

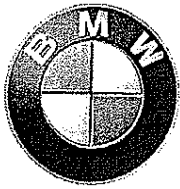
## BMW Bluetooth Kit Installation Instructions for BMW X5 03/02-06 (E53)

What you **MUST** know before you begin:

- **Please review and familiarize yourself completely with these instructions before starting work on your vehicle!**
- **Note that the instructions that follow are written by BMW, not Bavarian Soundwerks.**

**Therefore, some variations from these instructions exist in the installation process. They are as follows:**

- 1. Our kit my not include a Bluetooth ULF Module mounting bracket.** We do not include this part due to the large variation in existing bracketry among various vehicles. Additionally, mounting the ULF module is faster and easier using the included zip ties / Velcro. This saves YOU time!
- 2. Your vehicle DOES NOT need programming at the dealership to work properly. Just install the kit and you're set!**



# Installation Instructions

Phone, Navigation Systems

B84 01 03

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June 2003

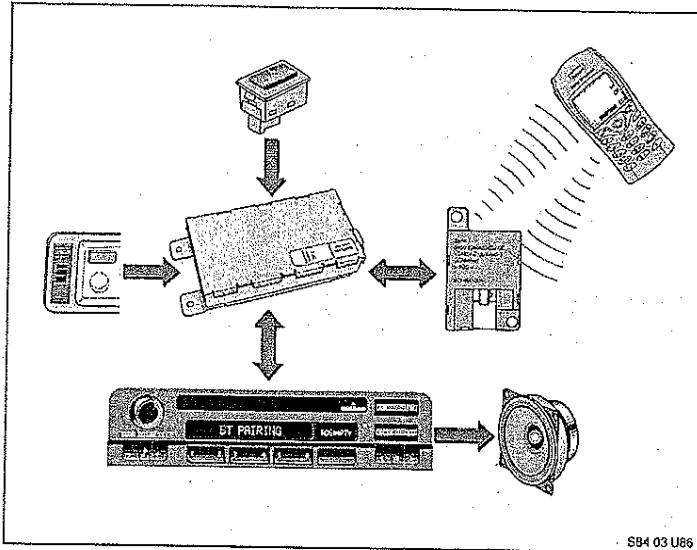
Product Development

**SUBJECT**

**BMW Universal Bluetooth™ Hands-Free-Kit**

**MODEL**

E53 - X5 as of 4/02



"Never use any electronic device or make any inputs while driving that may distract you from driving safely.

Pay attention to traffic laws and road conditions/situations. Safe vehicle operation is the driver's responsibility. Always wear your safety belt."

**INSTALLATION TIME**

The average installation time for this kit is approximately 1 hour

These instructions were developed especially for BMW vehicles and are not to be compared to any existing instructions for vehicles other than BMW. No methods other than those specified in this document are to be used to install the **BMW Universal Bluetooth™ Hands-Free Kit**.

Please initial and route to the following for information before filing										
X	Service Manager		X	Warranty		X	Service Technicians - Initial Below			
X	Service Advisor			Parts Mgr.						
X	Service Advisor			Body Shop						
X	Shop Foreman			PDI Dept.						

★ ★ **FIX IT RIGHT THE FIRST TIME, ON TIME, EVERY TIME** ★ ★



by: KRS

**PARTS INFORMATION:**

Description	Qty	BMW Part Number
ULF Control Module	1	84 21 6 934 552
Voice Input System Jumper Plug	1	84 11 0 018 038
Transmitter/Receiver Mounting Bracket (Prod 4/02 – 10/02)	1	84 13 6 910 112
E53 X5 Installation Kit	1	84 11 0 302 641
<b><i>Installation Kit Contents:</i></b>		
Plastic Cap Nut	4	51 71 1 934 930
M6 Hex Bolt w/Washer	1	07 11 9 915 041
Bluetooth™ Antenna Wire	1	61 12 0 137 616
Wire Tie	2	61 13 1 367 599
Double sided tape with adhesion promoter	1	Supplied
ULF Control Module Securing Bracket	1	84 13 6 932 937
Eject Box with Tray	1	84 21 6 933 415
Microphone	1	84 31 8 380 319
Bluetooth™ Antenna	1	84 50 8 928 461
ULF Owner's Manual	1	84 11 0 302 638
ULF Passkey Reference Card	1	84 11 0 302 646
ULF E53 Installation Instructions	1	84 11 0 302 645
Owner's Manual For Voice Input System	1	84 11 0 027 942

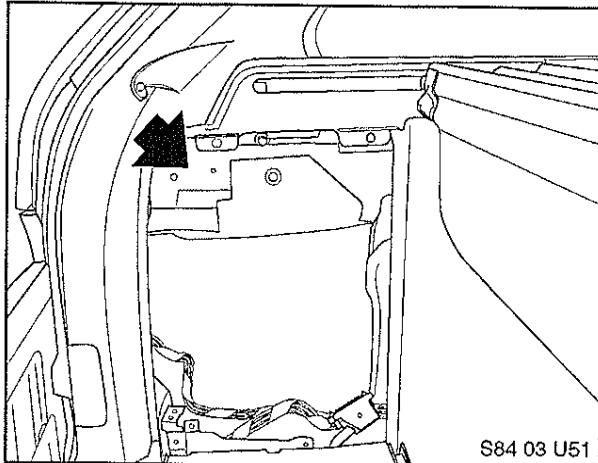
**PROCEDURE:**

To install and connect the universal charger/hands-free electronic control unit

Disconnect Battery prior to starting the installation.

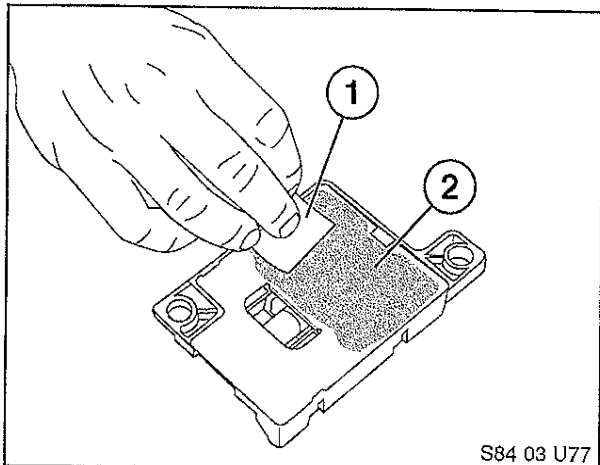
**A. Bluetooth™ Antenna Installation**

*Rear Carrier Brackets Not Installed*

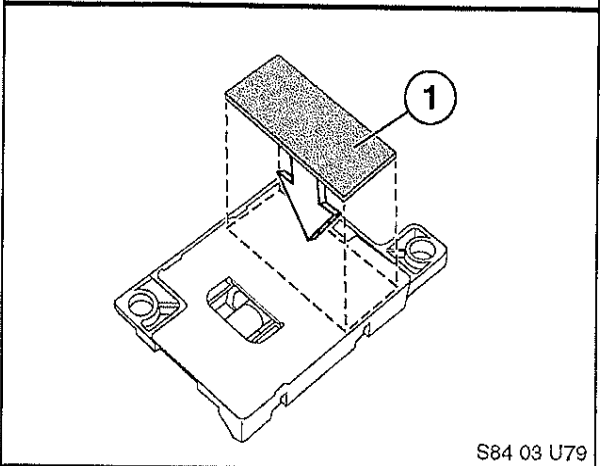


1. If the left rear quarter panel access area is as shown and no carrier brackets are installed follow steps 3 through 7 .
2. If carrier bracket(s) are installed then proceed to step 9.

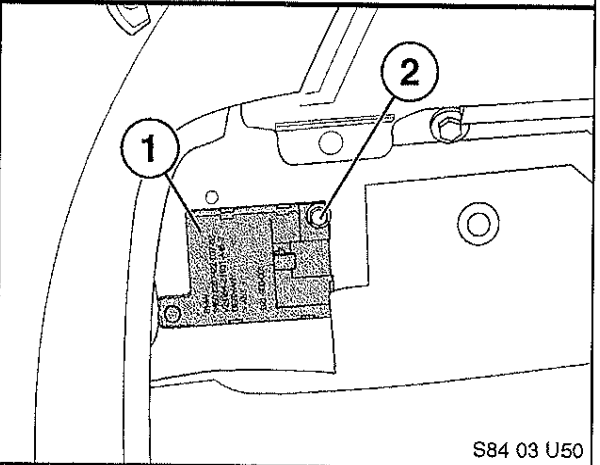
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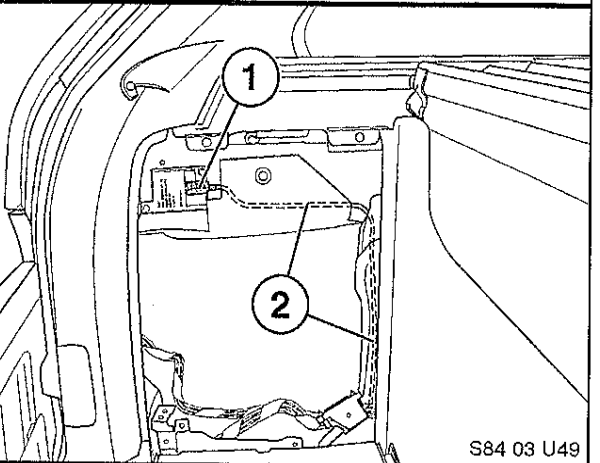
3. Apply an adhesion promoter (1) to the Bluetooth™ Antenna (2), P/N 84 50 8 928 461 and also to the area where the antenna is to be placed (refer to arrow on previous photo).



4. Place a small piece of double sided tape on the back of the Bluetooth™ antenna.



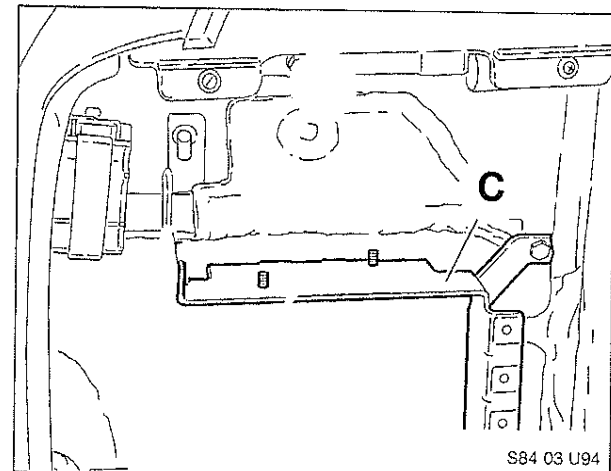
5. Secure the Bluetooth™ antenna (1), (P/N 84 50 6 928 461), using an M6 Hex Bolt with washer (2), (P/N 07 11 9 902 007) in the upper left corner of the left rear access area.



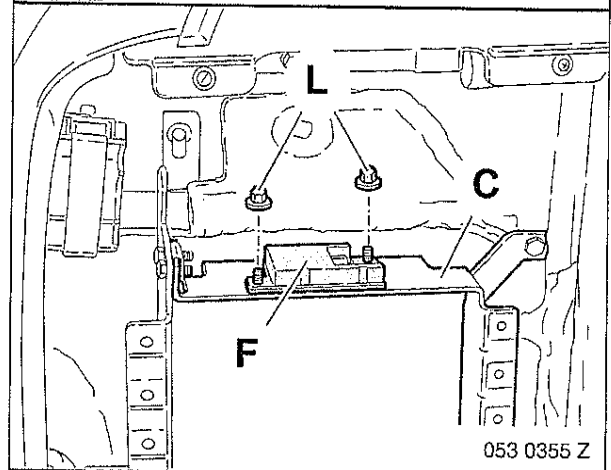
6. Attach the black FAKRA connector (1) of the antenna lead, P/N 61 12 0 137 616, to the antenna.
7. Route the antenna lead (2) behind the felt liner and down the right side of the access area to the control module-mounting bracket. Secure the antenna lead along the way using a wire tie P/N 61 13 1 367 599.
8. Proceed to step "B. ULF Control Module Installation"

Rear Carrier Brackets Installed

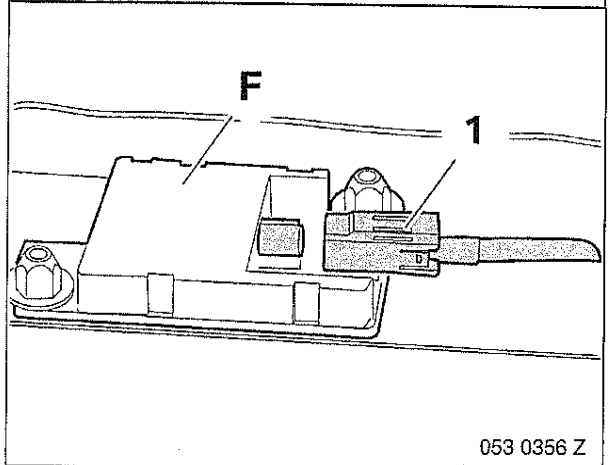
4



9. If one or both of the carrier brackets (C) is/are installed then follow steps 10 through 12 to install the Bluetooth™ antenna, P/N 84 50 6 928 461.

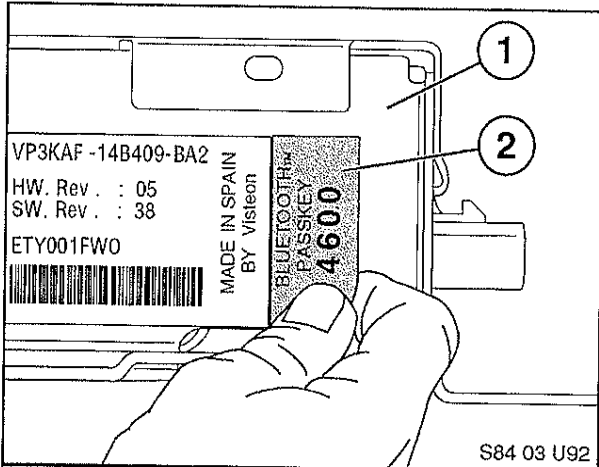


10. Use two plastic cap nuts (L), P/N 51 71 1 934 930, to secure the Bluetooth™ antenna (F), P/N 84 50 6 928 461 onto the front carrier bracket (C).

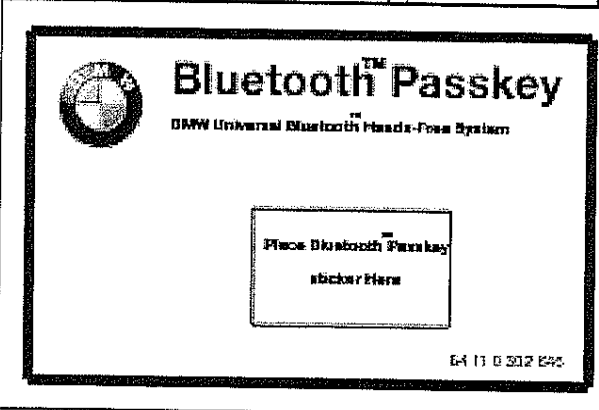


11. Connect the black FAKRA connector (1) from the antenna lead, P/N 61 12 0 137 616, to the Bluetooth™ Antenna (F).
12. Route the antenna lead down the right side of the access area to the control module-mounting bracket. Secure the antenna lead along the way using a wire tie P/N 61 13 1 367 599.

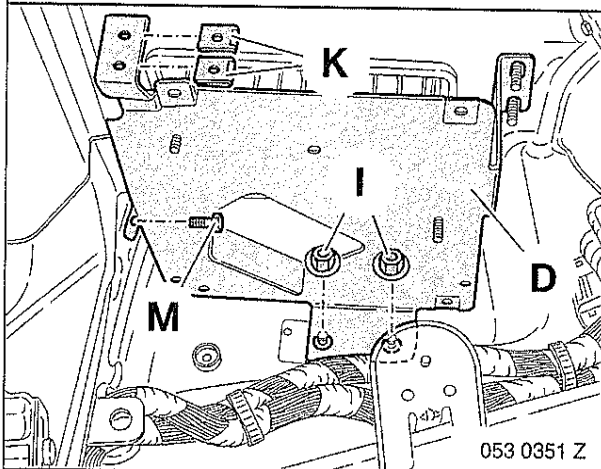
## B. ULF Control Module Installation



1. Remove/ peel off the Bluetooth™ Passkey sticker (2) from the label on the ULF Control Module (1).



2. Place the Bluetooth™ Passkey sticker removed from the ULF Control Module onto the ULF Passkey Reference Card, P/N 84 11 0 302 638.
3. Place this card inside the owner's manual portfolio. Show this card to the customer when demonstrating the system and the pairing procedure to the customer. The code on the sticker is needed to pair phones to the ULF Control Module.

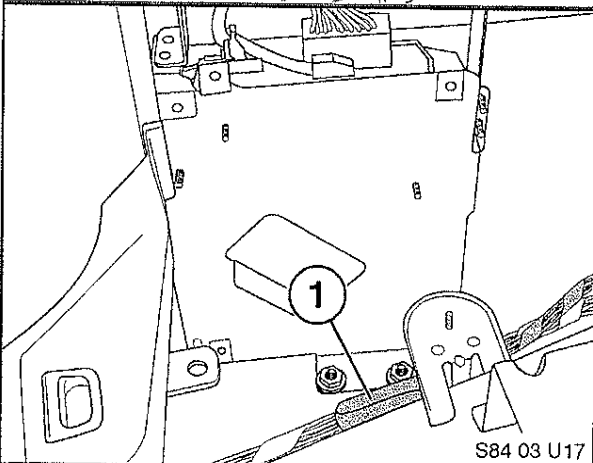


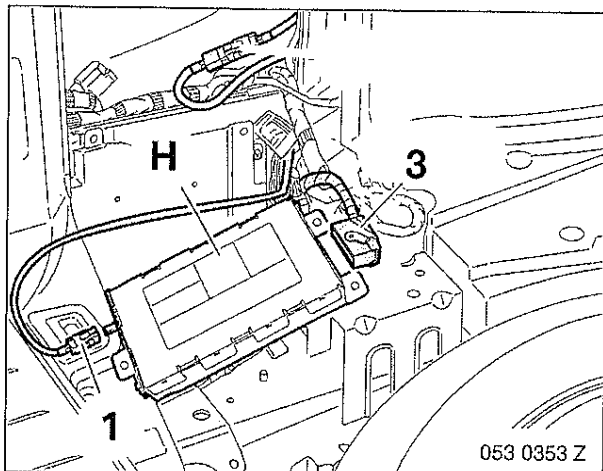
On earlier production vehicles (prior to 10/02):

A Transmitter/Receiver Bracket (D), P/N 84 13 6 910 112, will need to be obtained and installed in the lower left rear quarter panel area in order to install the ULF Control Module.

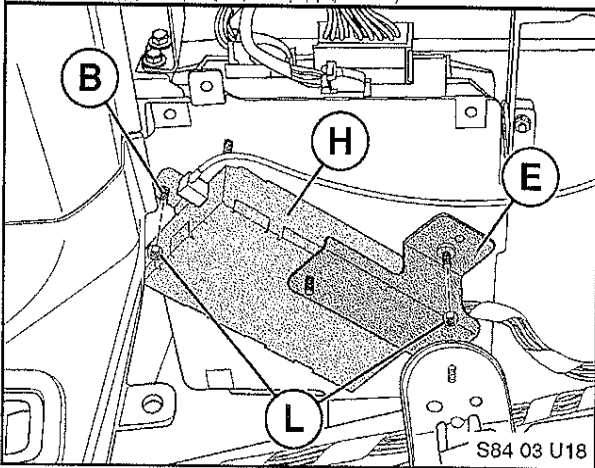
**If the bracket is already installed proceed to step 5.**

4. Remove the currently installed bracket and install P/N 84 13 6 910 112.
5. Locate the black 54-pin plug, located in the lower right of the access area (1).



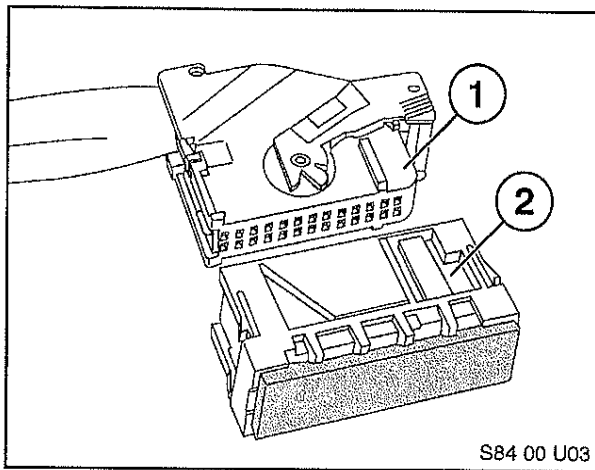


6. Connect the white FAKRA connector (1) from the Bluetooth™ Antenna to the ULF Control Module (H), P/N 84 21 6 934 552.
7. Connect the black 54-pin plug (3) to the ULF Control Module (H).



8. Insert the single metal tap of the ULF Control Module (H) over the threaded pin (B) on the left side of the mounting plate (D) and allow the control module (H) to rest on top of the lower support plate. Secure the module to the mounting plate using a plastic cap nut (L), P/N 51 71 1 934 930.
9. Place securing bracket (E), P/N 84 13 6 932 937, against the ULF Control Module (H) and secure the bracket to the mounting plate (D) using a plastic cap nut (L).

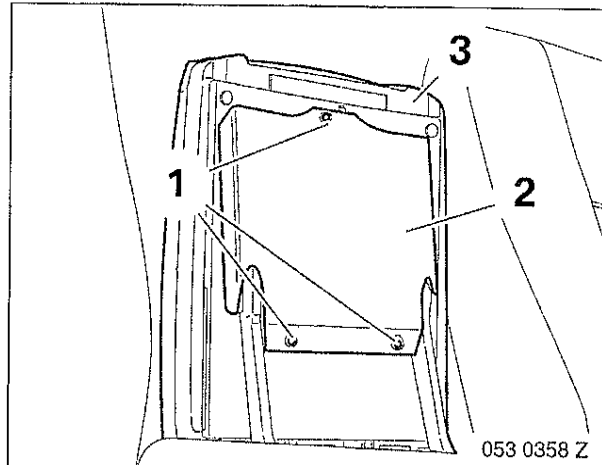
### C. Installation of Voice Input Jumper



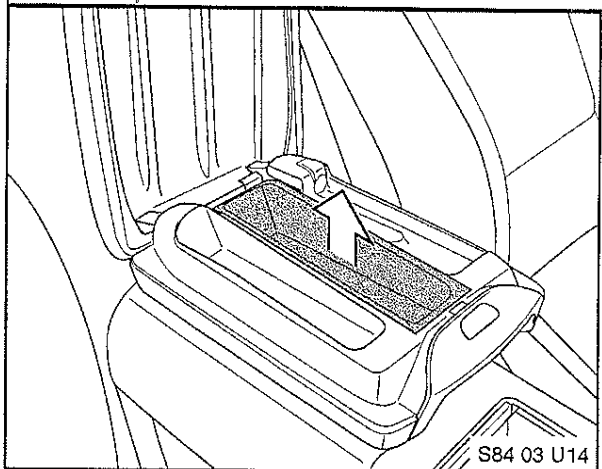
1. If a Voice Input Jumper Plug is not installed then a Jumper Plug, P/N 84 11 0 018 038, must be obtained and installed for the system to function correctly. The jumper plug should be installed onto a blue 26 pin connector that is located near the black 54 pin connector for the ULF module.

Note: The Jumper plug is not included in the kit as this plug may already be installed on some vehicles.

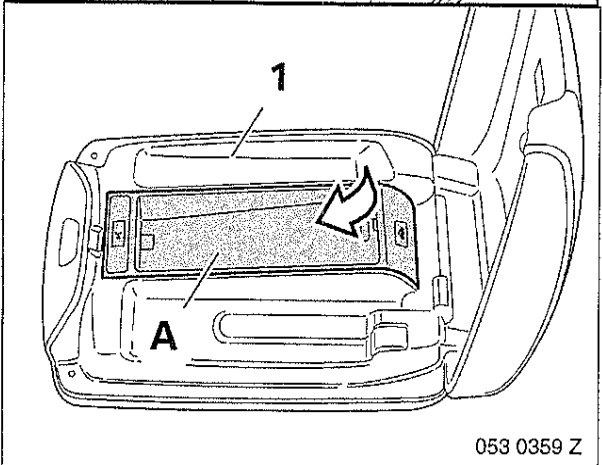
#### D. Installation of Eject Box



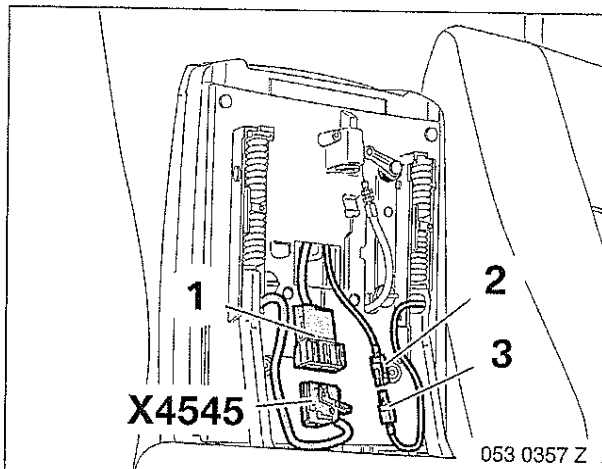
1. Flip the armrest of the center console up and remove the 3 screws (1) that hold the cover (2) in place.



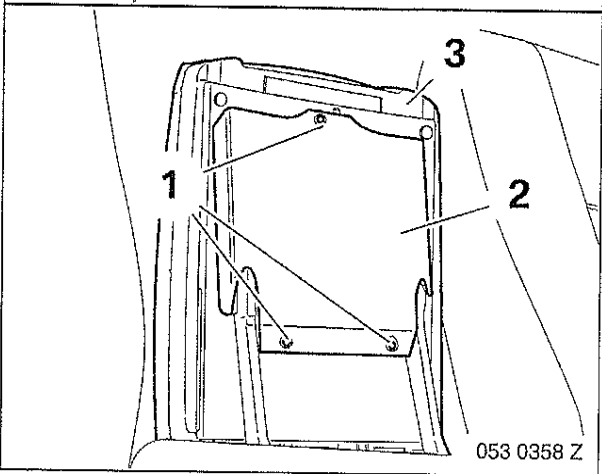
2. Remove the oddment tray currently installed in the armrest, as indicated in the repair manual section RA 84 11 515.



3. Insert the eject box (A), P/N 84 21 6 933 415 into the armrest (1) and feed the cables and connectors through the opening in the armrest assembly

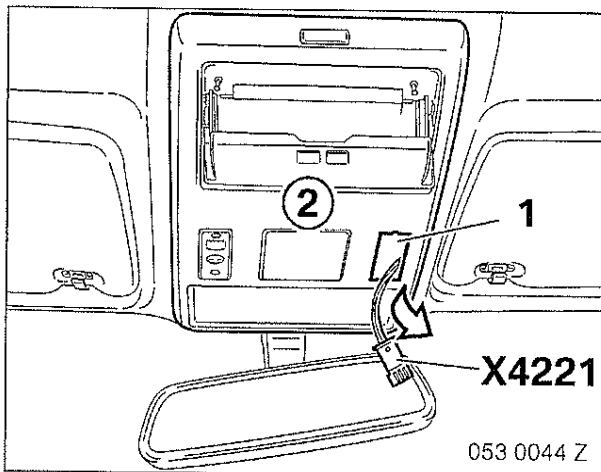


4. Connect the black 18-pin connector (1) of the eject box to the black connector X4545 from the vehicle wiring harness.
5. Connect the antenna cable (2) from the eject box to the antenna cable (3).

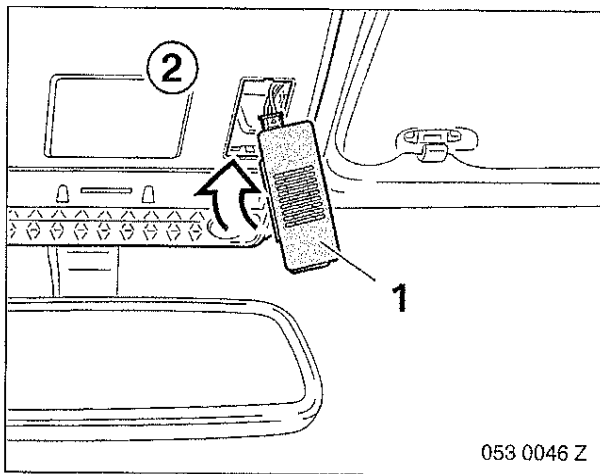


6. Reinstall the cover (2) to the center armrest (3).

### E. Installation of Microphone



1. Remove the front interior light assembly. The black three pin connector X4221 may be taped to the wiring harness going to the light assembly.
2. Remove the microphone fret (1) and install the microphone, P/N 84 31 8 380 319, and connect the black 3 pin connector.



3. Install microphone, P/N 84 31 8 380 319, into the microphone fret (1) and reinstall the fret into the headliner console.
4. Reinstall the headliner console.

### Reconnect the Battery

#### F. Coding ULF Control Module to Vehicle

After installing the ULF Kit, the vehicle should be re-coded with DISPlus/GT1 SW 33 or higher, using the "Retrofit" path to ensure that the system works properly with the systems currently installed in the vehicle. The recoding is done automatically when using the following "retrofit" procedure:

- Connect DISPlus or GT1 to vehicle (with SW 33 or higher installed).
- Turn on ignition
- Select "Coding ZCS"
- Series: "E53 Series"
- Path: "2 Retrofit"
- System: "ULF Universal charging and Handsfree facility".
- Follow the on screen requests to activate the coding procedure.

#### G. Function test

Upon completion of the recoding, verify that the BMW Universal Bluetooth™ Hands-Free System is working correctly by going through the following action steps. After completing each step ensure that the desired result is obtained:

Action	Response
Pair phone to vehicle (refer to section for pairing instructions).	Phone and or Radio/MID/Board Computer should display statement indicating Pairing succeeded
Turn on radio and initiate a call using voice recognition commands by depressing/holding the Voice recognition button on steering wheel until an audible beep is heard	Radio should mute and an audible beep is heard through vehicle speakers.
Say "Dial number"	System states "Please speak the number"
Say phone number to be dialed ex"1234567890"	System states "1234567890"
If number is correct say "Dial"	Call is placed and number being dialed is displayed on phone as well as on Radio/MID/Board Computer.

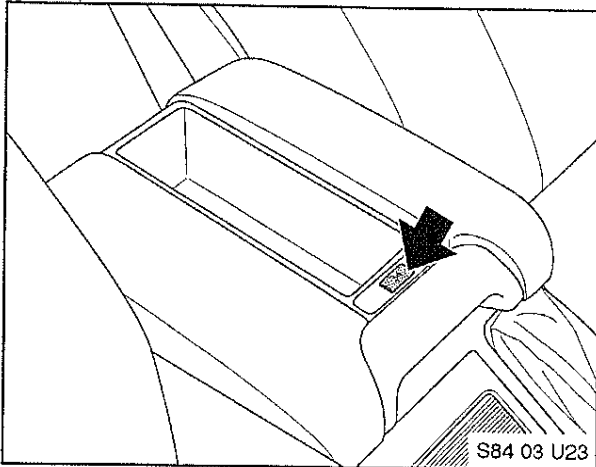
**H. Troubleshooting:**

Situation	Correction
No audio output through vehicle speakers	Check SES module jumper plug
Radio does not mute after placing a call	Check connections at rear of radio for Tel On and Tel Mute signal. Verify that connectors and pins are properly seated.
Audio quality in vehicle may not sound very good	<ul style="list-style-type: none"> <li>• Recode ULF Control Module.</li> <li>• NOTE: Audio quality in vehicle or at person being contacted, is dependent on the quality and signal strength of the wireless service provider in the area traveled.</li> </ul>
Customer complains that the person being contacted hears a "Buzzing" noise, at times during their conversation or on voice mail message that he/she has left.	Intermittently a "Buzzing" noise is noticeable to the person being called from the vehicle. The "Buzzing" noise is a result of the GSM signal being feedback through the microphone, this usually occurs if the GSM phone is located too close to the microphone. The customer should change the location of where the phone is placed/stored.
Driver is told that the person being contacted complains that there is an echo/reverberation in the audio; person can hear his/her voice back through the phone.	Audio volume in vehicle during a call may be a bit to loud, causing the other person to hear his/her voice coming back through the phone.
A second call is received while in a call, and call cannot be accepted using MFL controls.	Use handset to expect second call and place previous called on hold. Call waiting is functional only via the handset.
The radio audio does not come back immediately if the "other" person hangs up first.	It takes approximately 15 seconds for the ULF system to recognize that the call was terminated from outside the vehicle. If the call is terminated from outside the vehicle first, the driver can depress the button on the steering wheel to terminate the call from the vehicle and un-mute the radio quicker.
Customer is not able to pair phone to system, not able to locate ULF passkey/password reference card.	<ul style="list-style-type: none"> <li>- The "Bluetooth™ Passkey" is identified on the label of the ULF Control Module located in the rear of the vehicle.</li> <li>- The "Bluetooth™ Passkey" for the installed control module can be obtained by connecting the DISPlus or GT1and accessing the diagnostics for the ULF system:               <ul style="list-style-type: none"> <li>- select "Diagnostic requests"</li> <li>- select "Bluetooth code"</li> </ul> </li> </ul>
Intermittently a popping noise is audible through the vehicles speaker and there is no Bluetooth™ wireless communication established between the ULF module and the phone.	<ul style="list-style-type: none"> <li>- Vehicle and /or ULF Control Module are not correctly coded.</li> <li>- Recode module and vehicle (refer to Coding ULF Control Module to Vehicle)</li> </ul>
E46 Only: After installation of ULF system the speedometer and odometer do not work.	Remove pin 7 & 8 from the 54-pin connector going to the ULF Control Module. Refer to the E46 installation instructions.

## I. Pairing Procedure:

The pairing procedure that must be initiated through the phone will differ corresponding to the different menu configurations of the various Bluetooth™ mobile phones on the market. The user's manual of the phone should always be referenced for specific steps on how to activate the Bluetooth™ feature and to pair/link devices.

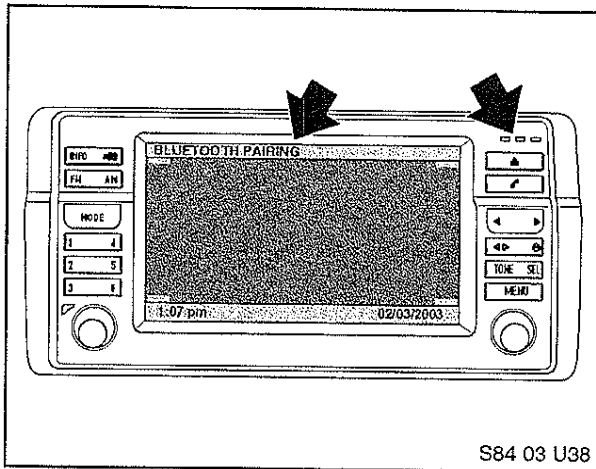
The following steps are generalized steps that should help in activating the Bluetooth™ function of most phones:



### IN VEHICLE:

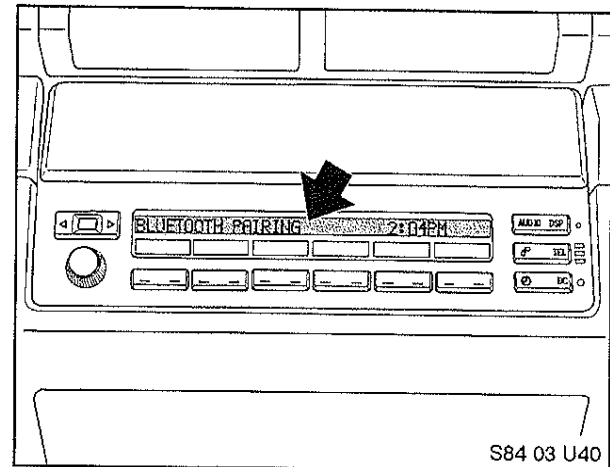
1. Depress the pairing button for at least 1 second prior to switching on the ignition and continue to hold the button down for approximately 2-3 seconds after the ignition is turned on.
2. Release the button.

3. Shortly after releasing the button the Board Monitor or MID display should look like one of the following:



a. Board Monitor Display:

- "Bluetooth Pairing" displayed.
- Green, Yellow and Red LEDs on the right side of the unit are flashing which indicates that the ULF is searching for available Bluetooth™ devices.



b. MID Display:

- "BT Pairing" display which indicates that the ULF is searching for available Bluetooth™ devices.
- Green, Yellow and Red LEDs on the right side of the unit are flashing which indicates that the ULF is searching for available Bluetooth™ devices.

4. Activate the search function of the phone as indicated below.

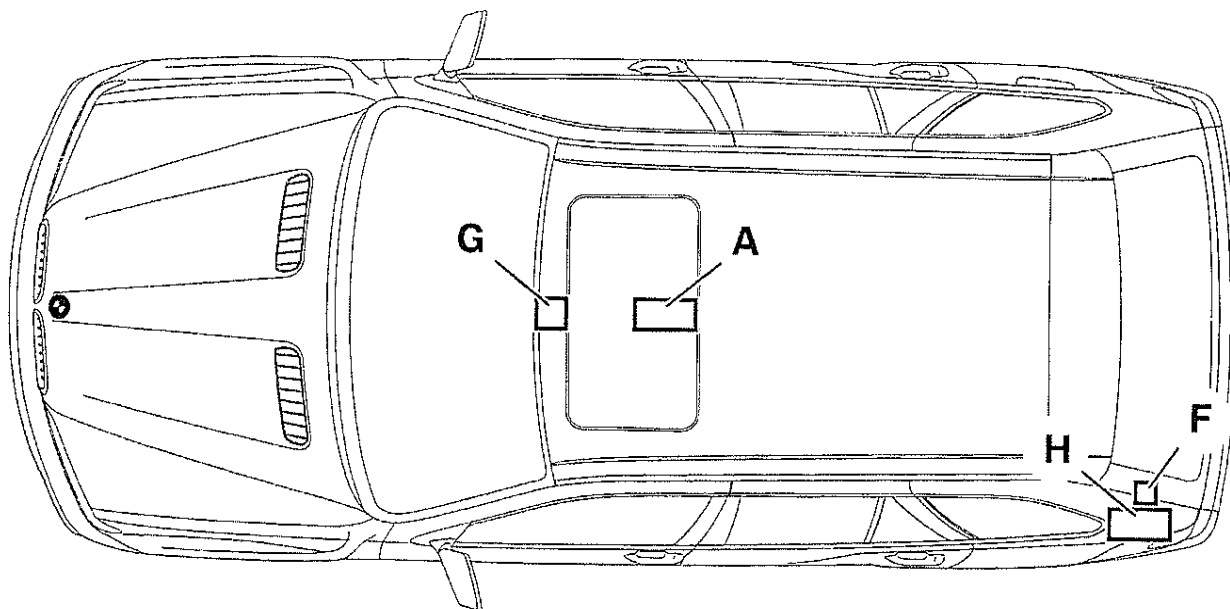
### ON PHONE:

1. Locate the connection/settings menu and select Bluetooth™.
2. Select the response that will activate the Bluetooth™ feature of the phone.
3. Next select a menu option that will allow you to "Discover" or "Search" for active Bluetooth™ devices.



**COMPONENT LOCATION:**

**X5**

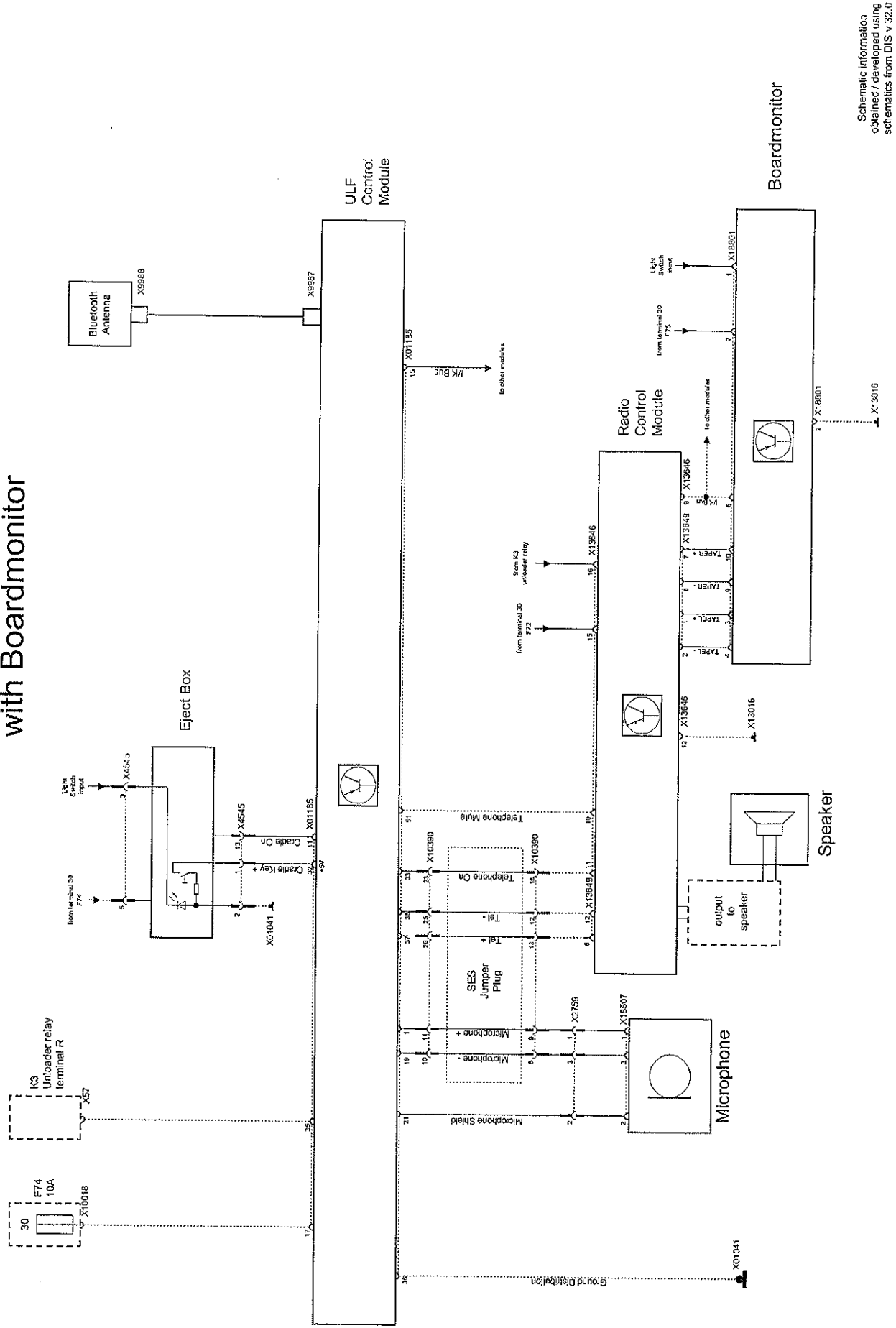


053 0349 Z

A - Eject Box  
F - Bluetooth™ Antenna

G - Microphone  
H - ULF Control Module

# ULF Wiring Schematic for the E53 with Boardmonitor



Schematic information obtained / developed using schematics from DIS v 32.0

