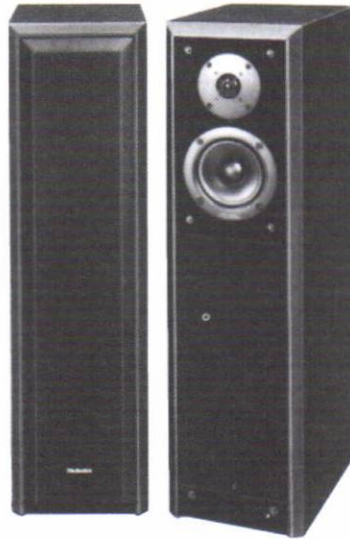


# Service Manual

Speaker System

Hi-Fi Speaker System

## SB-M500



Colour

(K) ... Black Type

(M) ... Brown Type

### SPECIFICATIONS

|                             |  |
|-----------------------------|--|
| Type<br>Speakers            | 3-way 4-speaker system<br>Woofer: Dual Dynamic Drive System<br>18 cm passive radiator<br>14 cm cone type driver unit<br>Midrange: 14 cm cone type<br>Tweeter: 2,5 cm dome type |
| Impedance                   | 6 $\Omega$   |
| Input Power                 | 160 W, Music<br>80 W, DIN  |
| Output Sound Pressure Level | 86 dB/W (1,0 m)  |
| Crossover Frequency         | 90 Hz, 2,5 kHz   |
| Frequency Range             | 35 Hz $\approx$ 45 kHz (-16 dB)<br>41 Hz $\approx$ 38 kHz (-10 dB)   |
| Dimensions (W x H x D)      | 220 x 790 x 365 mm   |
| Weight                      | 18,5 kg  |

Note:  
Design and specifications are subject to change without notice.

### ESPECIFICACIONES

|                                     |  |
|-------------------------------------|--|
| Tipo<br>Altavoces                   | Sistema con 4 altavoces<br>Graves: Dual Dynamic Drive System<br>Radiador pasivo de 18 cm<br>Activo tipo cónico de 14 cm<br>Medios: tipo cónico de 14 cm<br>Agudos: tipo cúpula de 2,5 cm |
| Impedancia                          | 6 $\Omega$   |
| Capacidad de potencia               | 160 W, Música<br>80 W, DIN   |
| Nivel de presión acústica de salida | 86 dB/W (1,0 m)  |
| Frecuencia de cruce                 | 90 Hz, 2,5 kHz   |
| Respuesta de frecuencias            | 35 Hz $\approx$ 45 kHz (-16 dB)<br>41 Hz $\approx$ 38 kHz (-10 dB)   |
| Dimensiones (W x H x D)             | 220 x 790 x 365 mm   |
| Peso                                | 18,5 kg  |

Nota:  
Estas especificaciones están sujetas a cualquier cambio sin previo aviso.

### SPECIFICATIONS

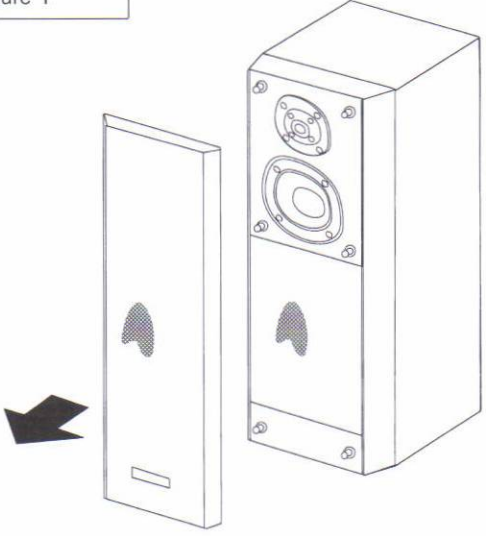
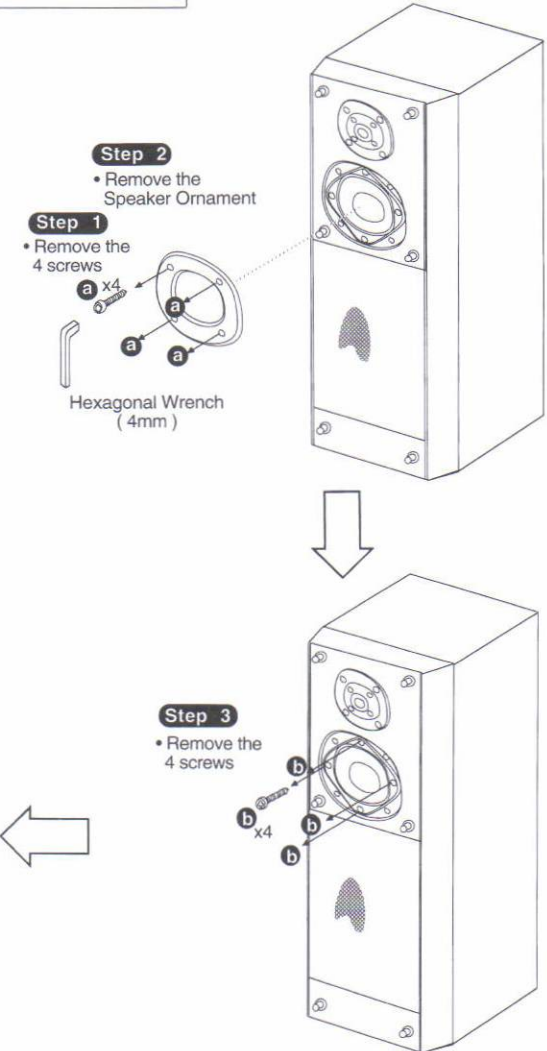
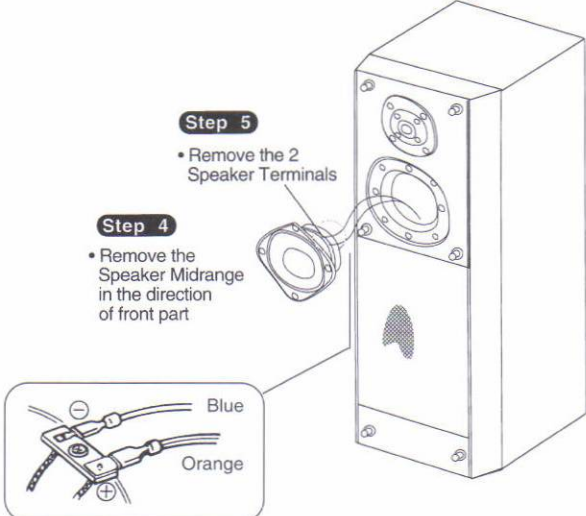
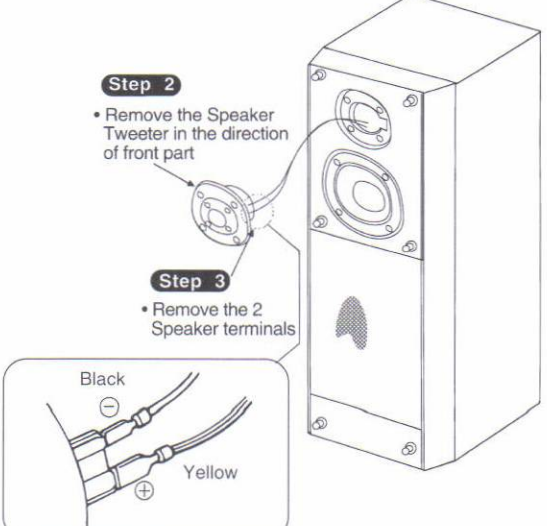
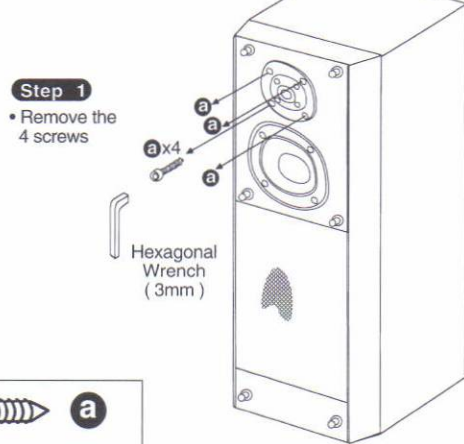
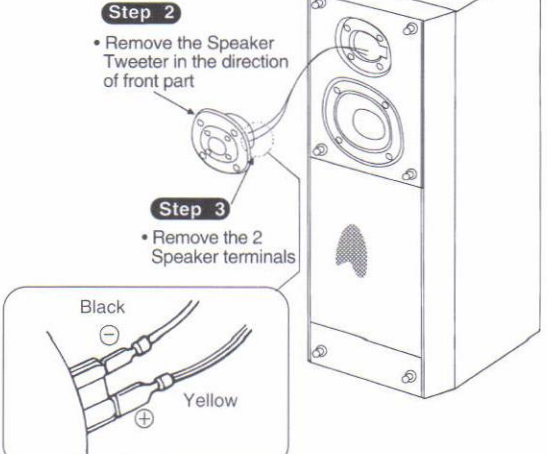
|                                     |  |
|-------------------------------------|--|
| Type<br>Haut-parleurs               | 3-voies 4-haut-parleurs<br>Graves: Dual Dynamic Drive System<br>Graves: 18 cm diffuseur passive<br>14 cm type a cone exciteur active<br>Moyennes: 14 cm type a cone<br>Aigus: 2,5 cm type dome |
| Impédance                           | 6 $\Omega$   |
| Entrée maximale                     | 160 W, Musique<br>80 W, DIN  |
| Niveau de pression sonore de sortie | 86 dB/W (1,0 m)  |
| Fréquence de commutation            | 90 Hz, 2,5 kHz   |
| Gamme de fréquences                 | 35 Hz $\approx$ 45 kHz (-16 dB)<br>41 Hz $\approx$ 38 kHz (-10 dB)   |
| Dimensions (W x H x D)              | 220 x 790 x 365 mm   |
| Poids                               | 18,5 kg  |

Note:  
Sujet à changement sans preavis.

### WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non technical individuals of potential dangers in attempting to service product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

# DISASSEMBLY INSTRUCTIONS

| Ref. No. 1  | Removal of the Speaker Net  | Ref. No. 2        | Removal of the Speaker Midrange   |
|---|---|-------------------|---|
| Procededure 1   |  <p>• Remove the Speaker Net in the direction of arrow.</p>  | Procededure 1 → 2 |  <p><b>Step 2</b><br/>• Remove the Speaker Ornament</p> <p><b>Step 1</b><br/>• Remove the 4 screws</p> <p>a x4<br/>Hexagonal Wrench (4mm)</p> <p><b>Step 3</b><br/>• Remove the 4 screws</p> <p>b x4</p> <p>Screw Ø 5 x 16 mm      a      Screw Ø 4,2 x 16 mm      b</p> |
| Ref. No. 3  |  <p><b>Step 5</b><br/>• Remove the 2 Speaker Terminals</p> <p><b>Step 4</b><br/>• Remove the Speaker Midrange in the direction of front part</p> <p>Blue<br/>Orange</p> <p>Screw Ø 4 x 16 mm      a</p> | Ref. No. 2        |  <p><b>Step 2</b><br/>• Remove the Speaker Tweeter in the direction of front part</p> <p><b>Step 3</b><br/>• Remove the 2 Speaker terminals</p> <p>Black<br/>Yellow</p> <p>Screw Ø 5 x 16 mm      a      Screw Ø 4,2 x 16 mm      b</p>                                 |
| Ref. No. 3  | Removal of the Speaker Tweeter  | Ref. No. 2        | Removal of the Speaker Midrange   |
| Procededure 1 → 3   | Ref. No. 3  | Ref. No. 2        | Ref. No. 2  |
|  <p><b>Step 1</b><br/>• Remove the 4 screws</p> <p>a x4<br/>Hexagonal Wrench (3mm)</p> <p>Screw Ø 4 x 16 mm      a</p> | Ref. No. 3  | Ref. No. 2        |  <p><b>Step 2</b><br/>• Remove the Speaker Tweeter in the direction of front part</p> <p><b>Step 3</b><br/>• Remove the 2 Speaker terminals</p> <p>Black<br/>Yellow</p> <p>Screw Ø 5 x 16 mm      a      Screw Ø 4,2 x 16 mm      b</p>                                 |

Ref. No. 4

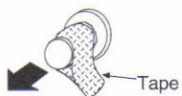
Removal of the Front Panel

Procededure 1 → 4

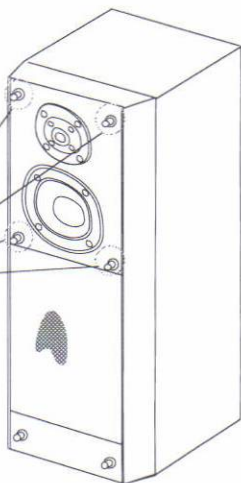
**Step 1**

- Remove the 4 Catch Pin

**■ Removal of the Catch Pin**

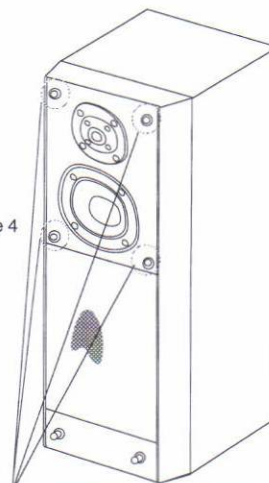


Put the tape in Catch Pin

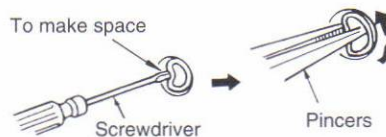


**Step 2**

- Remove the 4 Net Holder



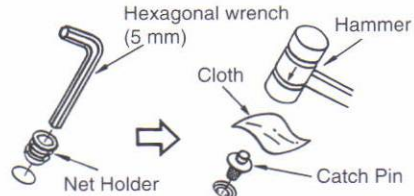
**■ Removal of the Net Holder**



1. To use a screwdriver ⊖ and make space between the front panel and the Net Holder.
  2. To insert the pincers type point and take the Net Holder to rotate.
- ※ Pay attention not to break the Net Holder. Please, they stock the Net Holder. (SHG8G9044).

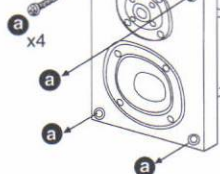
**■ Inserting the Net Holder and Catch Pin**

1. Insert the Net Holder using the 5 mm type hexagonal wrench or similar tool like rod.
2. After inserting the Catch Pin, press the Catch Pin covering with cloth using the hammer or screwdriver grip.



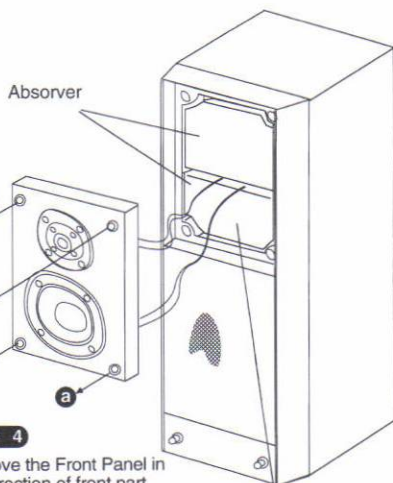
**Step 3**

- Remove the 4 screws



**Step 4**

- Remove the Front Panel in the direction of front part



**ATTENTION**

This absorber should cover the cables of the conection wit the Speaker Midrange. So that they don't touch the cavity.



Screw Ø 4,2 x 25 mm



Ref. No. 5

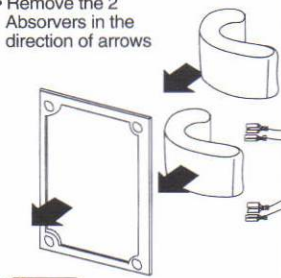
**Removal of the Network Ass'y**

Procedure

1 → 2 → 3 → 4 → 5

**Step 2**

- Remove the 2 Absorbers in the direction of arrows



**Step 1**

- Remove the gasket Front Panel in the direction of arrow

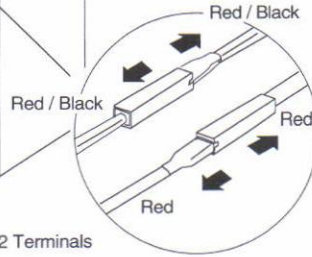


**a**

Screw  $\varnothing$  4,2 x 8 mm

**Step 3**

- Remove the 2 Terminals



**Step 7**

- Remove the Absorber

**Step 4**

- Remove the 2 screws

**a** x2

**Step 5**

- Remove the Cavity and gasket in the direction of arrow

**Step 6**

- Remove the gasket Cavity

Ref. No. 6

**Removal of the Speaker Woofer Frontal**

Procedure 1 → 6

**Step 1**

- Remove the 2 Catch Pin

**Removal of the Catch Pin**

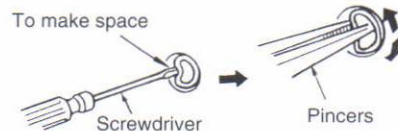


Put the tape in Catch Pin

**Step 2**

- Remove the 2 Net Holder

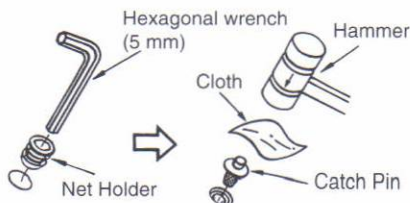
**Removal of the Net Holder**



1. To use a screwdriver  $\ominus$  and make space between the front panel and the Net Holder.
  2. To insert the pincers type point and take the Net Holder to rotate.
- ※ Pay attention not to break the Net Holder. Please, they stock the Net Holder. (SHG8G9044).

**Inserting the Net Holder and Catch Pin**

1. Insert the Net Holder using the 5 mm type hexagonal wrench or similar tool like rod.
2. After inserting the Catch Pin, press the Catch Pin covering with cloth using the hammer or screwdriver grip.



**Step 4**

- Remove the Ornament Frontal in the direction of arrow

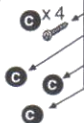
**Step 3**

- Remove the 2 screws



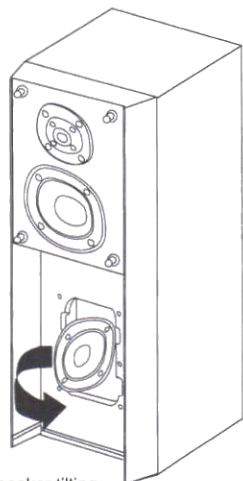
**Step 8**

- Remove the 4 screws



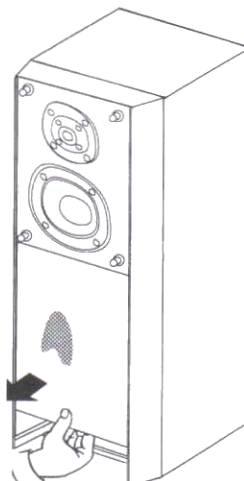
**Step 9**

When remove the speaker tilting it as indicated in this picture



**Step 5**

- Remove the Net Frame in the direction of arrow

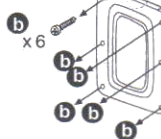


**ATTENTION**

- When assembly the Passive Radiator put UP mark to upward.

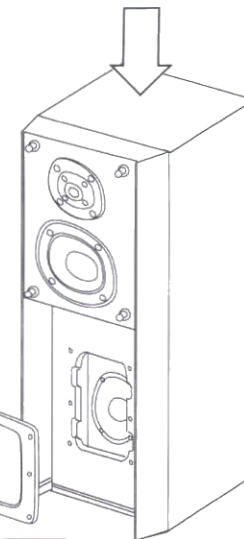
**Step 6**

- Remove the 6 screws



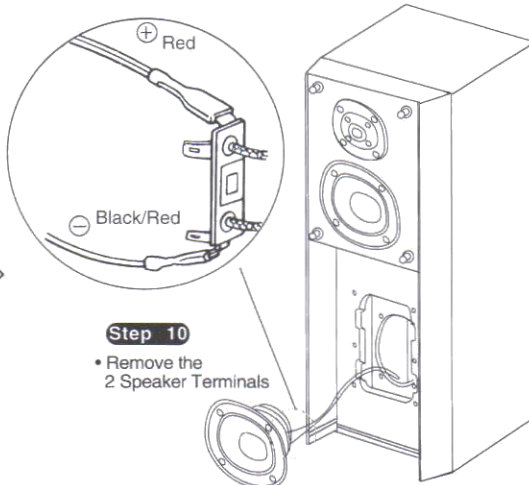
**Step 7**

- Remove the Passive Radiator and gasket.



**Step 10**

- Remove the 2 Speaker Terminals



**a**

Screw Ø 4,2 x 25 mm



**b**

Screw Ø 4,2 x 25 mm



**c**

Screw Ø 4,2 x 20 mm

Ref. No. 7

Removal of the Speaker Woofer Rear

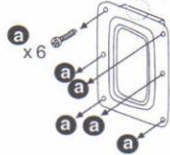
Procededure 7

**ATTENTION**

- When assembly the Passive Radiator put UP mark to upward.

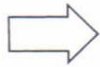
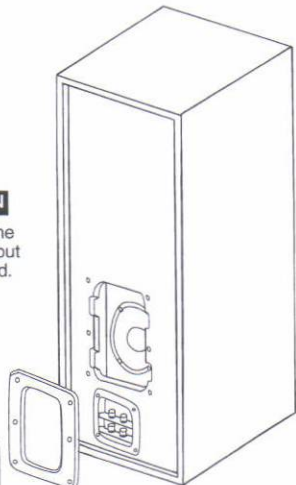
**Step 1**

- Remove the 6 screws



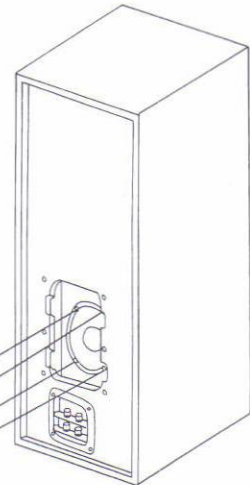
**Step 2**

- Remove the Passive Radiator and gasket.



**Step 3**

- Remove the 4 screws



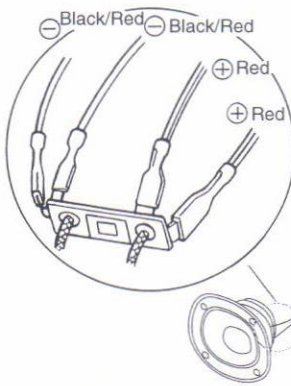
**Step 4**

- When remove the speaker tilting it as indicated in this picture



**Step 5**

- Remove the 4 Speaker Terminals



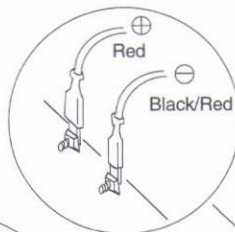
Ref. No. 8

Removal of the Terminal Block

Procededure 8

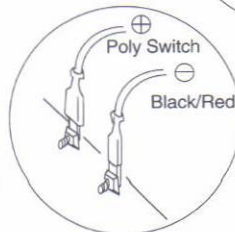
**Step 2**

- Remove the 2 Terminals HF



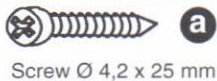
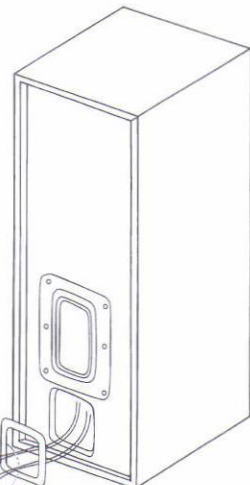
**Step 3**

- Remove the 2 Terminals LF



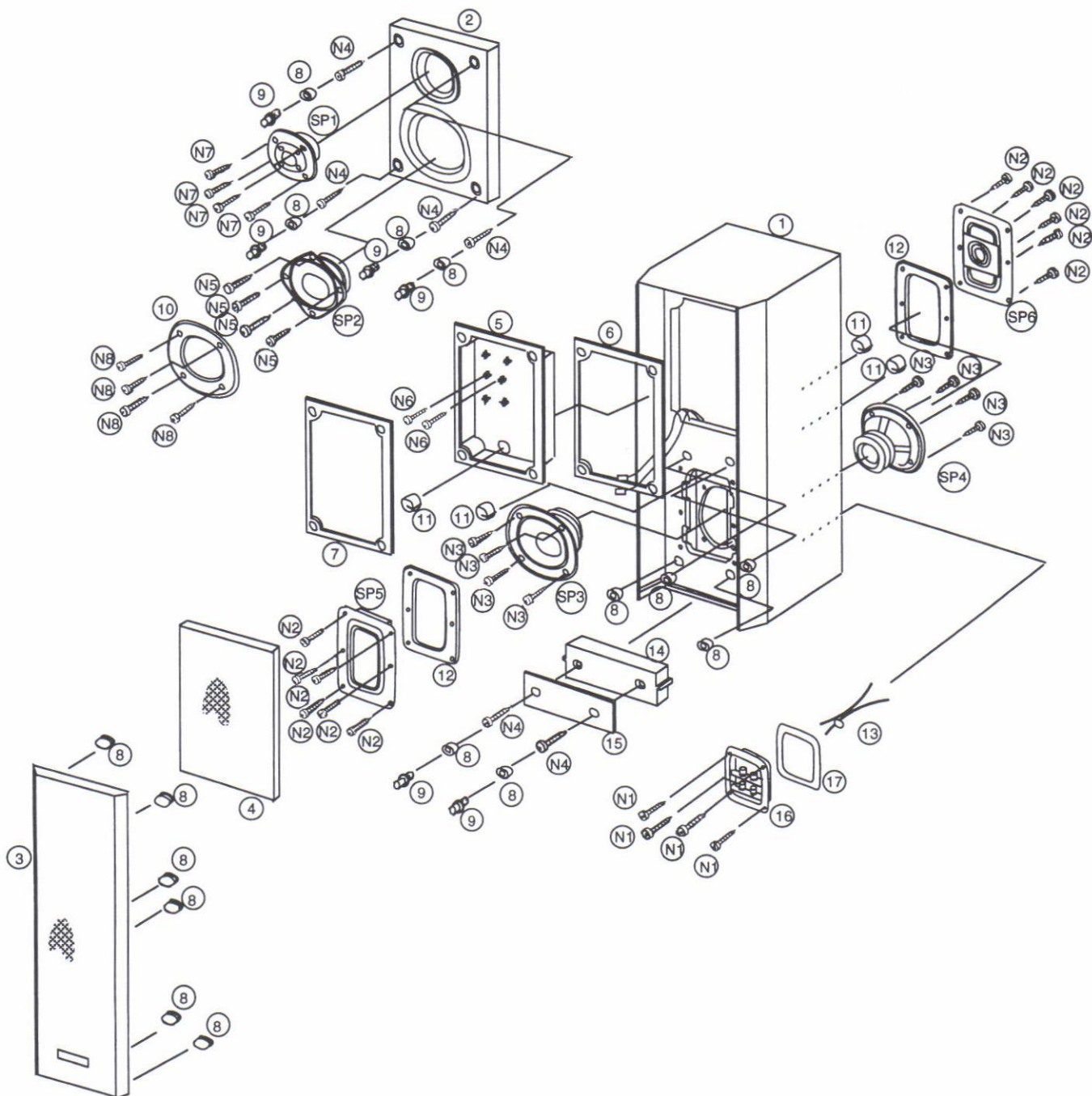
**Step 1**

- Remove the 4 screws





EXPLODED VIEW



## REPLACEMENT PARTS LIST

Notes 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.

2. **PAES** indicates parts that are supplied by PAES.

3. **AD** indicates parts that are supplied by AD. M.E.I.

Notas 1. El código está indicado en la mayoría de las piezas. Por favor, use este código para sus pedidos.

2. La indicación **PAES** significa recambios suministrados a través de PAES.

3. La indicación **AD** significa recambios suministrados a través de AD. M.E.I.




| Ref. No. | Part No.     | Part Name & Description       | Remarks |
|----------|--------------|-------------------------------|---------|
|          |              | <b>SPEAKER (S)</b>            |         |
| SP1      | EAS25KH327A6 | SPEAKER (TWEETER)             | PAES    |
| SP2      | EAS12PL337A6 | SPEAKER (MIDRANGE)            | PAES    |
| SP3      | EAS14PL328B6 | SPEAKER (WOOFER)              | PAES    |
| SP4      | EAS14PL328B6 | SPEAKER (WOOFER)              | PAES    |
| SP5      | EAS18PY29A6  | SPEAKER (PASSIVE RADIATOR)    | PAES    |
| SP6      | EAS18PY29A6  | SPEAKER (PASSIVE RADIATOR)    | PAES    |
|          |              | <b>COIL (S)</b>               |         |
| L1       | SLCP271J7    | CHOQUE COIL 0,27mH            | PAES    |
| L2       | SLCP821J7    | CHOQUE COIL 0,82mH            | PAES    |
| L3       | SLCP681J7    | CHOQUE COIL 0,68mH            | PAES    |
|          |              | <b>CAPACITOR (S)</b>          |         |
| C1       | ECA50YT3R9KE | NON-POLAR CAPACITOR 3,9µF 50V | PAES    |
| C2       | ECEA50Y12KE  | NON-POLAR CAPACITOR 12µF 50V  | PAES    |
| C3       | ECEA50Y100KE | NON-POLAR CAPACITOR 100µF 50V | PAES    |
| C5       | ECA50YT4R7KE | NON-POLAR CAPACITOR 4,7µF 50V | PAES    |
| C6       | ECEA50Y100KE | NON-POLAR CAPACITOR 100µF 50V | PAES    |
|          |              | <b>RESISTOR (S)</b>           |         |
| R1       | ERF5ZXK1R8   | RESISTOR 1,8Ω 5W              | AD      |
| R3       | ERF5ZXK6R8   | RESISTOR 6,8Ω 5W              | AD      |
|          |              | <b>POLY SWITCH</b>            |         |
| PSW1     | SSBSRXE110   | POLY SWITCH 1,1A              | PAES    |
| PSW2     | SSBSRXE110   | POLY SWITCH 1,1A              | PAES    |
| PSW3     | SSBSRXE185   | POLY SWITCH 1,85A             | PAES    |
|          |              | <b>CABINET ASS'Y</b>          |         |
| 1        | SYMPM500K    | CABINET ASS'Y (K)             | PAES    |
| 1        | SYMPM500M    | CABINET ASS'Y (M)             | PAES    |
| 2        | RYPP0122     | FRONT PANEL                   | PAES    |
| 3        | SYBPM500A    | NET FRAME (OUTSIDE)           | PAES    |
| 4        | SYBPM500B    | NET FRAME (INSIDE)            | PAES    |
| 5        | RMRP0993     | CAVITY                        | PAES    |

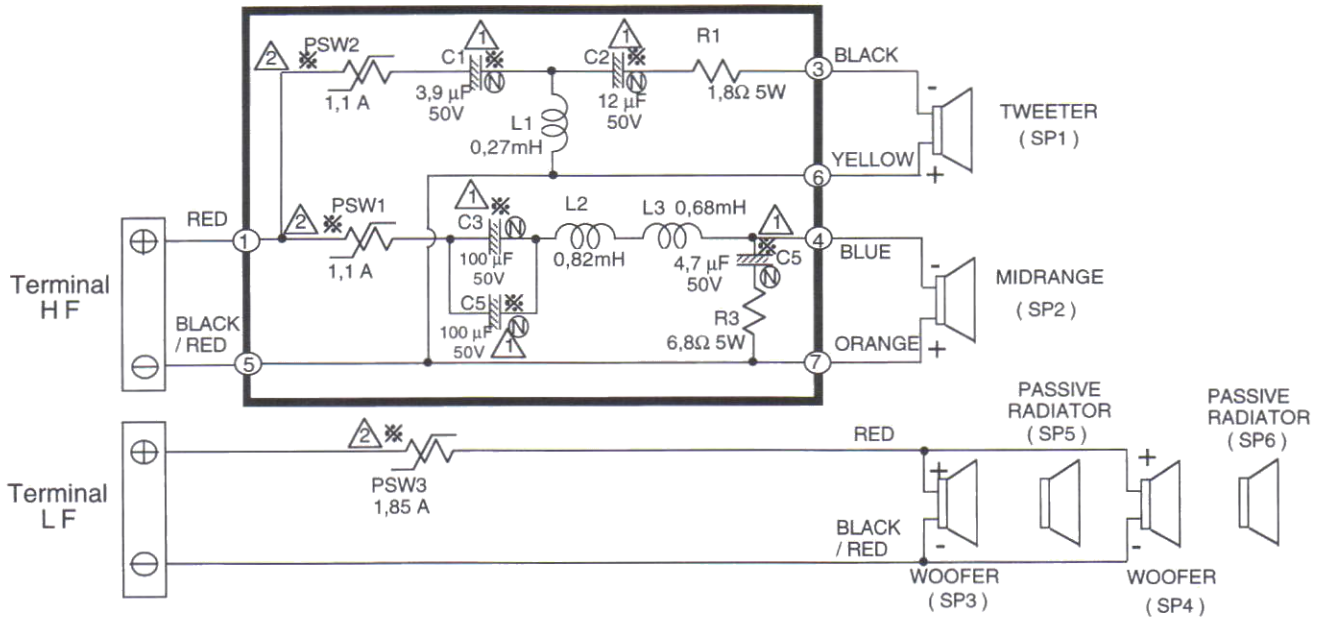
| Ref. No. | Part No.    | Part Name & Description | Remarks |
|----------|-------------|-------------------------|---------|
| 6        | RMQP0602    | GASKET CAVITY           | PAES    |
| 7        | RMQP0588A-1 | GASKET FRONT PANEL      | PAES    |
| 8        | SHG8G9044   | NET HOLDER              | PAES    |
| 9        | RMQP0455    | CATCH PIN               | PAES    |
| 10       | RGKP0719KE  | ORNAMENT MIDRANGE       | PAES    |
| 11       | SHGS8G9071  | GASKET                  | PAES    |
| 12       | RMQP0589A   | GASKET PASSIVE RADIATOR | PAES    |
| 13       | REXP500WT   | CABLE LF ASS'Y          | PAES    |
| 14       | RGQP0189    | BASEBOARD               | PAES    |
| 15       | RGKP0828-K  | ORNAMENT BASEBOARD      | PAES    |
| 16       | REJ0076     | TERMINAL BLOCK          | PAES    |
| 17       | RMQP0589B   | GASKET TERMINAL         | PAES    |
|          |             | <b>SCREW (S)</b>        |         |
| N1       | XTNP42+25FG | SCREW TERMINAL BLOCK    | PAES    |
| N2       | XTN42+25FG  | SCREW PASSIVE RADIATOR  | PAES    |
| N3       | XTN42+20    | SCREW WOOFER            | PAES    |
| N4       | XTN42+25    | SCREW FRONT PANEL       | PAES    |
| N4       | XTN42+25    | SCREW BASEBOARD         | PAES    |
| N5       | XTN42+16    | SCREW MIDRANGE          | PAES    |
| N6       | XTBS42BZ+8  | SCREW NETWORK ASS'Y     | PAES    |
| N7       | SNES4+16FG  | SCREW TWEETER           | PAES    |
| N8       | SNES5+16FG  | SCREW ORNAMENT MIDRANGE | PAES    |
|          |             | <b>ACCESORIES</b>       |         |
| A1       | SQXPM500    | INSTRUCTION BOOK        | PAES    |
| A2       | XZBA4       | BAG                     | PAES    |
|          |             | <b>PACKING PARTS</b>    |         |
| P1       | SPGPM500K   | CARTON BOX (K)          | PAES    |
| P1       | SPGPM500M   | CARTON BOX (M)          | PAES    |
| P2       | SPSPM500    | PAD                     | PAES    |
| P3       | SPHP23045   | SHEET                   | PAES    |



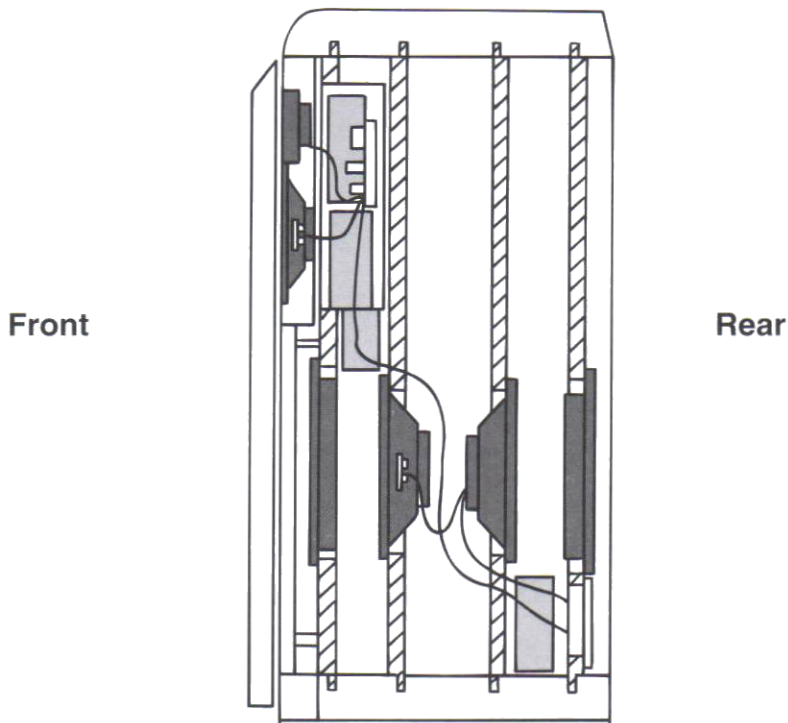
## SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with development of new technology.)  
 (Este esquema puede ser modificado en cualquier momento con el desarrollo de nuevas tecnologías.)

-   NON POLAR CAPACITOR
-  POLY SWITCH



## SECTION VIEW



■ PACKAGING

