



Service

Date: October 2002
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 Supersedes: S-B-82.64/135A
 Group: 82

Revision: Includes MODEL 211

SUBJECT: MODELS 163, 170, 203, 208, 209, 210, 211, 215, 220, 230, 463

MODEL YEAR 2002-2003

D2B FIBER OPTIC CONFIGURATION AND VERSION CODING

Following are general handling notes for D2B fiber optics installation and generic configuration diagrams for the above referenced vehicles. Model specific references are included where applicable.

A. D2B general notes

1. Fibers are easily damaged and must be handled with care to prevent cuts, nicks, abrasions, kinks and/or crushing.
2. The minimum bend radius for fibers is 25 mm. A bend radius less than 25-mm will permanently damage the fiber, thus necessitating replacement.
3. Fibers optics have a ring type configuration (i.e. The output of the preceding component is coupled to the input of the following component in a daisy chain type loop. The ring must form a closed loop in order to function [Figure 1]).
4. Light enters the clear fiber (input) and exits the red fiber (output). Each active D2B connector must therefore contain one red and one clear fiber (Figure 1).
5. The red fiber is always on the chamfered side and the clear fiber on the square side of the connector (Figure 1).

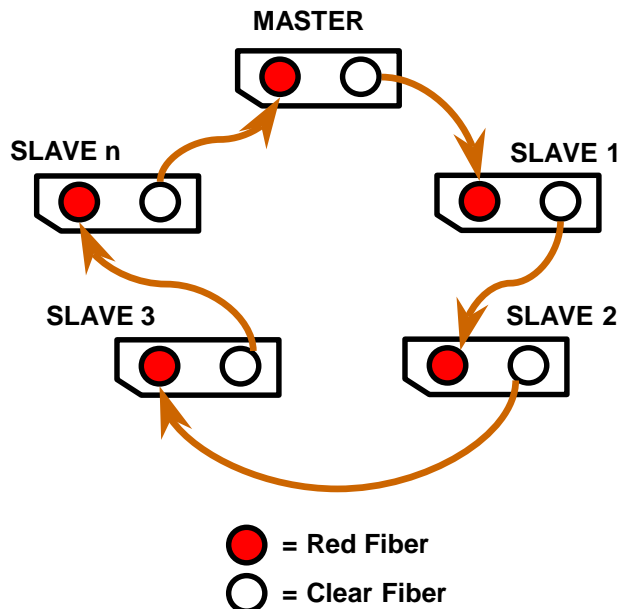


Figure 1

DCAG Ref. No.

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6. All fiber connections or couplings should follow a clear to red logic. A coupling must never contain two fibers of the same color (Figure 1).

Note: Due to the keying of the fibers, this would only be possible through forced insertion.

7. Fiber optic (D2B) cables are identified by orange/brown semi-rigid insulation.
8. The fibers are loosely pre-wired with the vehicle electrical harnesses in most applications. The fibers are not affected by electromagnetic interference (EMI) from the bundled vehicle electrical harnesses.

B. Configuring the D2B ring

1. Vehicles delivered from the factory may have active fibers (e.g. optical amplifier and/or factory installed CD), inactive fibers (e.g. no amplifier or accessories installed), or no fibers. Vehicles will vary in accordance with installed equipment. Some vehicles will have all required fibers installed while others will contain additional fiber links in the accessory kit(s). Refer to the respective accessory reference for fiber location information.

2. To remove/install components, the D2B ring must be "broken" and the appropriate adjustments made to the configuration. One or all of the following optical connector styles may be present.

- a) In-line couplers (Figure 2) Disassemble by gently prying up from the side of the clip closest the connector, one or both metal spring clips on either side of the connector.
- b) 90°-angle connector (Figure 3) Disassemble by gently separating the two plastic housing halves.
- c) Straight connector (not shown: similar to Figure 3, except straight) Disassemble by gently separating the two plastic housing halves.

3. Exercise extreme care when disassembling connectors and handling fibers to ensure no fiber ends are damaged. Fiber end damage will result in light loss that could lead to intermittent D2B ring operation and/or failure.
4. The D2B ring configuration varies according to vehicle type and in accordance with the vehicle's equipment level and necessity to add or remove. Refer to Section C and use the following examples as guides in determining how to configure the D2B ring.

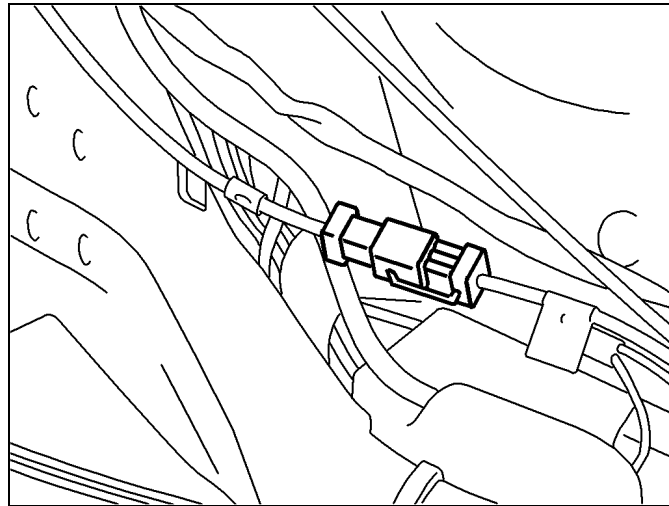


Figure 2

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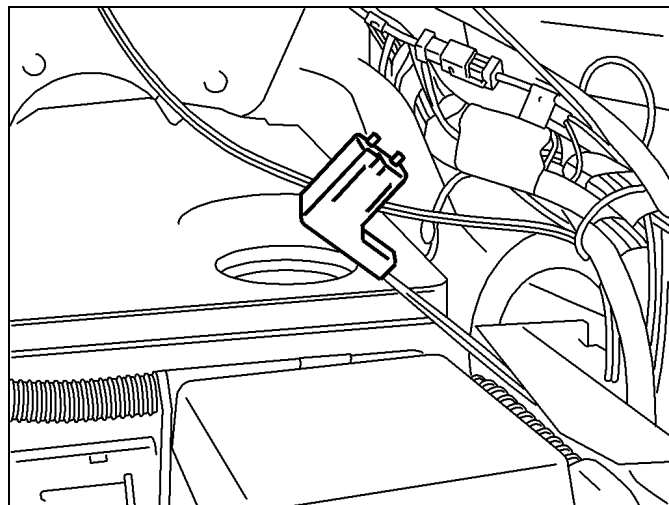
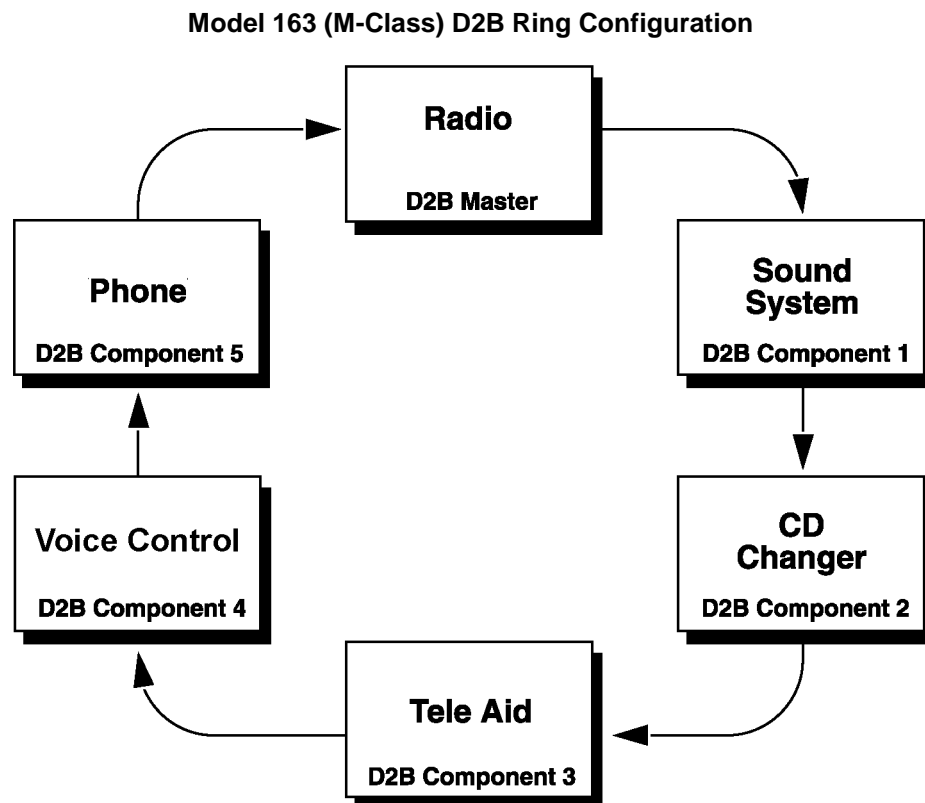


Figure 3

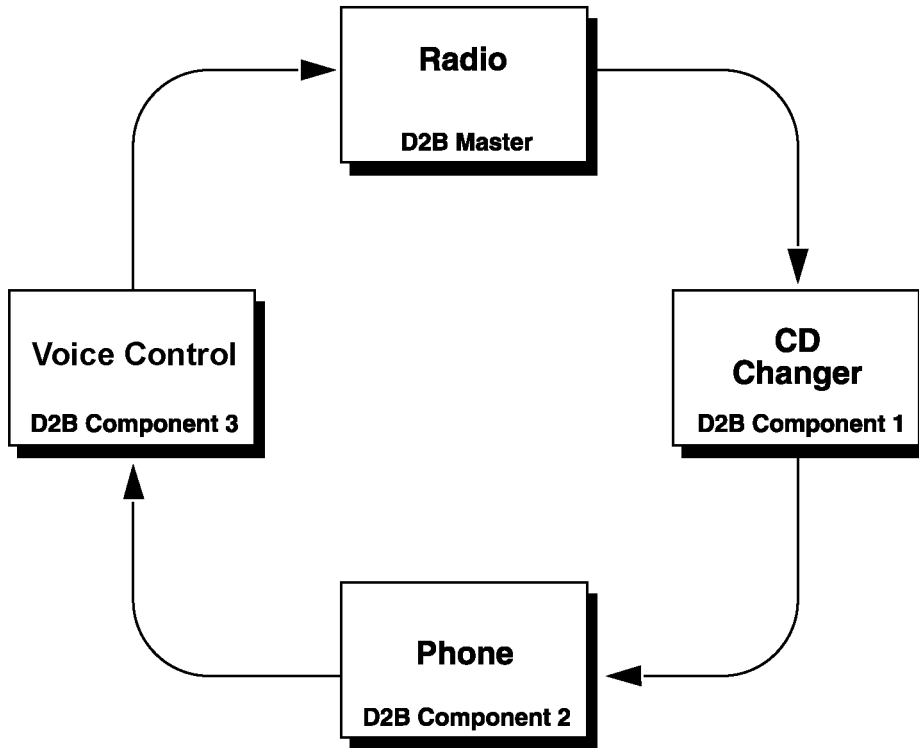
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C. D2B ring version coding

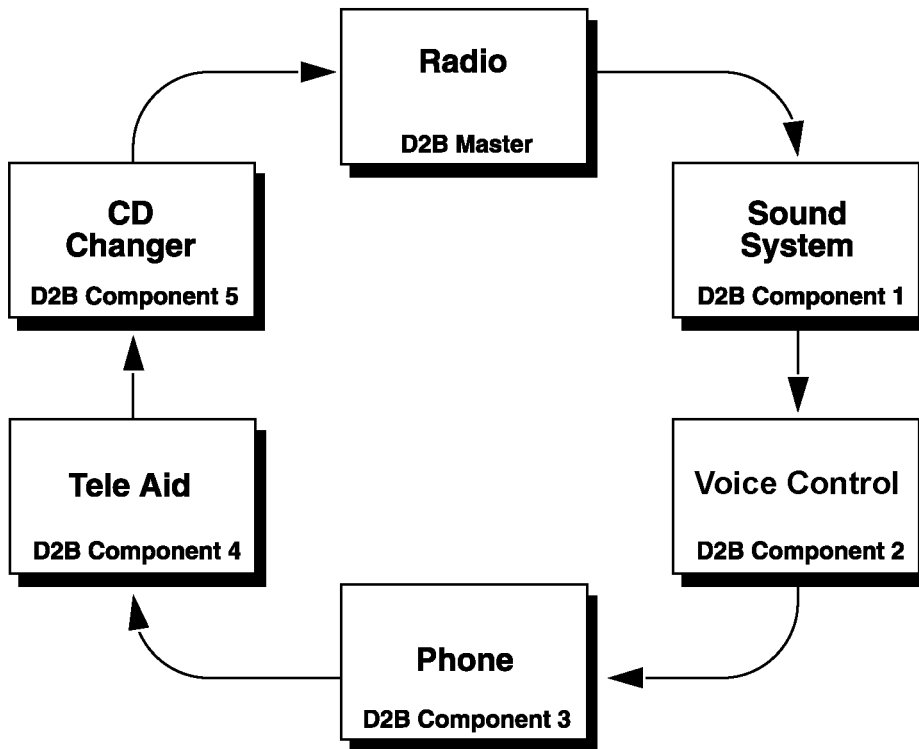
1. The D2B master (radio or head unit) must recognize the ring configuration in order for the D2B ring to properly function. The ring configuration is critical to the proper function of the D2B self-diagnostic systems. Improperly version coded rings may intermittently malfunction and will generate false diagnostic trouble codes (DTCs).
2. Version coding is performed using Star Diagnosis (SDS). While the exact path to the version coding screens may differ according to the equipment used and software updates made, the following sample path represents how to access this function on the diagnostic equipment:
 - **Control units / Information and communication / D2B / Control unit adaptations / D2B nominal configuration**
3. Once in the configuration screen, the individual D2B components must be set to the appropriate configuration. The following diagrams illustrate proper version coding assignments for each model.
4. The following diagrams, are examples of D2B ring configurations with the maximum number of ring components. Some installations will not include all the components shown in the examples. If a component is not present, connect the preceding component output to the input of the one following the component not present.
5. Do not leave any blank or "Not Present" between components when setting the configuration. All components must be listed one after the other in proper order, and then after the last component, the remaining entries should be set to "Not Present."
6. Only vehicles with COMAND or MCS include the Tele Aid module in the D2B ring.



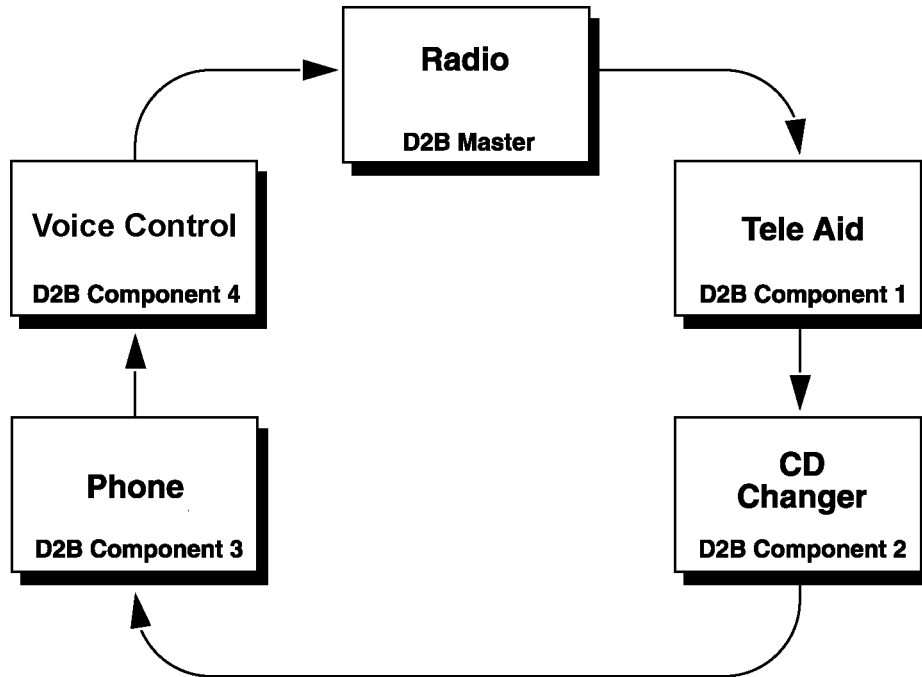
Model 170 (SLK-Class) D2B Ring Configuration



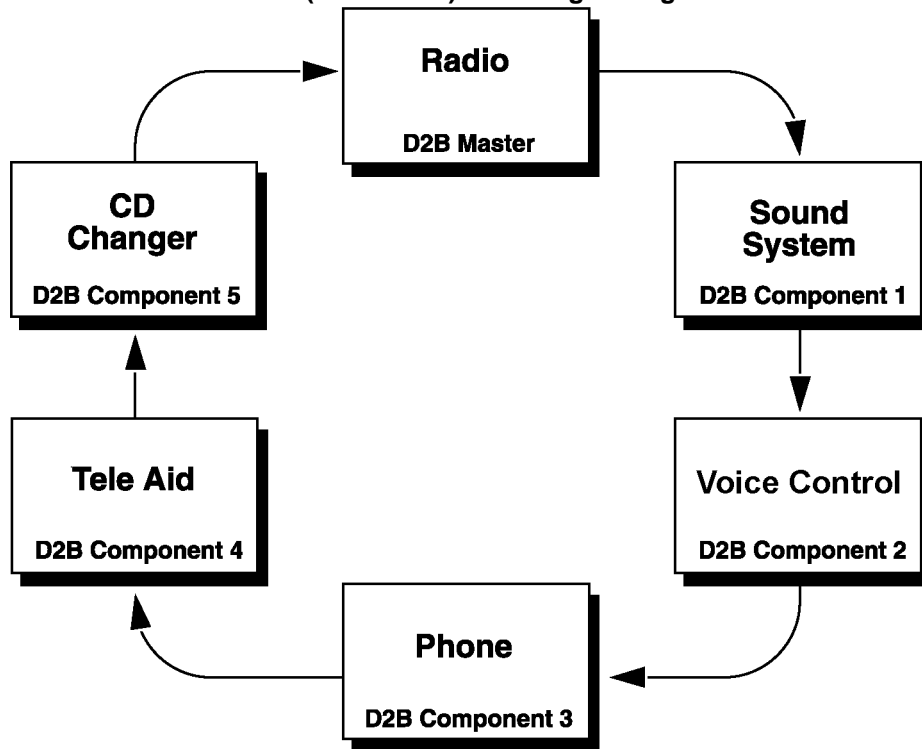
Model 203 (C-Class) D2B Ring Configuration



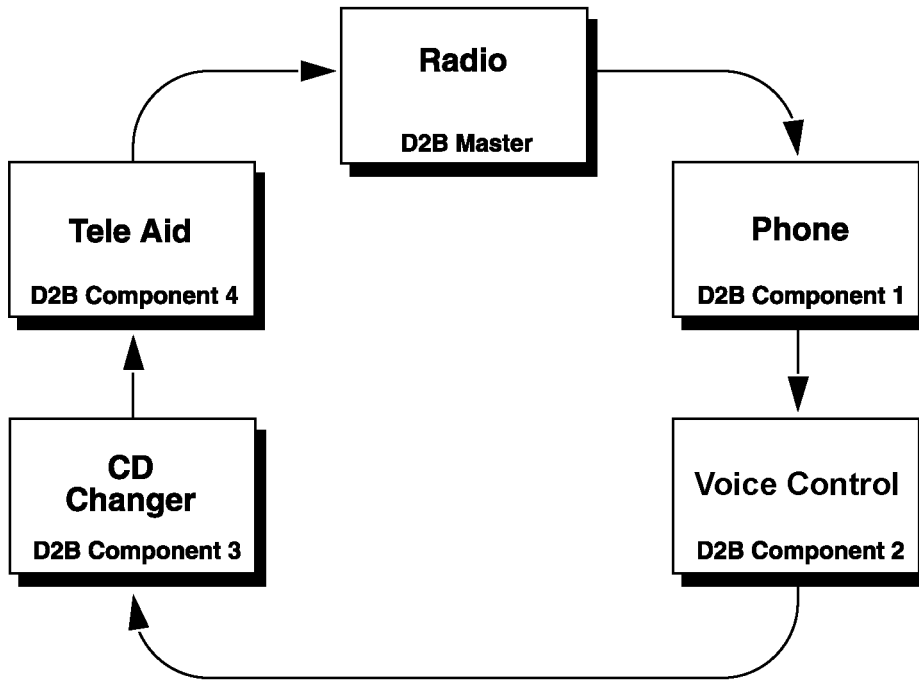
Model 208 (CLK-Class) D2B Ring Configuration



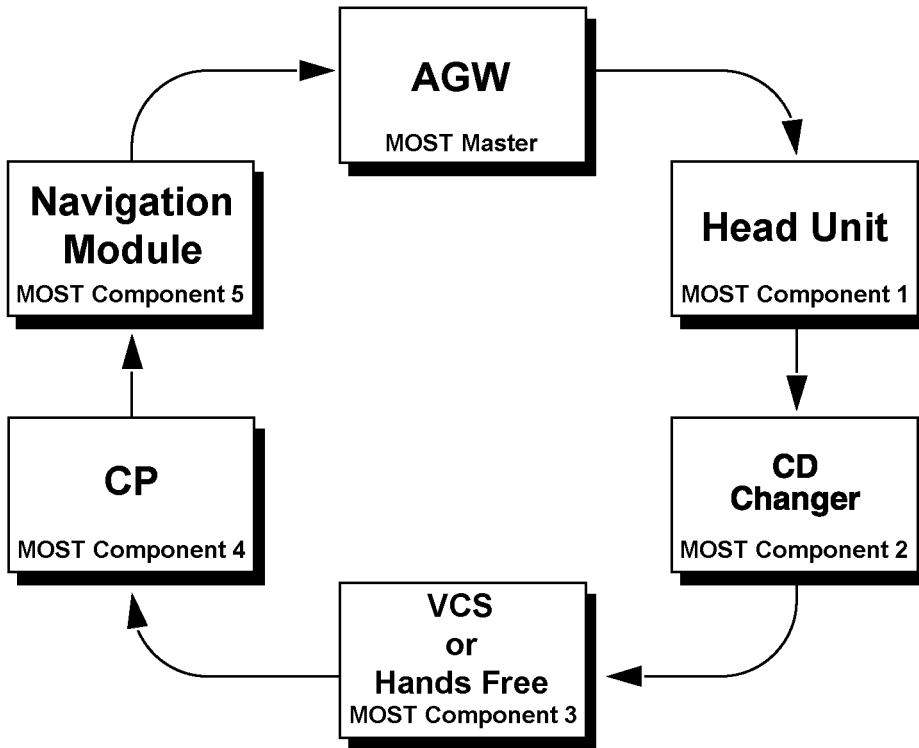
Model 209 (CLK-Class) D2B Ring Configuration



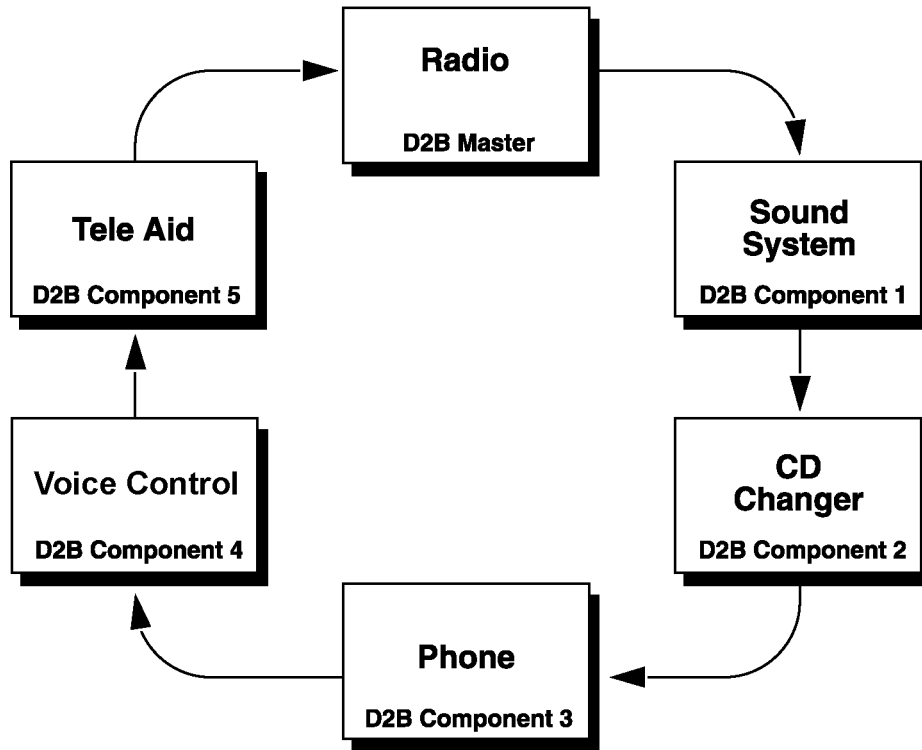
Model 210 (E-Class) D2B Ring Configuration



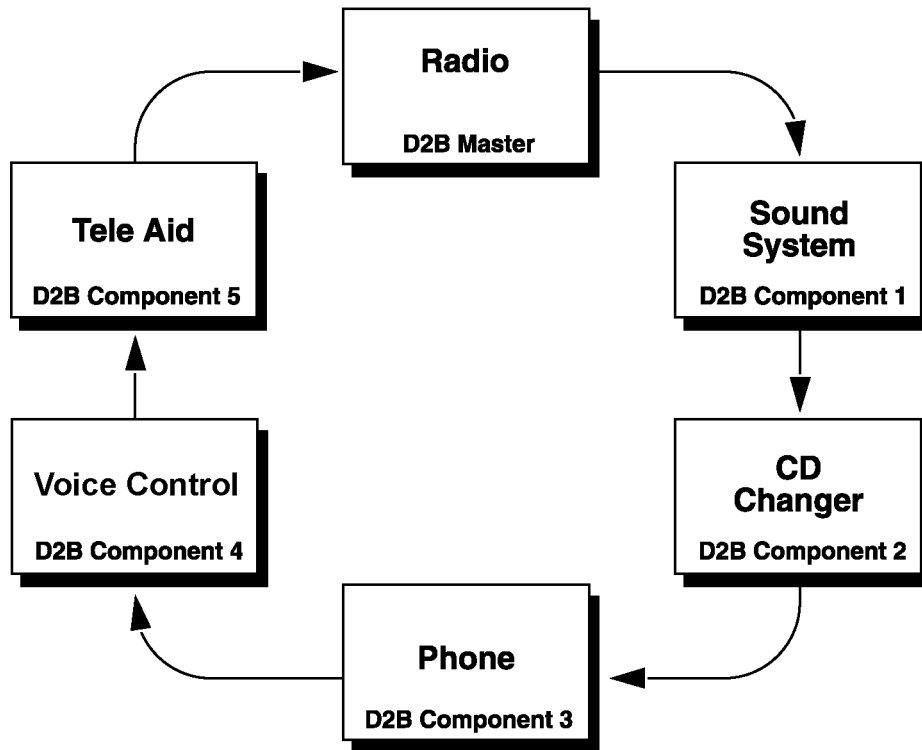
Model 211 (E-Class) MOST Ring Configuration



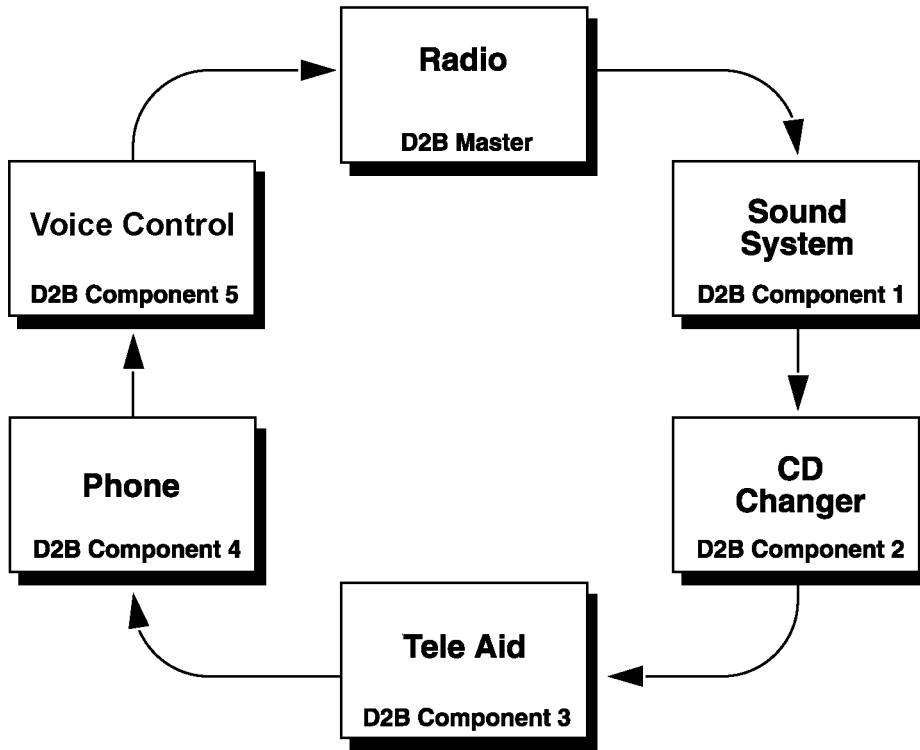
Model 215 (CL-Class) D2B Ring Configuration



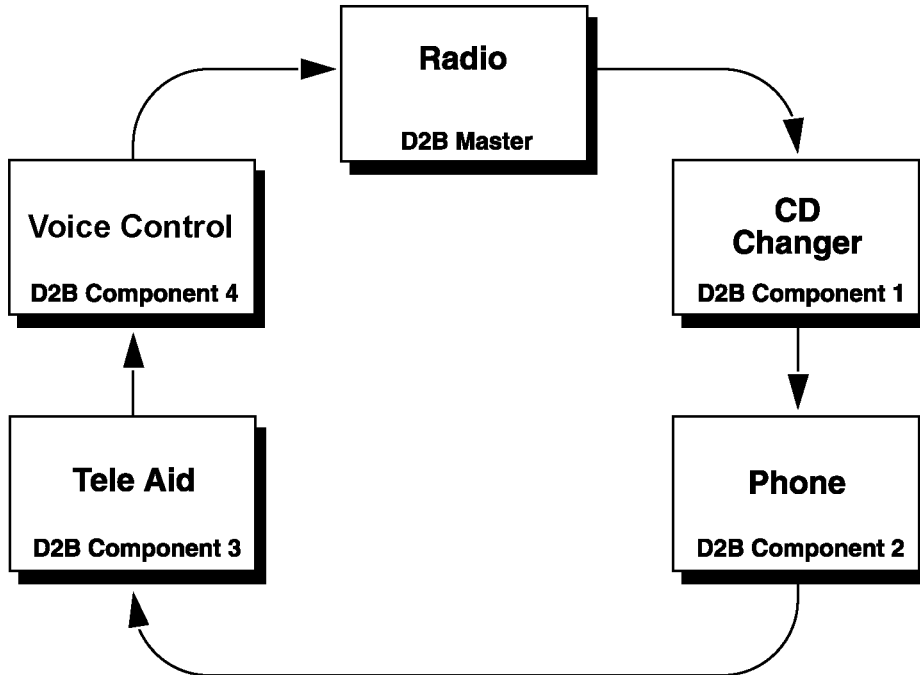
Model 220 (S-Class) D2B Ring Configuration



Model 230 (SL-Class) D2B Ring Configuration



Model 463 (G-Class) D2B Ring Configuration



7. Confirm the programmed and actual configurations match once the ring is properly version coded. This can be accomplished by using the D2B actual values function. The paths to access this feature may vary depending on the test equipment and software level, but the following is a representative sample:

- **Actual values/D2B actual configuration**

8. Verify the version coding input (specified value) matches the actual configuration performed during installation (actual values). If a difference exists, the ring has been improperly configured and must be disassembled and corrected.



CAUTION

DO NOT alter the configurations in the diagrams to match the vehicle configuration. Failure to have the configuration set as illustrated in the preceding diagrams will result in erroneous system operation and/or intermittent failure of some or all components as well as failure of the diagnostic system to provide accurate diagnostic messages.

9. Check the DTC memory of all installed components and the head unit. Any present DTC(s) should be diagnosed, identified, corrected and the DTC memory cleared.

Note: Powering up a newly installed system prior to version coding will set D2B ring configuration errors. These errors may be ignored during the initial DTC check. If, after clearing the DTC(s), they return in subsequent operation of the system, a configuration error is present that must be located and corrected.

10. Perform a short functional test on the D2B system group and confirm that no new DTC(s) have been set.