AUDI ACADEMY

Audi Telematics by OnStar



Audi Telematics by OnStar

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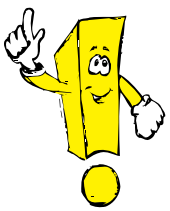
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New!



Important!

Course Goals

This course will enable you to:

- Understand the functions of the Telematics by OnStar system
- Identify the related system components
- Understand component functions
- Identify various service procedures and properly carry them out

Overview of the Audi Telematics by OnStar System

What is Telematics?

The word "Telematics" has historically meant the blending of computers and telecommunications. Telematics has been defined and used in a variety of ways in the health, government, education, and automotive industries.

Automotive Telematics typically provide a wide array of service offerings to customers. Typical offerings include:

- Emergency services
- Navigation services
- Information services
- Mobile Web services

What is Audi Telematics by OnStar?

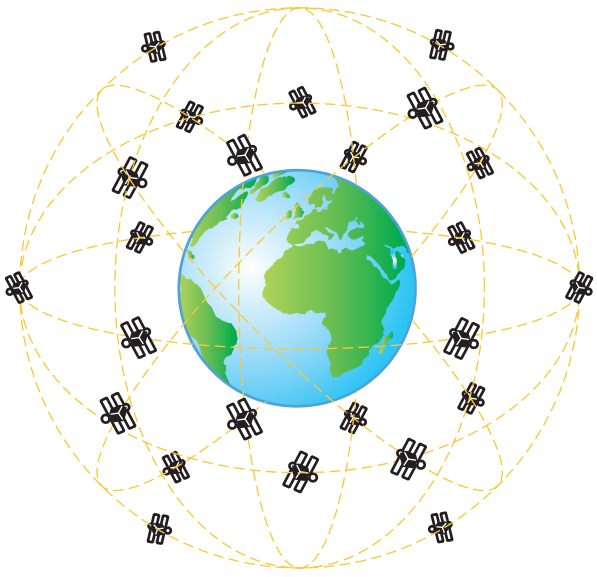
Audi Telematics by OnStar combines cutting-edge technology with attentive personal service to provide an unparalleled level of safety, security, and information services.

OnStar Advisors will contact the vehicle if OnStar receives a signal that the air bags have deployed, track the vehicle if it's been stolen, offer directions if a client becomes lost, or send a signal to unlock the doors if a client is locked out of the vehicle.

With access to over six million service listings including hotels, restaurants, dealerships, hospitals, and Automatic Teller Machine (ATMs), OnStar can help with a wide variety of convenience services. OnStar Advisors can suggest a restaurant, make hotel reservations, find tickets for sold-out events, or even help a client with vacation plans, all from the comfort of an Audi.

How Does it Work?

Audi Telematics by OnStar uses existing emergency service providers, and cellular telephone and Global Positioning System (GPS) satellite technologies. The GPS provides vehicle location information to the Telematics Control Module (TCM). The TCM can then send this information to the OnStar call center when any one of the OnStar buttons is pressed. This allows the Advisor at the OnStar call center to track the vehicle position and provide the driver with assistance.



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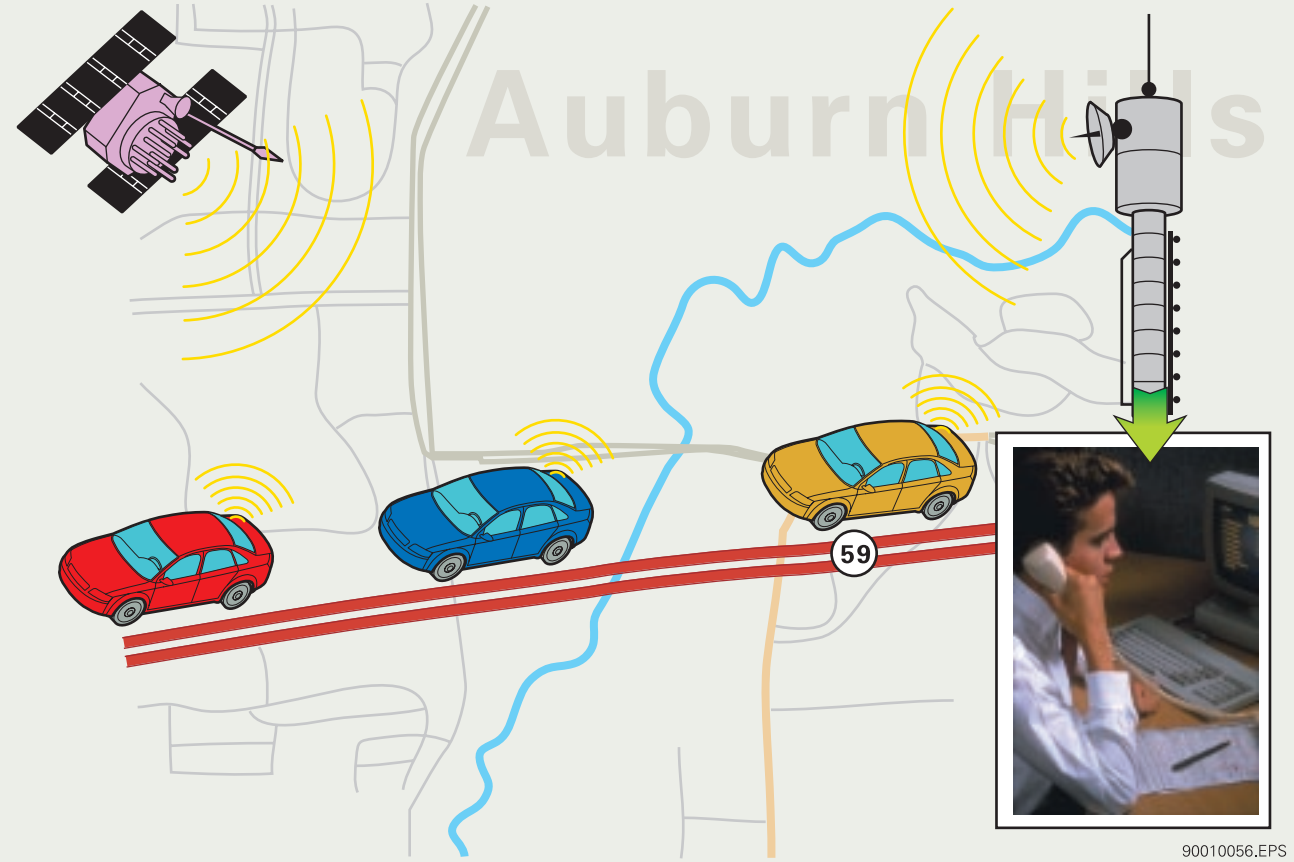
Overview

The Audi Telematics by OnStar system uses an integrated 3-watt analog cellular telephone to transmit both data (GPS and vehicle information) and voice communication to the OnStar call center. The 3-watt analog telephone provides the broadest geographic coverage of any current wireless system in the United States and Canada. However, there are still areas where the system will not be able to make a cellular connection and the OnStar service will not be available.

The system is activated at the dealership at the time of sale. The dealership provides customer data to the OnStar call center regarding service package preference, financial transaction method, and contact information.

Once the service is activated, the client can then use the service. A typical interaction with OnStar is described as follows:

- The client pushes the OnStar button.
- The system sends vehicle information and GPS location to the OnStar call center and Advisor.
- A national cellular network provides the service to the OnStar call center.
- An OnStar Advisor views customer account information and GPS map location on the computer terminal at the OnStar call center.
- The OnStar Advisor reviews the client's request and provides him or her with the requested service.
- The client can continue with a new request or end the current request.



Guiding Principles

The Audi Telematics by OnStar system is unique in that the software developed for the system followed these guidelines:

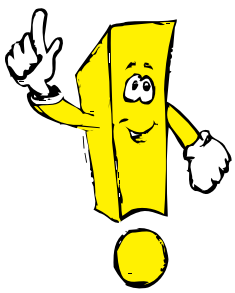
- Minimize eyes-off-the-road and hands-off-wheel time.
- Minimize the number of steps required to perform a task.
- Create a simplified interface for clients to interact with the system.

Subscription Packages

There are three different OnStar service packages available. The basic safety package will be offered free to the client for the first year of service. Two additional packages that provide convenience and premium services will be offered to the clients for an annual fee.

The client also will be able to receive pay-for-use services, such as Personal Calling, Virtual Advisor, and other convenience services. The specific services offered by Audi Telematics by OnStar are as follows:

- Safe and Sound – basic safety package
- Directions and Connections – convenience package
- Luxury and Leisure – premium service package



Certain OnStar services require the use of a client's Personal Identification Number(s) (PIN).

Safe and Sound

The following are features of Safe and Sound.

Emergency Assistance Services

When the Emergency button is pressed, a live OnStar Advisor will contact the nearest emergency services provider, such as police or Emergency Medical Service (EMS), with the vehicle's exact location, and request for help.

Automatic Notification of Air Bag Deployment

If the front air bags deploy, an OnStar Advisor will contact the vehicle occupants to determine if assistance is needed, and will then contact emergency help if necessary, even if the occupants do not answer.

Stolen Vehicle Tracking

If the vehicle is stolen, the client simply calls OnStar with his or her PIN, and the live Advisor will track the vehicle for the police.

Roadside Assistance

Whenever there is a problem, the OnStar Advisors are available 24 hours a day to contact a nearby provider with the vehicle's exact location so that the occupants can get back on the road quickly.

Remote Door Lock and Unlock

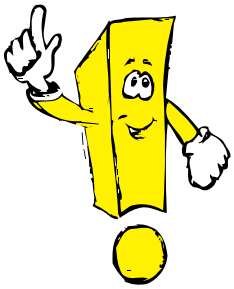
If the client is locked out of the vehicle, he or she simply calls a toll free telephone number and provides the Advisor with his or her PIN. The OnStar Advisor can remotely unlock the vehicle within minutes.

Remote Vehicle Alert

The OnStar Advisor can help the client locate the vehicle in a crowded parking lot by beeping the horn and flashing the lights. This feature also can aid police departments in locating stolen vehicles.

MED-Net Service

MED-Net stores the client's personal medical information such as blood type and chronic conditions and provides this information to a hospital in an emergency.



MED-Net service is available in the United States only, for a nominal fee. This fee is waived in the Luxury and Leisure package.

AccidentAssist

This service gives the occupants step-by-step, on-the-spot guidance for most accidents.

Directions and Connections

Directions and Connections offers all of the features of Safe and Sound plus the following additional features.

Route Support and Directions

A live OnStar Advisor can provide street directions wherever the vehicle is, 24 hours a day.

RideAssist

If the occupants ever need help getting home safely, an OnStar Advisor can dispatch a cab or contact a family member.

Information and Convenience Services

A live OnStar Advisor can help with a wide array of information and convenience services from a huge database of continuously updated information. Examples of this are suggesting a restaurant or making hotel reservations.

Luxury and Leisure

Luxury and Leisure offers all of the features of Safe and Sound and Directions and Connections, plus the following additional feature.

Personal Concierge Services

A special OnStar Concierge can help obtain tickets to a sold-out sporting event or a Broadway play, arrange all the details of a trip for business or pleasure, send flowers to a loved one, or even plan a party for the client's son or daughter.

Personal Calling

Personal Calling is a wireless telephone service that uses the OnStar system and voice recognition technology. Available with any of the service plans, it is used to place or receive calls using an advance payment billing system. The plan offers one rate, with no roaming or long distance charges.

To activate:

1. Press the Call Answer/End button.
2. If using the pre-programmed number feature, say "Call" and the name ("Office," for instance) or one of up to 20 pre-programmed telephone numbers.
3. If not using the pre-programmed number feature, say "Dial," and the telephone number.

Other voice commands, such as "Store," "Delete," and "My Number" make the voice recognition technology easy for the client to program and use.

The system uses the vehicle's stereo speakers and the hands free microphone.

Additional features of Personal Calling include:

- Minutes do not expire.
- There is an automatic prompt to order more minutes.
- Trial minutes are available at no charge.
- There are no time of day restrictions.
- No cellular telephone equipment purchase is required.
- The advance payment rates are competitive.
- No contract beyond an OnStar subscription is necessary.

Virtual Advisor

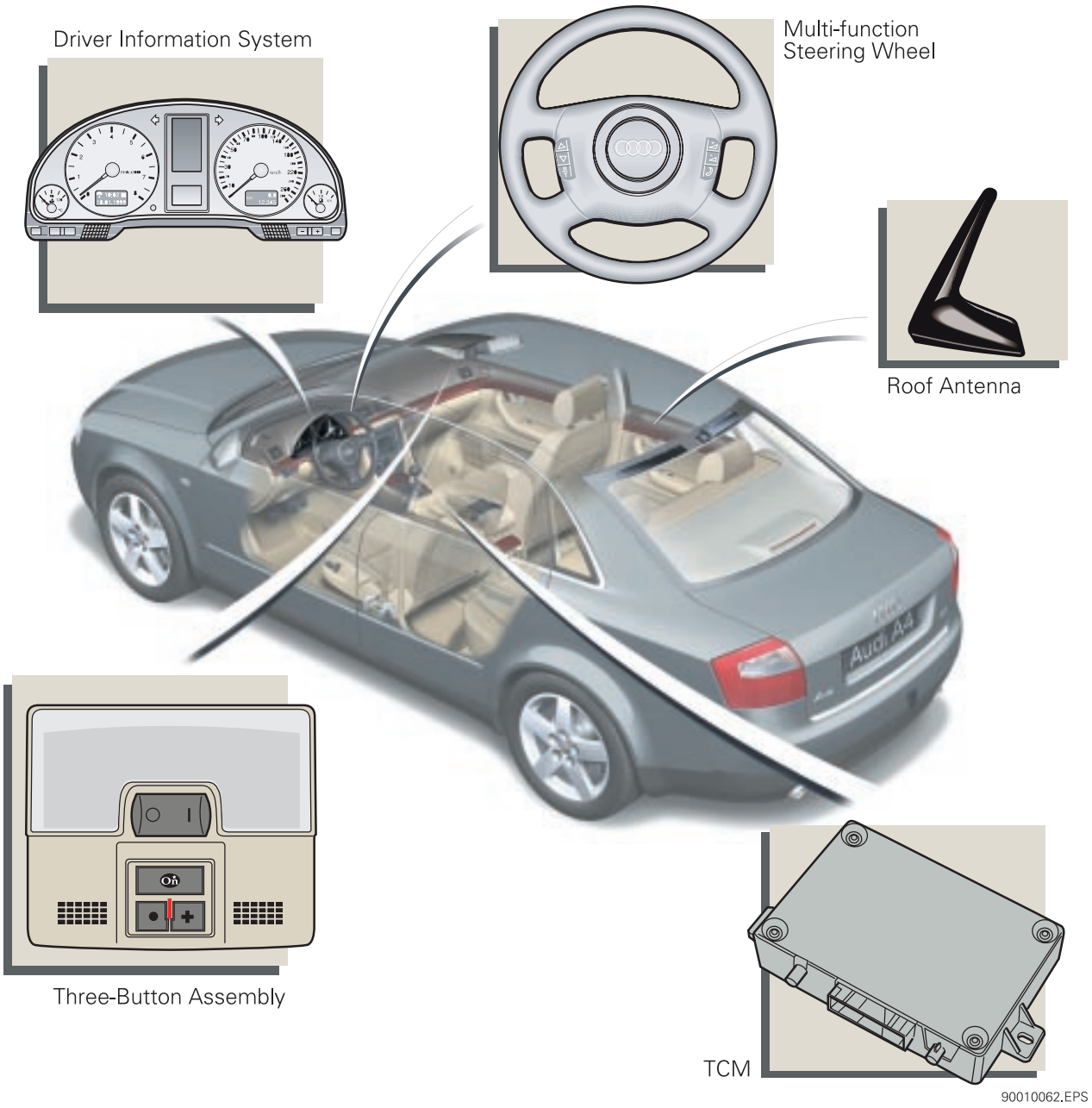
The Virtual Advisor allows the client to access location-based traffic, weather, news, sports, entertainment, and more, all with a single button push or a few voice commands. The Virtual Advisor can be set up to have the client's e-mail, stock quotes, weather, or custom news information from various companies read aloud at the touch of a button, or by voice command. With the Virtual Advisor, the client decides what options they would like to have and customizes the service by going to AudiUSA.com, and clicking on the MyOnStar link on the page.

The following page gives an overview of the concierge services available with each plan.

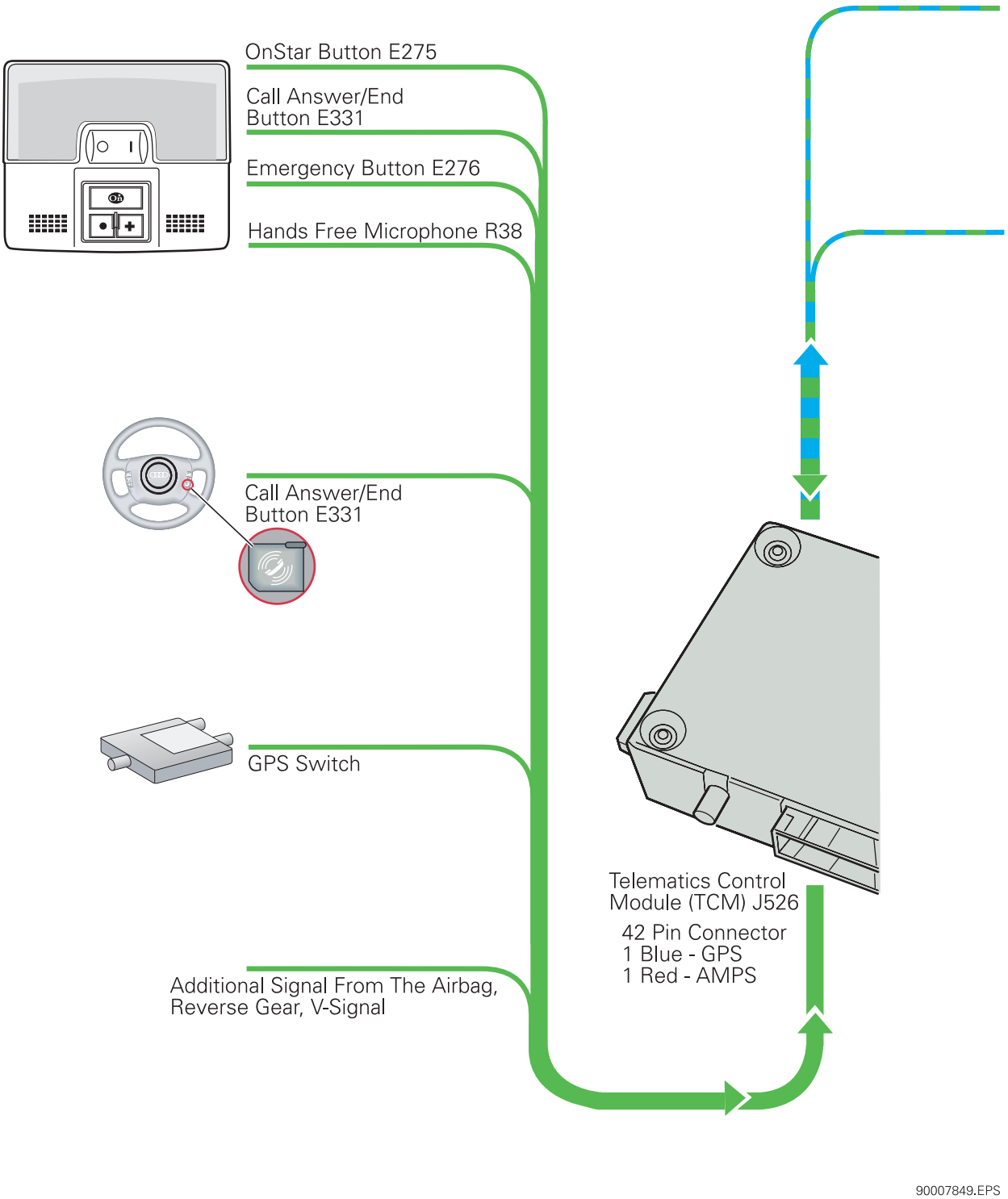
Overview

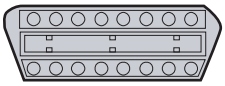
OnStar's Concierge Services Online Concierge (i.e. Self-Serve) – VS – Personal Concierge (i.e. Full Access)	Safe and Sound (online only)	Directions and Connections (online only)	Luxury and Leisure (online and personal)
TRAVEL / VACATION PLANNING			
Hotel reservations (traditional)	YES	YES	YES
Hotel reservations (exclusive)	NO	NO	YES
Hotel reservations (available)	YES	YES	YES
Hotel reservations (booked)	NO	NO	YES
Airline reservations	YES	YES	YES
Car Rental	YES	YES	YES
Limousine / Charter rental	NO	NO	YES
Cruise accommodations	YES	YES	YES
Exotic getaways	NO	NO	YES
Passports / Visas	NO	NO	YES
City / Cultural event information	YES	YES	YES
ENTERTAINMENT / LEISURE			
Sports event tickets (available)	YES	YES	YES
Sports event tickets (sold-out)	NO	NO	YES
Theater event tickets (available)	YES	YES	YES
Theater event tickets (sold-out)	NO	NO	YES
Concert event tickets (available)	YES	YES	YES
Concert event tickets (sold-out)	NO	NO	YES
Museum event tickets (available)	YES	YES	YES
Museum event tickets (sold-out)	NO	NO	YES
Health clubs / Spa reservations	NO	NO	YES
Personal event planning	NO	NO	YES
Business event planning	NO	NO	YES
DINING			
Restaurant reservations (traditional)	YES	YES	YES
Restaurant reservations (exclusive)	NO	NO	YES
Restaurant reservations (available)	YES	YES	YES
Restaurant reservations (booked)	NO	NO	YES
Catering services	NO	NO	YES
GIFTS / PERSONAL SHOPPING			
Traditional and luxury gifts	YES	YES	YES
Flower orders	YES	YES	YES
Gift baskets	YES	YES	YES
Gift certificates	YES	YES	YES
Personalized gift consultation	NO	NO	YES
Music / Video / Book searches	NO	NO	YES
Unique / Hard-to-find item searches	NO	NO	YES
HOME AND CAR CARE			
Home buying / selling assistance	NO	NO	YES
Appliance repairs / Home technicians	YES	YES	YES
Lawn care / Landscaping	YES	YES	YES
Pet care	YES	YES	YES
Car buying / selling assistance	NO	NO	YES
Car repair / maintenance / detailing	NO	NO	YES
Car insurance / registration assistance	NO	NO	YES
ERRAND RUNNING			
Wait at home / Wait in line	NO	NO	YES

OnStar Component Overview



Components


OnStar Button E275
Call Answer/End Button E331
Emergency Button E276
Hands Free Microphone R38
Call Answer/End Button E331
GPS Switch
Additional Signal From The Airbag, Reverse Gear, V-Signal
Telematics Control Module (TCM) J526
42 Pin Connector
1 Blue - GPS
1 Red - AMPS
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Diagnostic
Connector T16



Audi V60 Cellular
Telephone R37

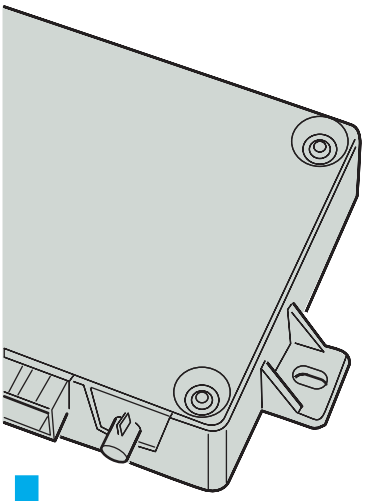
Cellular Telephone
Emergency Antenna
R90

GPS Antenna R50
(Both Integrated in
the Roof Antenna)

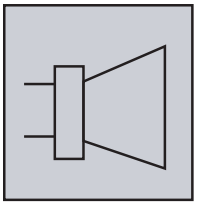


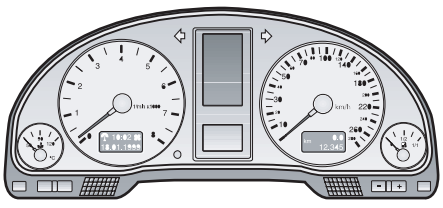
Door Control Module,
Driver Side J386

Central Locking Control
Module, Driver Side F220



Emergency
Speaker R91





Driver Information System J285

90007829.EPS

Component Descriptions

The Audi Telematics by OnStar system consists of:

- The TCM
- An Audi Telematics by OnStar three-button assembly
- Speakers (integrated with vehicle audio system)
- The emergency loud speaker
- The driver information system
- The cellular telephone antenna
- A roof antenna with antenna for the GPS navigation system and cellular telephone emergency antenna
- An emergency battery
- The optional Audi V60 cellular telephone with docking cradle

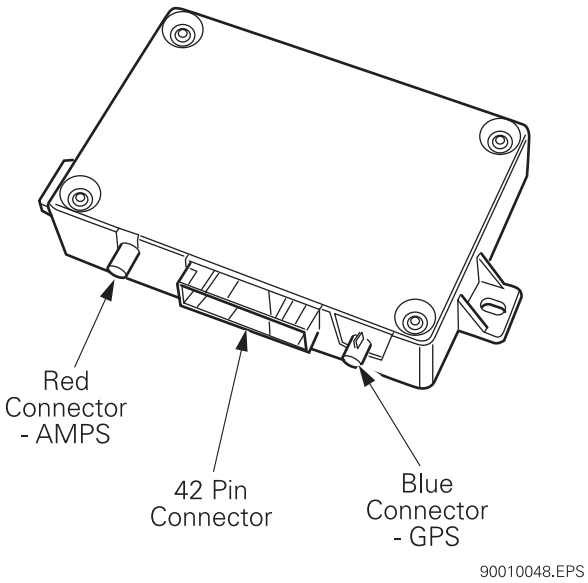
TCM J526

The TCM is the primary control module for the OnStar system. This control module receives input from various system components and also connects to the central locking control module so that the door locks can be actuated remotely. The TCM is located under the passenger side seat.

On the back of the TCM is a sticker that contains the following information:

- Station Identifier (STID)
- Electronic Serial Number (ESN)

The STID is the number that lets the call center know in which vehicle the system is installed and provides the client's account information.

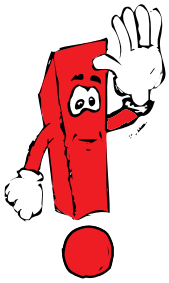


The ESN is the cellular identification number that allows the integrated cellular system to communicate on the OnStar network.

Both the STID and the ESN need to be recorded on the Repair Order during the Perfect-Delivery Inspection (PDI) process.

If the TCM is replaced anytime prior to the sale of the vehicle the technician does not need to report the STID or ESN to OnStar. The Audi Brand Specialist (ABS) will make all corrections with OnStar when the new owner is registered. If the TCM is replaced after the sale of the vehicle, then the technician will register the new STID and ESN with OnStar by pressing the blue button and following the process given by the OnStar Advisor.

After the vehicle is sold, the STID and ESN need to be given to the OnStar call center whenever the TCM is replaced. Technicians should do this at the same time they test for connectivity to ensure the repair is successful.

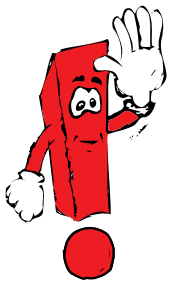


Failure to configure the TCM after replacement will prevent OnStar services and features from functioning.

TCM Sleep Mode

The TCM has a sleep mode to prevent battery drain when the key is not in the ignition. Once the key is removed, the TCM shuts down for a period of 10 minutes.

For the next 48 hours the system will wake up every 10 minutes to see if a command has been sent to it from the OnStar call center. After the 48-hour period has expired, the TCM will be shut down until the key is inserted into the ignition. This is important because an OnStar Advisor will not be able to communicate with the vehicle after this 48-hour period. Therefore, if a client locks his or her keys in the vehicle and doesn't call within a 48-hour period, OnStar will not be able to unlock the doors.



Never exchange TCMs between vehicles. Each TCM contains STID and ESN data unique to the vehicle. This data is used by OnStar and the National Cellular Telephone Network to identify the vehicle and client.

Audi Telematics by OnStar Three-Button Assembly

OnStar Button E275

Press the OnStar button to connect to an OnStar Advisor. An automated voice saying "connecting to OnStar" is followed by a progression tone, indicating the system is connecting. The Advisor will answer, and is then available to help with a broad range of services.

Progression Tones

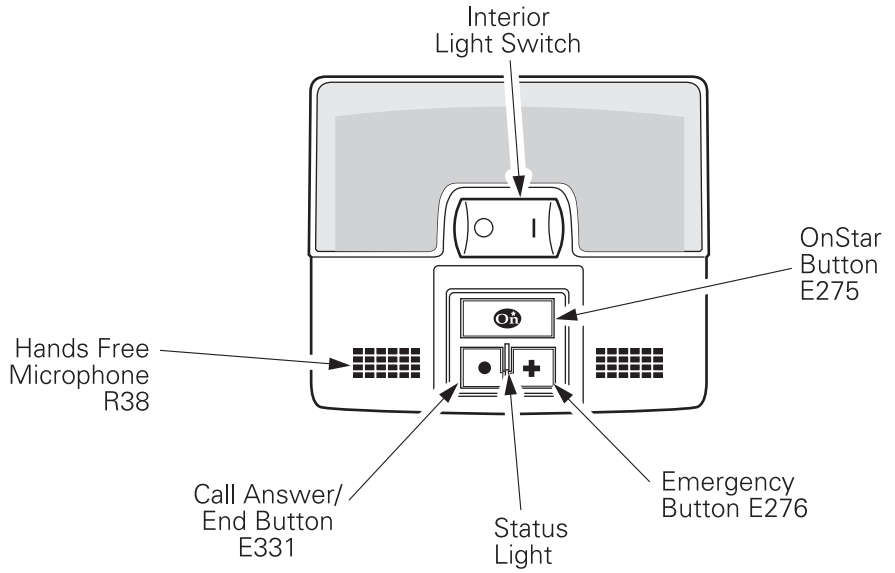
Once the OnStar button is depressed, the system will attempt to connect to the OnStar call center. As the system tries to connect, a tone is emitted to let the driver know that the system is attempting to connect. If the system cannot connect to the call center after four attempts, a "failed to connect" message will be heard.

Call Answer/End Button E331 (White Dot Button)

The Call Answer/End button is used to answer or end a call from the OnStar call center. This button also can be used if one of the other buttons has been accidentally pressed. An automated voice saying "OnStar request ended" will confirm that the request has been cancelled. If the client has Personal Calling or Virtual Advisor, this button provides access to the voice activated system.

Emergency Button E276

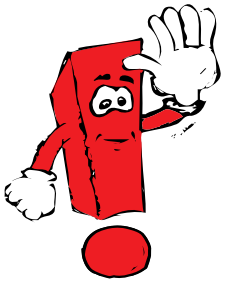
In an emergency, press this button to send a priority call to an OnStar Advisor. An automated voice will say "connecting to OnStar emergency," followed by the progression tone. The Advisor will contact the nearest emergency services provider who can dispatch ambulance, police, fire, or other emergency services to the location of the vehicle.



90010047.EPS

Hands Free Microphone R38

The hands free microphone is located in the interior light housing. Once activated by pressing the Call Answer/End button, the client need only call out any number or pre-programmed name to be connected automatically.



If any of the buttons are depressed for longer than 15 seconds, the red status light will come on and a fault will be set.

Status Light

The system status light is located between the Call Answer/End and Emergency buttons. A steady green light indicates that the OnStar system in the vehicle is powered on and is ready to make or receive calls from the OnStar center.

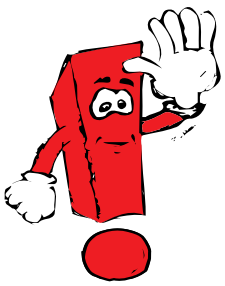
A blinking green light indicates that there is a call in progress.

A red system status light indicates that the OnStar system is not functioning properly. A technician should begin diagnosis of the system using the VAS 5051.

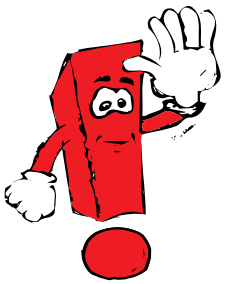
If the green status light is on and one of the following situations occurs:

- A cellular message is heard
- Unable to contact OnStar and a disconnect
- OnStar request ended
- Nothing happens

The technician should record the VIN and client details and call the OnStar call center at 888.390.4050. An Advisor will verify the vehicle's OnStar system has been registered and the client's account is active. If the clients account information is correct, the Advisor will aid in troubleshooting the system.



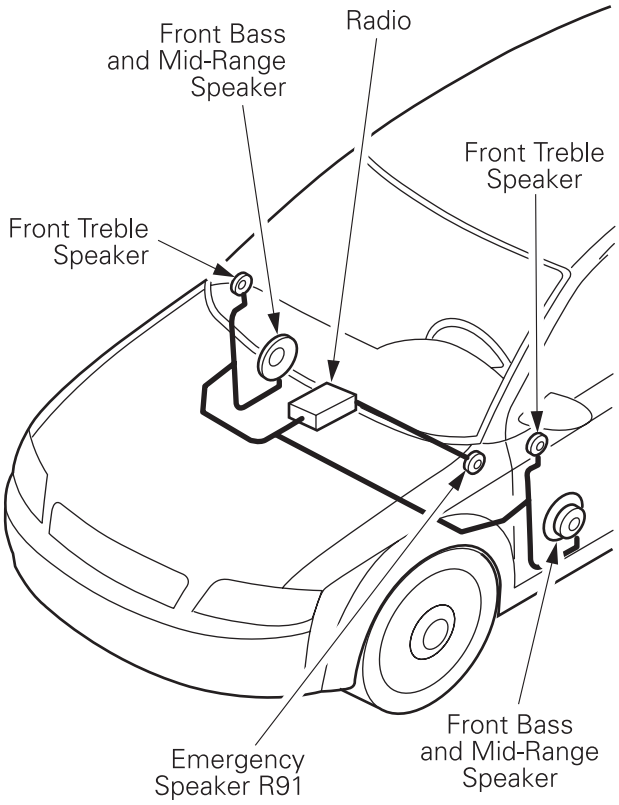
After pressing either the OnStar or Emergency button, a pre-recorded message announces: "connecting to OnStar," followed by progression tones. Normal connection time is 10 to 15 seconds. However, due to normal cellular/GPS connection conditions, connection times can take up to 3 minutes.



Never press the Emergency button unless it is an actual emergency. This button should be treated with the same respect as calling 911 on the telephone.

Speakers

Calls are played over the vehicle's audio system. If the radio, CD, or tape player is in use when a call is made or received, it is muted and paused until approximately 2 seconds after the Call Answer/End button is pressed.



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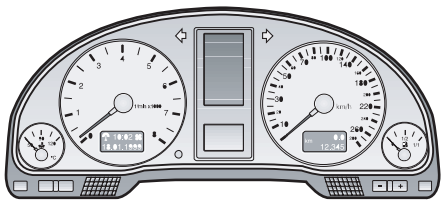
Emergency Speaker R91

The emergency speaker is used for verbal information from the OnStar call center in case of an emergency or service call, as well as during the use of the emergency battery when the main battery supply is lost. The emergency speaker is located in the driver side storage compartment.

Driver Information System J285

When the optional Audi V60 cellular telephone is docked in its cradle, the driver information system shows:

- Incoming telephone number (caller ID)
- Stored names and numbers (telephone book)



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Roof Antenna

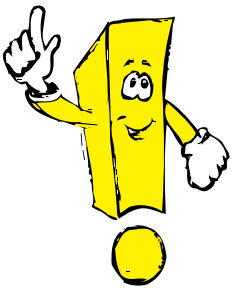
The GPS Antenna and the Cellular Telephone Emergency Antenna are incorporated in the standard roof antenna. The Cellular Telephone Emergency Antenna guarantees the reporting of an accident if the Cellular Antenna becomes disabled. This ensures communication with the OnStar call center at all times.



90010050.EPS

Cellular Telephone Antennas R127 (Avant only) and R65

When the optional Audi V60 cellular telephone is docked with the vehicle, it uses the cellular antenna located in the roof end trim (sedan) or under the front and rear bumper covers (Avant).

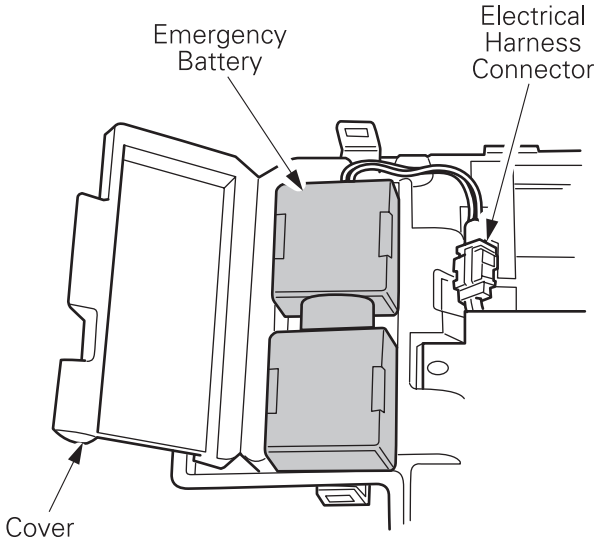


Antenna type and location vary by model. Always refer to AESIS for exact information.

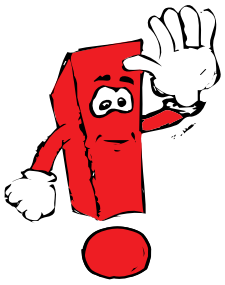
Emergency Battery A16

The integrated lithium battery ensures constant battery supply in the case of an accident whereby the main battery supply could be interrupted.

The life span of the emergency battery is limited and must be replaced according to the latest service information. The emergency battery's level of charge can be found during the Telematics system diagnostic mode.

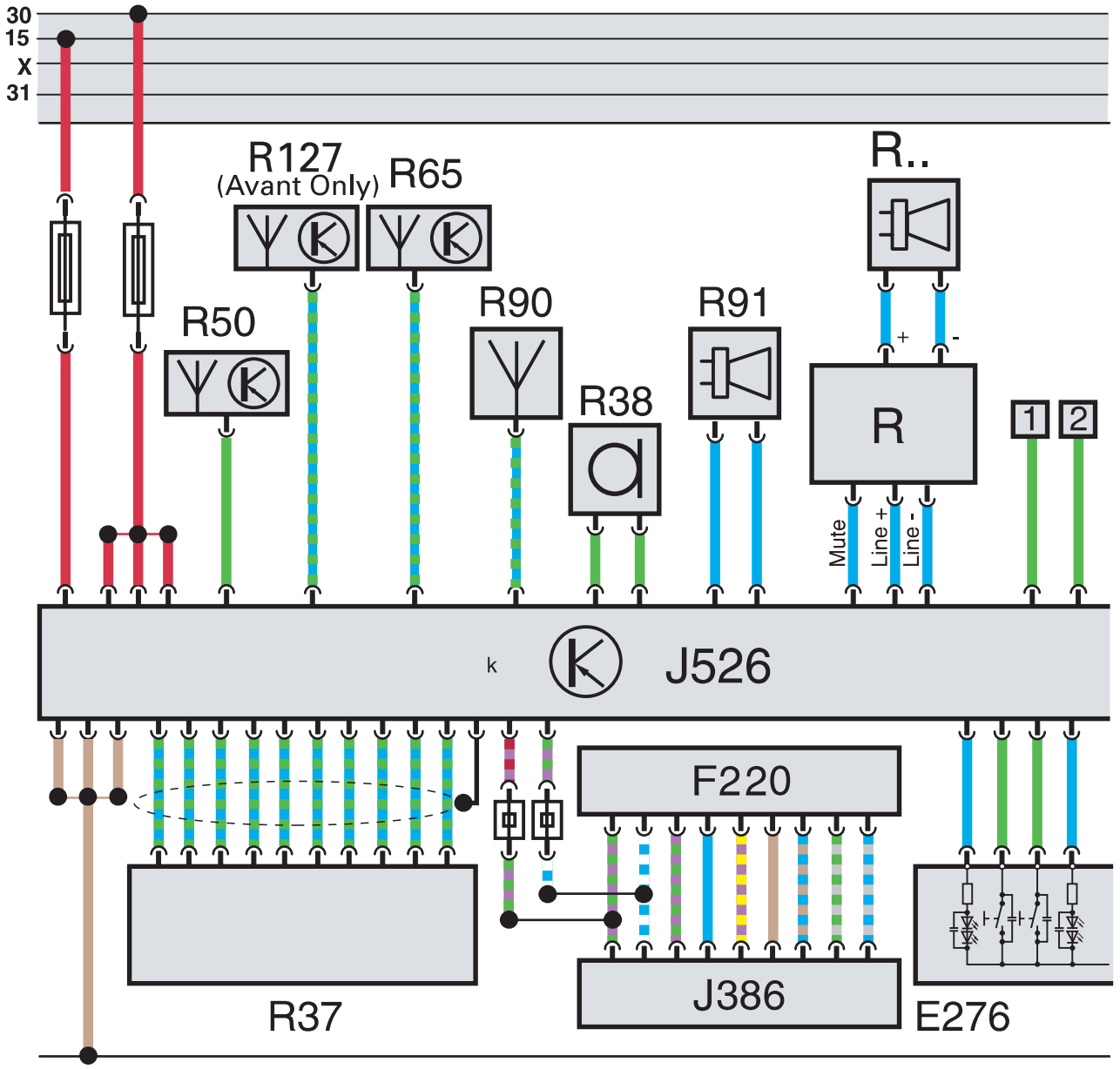


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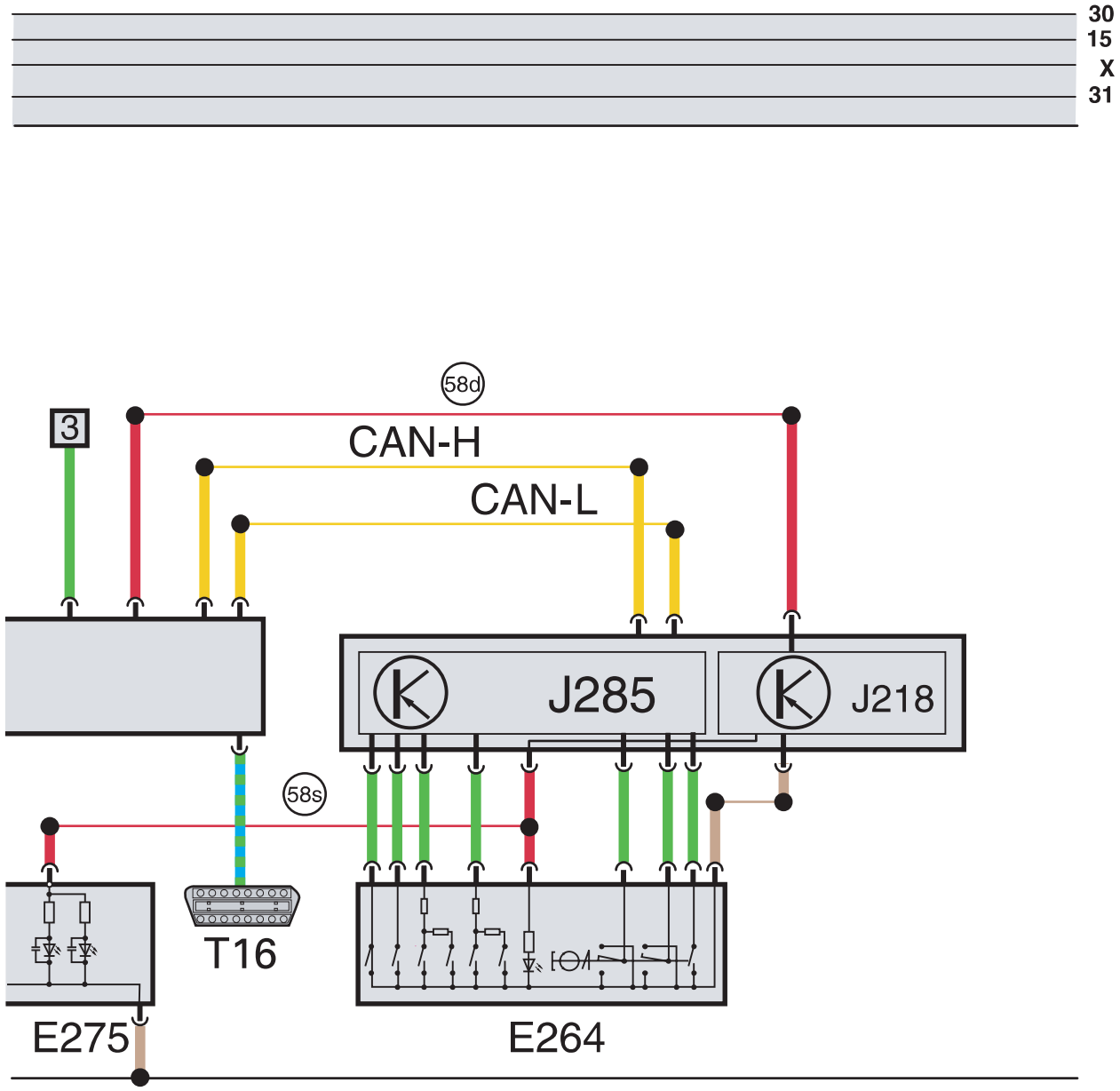


If a service repair is performed and the vehicle's battery has to be disconnected, the service mode has to be switched on. This ensures that the TCM does not automatically shift to the emergency battery. The service mode can be entered by using guided fault finding on the VAS 5051 diagnostic tester. Refer to AESIS for the adaptation procedure.

Audi Telematics by OnStar System Functional Diagram



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R50	GPS Antenna	J526	Telematics Control Module (TCM)
R127	Cellular Telephone Antenna (Avant only)	J285	Driver Information System
R65	Cellular Telephone Antenna	J218	Driver Information System Processor
R90	Cellular Telephone Emergency Antenna	R37	Audi Digital Communication System V60 Cellular Telephone
R38	Hands Free Microphone	T16	Diagnostic Connector
R91	Emergency Speaker	E276	Emergency Button
J386	Door Control Module, Driver Side	E275	OnStar Button
F220	Central Locking Control Module, Driver Side	E264	Telematics Three-Button Assembly

Audi Digital Communication System V60 Cellular Telephone R37

The optional Audi V60 cellular telephone becomes an integral part of the Audi Telematics by OnStar system when docked with the vehicle. The docking cradle is located in the center console storage compartment.

The telephone is equipped with a software package available only to Audi. This software enables the Audi V60 to integrate seamlessly with the Audi Telematics by OnStar system, allowing features such as voice recognition, display of caller ID, the client's personal telephone book, and more.

Additionally, while most cell phones are rated at 0.5 to 0.6 watts of power, the Audi V60 is rated at 3 watts, virtually eliminating any dead areas of coverage.

- The customizable main menu allows users to reorder the menu items or frequently used features the way they would like.
- Voice recognition uses voice-activated dialing and voice-activated shortcuts to save the user time. Voice note allows the user to record personal messages to play back anytime.
- The innovative display screen identifies the caller without even opening the telephone and displays the time, date, and more.
- The telephone has its own FM stereo, and the client can listen through an optional head set accessory.
- Personal information management includes a calendar and alarmed datebook to help the user manage his or her schedule.



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- Personalization features allow the user to customize the main menu, keys, greeting, banner, and quick dial.
- The telephone book stores up to 400 names and numbers, 20 of which can be voice-activated.
- Multi-language support allows use in English, Spanish, Portuguese, and French languages.
- The telephone is equipped with 32 ringer tone alerts plus VibraCall® alert.
- The telephone is Web ready.
- The telephone is equipped with tri-mode operation.

Retro Kits

If a client wishes to upgrade a 1998 model year or newer Audi, dealer-installed kits are available to add functionality to the Audi V60 Cellular Telephone. The kits enable A4s, A6s, and A8s ordered without Audi Telematics by OnStar, and TTs ordered without the TT Factory Wiring option to support the Audi V60 Cellular Telephone.

Clients will enjoy many of the same hands-free features available with the factory option, such as:

- Automatic charging of the telephone while docked in the cradle
- Telephone conversations played through the vehicle's audio system
- Automatic mute of the radio
- Automatic pause of the CD player
- Voice-activated calling of 20 stored numbers
- Voice dialing by simply saying the desired number aloud

Audi Telematics by OnStar Knowledge Assessment

An on-line Knowledge Assessment (exam) is available for this Self-Study Program.

This Knowledge Assessment may or may not be required for Certification. You can find this Knowledge Assessment in the Learning Management Center at:

www.accessaudi.com

For assistance please call:

Certification Program Headquarters
1.877.CU4.CERT
(8:00 a.m. to 8:00 p.m. EST)