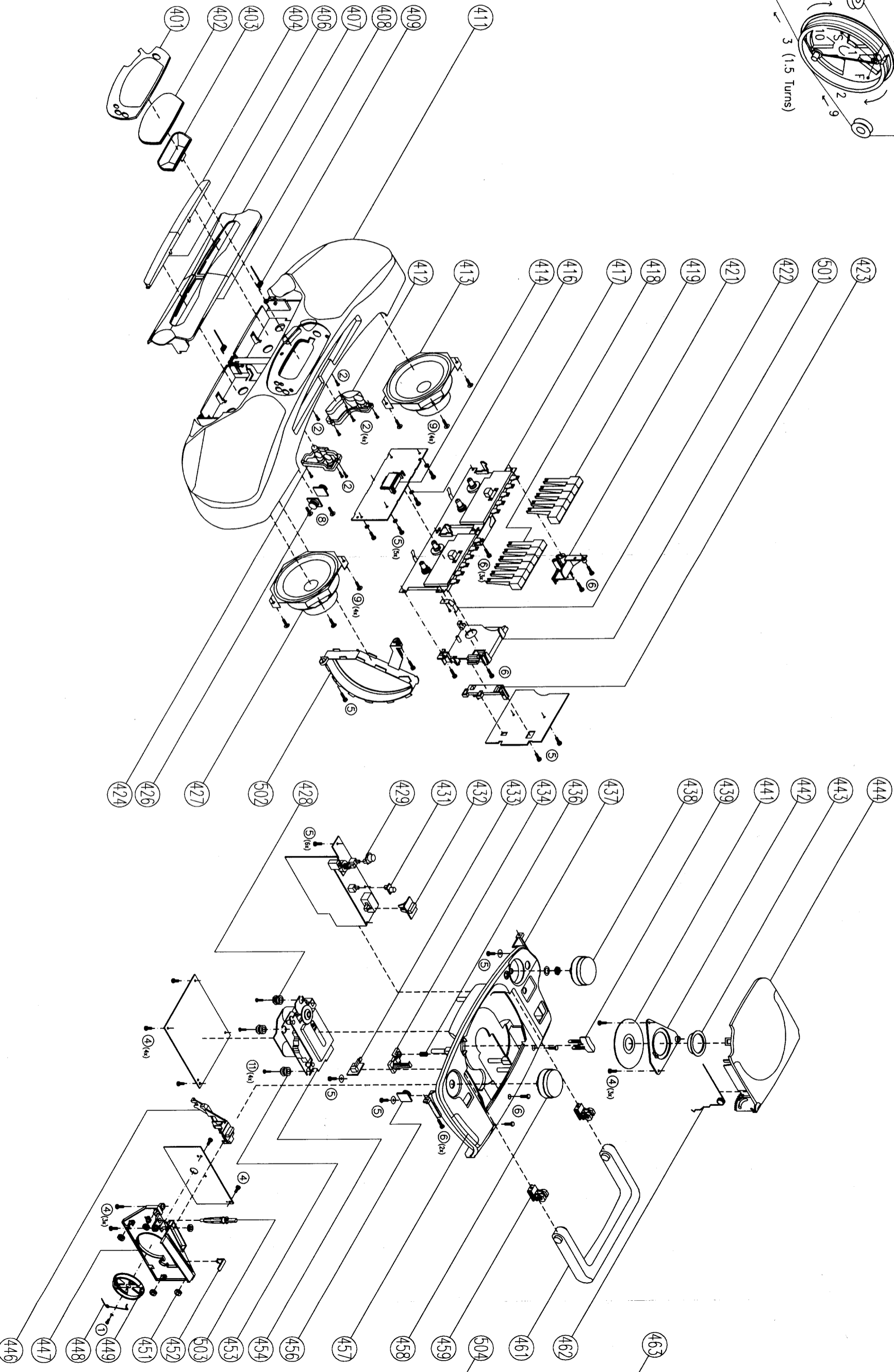
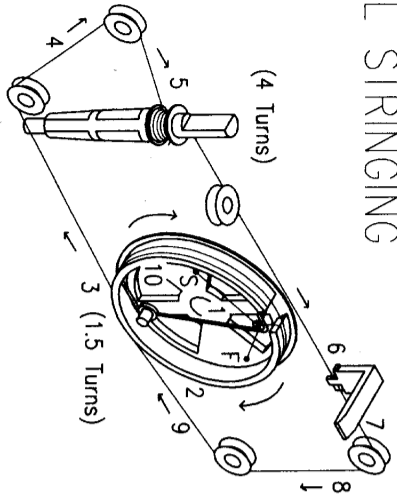
10	48225281115	Pinch Roller Arm	116	48225281114	Motor Pulley
11	482252870695	Pinch Roller Assy			
74	482240370968	Eject Hook (A)			
106	482235810198	Main Belt			
107	482235831124	Sub Belt			
110	482227890663	Leaf Switch			
111	482224930218	MS18R-AKONI			
112	482224940296	E. Head			
113	482224930218	MS18R-AKONI			
115	482236121592	EG-530YD-9BH			

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

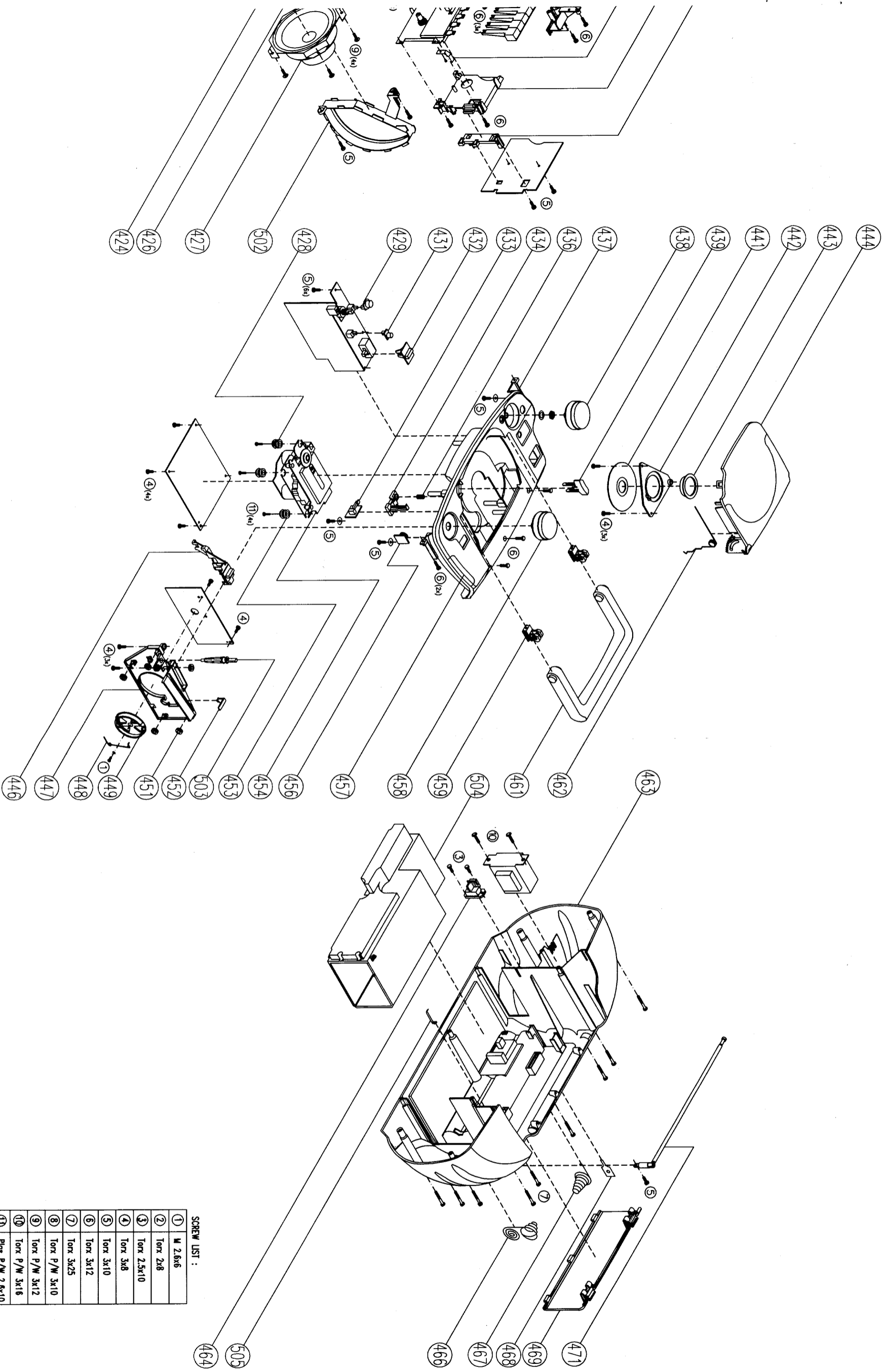


EXPLODED VIEW DIAGRAM - CABINET

DIAL STRINGING







SCREW LIST :

①	M 2.6x6
②	Torx 2x8
③	Torx 2.5x10
④	Torx 3x8
⑤	Torx 3x10
⑥	Torx 3x12
⑦	Torx 3x25
⑧	Torx P/W 3x10
⑨	Torx P/W 3x12
⑩	Torx P/W 3x16
⑪	Plus P/W 2.6x10



MTF

2703	4822 124 41397	47µF	20%	25V
2704	4822 124 41596	22µF	20%	50V
2705	4822 124 40246	4.7µF	20%	63V
2706	4822 124 40181	220µF	20%	10V
2707	4822 124 41576	2.2µF	20%	50V
2708	4822 124 40181	220µF	20%	10V
2709	4822 124 80144	220µF	20%	25V
2710	4822 124 41397	47µF	20%	25V
2711	4822 124 40181	220µF	20%	10V
2712	4822 124 40181	220µF	20%	10V
2713	4822 124 80144	220µF	20%	25V
2714	4822 124 41397	47µF	20%	25V
2715	4822 124 41596	22µF	20%	50V
2716	4822 124 41596	22µF	20%	50V
2718	4822 124 41397	47µF	20%	25V
2719	4822 124 41397	47µF	20%	25V
2721	4822 121 43144	22nF	10%	50V
2722	4822 122 10577	3.3nF	10%	16V
2723	4822 121 51304	10nF	10%	50V
2724	5322 122 32052	680pF	10%	50V
2725	4822 126 11714	4.7nF	20%	
2726	4822 126 11714	4.7nF	20%	
2727	4822 122 10577	3.3nF	10%	16V
2728	4822 121 51305	15nF	10%	50V
2729	4822 126 12787	330pF	10%	50V
2730	4822 121 43898	8.2nF	10%	50V
2731	4822 126 11585	22nF +80-20% Y5V	25V	
2732	4822 126 11585	22nF +80-20% Y5V	25V	
2733	4822 126 12339	2.2nF	10%	Y5R
2734	5322 122 32311	470pF	10%	100V
2735	4822 121 51305	15nF	10%	50V
2736	4822 126 12787	330pF	10%	50V
2737	4822 121 43898	8.2nF	10%	50V
2738	4822 126 11585	22nF +80-20% Y5V	25V	
2739	4822 122 33195	100pF	10%	50V
2740	4822 126 11714	4.7nF	20%	
2741	4822 126 11714	4.7nF	20%	
2742	4822 122 33195	100pF	10%	50V
2743	4822 126 12339	2.2nF	10%	Y5R
2744	5322 122 32311	470pF	10%	100V

2745	4822 126 12339	2.2nF	10%	Y5R
2746	5322 122 32311	470pF	10%	100V
2747	4822 121 51305	15nF	10%	50V
2748	4822 126 11585	22nF +80-20% Y5V	25V	
2749	4822 126 12339	2.2nF	10%	Y5R
2750	5322 122 32311	470pF	10%	100V
2751	4822 121 51305	15nF	10%	50V
2752	4822 122 10577	3.3nF	10%	16V
2753	4822 124 40242	1µF	20%	63V
2754	4822 124 40242	1µF	20%	63V
2757	4822 121 51252	470nF	5%	63V
2758	4822 121 51252	470nF	5%	63V
2759	4822 122 33519	470pF	10%	50V
2760	4822 122 33519	470pF	10%	50V
2761	4822 122 33169	680pF	10%	50V
2762	4822 122 33169	680pF	10%	50V
2763	4822 124 41584	100µF	20%	10V

3701	4822 116 83863	1K	5%	0.5W
3702	4822 116 83884	47K	5%	0.5W
3703	4822 116 52176	10R	5%	0.5W
3704	4822 116 52263	2K7	5%	0.5W
3705	4822 116 83863	1K	5%	0.5W
3706	4822 111 30893	4M7	5%	0.2W
3707	4822 116 52176	10R	5%	0.5W
3708	4822 116 52304	82K	5%	0.5W
3709	4822 116 52186	22R	5%	0.5W
3710	4822 116 52269	3K3	5%	0.5W
3711	4822 116 52256	2K2	5%	0.5W
3712	4822 116 52256	2K2	5%	0.5W
3713	4822 116 52257	22K	5%	0.5W
3714	4822 116 52257	22K	5%	0.5W
3715	4822 116 52207	1K2	5%	0.5W
3716	4822 116 52303	8K2	5%	0.5W
3717	4822 116 52219	330R	5%	0.5W
3718	4822 116 83864	10K	5%	0.5W
3719	4822 116 52269	3K3	5%	0.5W
3720	4822 116 52269	3K3	5%	0.5W

3721	4822 116 52245	150K	5%	0.5W
3722	4822 116 83872	220R	5%	0.5W
3723	4822 116 83883	470R	5%	0.5W
3724	4822 116 52182	15R	5%	
3725	4822 116 52303	8K2	5%	0.5W
3726	4822 116 52207	1K2	5%	0.5W
3727	4822 116 52219	330R	5%	0.5W
3728	4822 116 83864	10K	5%	0.5W
3729	4822 116 52269	3K3	5%	0.5W
3730	4822 116 52269	3K3	5%	0.5W
3731	4822 116 52245	150K	5%	0.5W
3732	4822 116 83864	10K	5%	0.5W
3733	4822 116 52256	2K2	5%	0.5W
3734	4822 116 52289	5K6	5%	0.5W
3735	4822 116 83864	10K	5%	0.5W
3736	4822 116 52256	2K2	5%	0.5W
3737	4822 116 52245	150K	5%	0.5W
3738	4822 116 83872	220R	5%	0.5W
3739	4822 116 83883	470R	5%	0.5W
3740	4822 116 52283	4K7	5%	0.5W
3741	4822 116 52186	22R	5%	0.5W
3742	4822 116 52245	150K	5%	0.5W
3743	4822 116 83872	220R	5%	0.5W
3744	4822 116 83883	470R	5%	0.5W
3745	4822 116 52283	4K7	5%	0.5W
3746	4822 116 52186	22R	5%	0.5W
3747	4822 116 52289	5K6	5%	0.5W
3748	4822 116 52175	100R	5%	0.5W
3749	4822 116 52245	150K	5%	0.5W
3750	4822 116 83872	220R	5%	0.5W
3751	4822 116 83883	470R	5%	0.5W
3752	4822 116 52182	15R	5%	
3753	4822 116 52175	100R	5%	0.5W
3754	4822 116 52256	2K2	5%	0.5W
3755	4822 116 52256	2K2	5%	0.5W
3756	4822 116 52256	2K2	5%	0.5W
3757	4822 116 52256	2K2	5%	0.5W
3758	4822 100 20165	500R	30%	0.1W
3760	4822 116 83864	10K	5%	0.5W
3761	4822 116 83884	47K	5%	0.5W

3764	4822 116 83864	10K	5%	0.5W
3765	4822 116 83864	10K	5%	0.5W
3768	4822 116 83864	10K	5%	0.5W
3769	4822 116 52234	100K	5%	0.5W
3770	4822 116 83884	47K	5%	0.5W
3772	4822 116 52234	100K	5%	0.5W
3778	4822 116 52234	100K	5%	0.5W
3779	4822 116 83864	10K	5%	0.5W
3780	4822 116 52272	330K	5%	0.5W
3781	4822 116 83883	470R	5%	0.5W
3782	4822 116 83883	470R	5%	0.5W
3783	4822 116 83864	10K	5%	0.5W
3784	4822 116 83864	10K	5%	0.5W
3786	4822 116 52234	100K	5%	0.5W
3787	4822 116 52191	33R	5%	0.5W
3788	4822 116 52283	4K7	5%	0.5W
3789	4822 116 52283	4K7	5%	0.5W
3790	4822 116 83882	39K	5%	0.5W
3791	4822 116 52176	10R	5%	0.5W
5701	4822 157 10371	Coil		
6703	4822 130 30621	Diode 1N4148		
6706	4822 130 30621	Diode 1N4148		
6707	4822 130 30621	Diode 1N4148		
6708	4822 130 30621	Diode 1N4148		

MTF

MTF

7701	4	
7702	4	
7704	4	
7709	4	
7710	4	
7711	4	
7712	4	
7713	4	
7714	4	
7717	4	
7720	4	
7721	4	

Note : Only are r



MTF

10% Y5R	3721	4822 116 52245	150K	5%	0.5W
10% 100V	3722	4822 116 83872	220R	5%	0.5W
10% 50V	3723	4822 116 83883	470R	5%	0.5W
90-20% Y5V 25V	3724	4822 116 52182	15R	5%	
10% Y5R	3725	4822 116 52303	8K2	5%	0.5W
10% 100V	3726	4822 116 52207	1K2	5%	0.5W
10% 50V	3727	4822 116 52219	330R	5%	0.5W
10% 16V	3728	4822 116 83864	10K	5%	0.5W
10% 63V	3729	4822 116 52269	3K3	5%	0.5W
10% 63V	3730	4822 116 52269	3K3	5%	0.5W
5% 63V	3731	4822 116 52245	150K	5%	0.5W
5% 63V	3732	4822 116 83864	10K	5%	0.5W
10% 50V	3733	4822 116 52256	2K2	5%	0.5W
10% 50V	3734	4822 116 52289	5K6	5%	0.5W
10% 50V	3735	4822 116 83864	10K	5%	0.5W
10% 50V	3736	4822 116 52256	2K2	5%	0.5W
20% 10V	3737	4822 116 52245	150K	5%	0.5W
	3738	4822 116 83872	220R	5%	0.5W
	3739	4822 116 83883	470R	5%	0.5W
	3740	4822 116 52283	4K7	5%	0.5W
5% 0.5W	3741	4822 116 52186	22R	5%	0.5W
5% 0.5W	3742	4822 116 52245	150K	5%	0.5W
5% 0.5W	3743	4822 116 83872	220R	5%	0.5W
5% 0.5W	3744	4822 116 83883	470R	5%	0.5W
5% 0.5W	3745	4822 116 52283	4K7	5%	0.5W
5% 0.2W	3746	4822 116 52186	22R	5%	0.5W
5% 0.5W	3747	4822 116 52289	5K6	5%	0.5W
5% 0.5W	3748	4822 116 52175	100R	5%	0.5W
5% 0.5W	3749	4822 116 52245	150K	5%	0.5W
5% 0.5W	3750	4822 116 83872	220R	5%	0.5W
5% 0.5W	3751	4822 116 83883	470R	5%	0.5W
5% 0.5W	3752	4822 116 52182	15R	5%	
5% 0.5W	3753	4822 116 52175	100R	5%	0.5W
5% 0.5W	3754	4822 116 52256	2K2	5%	0.5W
5% 0.5W	3755	4822 116 52256	2K2	5%	0.5W
5% 0.5W	3756	4822 116 52256	2K2	5%	0.5W
5% 0.5W	3757	4822 116 52256	2K2	5%	0.5W
5% 0.5W	3758	4822 100 20165	500R	30%	0.1W
5% 0.5W	3760	4822 116 83864	10K	5%	0.5W
5% 0.5W	3761	4822 116 83884	47K	5%	0.5W

	3764	4822 116 83864	10K	5%	0.5W
	3765	4822 116 83864	10K	5%	0.5W
	3768	4822 116 83864	10K	5%	0.5W
	3769	4822 116 52234	100K	5%	0.5W
	3770	4822 116 83884	47K	5%	0.5W
	3772	4822 116 52234	100K	5%	0.5W
	3778	4822 116 52234	100K	5%	0.5W
	3779	4822 116 83864	10K	5%	0.5W
	3780	4822 116 52272	330K	5%	0.5W
	3781	4822 116 83883	470R	5%	0.5W
	3782	4822 116 83883	470R	5%	0.5W
	3783	4822 116 83864	10K	5%	0.5W
	3784	4822 116 83864	10K	5%	0.5W
	3786	4822 116 52234	100K	5%	0.5W
	3787	4822 116 52191	33R	5%	0.5W
	3788	4822 116 52283	4K7	5%	0.5W
	3789	4822 116 52283	4K7	5%	0.5W
	3790	4822 116 83882	39K	5%	0.5W
	3791	4822 116 52176	10R	5%	0.5W
	5701	4822 157 10371	Coil		
	6703	4822 130 30621	Diode 1N4148		
	6706	4822 130 30621	Diode 1N4148		
	6707	4822 130 30621	Diode 1N4148		
	6708	4822 130 30621	Diode 1N4148		

MTF

	7701	4822 130 42231	Trans BC557C
	7702	4822 130 40959	Trans BC547B
	7704	4822 130 40981	Trans BC337-25
	7709	4822 130 44503	Trans BC547C
	7710	4822 130 44503	Trans BC547C
	7711	4822 209 32918	IC AN7318S
	7712	4822 209 32918	IC AN7318S
	7713	4822 130 40981	Trans BC337-25
	7714	4822 130 40981	Trans BC337-25
	7717	4822 130 40959	Trans BC547B
	7720	4822 130 44503	Trans BC547C
	7721	4822 130 44503	Trans BC547C
	<b>- MISCELLANEOUS -</b>		
	1707	4822 277 11504	Push Switch

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





**FRONT BOARD**

2401	4822 124 11959	100µF 20% 10V
2402	4822 124 40242	1µF 20% 50V
2464	4822 122 10466	220pF 10% 50V
2465	4822 122 10466	220pF 10% 50V
2478	4822 122 10466	220pF 10% 50V
3401	4822 116 52175	100R 5% 0.5W
3402	4822 116 52234	100K 5% 0.5W
3403	4822 116 52244	15K 5% 0.5W
3404	4822 116 83883	470R 5% 0.5W
3405	4822 116 52238	12K 5% 0.5W
3406	4822 116 52276	3K9 5% 0.5W
3407	4822 116 52243	1K5 5% 0.5W
3408	4822 116 52226	560R 5% 0.5W
3410	4822 116 83961	6K8 5% 0.5W
3411	4822 116 52238	12K 5% 0.5W
3412	4822 116 52257	22K 5% 0.5W
3414	4822 116 83961	6K8 5% 0.5W
3415	4822 116 52238	12K 5% 0.5W
3416	4822 116 52257	22K 5% 0.5W
3451	4822 116 52283	4K7 5% 0.5W
3452	4822 116 52283	4K7 5% 0.5W
3453	4822 116 52283	4K7 5% 0.5W
3454	4822 116 52283	4K7 5% 0.5W
3455	4822 116 52283	4K7 5% 0.5W
3456	4822 116 52283	4K7 5% 0.5W
3457	4822 116 52283	4K7 5% 0.5W
3458	4822 116 52283	4K7 5% 0.5W
3459	4822 116 52283	4K7 5% 0.5W
3460	4822 116 52283	4K7 5% 0.5W
3461	4822 116 52269	3K3 5% 0.5W
3462	4822 116 52243	1K5 5% 0.5W
3463	4822 116 52283	4K7 5% 0.5W
3464	4822 116 52283	4K7 5% 0.5W
3465	4822 116 52283	4K7 5% 0.5W
3466	4822 116 52243	1K5 5% 0.5W

**FRONT BOARD**

3467	4822 116 52243	1K5 5% 0.5W
3468	4822 116 52283	4K7 5% 0.5W
3469	4822 116 52231	820R 5% 0.5W
3470	4822 116 52231	820R 5% 0.5W
3471	4822 116 52283	4K7 5% 0.5W
3472	4822 116 52231	820R 5% 0.5W
3473	4822 116 52269	3K3 5% 0.5W
3474	4822 116 52283	4K7 5% 0.5W
3475	4822 116 52283	4K7 5% 0.5W
3478	4822 116 52283	4K7 5% 0.5W
3479	4822 116 52283	4K7 5% 0.5W
3480	4822 116 52257	22K 5% 0.5W
3481	4822 116 52257	22K 5% 0.5W
3482	4822 116 52257	22K 5% 0.5W
3484	4822 116 52264	27K 5% 0.5W
3485	4822 116 52264	27K 5% 0.5W
5401	4822 242 73769	Res Cer 4.19MHz
5402	4822 156 21721	Inductor 2.2µH 10%
5403	4822 157 52333	Inductor 100µH 10%
6402	4822 130 30621	Diode 1N4148
6403	4822 130 30621	Diode 1N4148
6404	4822 130 31554	Diode BZX79-F
7401	4822 209 15568	IC TMP47C422F
7402	4822 130 44503	Trans BC547C
7403	4822 130 40959	Trans BC547B

- MISCELLANEOUS -		
1401	4822 135 00124	LCD Display
1410	4822 276 13114	Tact Switch
1411	4822 276 13114	Tact Switch
1412	4822 276 13114	Tact Switch
1413	4822 276 13114	Tact Switch
1415	4822 276 13114	Tact Switch
1416	4822 276 13114	Tact Switch
1417	4822 276 13114	Tact Switch

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

**AUDIO BOARD**

2250	4822 126 13678	470µF 20% 10V
2251	4822 126 13678	470µF 20% 10V
2252	5322 121 42661	330nF 10% 63V
2253	5322 121 42661	330nF 10% 63V
2254	4822 124 11958	47µF 20% 25V
2255	4822 124 11958	47µF 20% 25V
2256	4822 124 11959	100µF 20% 10V
2257	4822 124 11959	100µF 20% 10V
2258	5322 122 32052	680pF 10% 50V
2259	5322 122 32052	680pF 10% 50V
2260	4822 124 40242	1µF 20% 50V
2261	4822 124 40242	1µF 20% 50V
2262	4822 124 80144	220µF 20% 25V
2263	4822 124 80558	470µF 20% 16V
2300	4822 122 33197	1nF 10% 50V
2301	4822 122 33197	1nF 10% 50V
2302	4822 122 33197	1nF 10% 50V
2303	4822 122 33197	1nF 10% 50V
2304	5322 121 42386	100nF 10% 63V
2305	4822 124 11878	700µF 20% 16V
2306	4822 126 11585	22nF +80-20% 25V
2307	4822 124 11972	220µF 20% 10V
2310	4822 124 41576	2,2µF 20% 50V
2312	4822 124 11959	100µF 20% 10V
2400	4822 126 11714	4,7nF 20% 16V
2401	4822 126 11714	4,7nF 20% 16V
2402	4822 126 11714	4,7nF 20% 16V
2403	4822 124 41596	22µF 20% 50V
2404	4822 124 41596	22µF 20% 50V
2405	4822 124 41596	22µF 20% 50V
2406	4822 124 41596	22µF 20% 50V
2516	5322 121 42465	68nF 10% 50V
2517	5322 121 42465	68nF 10% 50V
2518	4822 126 12878	1,5nF 10% 16V
2519	4822 126 12878	1,5nF 10% 16V
2564	4822 124 11959	100µF 20% 10V
2565	4822 124 40246	4,7µF 20% 50V
2566	4822 124 40246	4,7µF 20% 50V
2567	4822 122 33195	100pF 10% 50V
2568	4822 122 33195	100pF 10% 50V

2569	4822 122 33197	1nF 10% 50V
2570	4822 122 33197	1nF 10% 50V
2571	4822 124 40242	1µF 20% 50V
2572	4822 124 40242	1µF 20% 50V
2577	4822 122 33197	1nF 10% 50V
2578	4822 122 33197	1nF 10% 50V
2579	4822 126 12785	47nF +80-20% 50V
2580	4822 126 12785	47nF +80-20% 50V
3250	4822 116 81753	4R7 5% 0,5W
3251	4822 116 83883	470R 5% 0,5W
3252	4822 116 83863	1K 5% 0,5W
3253	4822 116 52226	560R 5% 0,5W
3254	4822 116 83883	470R 5% 0,5W
3255	4822 116 83883	470R 5% 0,5W
3256	4822 116 81753	4R7 5% 0,5W
3258	4822 116 52238	12K 5% 0,5W
3259	4822 116 52256	2K2 5% 0,5W
3302	4822 116 83872	220R 5% 0,5W
3303	4822 116 83872	220R 5% 0,5W
3304	4822 116 83883	470R 5% 0,5W
3305	4822 116 83883	470R 5% 0,5W
3306	4822 116 52289	5K6 5% 0,5W
3307	4822 116 52303	8K2 5% 0,5W
3308	4822 116 83868	150R 5% 0,5W
3309	4822 116 83868	150R 5% 0,5W
3310	4822 116 52191	33R 5% 0,5W
3401	4822 116 52244	15K 5% 0,5W
3402	4822 116 52244	15K 5% 0,5W
3403	4822 116 52244	15K 5% 0,5W
3404	4822 116 83864	10K 5% 0,5W
3405	4822 116 83864	10K 5% 0,5W
3406	4822 116 83864	10K 5% 0,5W
3407	4822 116 83864	10K 5% 0,5W
3408	4822 116 83863	1K 5% 0,5W
3409	4822 116 83863	1K 5% 0,5W
3411	4822 116 52244	15K 5% 0,5W
3516	4822 116 52289	3K3 5% 0,5W
3517	4822 116 52289	3K3 5% 0,5W



3518	4822 116 52235	1M 5% 0,5W
3519	4822 116 52235	1M 5% 0,5W
3522	4822 102 10447	Rot 50KB x 2
3529	4822 116 52303	8K2 5% 0,5W
3530	4822 116 52303	8K2 5% 0,5W
3576	4822 116 83883	470R 5% 0,5W
3577	4822 116 83883	470R 5% 0,5W
3578	4822 116 52238	12K 5% 0,5W
3579	4822 116 52238	12K 5% 0,5W
3580	4822 116 83872	220R 5% 0,5W
3582	4822 116 52305	820K 5% 0,5W
3583	4822 116 52305	820K 5% 0,5W
3584	4822 116 52243	1K5 5% 0,5W
3585	4822 116 52243	1K5 5% 0,5W
3586	4822 116 52228	680R 5% 0,5W
3587	4822 116 52228	680R 5% 0,5W
3588	4822 116 52271	33K 5% 0,5W
3589	4822 116 52271	33K 5% 0,5W
3595	4822 116 83864	10K 5% 0,5W
3596	4822 116 83864	10K 5% 0,5W
3597	4822 116 52238	12K 5% 0,5W
3598	4822 116 52238	12K 5% 0,5W
3599	4822 116 52283	4K7 5% 0,5W
3600	4822 116 52283	4K7 5% 0,5W
3610	4822 116 83864	10K 5% 0,5W
3611	4822 116 83864	10K 5% 0,5W
3660	4822 116 83883	470R 5% 0,5W
3661	4822 116 83883	470R 5% 0,5W
5503	4822 157 51195	Inductor 1µH 20%
6300	5322 130 30684	Diode 1N4002GP
6301	5322 130 30684	Diode 1N4002GP
6302	5322 130 30684	Diode 1N4002GP
6303	5322 130 30684	Diode 1N4002GP
6304	4822 130 32806	Diode BZX79-F





**AUDIO BOARD**

6305	4822 130 30621	Diode 1N4148
6402	4822 130 30621	Diode 1N4148
6403	4822 130 30621	Diode 1N4148
6404	4822 130 30621	Diode 1N4148
6405	4822 130 30621	Diode 1N4148
7250	4822 130 42231	Trans 'BC557C
7251	4822 130 41327	Trans BC327
7252	4822 130 44503	Trans BC547C
7253	4822 130 42231	Trans 'BC557C
7254	4822 130 41327	Trans BC327
7300	4822 209 31544	IC TA8227P
7400	5322 130 44779	Trans BC338
7401	5322 130 44779	Trans BC338
7402	4822 130 42231	Trans BC557C
7513	4822 130 44503	Trans BC547C
7514	4822 130 44503	Trans BC547C
<b>- MISCELLANEOUS -</b>		
1257	4822 267 31468	Phone Socket 3.5mm
1302	4822 070 32002	Fuse 250V 2A
1400	4822 277 30689	Slide Switch
1503	4822 276 12648	Push Switch
1505	4822 276 12648	Push Switch
1800	4822 276 13625	Push Switch
	4822 277 21794	Volt Sel (For -/01/11)
	4822 146 10424	Transf (For -/00/05/14)
	4822 146 10794	Transf (For -/01/11)
	4822 146 10425	Transf (For -/17)

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

### ATM 3

		
2101	4822 122 33195	100pF 10% 50V
2102	4822 126 12812	47pF 5% 50V
2103	4822 124 40248	10μF 20% 63V
2104	4822 124 40248	10μF 20% 63V
2105	4822 126 12112	22pF 5% 50V
2105	4822 126 12283	8,2pF 0,5% 50V
2106	4822 125 50681	Var Capacitor
2106	4822 125 50648	Var Capacitor
2107	4822 126 12827	390pF 5% 50V
2108	4822 122 32147	22pF 2% 100V
2108	4822 126 12284	5,6pF 0,5% 50V
2109	4822 122 31821	3,3pF 0,25% 100V
2109	4822 126 12809	2,2pF 5% 50V
2110	4822 126 12284	5,6pF 0,5% 50V
2110	4822 126 12229	8,2pF N750 50V
2112	4822 124 41397	47μF 20% 25V
2113	4822 126 13581	0.22μF 20% 50V
2114	4822 126 12787	330pF 10% 50V
2115	4822 124 40246	4,7UF20% 63V
2116	4822 126 12077	15nF 10% 25V
2116	4822 126 12147	22nF 10% 25V
2117	4822 124 40242	1μF 20% 63V
2118	4822 124 40242	1μF 20% 63V
2119	4822 126 12077	15nF 10% 25V
2119	4822 126 12147	22nF 10% 25V
2120	4822 124 40242	1μF 20% 63V
2121	4822 124 40239	0,47μF 20% 63V
2122	4822 124 40239	0,47μF 20% 63V
2125	β 4822 126 12826	120pF 50% 50V
2126	β 4822 125 50045	1p8-22p 250V
2150	β 4822 125 50045	1p8-22p 250V
		
3101	4822 100 20167	50K 30% 0,1W
3102	4822 116 52297	68K 5% 0,5W
3104	4822 116 52256	2K2 5% 0,5W
3108	4822 116 52191	33R 5% 0,5W
3109	4822 116 52234	100K 5% 0,5W

		
3110	4822 116 52234	100K 5% 0,5W
3111	α 4822 116 83863	1K 5% 0,5W
3113	4822 116 52252	180K 5% 0,5W
		
5101	4822 157 70513	Coil FM-RF
5101	4822 157 70762	Coil FM-RF
5101	4822 157 53789	Coil FM-RF
5104	4822 156 30947	Coil FM-OSC
5104	4822 157 70033	Coil FM-OSC
5105	4822 157 71145	Coil MW-OSC
5106	4822 157 70499	AM IF Filter
5107	4822 242 81154	AM IF Filter
5108	4822 156 11146	AM IF Filter
5109	β 4822 157 71144	Coil LW OSC.
5111	4822 156 21738	Coil MW RF
5112	β 4822 156 21739	Coil LW RF
		
6101	4822 130 30621	Diode 1N4148
6102	4822 130 30621	Diode 1N4148
		
7101	4822 209 32746	IC TEA5711T/N2
- MISCELLANEOUS -		
1100	β 4822 277 30933	Switch FM/LW/MW
1101	α 4822 277 21698	Switch FM/AM

α for FM/MW only  
β for FM/MW/LW only

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

# CD 97 (DA11 MK I)



2802	4822 126 12785	47nF Y5V TUB 50V
2803	4822 126 11585	22nF +80-20% Y5V 25V
2804	4822 126 12878	1,5nF 10% 16V
2805	4822 121 51412	560nF 5% 63V
2806	4822 122 33519	470pF 10% 50V
2807	4822 122 33191	22pF 5% 50V
2808	4822 124 22263	220 F 20% 25V
2809	4822 124 40242	1 F 20% 63V
2810	4822 124 40242	1 F 20% 63V
2811	4822 122 33849	150pF 10%Y5P 50V
2812	4822 122 33849	150pF 10%Y5P 50V
2813	4822 126 12339	2,2nF 10% Y5R
2814	4822 126 13677	39pF 5% 50V
2815	4822 126 12882	100nF +80-20% 50V
2816	4822 124 41407	0,47 F 20% 63V
2817	4822 121 42687	3,3nF 10% 63V
2818	4822 124 40242	1 F 20% 63V
2819	5322 121 42386	100nF 5% 63V
2820	4822 121 43526	47nF 5% 250V
2821	4822 124 41579	10 F 20% 50V
2822	4822 122 10167	22nF 30% 25V
2823	4822 124 40769	4,7 F 20% 100V
2824	4822 124 41407	0,47 F 20% 63V
2825	4822 122 10462	15pF 5% NPO
2826	4822 124 41407	0,47 F 20% 63V
2827	4822 124 23178	47 F 20% 16V
2828	4822 124 41579	10 F 20% 50V
2829	5322 121 42489	33nF 5% 250V
2830	4822 122 10319	82pF 5% 50V
2831	4822 121 41856	22nF 5% 250V
2832	4822 124 41576	2,2 F 20% 50V
2833	4822 124 40433	47 F 20% 25V
2834	4822 126 12882	100nF +80-20% 50V
2835	4822 126 12882	100nF +80-20% 50V
2836	4822 124 80791	470 F 20% 16V
2837	4822 126 11585	22nF +80-20% Y5V 25V
2838	4822 126 12882	100nF +80-20% 50V
2839	4822 126 12882	100nF +80-20% 50V
2841	4822 126 13677	39pF 5% 50V
2842	4822 124 40849	330 F 20% 16V
2843	4822 126 13098	5,6nF 20% 16V
2844	4822 122 10466	220pF 10% 50V
2846	4822 122 33519	470pF 10% 50V
2848	4822 122 33519	470pF 10% 50V
2849	4822 122 10466	220pF 10% 50V





2860 4822 124 23178 47 F 20% 16V




3801	4822 052 10478	4R7 5% 0,33W
3802	4822 116 52252	180K 5% 0,5W
3803	4822 111 50499	3M3 5% 0,2W
3805	4822 116 83884	47K 5% 0,5W
3806	4822 116 52256	2K2 5% 0,5W
3807	4822 116 52271	33K 5% 0,5W
3808	4822 116 52263	2K7 5% 0,5W
3809	4822 116 83884	47K 5% 0,5W
3810	4822 116 52257	22K 5% 0,5W
3811	4822 116 52257	22K 5% 0,5W
3812	4822 116 52257	22K 5% 0,5W
3815	4822 050 11002	1K 1% 0,4W
3816	4822 050 11002	1K 1% 0,4W
3817	4822 116 83883	470R 5% 0,5W
3818	4822 116 83883	470R 5% 0,5W
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
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
3832	4822 116 83881	390R 5% 0,5W
3833	4822 116 52264	27K 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 52235	1M 5% 0,5W
3840	4822 050 11002	1K 1% 0,4W
3841	4822 116 52298	680K 5% 0,5W
3842	4822 116 52297	68K 5% 0,5W
3844	4822 116 52291	56K 5% 0,5W
3845	4822 116 52298	680K 5% 0,5W
3846	4822 050 11002	1K 1% 0,4W

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3847	4822 116 52298	680K	5%	0,5W
3848	4822 116 52251	18K	5%	0,5W
3849	4822 052 10478	4R7	5%	0,33W
3850	4822 116 52251	18K	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 116 83864	10K	5%	0,5W
3860	4822 116 52207	1K2	5%	0,5W
3870	4822 052 10478	4R7	5%	0,33W
3871	4822 116 52175	100R	5%	0,5W
3880	4822 050 11002	1K	1%	0,4W
3881	4822 050 11002	1K	1%	0,4W
3882	4822 050 11002	1K	1%	0,4W
3883	4822 050 11002	1K	1%	0,4W
3884	4822 116 83882	39K	5%	0,5W
3886	4822 116 52235	1M	5%	0,5W
3890	4822 050 11002	1K	1%	0,4W
3891	4822 050 11002	1K	1%	0,4W
3892	4822 050 11002	1K	1%	0,4W
3893	4822 050 11002	1K	1%	0,4W
3894	4822 050 11002	1K	1%	0,4W
3895	4822 050 11002	1K	1%	0,4W
3896	4822 116 52256	2K2	5%	0,5W
3897	4822 116 52256	2K2	5%	0,5W
3898	4822 116 52256	2K2	5%	0,5W
3899	4822 050 11002	1K00	1%	0,4W

		
5000	4822 526 10494	Ferrite Bead
5010	4822 526 10494	Ferrite Bead
5020	4822 526 10494	Ferrite Bead
5030	4822 526 10494	Ferrite Bead
5040	4822 526 10494	Ferrite Bead
5050	4822 526 10494	Ferrite Bead
5060	4822 157 50964	Coil 100 H
5803	4822 242 73557	Filter CST8,46MTW-TF01

		
6001	4822 130 30621	Diode 1N4148

		
7801	4822 209 13703	IC M65821FP
7802	4822 209 32421	IC TDA1311A/N2
7803	4822 209 90496	IC M62475FP
7804	4822 130 42231	Trans BC557C
7805	4822 209 32852	IC TDA7073A/N2
7806	4822 209 32852	IC TDA7073A/N2

<b>- MISCELLANEOUS -</b>		
1802	4822 265 10925	Connector 15P
8000	4822 320 12178	Flexible Foil 15P 65mm

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

