

5.7 Loudspeaker Systems (LS)

5.7 Model 129 (with Bose® Sound System), as of M.Y. 1994

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Diagnosis – Function Test

Function Test Explanation

For the Function Test, adjust the radio as follows:

- Tune-in a strong radio station (music) or play a cassette or CD.
- Set bass, treble and balance to center range (RESET reading in display window).
- Listen to each individual loudspeaker at the various locations.

Diagnosis – Complaint Related Diagnostic Chart

Complaint/Problem	Possible cause	Test step/Remedy ¹⁾
Loudspeaker system not functioning	Left/right audio power amplifier (N40/3) Radio (A2)	23 ⇒ 1.0
Left front door speaker group (H4/1) not functioning	H4/1 Left/right audio power amplifier (N40/3) Radio (A2)	23 ⇒ 3.0 23 ⇒ 1.0
Left rear speaker (H4/7) not functioning	H4/7 Left/right audio power amplifier (N40/3) Radio (A2)	23 ⇒ 4.0 23 ⇒ 1.0
Right front door speaker group (H4/2) not functioning	H4/2 Left/right audio power amplifier (N40/3) Radio (A2)	23 ⇒ 5.0 23 ⇒ 1.0
Right rear speaker (H4/8) not functioning	H4/8 Left/right audio power amplifier (N40/3) Radio (A2)	23 ⇒ 6.0 23 ⇒ 1.0
Acoustimass® bass module (H4/17) not functioning	H4/17 Left/right audio power amplifier (N40/3) Radio (A2)	23 ⇒ 7.0 23 ⇒ 1.0

¹⁾ Observe Preparation for Test, see 22.

Electrical Test Program – Component Locations

Loudspeaker Components in Front Passenger Compartment

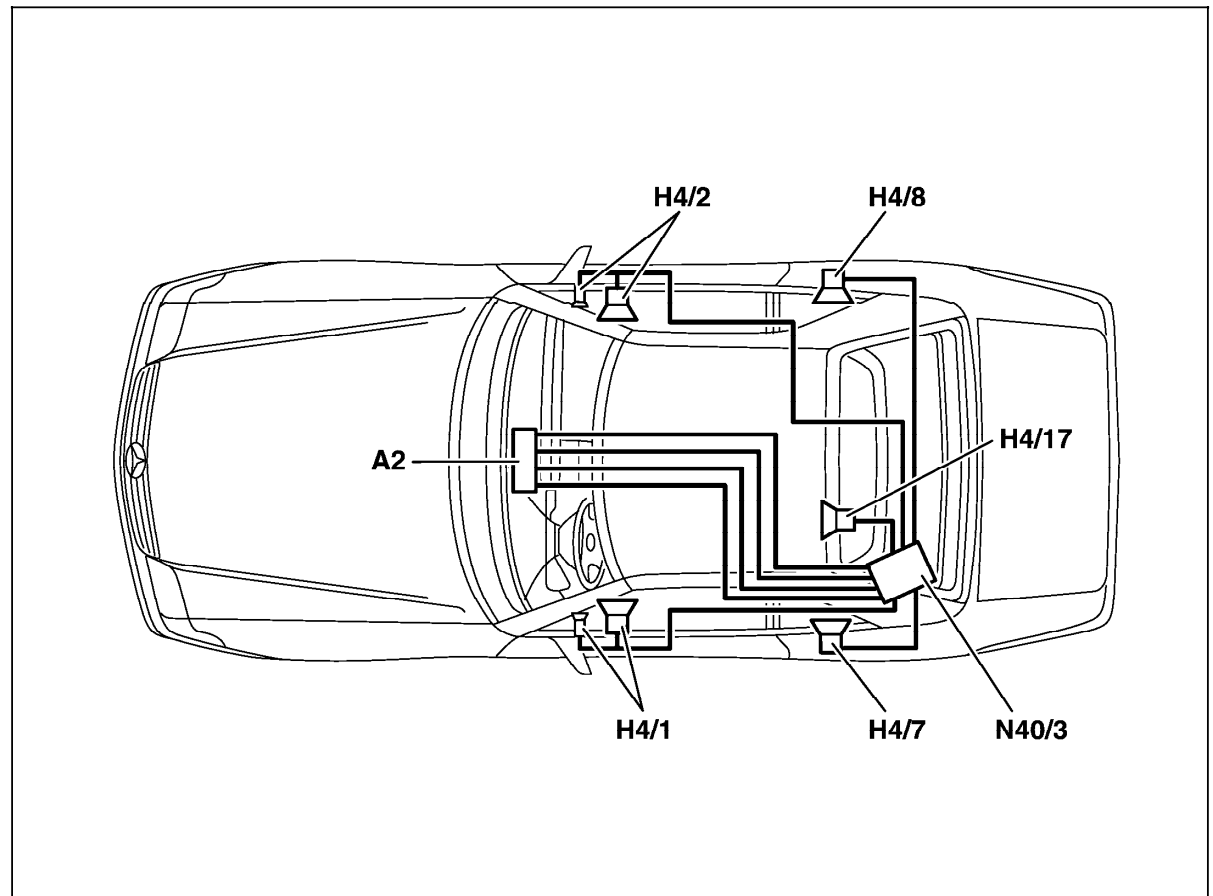


Figure 1

- A2 Radio
- H4/1 Left front door speaker group
- H4/2 Right front door speaker group
- H4/7 Left rear speaker
- H4/8 Right rear speaker
- H4/17 Acoustimass® bass module
- N40/3 Left/right audio power amplifier

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Electrical Test Program – Preparation for Test

1. Battery voltage 11–14 V.
2. Check fuses.
3. Radio OK.
4. Sound system speakers installed.

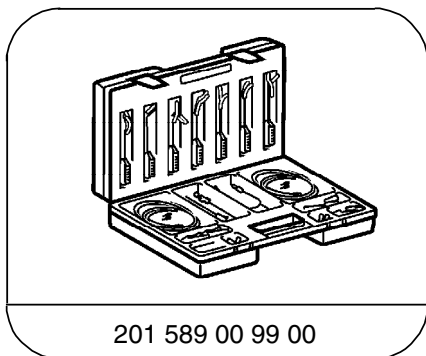
Electrical wiring diagrams :

Electrical Troubleshooting Manual, Model 129

Note:

To prevent damage to the radio and left/right audio power amplifier, the connectors must only be removed or installed with the ignition and radio **OFF**.

Special Tools



Electrical connecting set

Conventional tools, test equipment

Description	Brand, model, etc.
Multimeter ¹⁾	Fluke Models 23, 77 III, 83, 85, 87, 88
Signal generator ¹⁾	SUN DTR-8416

¹⁾ Available through the MBUSA Standard Equipment Program.



















Electrical Test Program – Test

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	Left/right audio power amplifier (N40/3) Voltage supply	<p>N40/3 9 — ◀ — (V) — ▶ — 26</p>	Disconnect connector on N40/3. Radio (A2): OFF	11 – 14 V	Fuse F1-C, Fuse in N40/3, Ground (W12), Wiring, Values OK: ⇒ 1.1,
1.1	Control voltage from radio (A2)	<p>N40/3 9 — ◀ — (V) — ▶ — 8</p>	Disconnect connector on N40/3. Radio: ON	11 – 14 V	Wiring, Radio (A2) (see section 3.1 23), ⇒ 2
2.0	Left/right audio power amplifier (N40/3) Speaker signal from radio (A2) left front: right front:	<p>N40/3 10 — ◀ — (V) — ▶ — 18 1 — ◀ — (V) — ▶ — 2</p>	Disconnect N40/3. Turn volume control to maximum. Radio: ON	> 0.2 V Short surges permitted	Wiring, Radio (see section 3.1 23). AD82.60-P-6000 in WIS

Electrical Test Program – Test

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
3.0	Left front door speaker group (H4/1)	<p style="text-align: center;">H4/1</p> <p>9 — ♂ ← ⊖ ⊕ → ♂ — 13</p> <p>9 — ♂ ← ⊖ ⊕ → ♂ — 21</p> <p>21 — ♂ ← ⊖ ⊕ → ♂ — 9</p>	<p>Disconnect N40/3. Radio (A2): OFF</p> <p>Connect signal generator (voltage change results in audio volume changes ; frequency change results in tone changes) Set frequencies between 100 and 10,000 Hz Set voltage at around 2 V</p>	<p>$\infty \Omega$</p> <p>$\infty \Omega$</p> <p>Different frequencies can be heard from the speaker group</p>	<p>Wiring, H4/1, Values OK: Replace N40/3.</p>
4.0	Left rear speaker (H4/7)	<p style="text-align: center;">H4/7</p> <p>16 — ♂ ← ⊖ ⊕ → ♂ — 24</p> <p>9 — ♂ ← ⊖ ⊕ → ♂ — 24</p> <p>9 — ♂ ← ⊖ ⊕ → ♂ — 16</p>	<p>Disconnect N40/3. Radio (A2): OFF</p>	<p>3.2 Ω</p> <p>$\infty \Omega$</p> <p>$\infty \Omega$</p>	<p>Wiring, H4/7, Values OK: Replace N40/3.</p>

Electrical Test Program – Test

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.0	Right front door speaker group (H4/2)	<p style="text-align: center;">H4/2</p> <p>9 —  ←  + → 14</p> <p>9 —  ←  + → 22</p> <p>14 —  ←  + → 22</p>	<p>Disconnect N40/3. Radio (A2): OFF</p> <p>Connect signal generator (voltage change results in audio volume changes ; frequency change results in tone changes) Set frequencies between 100 and 10,000 Hz Set voltage at around 2 V</p>	<p>$\infty \Omega$</p> <p>$\infty \Omega$</p> <p>Different frequencies can be heard from the speaker group</p>	<p>Wiring, H4/2, Values OK: Replace N40/3.</p>
6.0	Right rear speaker (H4/8)	<p style="text-align: center;">H4/8</p> <p>17 —  ←  + → 25</p> <p>9 —  ←  + → 25</p> <p>9 —  ←  + → 17</p>	<p>Disconnect N40/3. Radio (A2): OFF</p>	<p>3.2 Ω</p> <p>$\infty \Omega$</p> <p>$\infty \Omega$</p>	<p>Wiring, H4/8, Values OK: Replace N40/3.</p>
7.0	Acoustimass® bass module (H4/17)	<p style="text-align: center;">H4/17</p> <p>15 —  ←  + → 23</p> <p>9 —  ←  + → 23</p> <p>9 —  ←  + → 15</p>	<p>Disconnect N40/3. Radio (A2): OFF</p>	<p>0.8 Ω</p> <p>$\infty \Omega$</p> <p>$\infty \Omega$</p>	<p>Wiring, H4/17, If nominal values are OK: Replace N40/3.</p>

Electrical Test Program – Test

Connections on back of Radio

Figure 1

A

- 1 Speed-sensitive volume control
- 2 Diagnostic connection (as of MY 1998)
- 3 Muting for telephone system
- 4 Battery voltage (circuit 30)
- 5 Automatic antenna control output, FM/AM amplifier voltage supply and control signal for sound system control module
- 6 Illumination (circuit 58)
- 7 Switched battery power (circuit 15)
- 8 Ground (circuit 31)

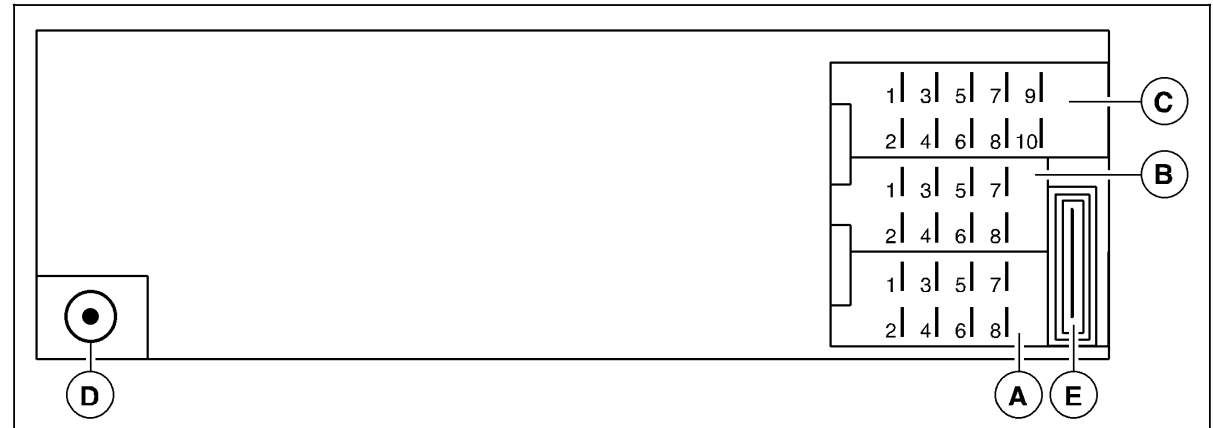
B

- 1 Right rear loudspeaker +
- 2 Right rear loudspeaker –
- 3 Right front loudspeaker +
- 4 Right front loudspeaker –
- 5 Left front loudspeaker +
- 6 Left front loudspeaker –
- 7 Left rear loudspeaker +
- 8 Left rear loudspeaker –

C Connector for CD changer, coding (via wiring harness)

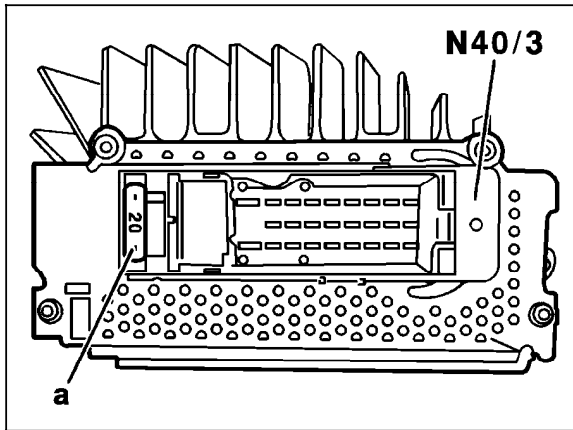
D Antenna jack

E Fuse



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Electrical Test Program – Test



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Figure 2

- N40/3 Left/right audio power amplifier
- a Fuse