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Audio, Navigation, and Telematics

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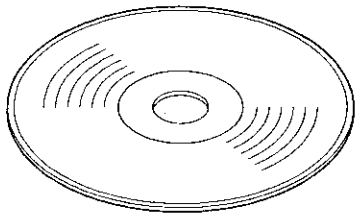
Special Tools

Ref.No.	Tool Number	Description	Qty
①	07AAZ-SDBA100	Diagnostic CD	1
②	07AAZ-SDBA200	Skip Test CD	1
③	07AAZ-SDBA300	Skip Test CD	1
④	07PAZ-0010100	SCS Service Connector	1



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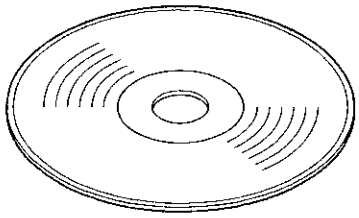

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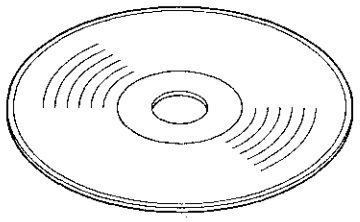

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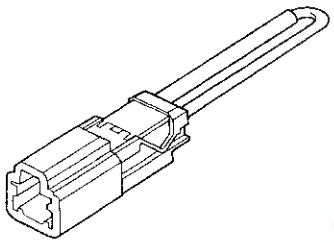

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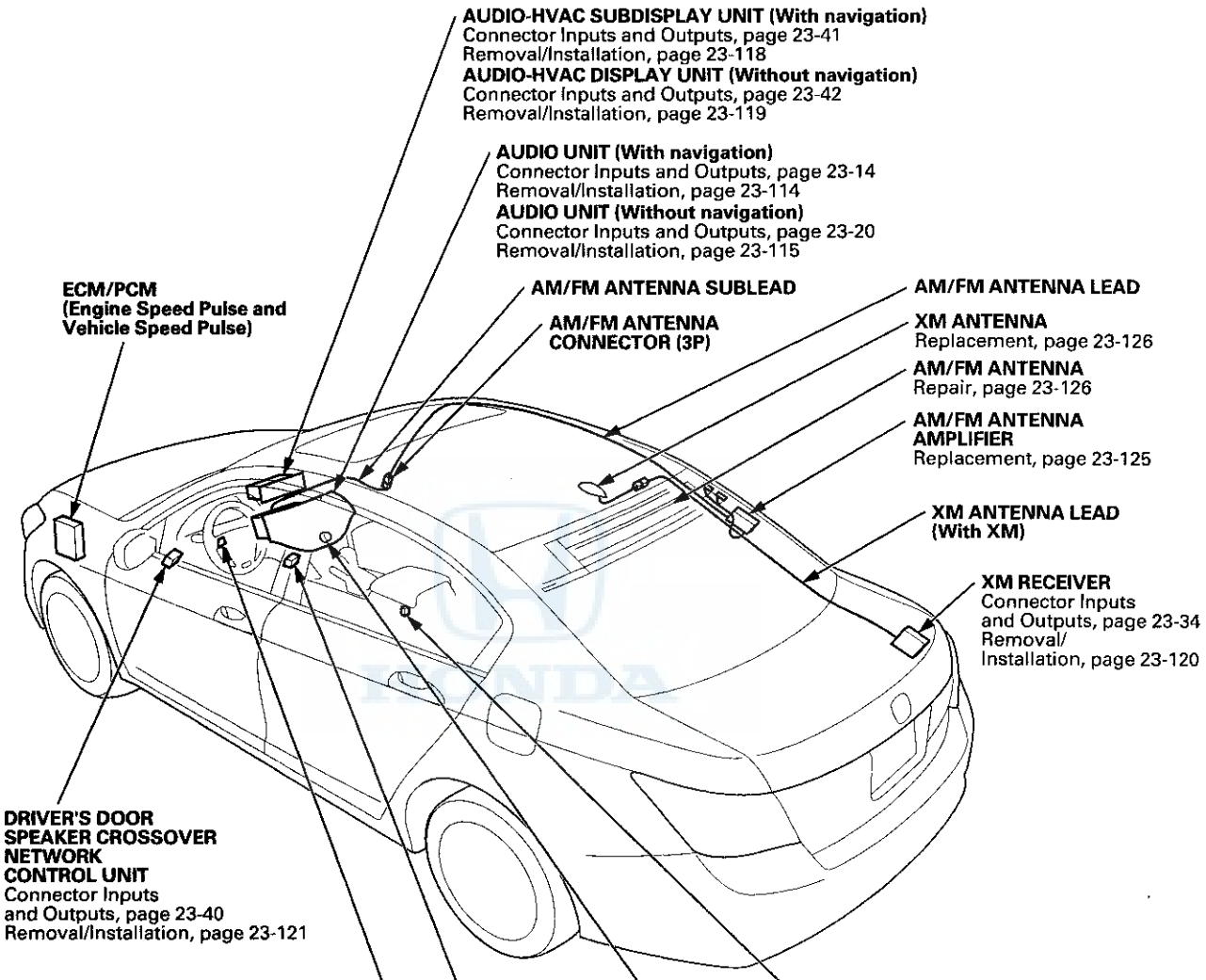
Component Location Index



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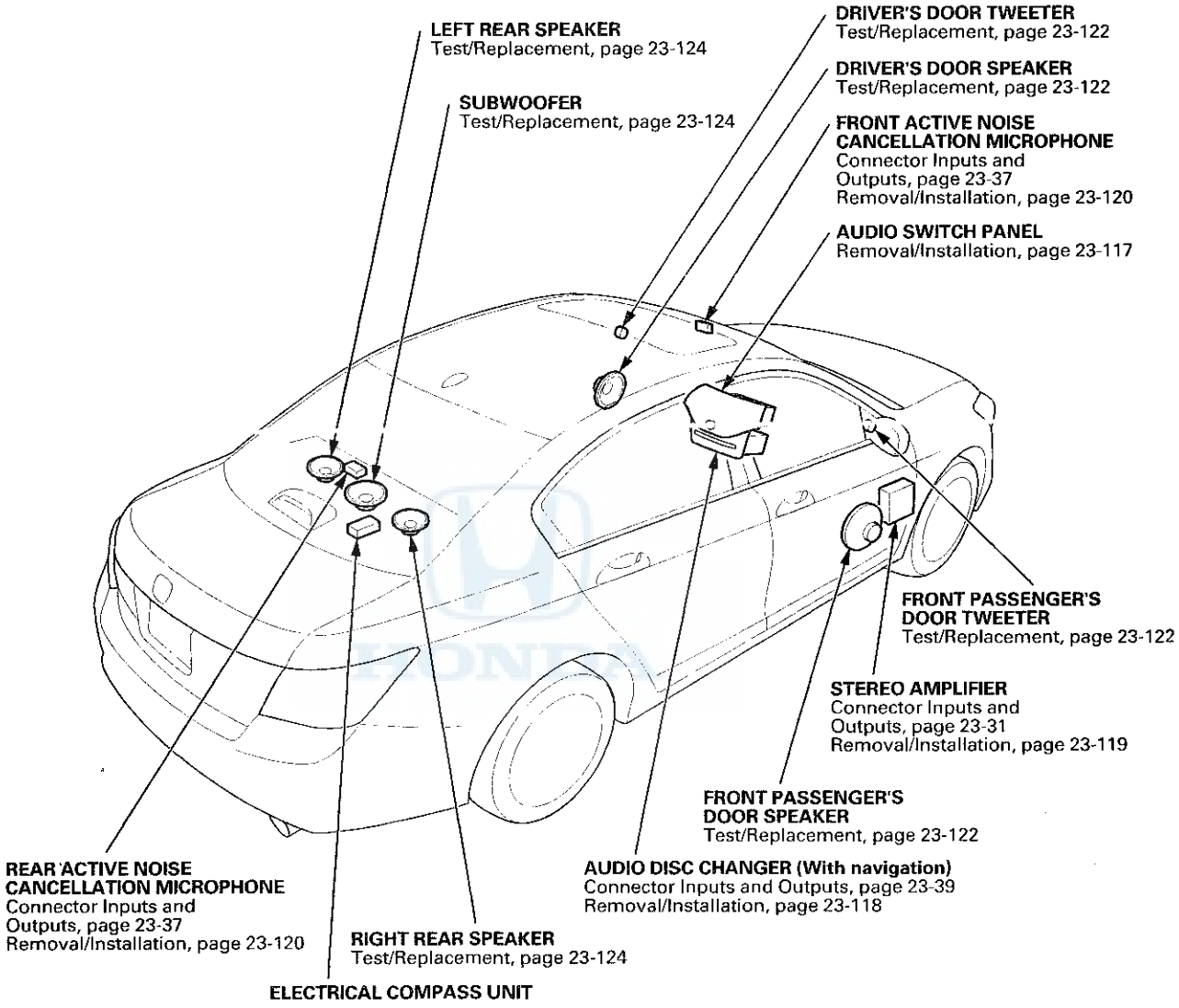
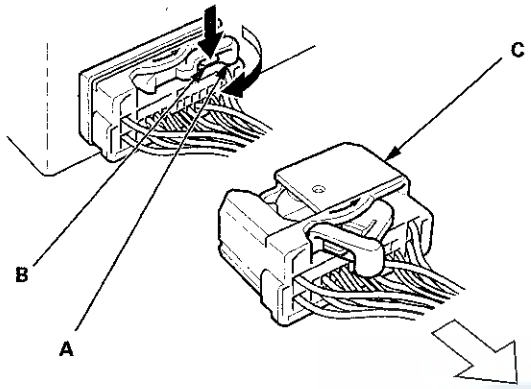


Lever-Locked Connector

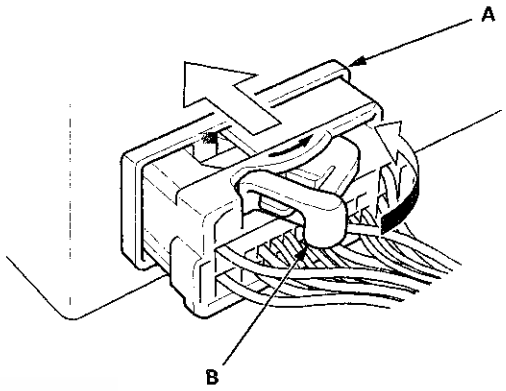
Disconnecting

To disconnect the connector, pull the lever (A) while pushing the lock tab (B) down, then pull the connector (C).



Connecting

To connect the connector, push the connector into the connector sleeve (A). As the connector is pressed in, the lever (B) moves to the locked position.



Audio System

Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
Poor AM or FM radio reception or interference	Symptom Troubleshooting (see page 23-66)	• Antenna lead short or open in the wire • Aftermarket window tinting
Audio unit power switch will not turn on (No information display and no sound)	Symptom Troubleshooting (see page 23-69)	
Audio unit power switch will not turn off	Symptom Troubleshooting (see page 23-70)	
No sound is heard from the speaker(s) (display is normal) (with premium audio)	Symptom Troubleshooting (see page 23-70)	
No sound is heard from the speaker(s) (display is normal) (without premium audio)	Symptom Troubleshooting (see page 23-75)	
Auxiliary input sound is low or cannot be heard	Symptom Troubleshooting (see page 23-77)	
Audio system sound is weak or distorted (display is normal)	Symptom Troubleshooting (see page 23-80)	
Radio preset memory is lost	Symptom Troubleshooting (see page 23-80)	• Battery condition • Battery cable condition
Volume does not change	Symptom Troubleshooting (see page 23-81)	
Volume does not increase with speed	Symptom Troubleshooting (see page 23-81)	
Volume is too high or too low when driving at freeway speeds	Symptom Troubleshooting (see page 23-82)	
Radio tuner does not change stations	Symptom Troubleshooting (see page 23-83)	
Audio system information does not display on the audio-HVAC (sub) display unit	Symptom Troubleshooting (see page 23-83)	B-CAN DTCs; resolve before troubleshooting
Security indicator does not work properly	Symptom Troubleshooting (see page 23-86)	
Audio unit button illumination does not work (1 CD type)	Symptom Troubleshooting (see page 23-86)	
Audio unit button illumination does not work (Except 1 CD type)	Symptom Troubleshooting (see page 23-88)	
Audio remote switch does not work properly	Symptom Troubleshooting (see page 23-88)	
Audio disc does not load	Symptom Troubleshooting (see page 23-90)	
Audio disc does not eject	Symptom Troubleshooting (see page 23-90)	
Audio disc changer does not load all six discs	Symptom Troubleshooting (see page 23-91)	Tire pressure (over-inflated), disc smudged, dirty, or scratched
Audio disc changer does not move between discs	Symptom Troubleshooting (see page 23-91)	
Audio disc does not play	Symptom Troubleshooting (see page 23-92)	Foreign objects such coins or paper inserted into the audio disc changer/CD player
Audio disc skips	Symptom Troubleshooting (see page 23-92)	Tire pressure (over-inflated), disc smudged, dirty, or scratched
Audio unit button does not work	Symptom Troubleshooting (see page 23-93)	
Audio unit disc indicator does not work	Symptom Troubleshooting (see page 23-94)	

Symptom	Diagnostic procedure	Also check for
Booming sound while driving with audio unit on or off	Symptom Troubleshooting (see page 23-94)	
Error code: XM NO SIGNAL is displayed	Symptom Troubleshooting (see page 23-104)	
Error code: XM ANTENNA is displayed	Symptom Troubleshooting (see page 23-105)	
XM radio display is blank and no station information is displayed	Symptom Troubleshooting (see page 23-106)	Also refer to Audio system information does not display on the audio-HVAC (sub) display unit (see page 23-83)
XM radio preset memory is lost	Symptom Troubleshooting (see page 23-108)	
Poor or no sound with XM radio (Audio unit does display XM channels)	Symptom Troubleshooting (see page 23-109)	

Audio System

System Description

Overview

The audio unit acts as the processor for all audio functions. You can select the audio functions from the front panel, the audio remote (on the steering wheel), or by using the navigation voice control system. The audio display provides the current front and rear audio status. For vehicles with navigation, additional audio information is available by touching the audio button. (See the owner's manual for more details.)

The XM receiver and audio disc changer pass their signals is to the audio unit. In addition, they communicate with the audio unit via the GA-Net bus. Any open connections or short in the wiring in the GA-Net bus circuit will cause audio (including the audio accessories) and navigation functions to appear inoperative.

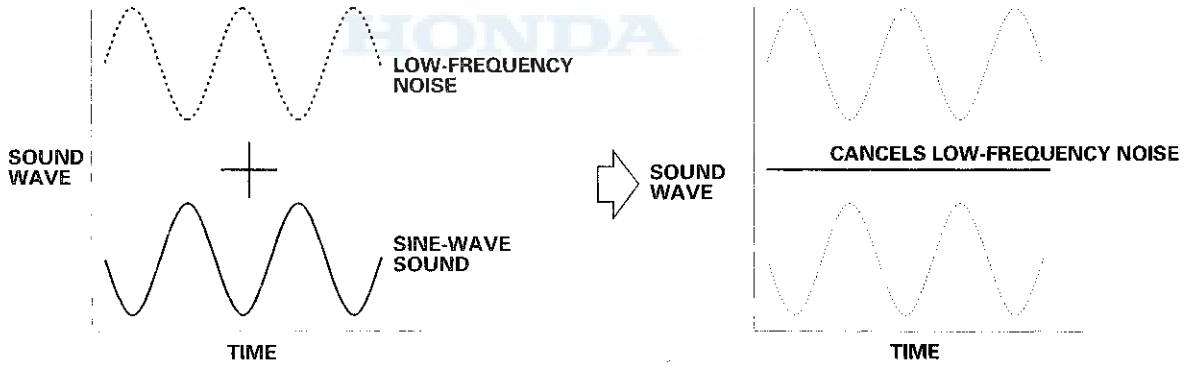
With the premium sound system, an audio amplifier unit powers the speakers, otherwise the speakers are powered directly by the audio unit.

The audio unit has a built-in EEPROM (electrically erasable programmable read-only memory). This memory holds the audio preset data (AM/FM radio frequency, sound settings) even when the battery power is removed.

Active Noise Cancellation (ANC) system

The audio system is equipped with the ANC circuit in the audio unit.

The ANC system works to cancel engine booming sound up to about 2,000 rpm. The audio unit receives the engine speed pulse (NEP) from the ECM/PCM and outputs a sine-wave-sound through the audio speakers to cancel low-frequency noise from the engine. The ANC system also uses two microphones to detect and monitor low frequency noise in the passenger compartment. The microphones feed information back to the audio unit which adjusts the speaker output to reduce the noise. The ANC also receives input from the door open/close (INTR LT) signal from the MICU. Anytime a door is opened, the ANC system temporarily stops working.



Speed-sensitive Volume Compensation (SVC)

The audio system is equipped with speed-sensitive volume compensation (SVC). The audio unit receives the vehicle speed pulse (VSP) from the ECM/PCM. The system processes the speed input and increases the audio system volume level as the vehicle speed increases to compensate for the various interior noises that occur at higher speeds. When the vehicle slows down, the volume returns to its normal level. The SVC has four settings: SVC OFF, LOW, MID and HIGH that can be adjusted using the audio unit. The SVC comes from the factory with MID set as the default (see the owner's manual for more information).

Telematics Muting Logic

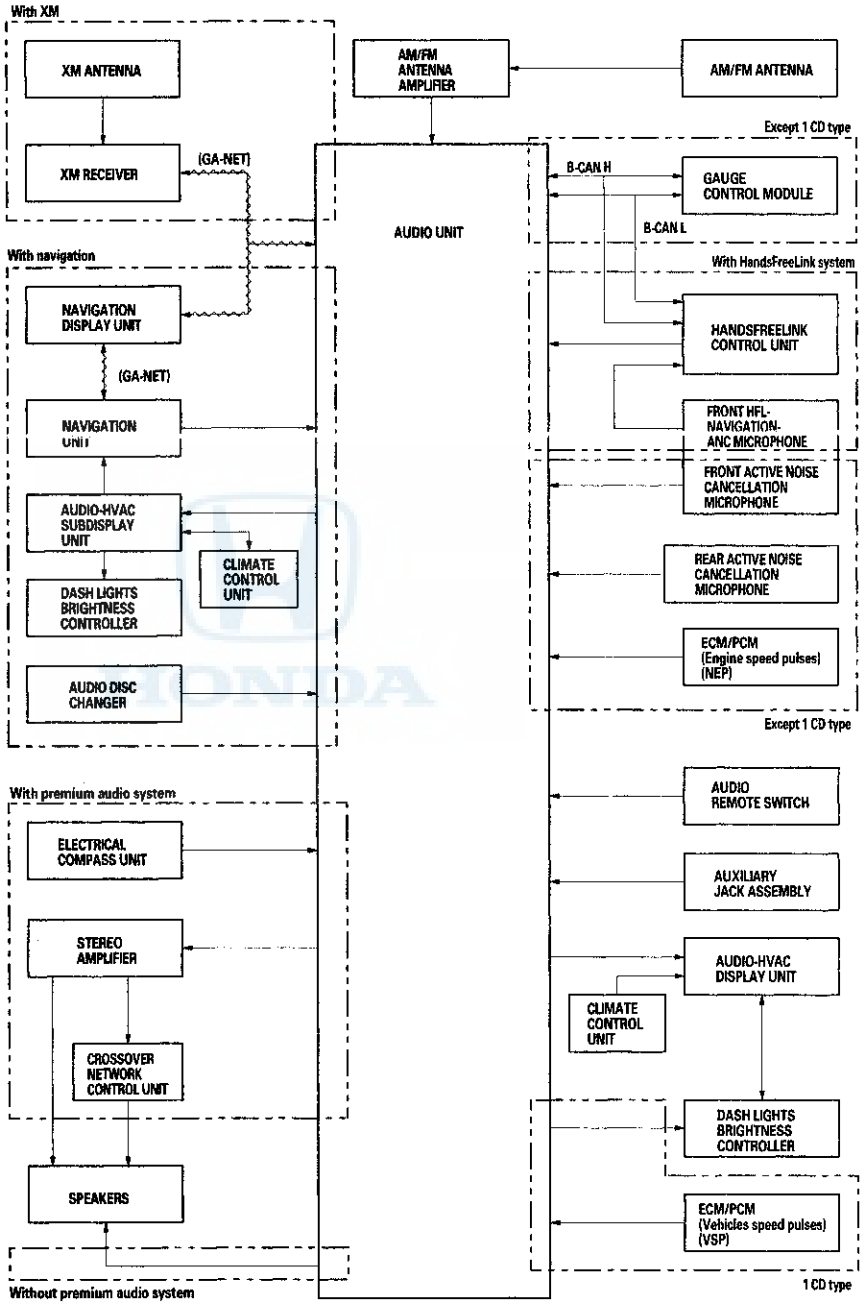
The navigation system allows voice control for the audio, the XM, and the CD player. The navigation system uses the GA-Net bus to communicate the voice control commands to the audio unit. When using the navigation TALK/BACK button, the audio is muted on all speakers and you hear navigation sound on the front channels. When using the navigation or route guidance (RG), the front speakers provides the navigation sound and the rear speakers continue to play the audio. For more information, see the navigation and HFL sections. The outline of the muting logic is shown in this table.

Contents	Audio output				
	Left front CH	Right front CH	Right rear CH	Left rear CH	Subwoofer CH
Navigation TALK/BACK Buttons	Navigation voice output	Navigation voice output	Muted	Muted	Muted
Route Guidance	Navigation voice output	Navigation voice output	Audio	Audio	Audio
HFL	Telephone sound	Telephone sound	MUTE	MUTE	MUTE
HFL and Route Guidance or talk back	Navigation sound	Telephone sound	MUTE	MUTE	MUTE

(cont'd)

System Description (cont'd)

System Diagram



NOTE: All items may not apply to this vehicle. See the owner's manual for more information.

Audio Glossary

Item	Definition
Active noise cancellation	The active noise cancellation system cancels some of the vehicle noise. This occurs in the 1,500—2,400 rpm range. Microphones detect the low frequency sound, and the system outputs a canceling sound from the audio speaker.
Active sound control	The next generation of sound control that eliminated unwanted sound in the passenger compartment.
AM (Amplitude Modulation)	The type of transmission used in the standard radio broadcast band from 530 to 1710 kHz.
Amplifier	A device that increases the level of a signal by increasing the current or voltage.
Antenna	A device used to send or receive electromagnetic waves through the air.
ATA (PC card)	A type of card that has been tested for use in playing WMA and MP3 music files in the PC card slot. Sizes of up to 1 GB have been tested.
Audio remote switch	The switches on the steering wheel that control the audio system.
Auxiliary jack	Allows the customer to use a portable audio device to input audio recordings.
Balance	A control that changes the relative volume of the left and right channels.
Band	A range of frequencies between two definite limits. Bands are assigned by the Federal Communications Commission for specific uses.
Bass	An adjustment for the low frequency sounds of around 160 Hz and below.
Byte	A unit of storage for computer files and memory. A CD holds approximately 700 million bytes.
Cassette	Audio or video magnetic tape container having two reels. Customers can insert it for play back
Compact flash	A standard for small-size (3 x 4 cm), memory cards used in mobile computers, PDAs, and digital cameras. Compact flash memory cards are available in size of 32 MB up to 4 GB or more and can be played in the audio PC slot. Sizes above 1 GB have not been tested.
CD (Compact Disc)	A 4.5-inch plastic disc containing digital audio recording that is played optically on a laser equipped player. Never use discs with a paper label. In a hot vehicle, labels can curl up and jam the unit.
CD (audio disc) changer	CD player that can store and play more than one CD. Two types are available. Some units accept CDs fed into the changer one at a time, and others accept a magazine (with CDs stacked in a container).
CD player	A component designed to play compact disc recordings using a laser optical pickup. The signal from a CD player usually requires amplification.
Decibels (dB)	A method of measuring sound or radio signal strength received by the audio unit antenna.
Distortion	Inexact reproduction of an audio signal caused by playing music at levels the audio system cannot handle. You will typically hear this as static, pops, or crackles.
Dolby (noise reduction)	A processing system developed by Dolby Laboratories that reduces the background noise on recording media. The result is a cleaner playback from the audio system.
DUET	A serial data communication line used for sub display.
DVD (Digital Versatile Disc)	A 4.5-inch CD-like format used for storing movies with digital audio and video features. The DVD-A format is a DVD format designed for DVD audio systems. Some vehicles can play DVD and DVD-A formats.
Equalizer	A device that changes the relative volume of individual frequency bands to suit personal tastes of the listener.
Fader	The control that adjusts the relative volume levels of front and rear speakers in a four-speaker system.
Format	To prepare a PC card to receive files this function is done on a PC. Always choose either FAT or FAT32, as the NTFS format is not accepted by the system. Pick the default sectors for the format method selected.

(cont'd)

System Description (cont'd)

Audio Glossary (cont'd)

Item	Definition
FM (Frequency Modulation)	The form of modulation used for radio and television sound transmission in most of the world. Less prone to interference than AM. The FM broadcast band in North America covers roughly 87.7 to 107.9 MHz.
GA-Net	The GA-Net allows the audio unit to communicate with all the audio and navigation components in a vehicle. If there is an open in the GA-Net or components the entire audio and navigation system may appear inoperative.
GB (Gigabyte)	A unit of memory or disc storage equal to one billion bytes (1000 million bytes).
HDD	Abbreviation for hard disc drive. They are sensitive to heat and it is not recommended that they be used in the PC card slot for playing audio files.
Hertz (Hz)	The unit of frequency equal to one cycle per second (cps). One kilohertz (kHz) equals 1,000 cps; one megahertz (MHz) equals 1 million cps.
Integrated amplifier	A component that combines a pre amp and a power amp into a single unit. A receiver combines an integrated amp and a tuner into a single unit.
Jewel case	The hard plastic case that contains a compact disc or DVD. Always use a jewel case to prevent scratches on the underside of a CD or DVD.
LCD (Liquid Crystal Display)	A type of digital display that changes reflectance or transmittance when an electrical field is applied to it.
Memory	Circuitry or devices that hold information in electrical or magnetic form, such as the AM/FM radio presets.
MB (Megabyte)	One million bytes. Written as 1 MB. Megabytes are used as a measure of digital storage space. For example, a CD can hold 650 MB.
Mic	An abbreviation for microphone. For vehicles with navigation, the microphone accepts navigation voice commands to control audio and navigation functions.
MP3 music files	MP3 is an audio coding format. MP3 is a popular audio compression format on the Internet and computers. CDs and PC cards with these files can be played on some vehicle's audio system.
Mute	When the navigation gives guidance, the front speakers are muted (no music). When you use the voice control system, all of the speakers are muted.
Noise	Unwanted random sounds like buzzing, hiss, pops, static, whine, etc.
PC card	The slot used for playing MP3 and WMA music files. The PC card is usually a combination of a small flash card in a PCMCIA adaptor that slides into the slot. The ATA, SD, and compact flash types of cards have been tested up to 1 GB.
PCMCIA	A computer standard for the slot that the PC card slides into. Another term for the PC card slot.
Processor	The part of an audio device that performs tasks/calculations. In the audio unit, the processor handles muting to allow the navigation system to speak its voice commands, and the decoding/playback of the sound files, etc.
Radio	A head unit that combines a tuner, a preamplifier, and often a power-amplifier.
Route guidance (RG)	Spoken voice used for turn-by-turn navigation from the audio speakers.
CSF (Cold Start Fix) screens	These screens are displayed if the system requires a GPS initialization. The vehicle should be moved outside into an open area away from buildings/power lines.
Stereo	A recording of at least two channels where you can hear sound or music from the left or right side.
SD (Secure Digital) card	This compact type of memory card allows for fast data transfer and has built-in security functions. SD cards have a small write-protection switch on the side.
Shield	A metallic foil or braided wire layer surrounding conductors which are designed to prevent electrostatic or electromagnetic interference (noise) from external sources which you hear as buzzing or popping sounds which you hear on the speakers.
Speaker (Loudspeaker)	A device that converts electrical energy into acoustical energy (sound).
Speed-sensitive volume compensation (SVC)	The SVC increases the audio volume to compensate for increased interior noise when the vehicle drivers at freeway speeds.
Subwoofer	A loudspeaker made to reproduce the lowest audio frequencies, from about 25 Hz to 125 Hz.
Track	A sound recording on a CD, tape, or PC card.

Audio Glossary (cont'd)

Item	Definition
Treble	An adjustment to control the volume of the high frequency sounds.
Tuner	A component (or part of a component) that receives radio signals and selects one broadcast from many.
Tweeter	A speaker designed to reproduce the higher frequencies (treble) only.
USB	Universal Serial Bus. The USB is used for playing audio files (MP3, WMA, and AAC) on the external device through the audio unit.
USB jack	Allows the clients to play data such as input audio recording from portable audio devices (such as i-Pod) or data from USB flash memory.
Voice coil	A coil of wire wrapped around a tube and then attached to the speaker cone or diaphragm. When an audio signal is applied, the coil becomes an electromagnet and interacts with the permanent magnet causing the cone or diaphragm to vibrate. We interpret these vibrations as sound.
Volume control	Allows you to control the loudness of the music.
WMA music file	Windows Media Audio File. This is an accepted format for music files to be played on either a CD-R, a CD-RW, or a PC card.
Woofer	A speaker that is designed to reproduce low (bass) frequencies only.
XM radio	Satellite based radio transmission, which also uses a ground based repeater network to ensure seamless reception. The channels originate from XM's broadcast center, in Washington DC, and uplink to two satellites. These satellites transmit the signal across the entire continental United States.
XM receiver	The external component that receives and processes the XM signals from the XM satellites, and terrestrial (land) stations. The audio unit communicates to the XM receiver over the GA-Net bus.

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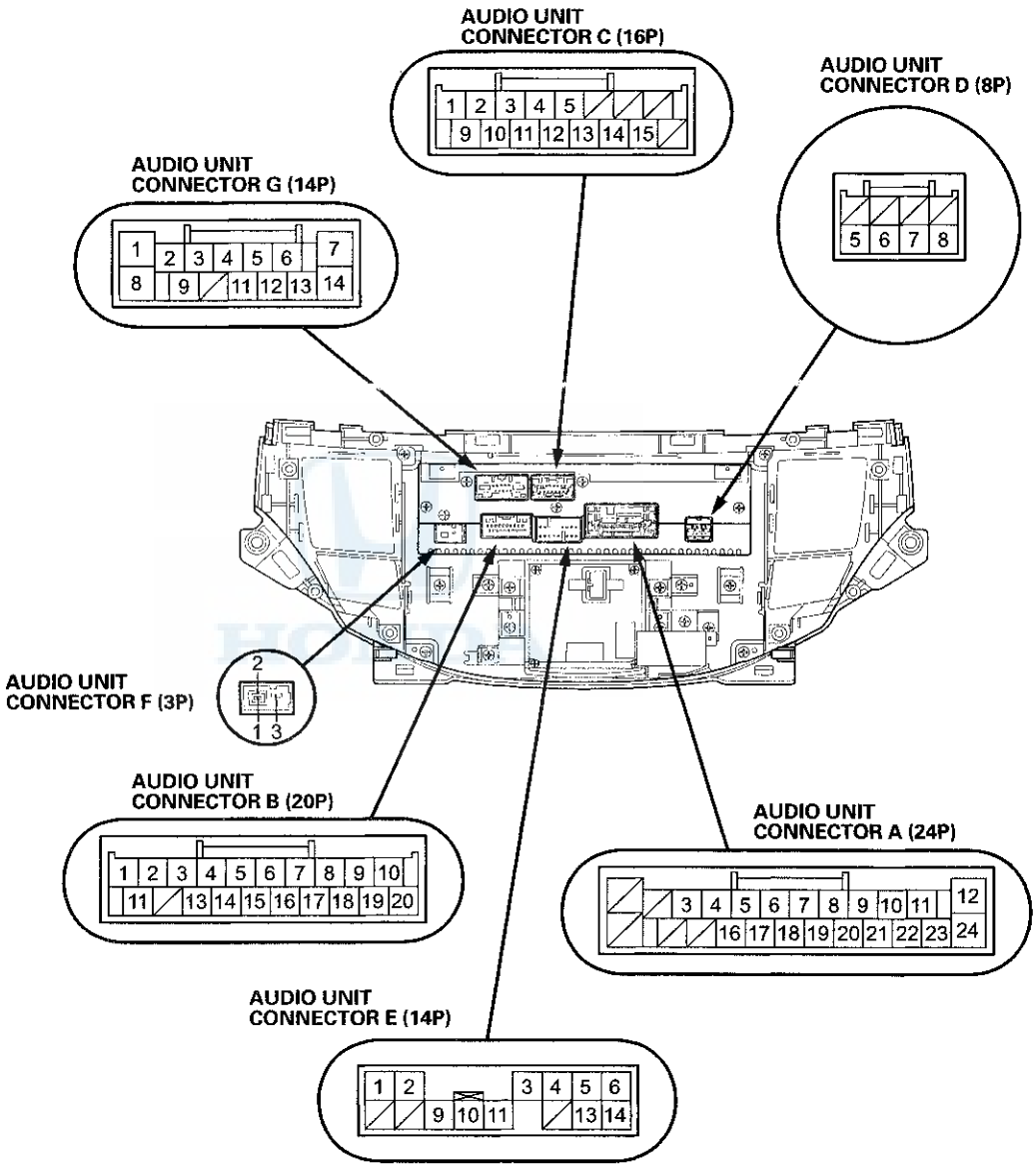
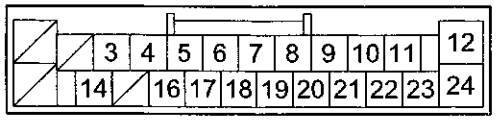
System Description (cont'd)

Audio Unit Connector for Inputs and Outputs

Premium Audio System with navigation



AUDIO UNIT CONNECTOR A (24P)



Terminal side of male terminals

Audio Unit Connector A (24P)

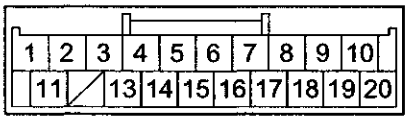
Cavity	Wire	Connects to
A3	LT BLU	Data link connector (DLC) (K-LINE)
A4	YEL	Navigation display unit (SCTY)
A5	BRN	Audio remote switch ground (REMOTE GND)
A6	RED	Stereo amplifier (RR PRE−)
A7	GRN	Stereo amplifier (RR PRE+)
A8	GRY*	Stereo amplifier (SH RR GND)
A9	GRY*	Stereo amplifier (SH RL GND)
A10	RED	Stereo amplifier (RL PRE−)
A11	GRN	Stereo amplifier (RL PRE+)
A12	BRN	Ground (G402) (MAIN GND)
A14	PUR	Audio power supply (ACC)
A16	PNK	Audio remote switch (REMOTE)
A17	WHT	Stereo amplifier (SWD +B)
A18	RED	Stereo amplifier (FR PRE−)
A19	GRN	Stereo amplifier (FR PRE+)
A20	GRY*	Stereo amplifier (SH FR GND)
A21	GRY*	Stereo amplifier (SH FL GND)
A22	RED	Stereo amplifier (FL PRE−)
A23	GRN	Stereo amplifier (FL PRE+)
A24	WHT	Constant power (+B)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

System Description (cont'd)

AUDIO UNIT CONNECTOR B (20P)



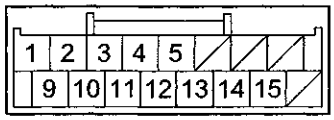
Terminal side of male terminals

Audio Unit Connector B (20P)

Cavity	Wire	Connects to
B1	GRN	Navigation unit (NAVI GND)
B2	GRY*	Navigation unit (NAVI SH GND)
B3	BLK	Auxiliary jack assembly (AUX SIG GND)
B4	GRY*	Auxiliary jack assembly (AUX SH GND)
B5	YEL	Auxiliary jack assembly (AUX GND)
B6	RED	Audio-HVAC subdisplay unit (DUET TX (UART))
B7	GRN	Audio-HVAC subdisplay unit (DUET RX (UART))
B8	BLU	B-CAN bus communication (B-CAN L)
B9	RED	HandsFreeLink control unit (TELM SIG−)
B10	GRY*	HandsFreeLink control unit (TELM SIG SH)
B11	RED	Navigation unit (NAVI L CH)
B13	RED	Auxiliary jack assembly (AUX L SH)
B14	WHT	Auxiliary jack assembly (AUX R SH)
B15	GRY	Auxiliary jack assembly (AUX DET)
B16	BLK*	Audio-HVAC subdisplay unit (SH DUET GND)
B17	BLU	Audio-HVAC subdisplay unit (DUET CONT)
B18	PNK	B-CAN bus communication (B-CAN H)
B19	GRN	HandsFreeLink control unit (TELM SIG+)
B20	LT GRN	HandsFreeLink control unit, Front HFL-navigation-ANC microphone (HFL MUTE)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

AUDIO UNIT CONNECTOR C (16P)



Terminal side of male terminals

Audio Unit Connector C (16P)

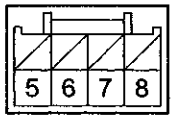
Cavity	Wire	Connects to
C1	GRN	Stereo amplifier (ANC R−)
C2	BLK	Stereo amplifier (ANC R+)
C3	GRY*	Stereo amplifier (SH ANC GND)
C4	WHT	Front active noise cancellation microphone (ANC F MIC 8 V)
C5	BLU	Rear active noise cancellation microphone (ANC R MIC 8 V)
C9	WHT	Stereo amplifier (ANC F−)
C10	RED	Stereo amplifier (ANC F+)
C11	BLK*	Front active noise cancellation microphone (SH ANCM F GND)
C12	BLK*	Rear active noise cancellation microphone (SH ANCM R GND)
C13	BRN	Not used
C14	LT BLU	Not used
C15	YEL	ECM/PCM (ENGINE SPEED PULSE) (NEP)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

System Description (cont'd)

AUDIO UNIT CONNECTOR D (8P)



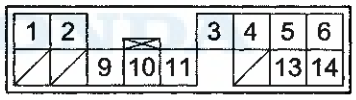
Terminal side of male terminals

Audio Unit Connector D (8P)

Cavity	Wire	Connects to
D5	LT GRN	Stereo amplifier (AMP MUTE)
D6	RED	Stereo amplifier (SUBW PRE−)
D7	BLK*	Stereo amplifier (SH SUBW GND)
D8	GRN	Stereo amplifier (SUBW PRE+)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

AUDIO UNIT CONNECTOR E (14P)



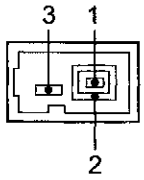
Terminal side of male terminals

Audio Unit Connector E (14P)

Cavity	Wire	Connects to
E1	WHT	XM receiver (+B)
E2	LT BLU	XM receiver (SYS ON)
E3	GRY*	XM receiver (GA-NET BUS SH)
E4	GRY*	XM receiver (AUDIO SH)
E5	GRN	XM receiver (AUDIO R+)
E6	BLK	XM receiver (AUDIO L+)
E9	RED	XM receiver (GA-NET BUS+)
E10	GRN	XM receiver (GA-NET BUS−)
E11	BLK	XM receiver (GND)
E13	WHT	XM receiver (AUDIO R−)
E14	RED	XM receiver (AUDIO L−)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

AUDIO UNIT CONNECTOR F (3P)

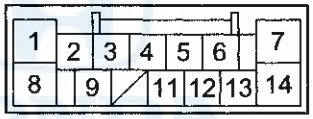


Terminal side of male terminals

Audio Unit Connector F (3P)

Cavity	Wire	Connects to
F1	———	AM/FM antenna amplifier (RF IN)
F2	———	AM/FM antenna amplifier (RF SH)
F3	———	AM/FM antenna amplifier (ANT +B)

AUDIO UNIT CONNECTOR G (14P)



Terminal side of male terminals

Audio Unit Connector G (14P)

Cavity	Wire	Connects to
G1	WHT	Audio disc changer (6CD ILL−)
G2	RED	Audio disc changer (6 CD GA-NET BUS−)
G3	GRY*	Audio disc changer (6 CD GA-NET BUS SH)
G4	WHT	Audio disc changer (6 CD AUDIO L−)
G5	GRN	Audio disc changer (6 CD AUDIO R−)
G6	GRY*	Audio disc changer (6 CD AUDIO SH)
G7	BLK	Audio disc changer (6 CD GND)
G8	BLU	Audio disc changer (6CD ILL+)
G9	GRN	Audio disc changer (6 CD GA-NET BUS+)
G11	RED	Audio disc changer (6 CD AUDIO L+)
G12	BLK	Audio disc changer (6 CD AUDIO R+)
G13	LT BLU	Audio disc changer (6 CD SYS ON)
G14	ORN	Audio disc changer (6 CD +B)

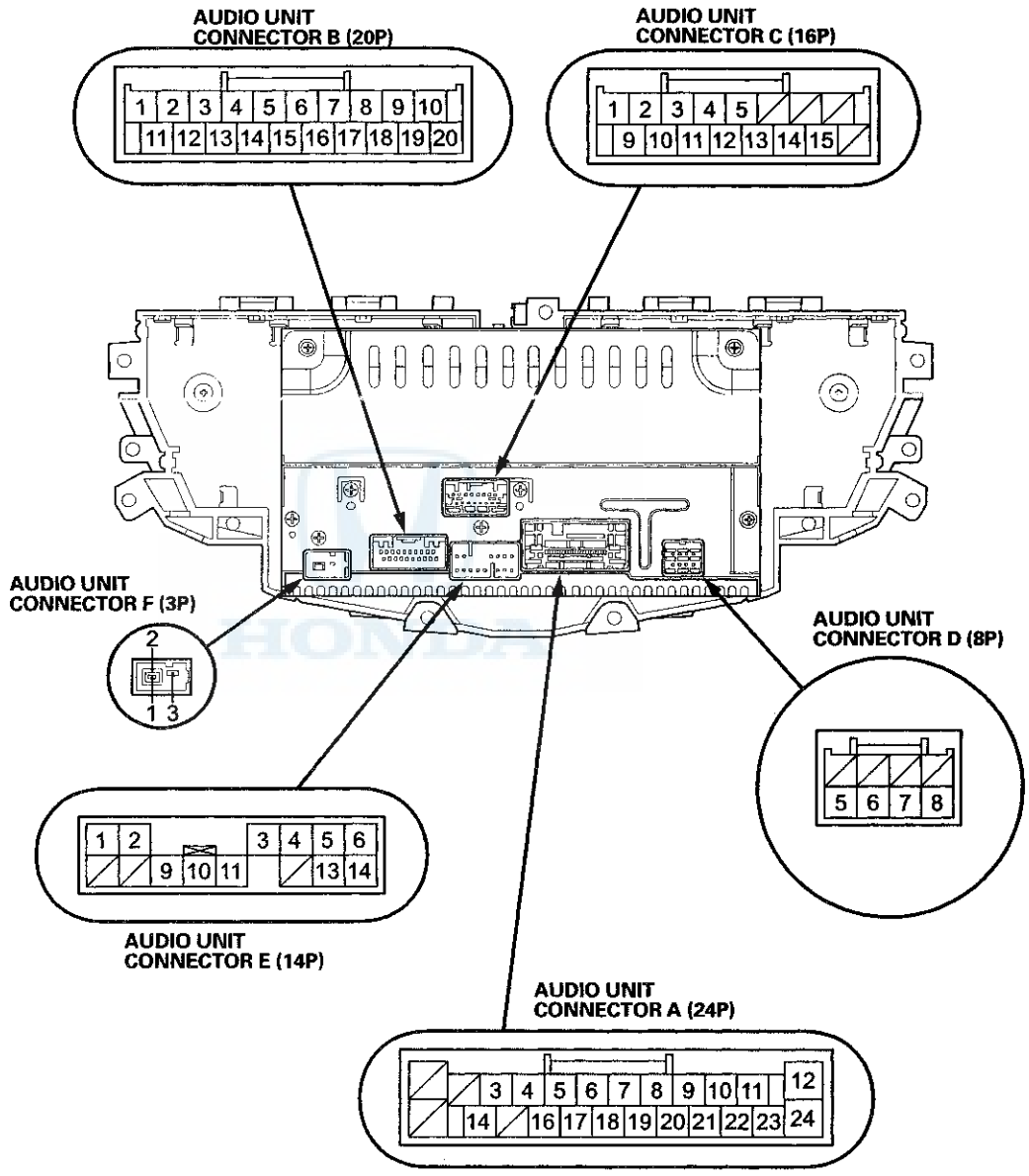
*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

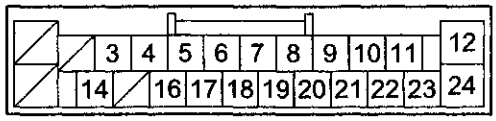
System Description (cont'd)

Audio Unit Connector for Inputs and Outputs

Premium Audio System without Navigation



AUDIO UNIT CONNECTOR A (24P)



Terminal side of male terminals

Audio Unit Connector A (24P)

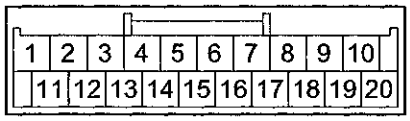
Cavity	Wire	Connects to
A3	LT BLU	Data link connector (DLC) (K-LINE)
A4	GRN	Passenger's MICU (SCTY)
A5	BRN	Audio remote switch ground (REMOTE GND)
A6	RED	Stereo amplifier (RR PRE−)
A7	GRN	Stereo amplifier (RR PRE+)
A8	GRY*	Stereo amplifier (SH RR GND)
A9	GRY*	Stereo amplifier (SH RL GND)
A10	RED	Stereo amplifier (RL PRE−)
A11	GRN	Stereo amplifier (RL PRE+)
A12	BRN	Ground (G402) (MAIN GND)
A14	PUR	Audio power supply (ACC)
A16	PNK	Audio remote switch (REMOTE)
A17	WHT	Stereo amplifier (SWD +B)
A18	RED	Stereo amplifier (FR PRE−)
A19	GRN	Stereo amplifier (FR PRE+)
A20	GRY*	Stereo amplifier (SH FR GND)
A21	GRY*	Stereo amplifier (SH FL GND)
A22	RED	Stereo amplifier (FR PRE−)
A23	GRN	Stereo amplifier (FR PRE+)
A24	WHT	Constant power (+B)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

System Description (cont'd)

AUDIO UNIT CONNECTOR B (20P)



Terminal side of male terminals

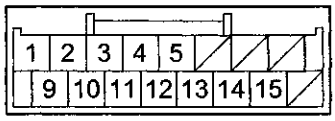
Audio Unit Connector B (20P)

Cavity	Wire	Connects to
B1	RED	Electrical compass unit (COMPASS TX−)
B2	ORN	Electrical compass unit (COMPASS TX+)
B3	BLK	Auxiliary jack assembly (AUX SIG GND)
B4	GRY*1	Auxiliary jack assembly (AUX SH GND)
B5	YEL	Auxiliary jack assembly (AUX GND)
B6	RED	Audio-HVAC display unit (DUET TX (UART))
B7	GRN	Audio-HVAC display unit (DUET RX (UART))
B8	BLU	B-CAN bus communication (B-CAN L)
B9*2	RED	HandsFreeLink control unit (TELM SIG−)
B10*2	GRY*1	HandsFreeLink control unit (TELM SIG SH)
B11	PNK	Electrical compass unit (COMPASS RX−)
B12	LT BLU	Electrical compass unit (COMPASS RX+)
B13	RED	Auxiliary jack assembly (AUX L CH)
B14	WHT	Auxiliary jack assembly (AUX R CH)
B15	GRY	Auxiliary jack assembly (AUX DET)
B16	BLK*1	Audio-HVAC display unit (SH DUET GND)
B17	BLU	Audio-HVAC display unit (DUET CONT)
B18	PNK	B-CAN bus communication (B-CAN H)
B19*2	GRN	HandsFreeLink control unit (TELM SIG+)
B20*2	LT GRN	HandsFreeLink control unit, Front HFL-ANC microphone (HFL MUTE)

*1: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

*2: With HandsFreeLink system

AUDIO UNIT CONNECTOR C (16P)



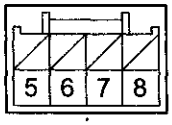
Terminal side of male terminals

Audio Unit Connector C (16P)

Cavity	Wire	Connects to
C1	GRN	Stereo amplifier (ANC R−)
C2	BLK	Stereo amplifier (ANC R+)
C3	GRY*	Stereo amplifier (SH ANC GND)
C4	WHT	Front active noise cancellation microphone (ANC F MIC 8 V)
C5	BLU	Rear active noise cancellation microphone (ANC R MIC 8 V)
C9	WHT	Stereo amplifier (ANC F−)
C10	RED	Stereo amplifier (ANC F+)
C11	BLK*	Front active noise cancellation microphone (SH ANCM F GND)
C12	BLK*	Rear active noise cancellation microphone (SH ANCM R GND)
C13	BRN	Not used
C14	LT BLU	Not used
C15	YEL	ECM/PCM (ENGINE SPEED PULSE) (NEP)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

AUDIO UNIT CONNECTOR D (8P)



Terminal side of male terminals

Audio Unit Connector D (8P)

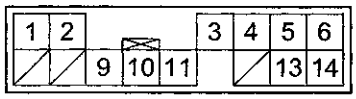
Cavity	Wire	Connects to
D5	LT GRN	Stereo amplifier (AMP MUTE)
D6	RED	Stereo amplifier (SUBW PRE−)
D7	BLK*	Stereo amplifier (SH SUBW GND)
D8	GRN	Stereo amplifier (SUBW PRE+)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

System Description (cont'd)

AUDIO UNIT CONNECTOR E (14P)



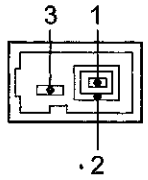
Terminal side of male terminals

Audio Unit Connector E (14P)

Cavity	Wire	Connects to
E1	WHT	XM receiver (+B)
E2	LT BLU	XM receiver (SYS ON)
E3	GRY*	XM receiver (GA-NET BUS SH)
E4	GRY*	XM receiver (AUDIO SH)
E5	GRN	XM receiver (AUDIO R+)
E6	BLK	XM receiver (AUDIO L+)
E9	RED	XM receiver (GA-NET BUS+)
E10	GRN	XM receiver (GA-NET BUS−)
E11	BLK	XM receiver (GND)
E13	WHT	XM receiver (AUDIO R−)
E14	RED	XM receiver (AUDIO L−)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

AUDIO UNIT CONNECTOR F (3P)



Terminal side of male terminals

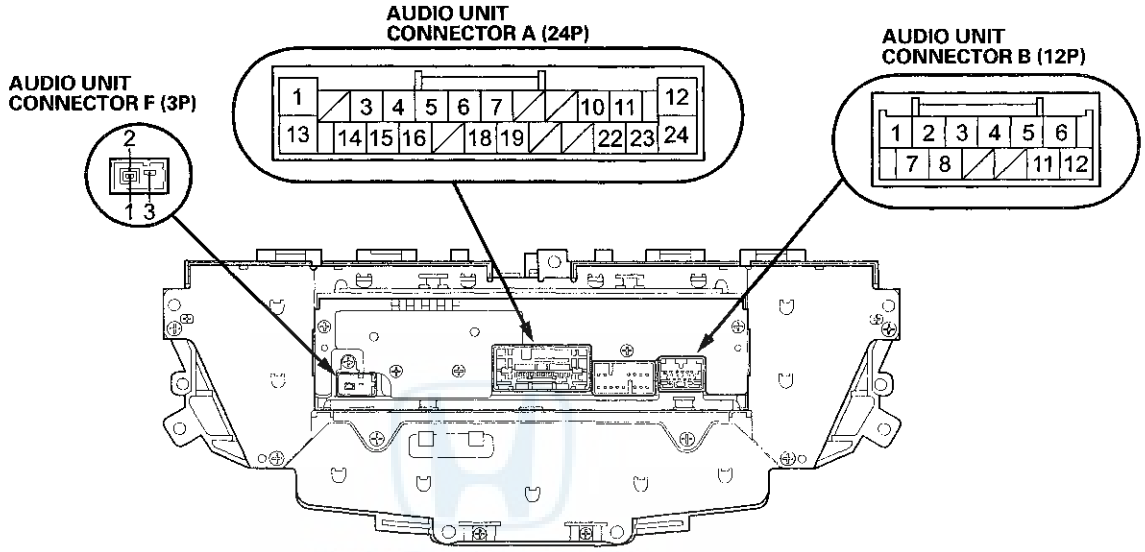
Audio Unit Connector F (3P)

Cavity	Wire	Connects to
F1	———	AM/FM antenna amplifier (RF IN)
F2	———	AM/FM antenna amplifier (RF SH)
F3	———	AM/FM antenna amplifier (ANT +B)

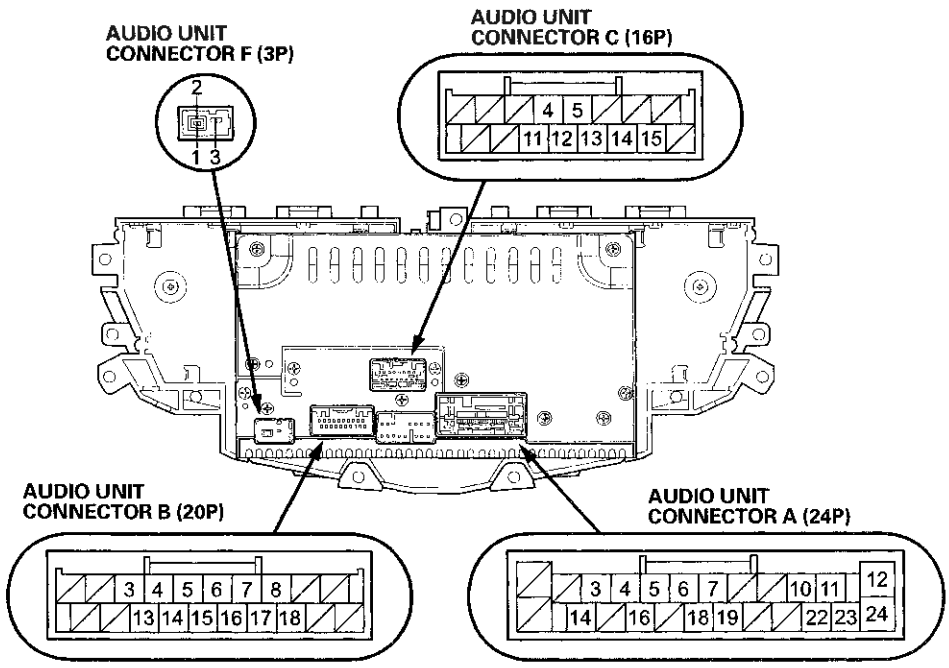
Audio Unit Connector for Inputs and Outputs

Without Premium Audio System

1 CD type



6 CD type



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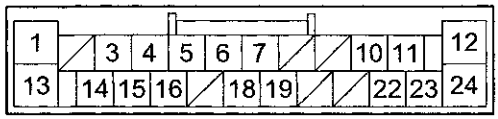
System Description (cont'd)

AUDIO UNIT CONNECTOR A (24P) (1 CD Type)

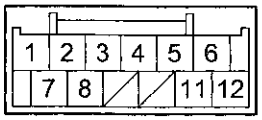


Terminal side of male terminals

Audio Unit Connector A (24P) (1 CD Type)

Cavity	Wire	Connects to
A1	RED	Dashlights brightness controller (ILL−BULB)
A3	LT BLU	Data link connector (DLC) (K-LINE)
A4	GRN	Passenger's MICU (SCTY)
A5	BRN	Audio remote switch ground (REMOTE GND)
A6	ORN	Right rear speaker (RR SP−)
A7	BLU	Right rear speaker (RR SP+)
A10	BRN	Left rear speaker (RL SP−)
A11	YEL	Left rear speaker (RL SP+)
A12	BRN	Ground (G402) (MAIN GND)
A13	GRY	Lights-on signal (ILL+)
A14	PUR	Audio power supply (ACC)
A15	BLU	ECM/PCM (Vehicle speed signal) (VSP)
A16	PNK	Audio remote switch (REMOTE)
A18	RED	Front passenger's door speaker (−), Front passenger's door tweeter (−) (FR SP−)
A19	GRY	Front passenger's door speaker (+), Front passenger's door tweeter (+) (FR SP+)
A22	PNK	Driver's door speaker (−), Driver's door tweeter (−) (FL SP−)
A23	LT GRN	Driver's door speaker (+), Driver's door tweeter (+) (FL SP+)
A24	WHT	Constant power (+B)

AUDIO UNIT CONNECTOR B (12P) (1 CD Type)



Terminal side of male terminals

Audio Unit Connector B (12P) (1 CD Type)

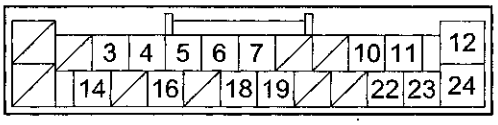
Cavity	Wire	Connects to
B1	BLK	Auxiliary jack assembly (AUX SIG GND)
B2	GRY*	Auxiliary jack assembly (AUX SH GND)
B3	YEL	Auxiliary jack assembly (AUX GND)
B4	GRY	Auxiliary jack assembly (AUX DET)
B5	BLK*	Audio-HVAC display unit (SH DUET GND)
B6	RED	Audio-HVAC display unit (DUET TX (UART))
B7	RED	Auxiliary jack assembly (AUX L CH)
B8	WHT	Auxiliary jack assembly (AUX R CH)
B11	BLU	Audio-HVAC display unit (DUET CONT)
B12	GRN	Audio-HVAC display unit (DUET RX (UART))

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

System Description (cont'd)

AUDIO UNIT CONNECTOR A (24P) (6 CD Type)

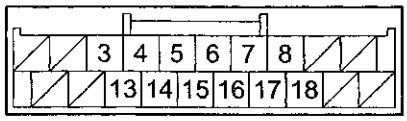


Terminal side of male terminals

Audio Unit Connector A (24P) (6 CD Type)

Cavity	Wire	Connects to
A3	LT BLU	Data link connector (DLC) (K-LINE)
A4	GRN	Passenger's MICU (SCTY)
A5	BRN	Audio remote switch ground (REMOTE GND)
A6	ORN	Right rear speaker (RR SP−)
A7	BLU	Right rear speaker (RR SP+)
A10	BRN	Left rear speaker (RL SP−)
A11	YEL	Left rear speaker (RL SP+)
A12	BRN	Ground (G402) (MAIN GND)
A14	PUR	Audio power supply (ACC)
A16	PNK	Audio remote switch (REMOTE)
A18	RED	Front passenger's door speaker (−), Front passenger's door tweeter (−) (FR SP−)
A19	GRY	Front passenger's door speaker (+), Front passenger's door tweeter (+) (FR SP+)
A22	PNK	Driver's door speaker (−), Driver's door tweeter (−) (FL SP−)
A23	LT GRN	Driver's door speaker (+), Driver's door tweeter (+) (FL SP+)
A24	WHT	Constant power (+B)

AUDIO UNIT CONNECTOR B (20P) (6 CD Type)



Terminal side of male terminals

Audio Unit Connector B (20P) (6 CD Type)

Cavity	Wire	Connects to
B3	BLK	Auxiliary jack assembly (AUX SIG GND)
B4	GRY*	Auxiliary jack assembly (AUX SH GND)
B5	YEL	Auxiliary jack assembly (AUX GND)
B6	RED	Audio-HVAC display unit (DUET TX (UART))
B7	GRN	Audio-HVAC display unit (DUET RX (UART))
B8	BLU	B-CAN bus communication (B-CAN L)
B13	RED	Auxiliary jack assembly (AUX L CH)
B14	WHT	Auxiliary jack assembly (AUX R CH)
B15	GRY	Auxiliary jack assembly (AUX DET)
B16	BLK*	Audio-HVAC display unit (SH DUET GND)
B17	BLU	Audio-HVAC display unit (DUET CONT)
B18	PNK	B-CAN bus communication (B-CAN H)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

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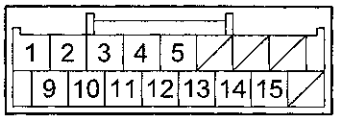
System Description (cont'd)

AUDIO UNIT CONNECTOR C (16P) (6 CD Type)



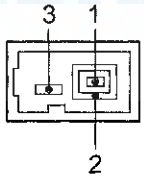
Terminal side of male terminals

Audio Unit Connector C (16P) (6 CD Type)

Cavity	Wire	Connects to
C4	WHT	Front active noise cancellation microphone (ANC F MIC 8 V)
C5	BLU	Rear active noise cancellation microphone (ANC R MIC 8 V)
C11	BLK*	Front active noise cancellation microphone (SH ANCM F GND)
C12	BLK*	Rear active noise cancellation microphone (SH ANCM R GND)
C13	BRN	Not used
C14	LT BLU	Not used
C15	YEL	ECM/PCM (ENGINE SPEED PULSE) (NEP)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

AUDIO UNIT CONNECTOR F (3P)

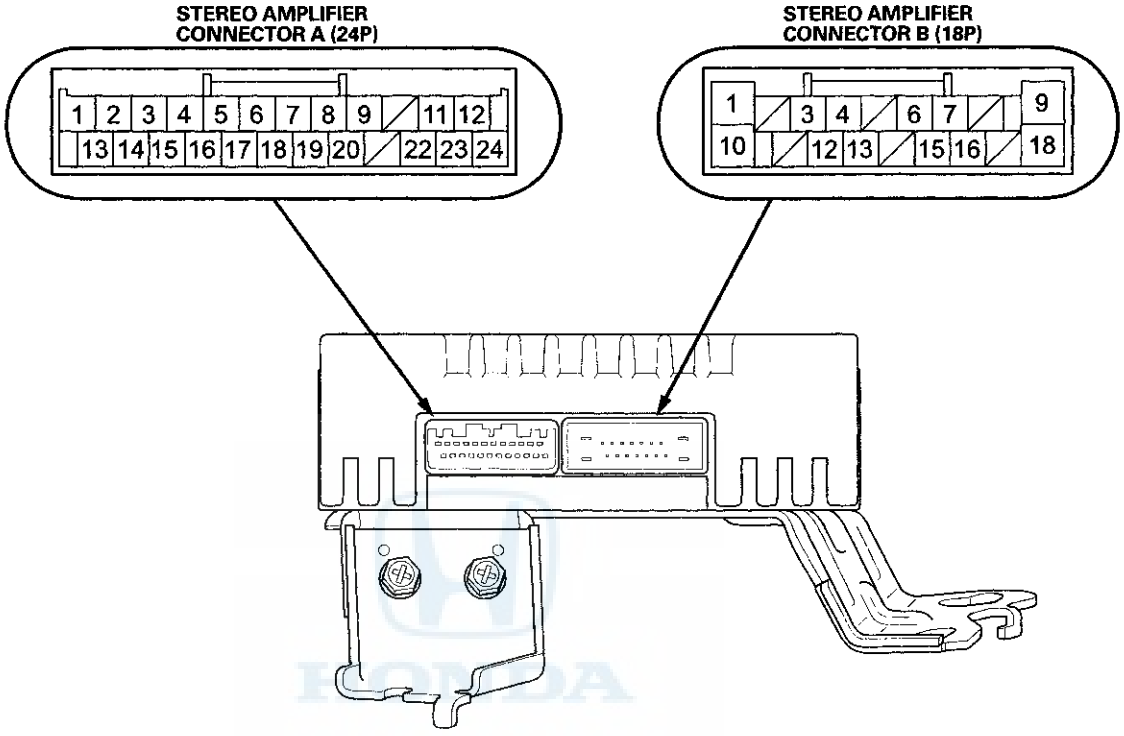


Terminal side of male terminals

Audio Unit Connector F (3P)

Cavity	Wire	Connects to
F1	———	AM/FM antenna amplifier (RF IN)
F2	———	AM/FM antenna amplifier (RF SH)
F3	———	AM/FM antenna amplifier (ANT +B)

Stereo Amplifier Connector for Inputs and Outputs (With Premium Audio System)



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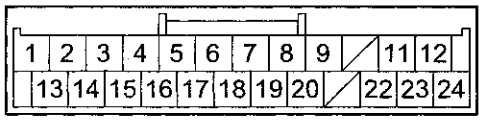
System Description (cont'd)

STEREO AMPLIFIER CONNECTOR A (24P)



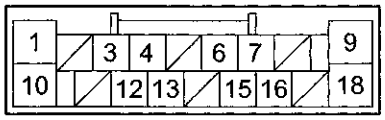
Terminal side of male terminals

Stereo Amplifier Connector A (24P)

Cavity	Wire	Connects to
A1	BRN	Ground (G402) (GND)
A2	RED	Audio unit (FL PRE−)
A3	GRY*	Audio unit (SH FL GND)
A4	RED	Audio unit (RL PRE−)
A5	RED	Audio unit (FR PRE−)
A6	GRY*	Audio unit (SH FR GND)
A7	RED	Audio unit (RR PRE−)
A8	RED	Audio unit (SUBW PRE−)
A9	BLK*	Audio unit (SH SUBW GND)
A11	WHT	Audio unit (ANC F−)
A12	GRN	Audio unit (ANC R−)
A13	LT GRN	Audio unit (AMP MUTE)
A14	GRN	Audio unit (FL PRE+)
A15	GRY*	Audio unit (SH RL GND)
A16	GRN	Audio unit (RL PRE+)
A17	GRN	Audio unit (FR PRE+)
A18	GRY*	Audio unit (SH RR GND)
A19	GRN	Audio unit (RR PRE+)
A20	GRN	Audio unit (SUBW PRE+)
A22	RED	Audio unit (ANC F+)
A23	BLK	Audio unit (ANC R+)
A24	WHT	Audio unit (SWD +B)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

STEREO AMPLIFIER CONNECTOR B (18P)



Terminal side of male terminals

Stereo Amplifier Connector B (18P)

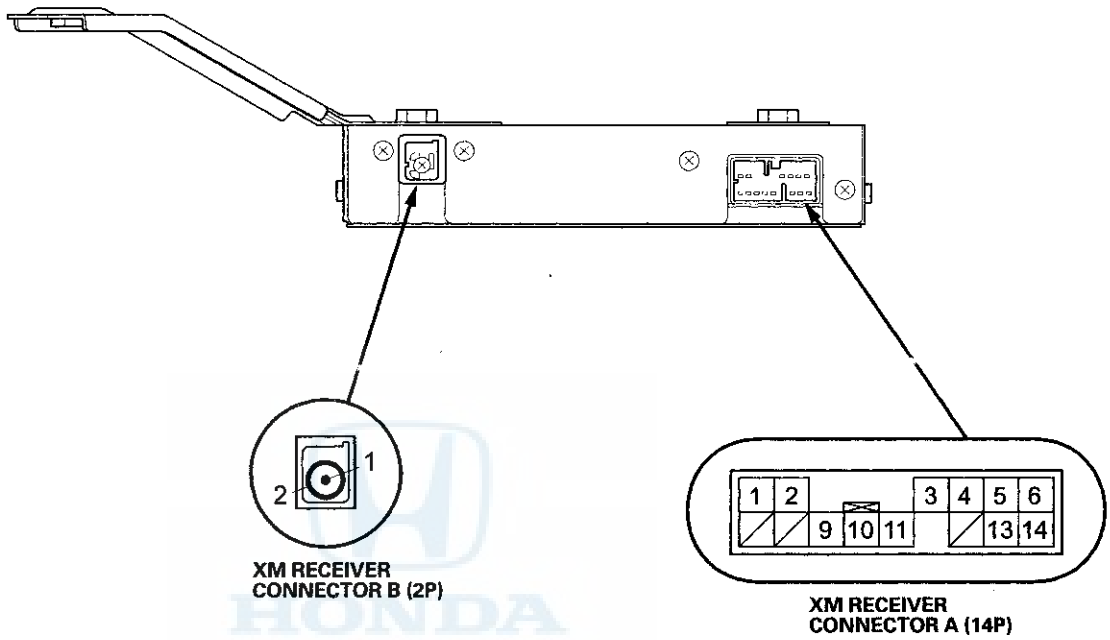
Cavity	Wire	Connects to
B1	LT BLU	Subwoofer (SUBW SP−)
B3	ORN	Right rear speaker (RR SP−)
B4	BRN	Left rear speaker (RL SP−)
B6	WHT	Front passenger's door speaker crossover network control unit (AMP−)
B7	PUR	Driver's door speaker crossover network control unit (AMP−)
B9	BLK	Ground (G401) (GND)
B10	GRY	Subwoofer (SUBW SP+)
B12	BLU	Right rear speaker (RR SP+)
B13	YEL	Left rear speaker (RL SP+)
B15	PNK	Front passenger's door speaker crossover network control unit (AMP+)
B16	GRN	Driver's door speaker crossover network control unit (AMP+)
B18	WHT	Constant power (+B)

(cont'd)

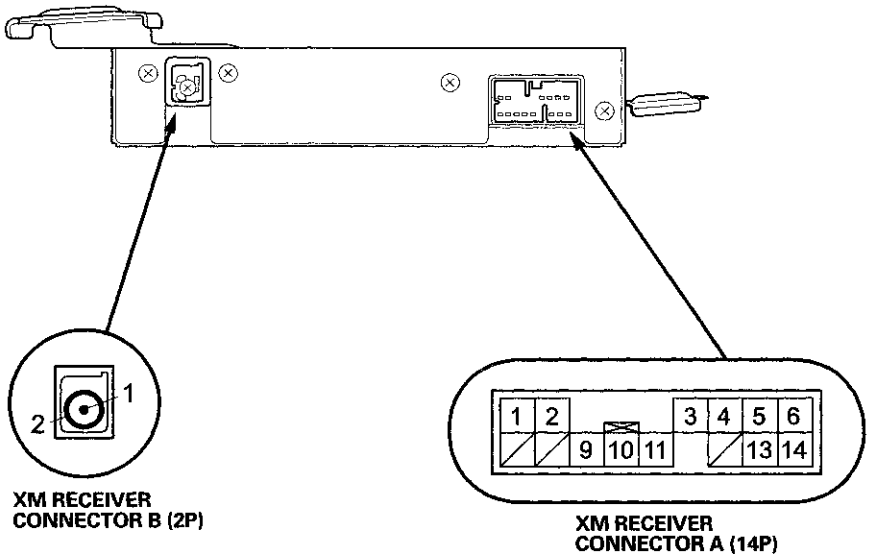
System Description (cont'd)

XM Receiver Connector for Inputs and Outputs (With Premium Audio System)

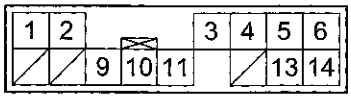
4-Door



2-Door



XM RECEIVER CONNECTOR A (14P)



Terminal side of male terminals

XM Receiver Connector A (14P)

Cavity	Wire	Connects to
A1	WHT	Audio unit (+B)
A2	LT BLU	Audio unit (SYS ON)
A3	BRN*2	Audio unit, Navigation display unit*1 (GA-NET BUS SH)
A4	GRY*2	Audio unit (AUDIO SH)
A5	GRN	Audio unit (AUDIO R+)
A6	BLK	Audio unit (AUDIO L+)
A9	RED	Audio unit, Navigation display unit*1 (GA-NET BUS+)
A10	GRN	Audio unit, Navigation display unit*1 (GA-NET BUS−)
A11	BLK	Audio unit (GND)
A13	WHT	Audio unit (AUDIO R−)
A14	RED	Audio unit (AUDIO L−)

*1: With navigation

*2: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

XM RECEIVER CONNECTOR B (2P)

Terminal side of male terminals

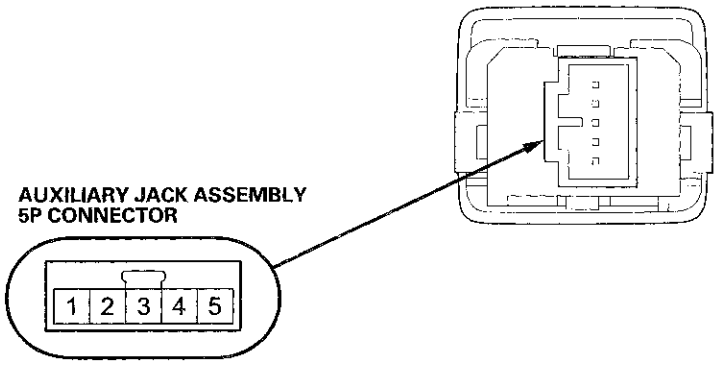
XM Receiver Connector B (2P)

Cavity	Wire	Connects to
B1	———	XM antenna (TER-SAT)
B2	———	XM antenna (SH-GND)

(cont'd)

System Description (cont'd)

Auxiliary Jack Assembly Connector for Inputs and Outputs

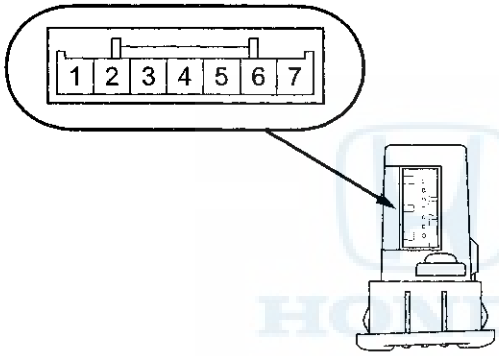


Auxiliary Jack Assembly 5P Connector

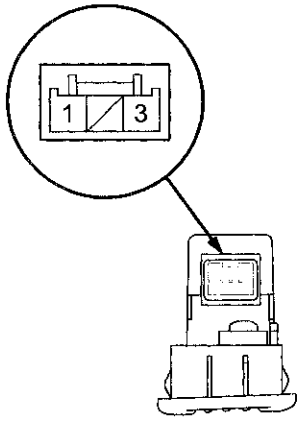
Cavity	Wire	Connects to
1	GRY	Audio unit (AUX DET)
2	YEL	Audio unit (AUX GND)
3	BLK	Audio unit (AUX SIG GND)
4	RED	Audio unit (AUX LCH)
5	WHT	Audio unit (AUX RCH)

Active Noise Cancellation Microphone Connector for Inputs and Outputs

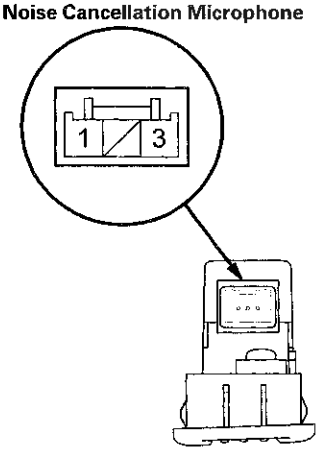
Front HFL-Navigation-ANC Microphone (With Navigation)



Front Active Noise Cancellation Microphone (Without Navigation 6 CD Type)



Rear Active Noise Cancellation Microphone



System Description (cont'd)

Front HFL-navigation-ANC Microphone 7P Connector (with navigation)

Cavity	Wire	Connects to
1	BLK	Ground (G501)
2	GRY	HandsFreeLink control unit (MIC−)
3	BRN	HandsFreeLink control unit (MIC+)
4	WHT	Audio unit (ANC F MIC 8 V)
5	LT GRN	HandsFreeLink control unit (MIC+), audio unit (HFL MUTE)
6	PUR	HFL-navigation-ANC microphone power supply (ACC)
7	WHT	Constant power (+B)

Front Active Noise Cancellation Microphone 3P Connector (without navigation 6 CD type)

Cavity	Wire	Connects to
1	BLK*	Audio unit (SH ANCM F GND)
3	WHT	Audio unit (ANC F MIC 8 V)

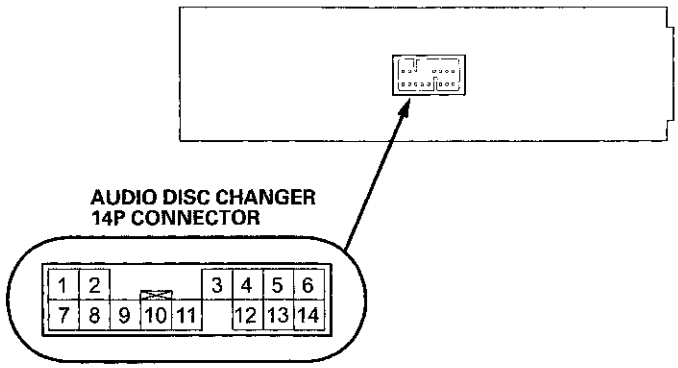
*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

Rear Active Noise Cancellation Microphone 3P Connector

Cavity	Wire	Connects to
1	GRY*	Audio unit (SH ANCM R GND)
3	WHT	Audio unit (ANC R MIC 8 V)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

Audio Disc Changer Connector for Inputs and Outputs (With Navigation)



Audio Disc Changer 14P Connector

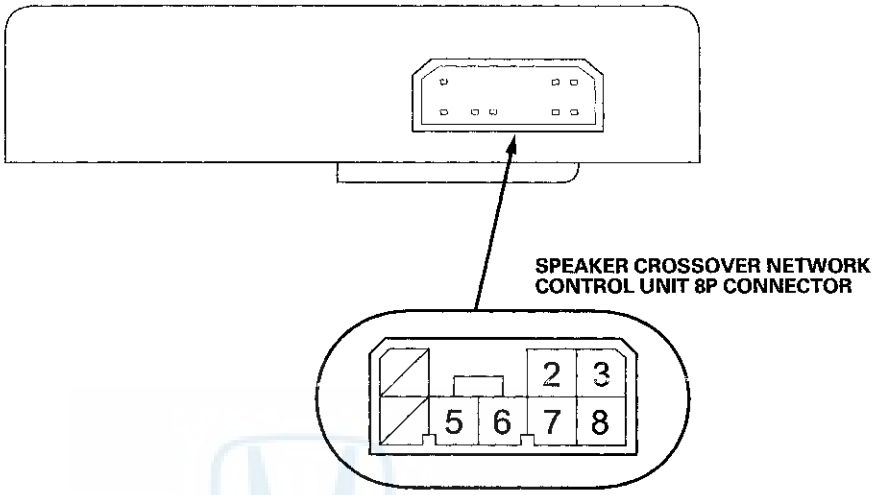
Cavity	Wire	Connects to
1	ORN	Audio unit (6 CD +B)
2	LT BLU	Audio unit (6 CD SYS ON)
3	GRY*	Audio unit (6 CD GA-NET BUS SH)
4	GRY*	Audio unit (6 CD AUDIO SH)
5	BLK	Audio unit (6 CD AUDIO R+)
6	RED	Audio unit (6 CD AUDIO L+)
8	BLU	Audio unit (6 CD ILL+)
9	GRN	Audio unit (6 CD GA-NET BUS+)
10	RED	Audio unit (6 CD GA-NET BUS−)
11	BLK	Audio unit (6 CD GND)
12	WHT	Audio unit (6 CD ILL−)
13	GRN	Audio unit (6 CD AUDIO R−)
14	WHT	Audio unit (6 CD AUDIO L−)

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

System Description (cont'd)

Speaker Crossover Network Control Unit Connector for Inputs and Outputs (With Premium Audio System)



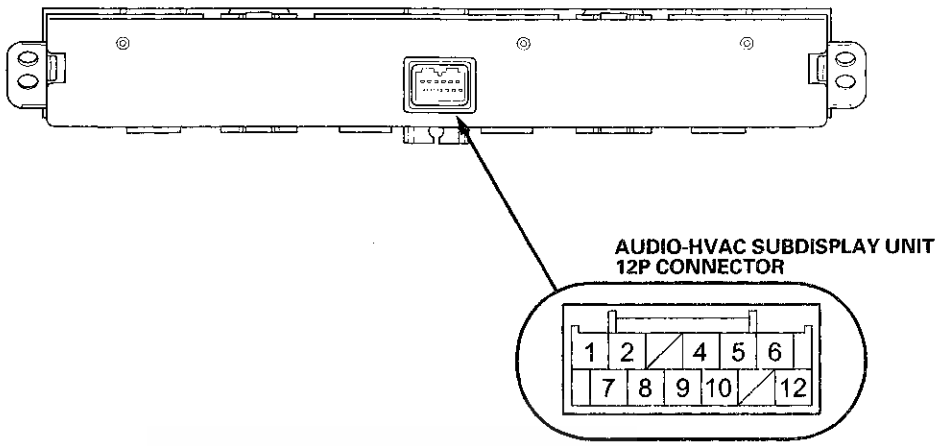
Driver's Door Speaker Crossover Network Control Unit 8P Connector

Cavity	Wire	Connects to
2	GRN	Stereo amplifier (AMP+)
3	PUR	Stereo amplifier (AMP−)
5	RED	Driver's door tweeter (TWEETER+)
6	GRN	Driver's door tweeter (TWEETER−)
7	LT GRN	Driver's door speaker (SPKR+)
8	PNK	Driver's door speaker (SPKR−)

Front Passenger's Door Speaker Crossover Network Control Unit 8P Connector

Cavity	Wire	Connects to
2	PNK	Stereo amplifier (AMP+)
3	WHT	Stereo amplifier (AMP−)
5	BRN	Front passenger's door tweeter (TWEETER+)
6	WHT	Front passenger's door tweeter (TWEETER−)
7	GRY	Front passenger's door speaker (SPKR+)
8	RED	Front passenger's door speaker (SPKR−)

Audio-HVAC Subdisplay Unit Connector for Inputs and Outputs (With Navigation)



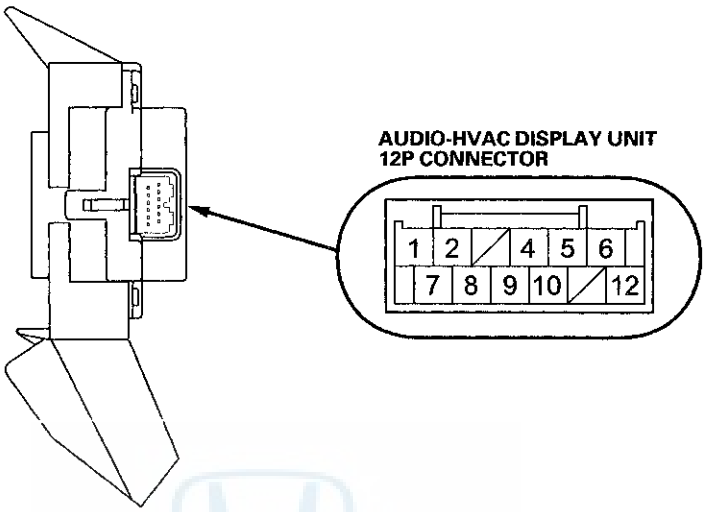
Audio-HVAC Subdisplay Unit 12P Connector

Cavity	Wire	Connects to
1	GRN	Audio unit (DUET RX (UART))
2	RED	Audio unit (DUET TX (UART))
4	BLU	Audio unit (DUET CONT)
5	LT GRN	Audio-HVAC subdisplay unit power supply (IG2)
6	WHT	Constant power (+B)
7	RED	Climate control unit (AC-CLK)
8	PUR	Climate control unit (AC-SO)
9	BLK	Ground (G401) (GND)
10	RED	Dashlights brightness controller (ILL−)
12	GRY	Lights-on signal (ILL+)

(cont'd)

System Description (cont'd)

Audio-HVAC Display Unit Connector for Inputs and Outputs (Without Navigation)



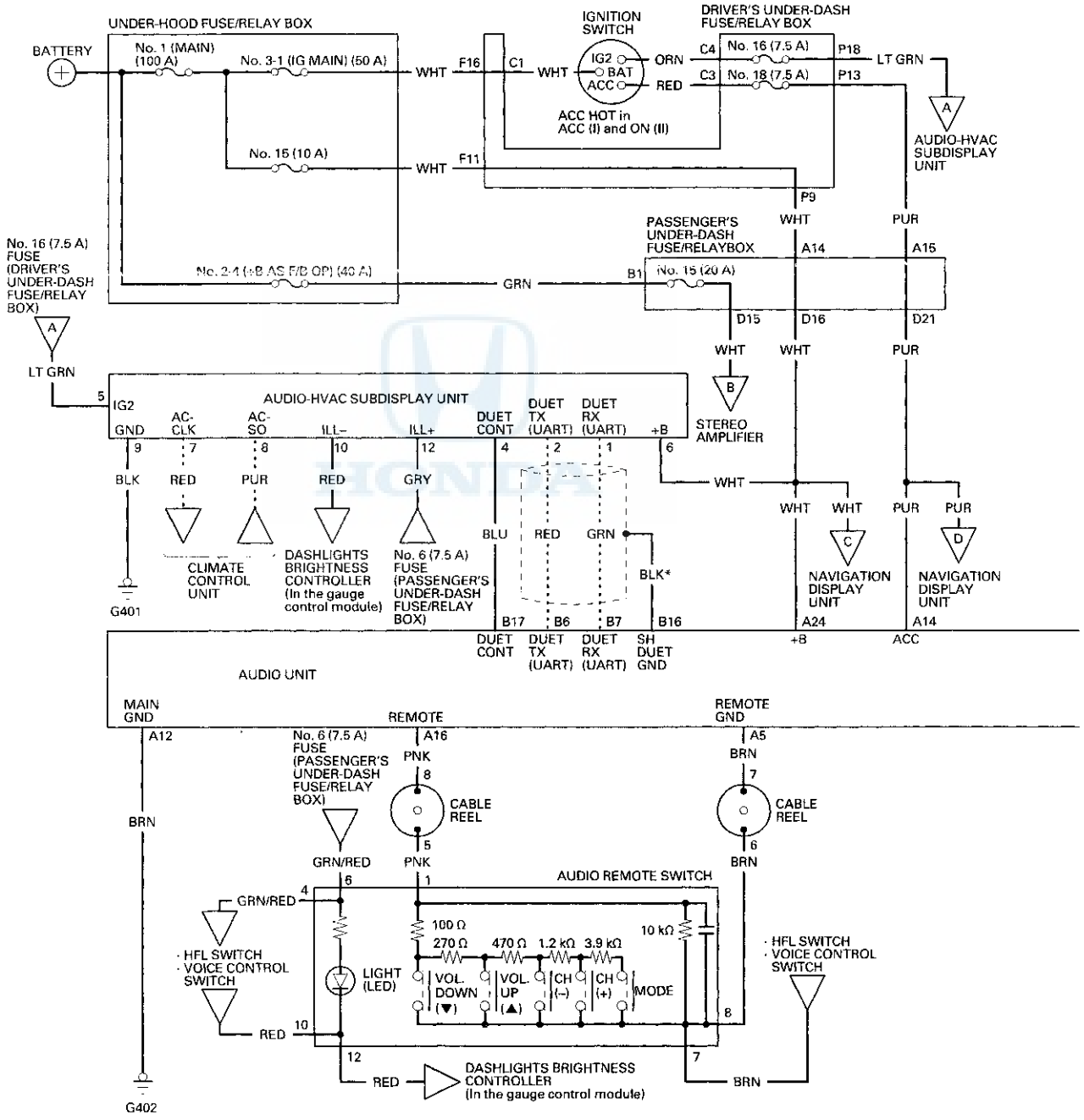
Audio-HVAC Display Unit 12P Connector

Cavity	Wire	Connects to
1	GRN	Audio unit (DUET RX (UART))
2	RED	Audio unit (DUET TX (UART))
4	BLU	Audio unit (DUET CONT)
5	LT GRN	Audio-HVAC display unit power supply (IG2)
6	WHT	Constant power (+B)
7*	RED	Climate control unit (AC-CLK)
8*	PUR	Climate control unit (AC-SO)
9	BLK	Ground (G401)
10	RED	Dashlights brightness controller (ILL−)
12	GRY	Lights-on signal (ILL+)

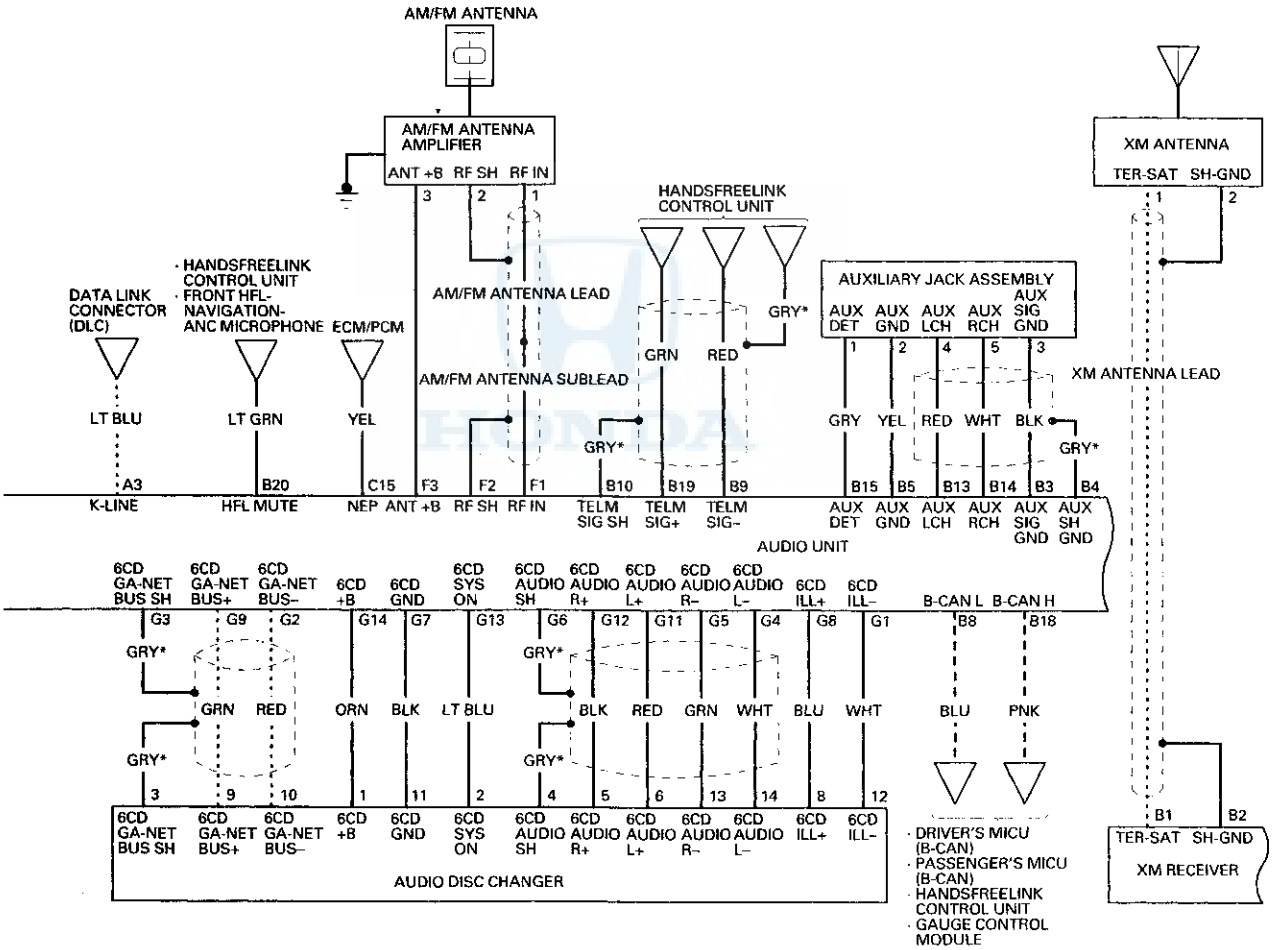
*: With climate control

Circuit Diagram

Premium Audio System with navigation



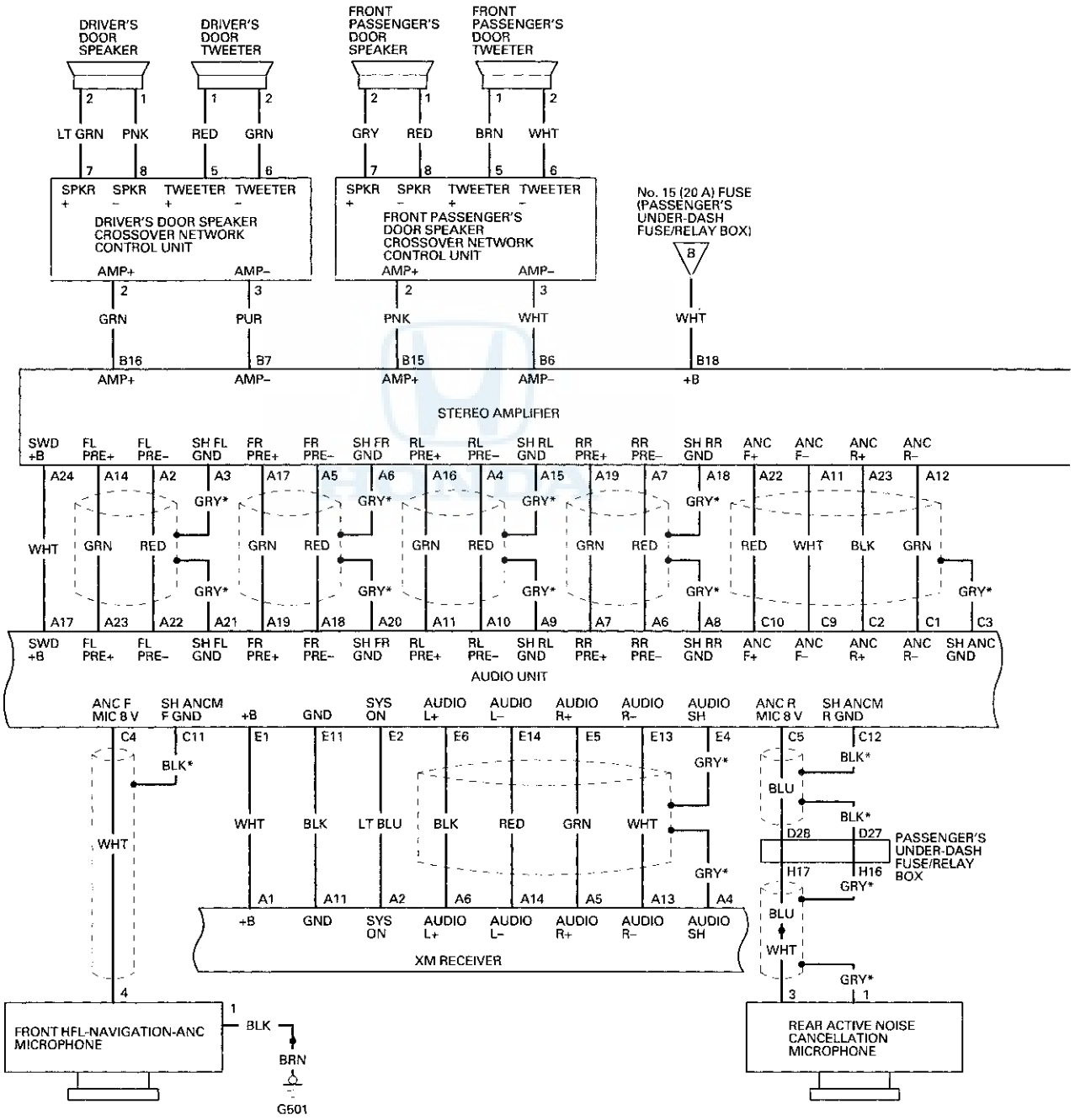
*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
– – – – – – : CAN line
· · · · · · · · · : Other communication line
– – – – – – : Shielding



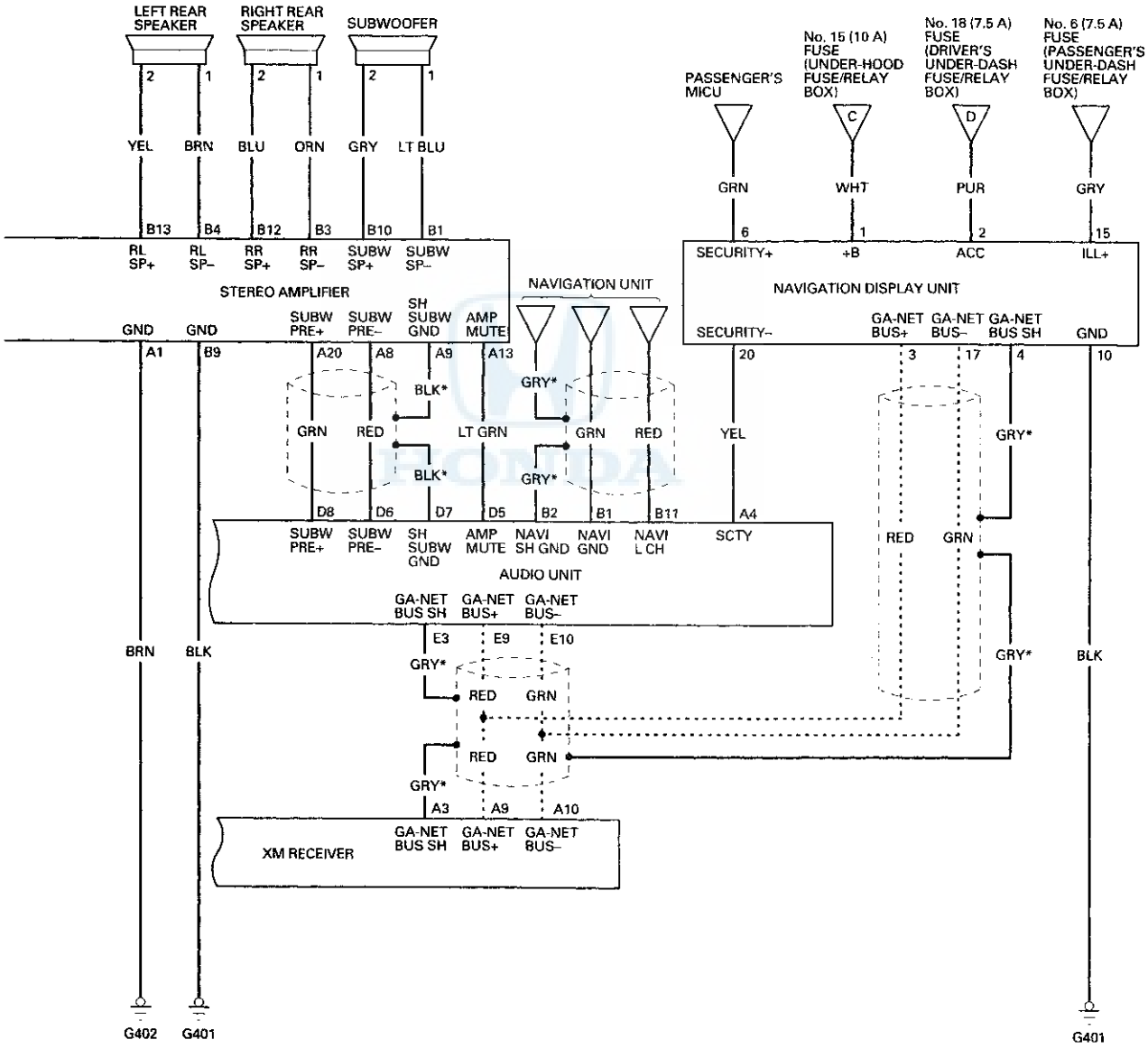
(cont'd)

Circuit Diagram (cont'd)

Premium Audio System with navigation

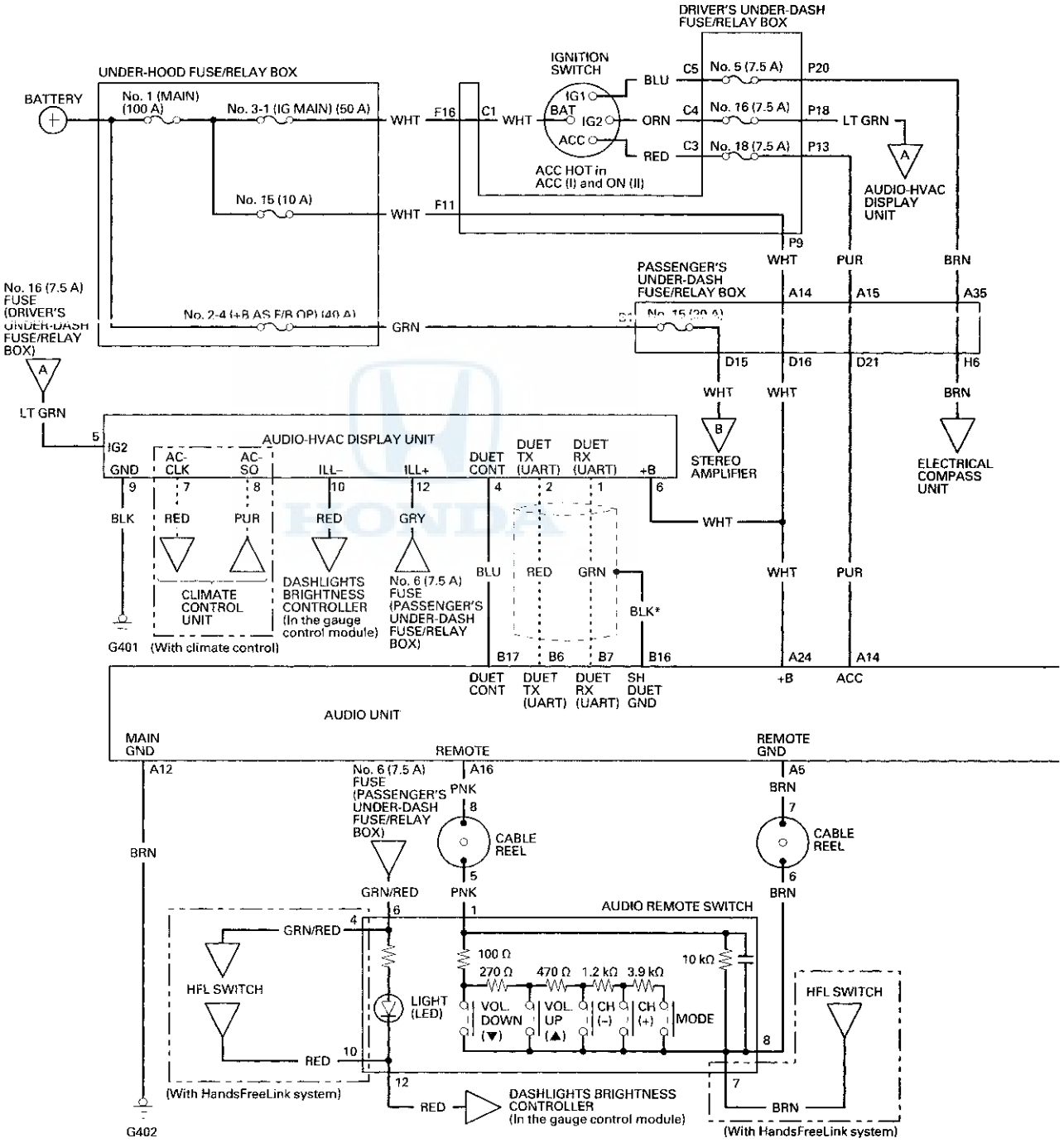


*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
- - - - - - - - : Other communication line
— · — · — · — : Shielding

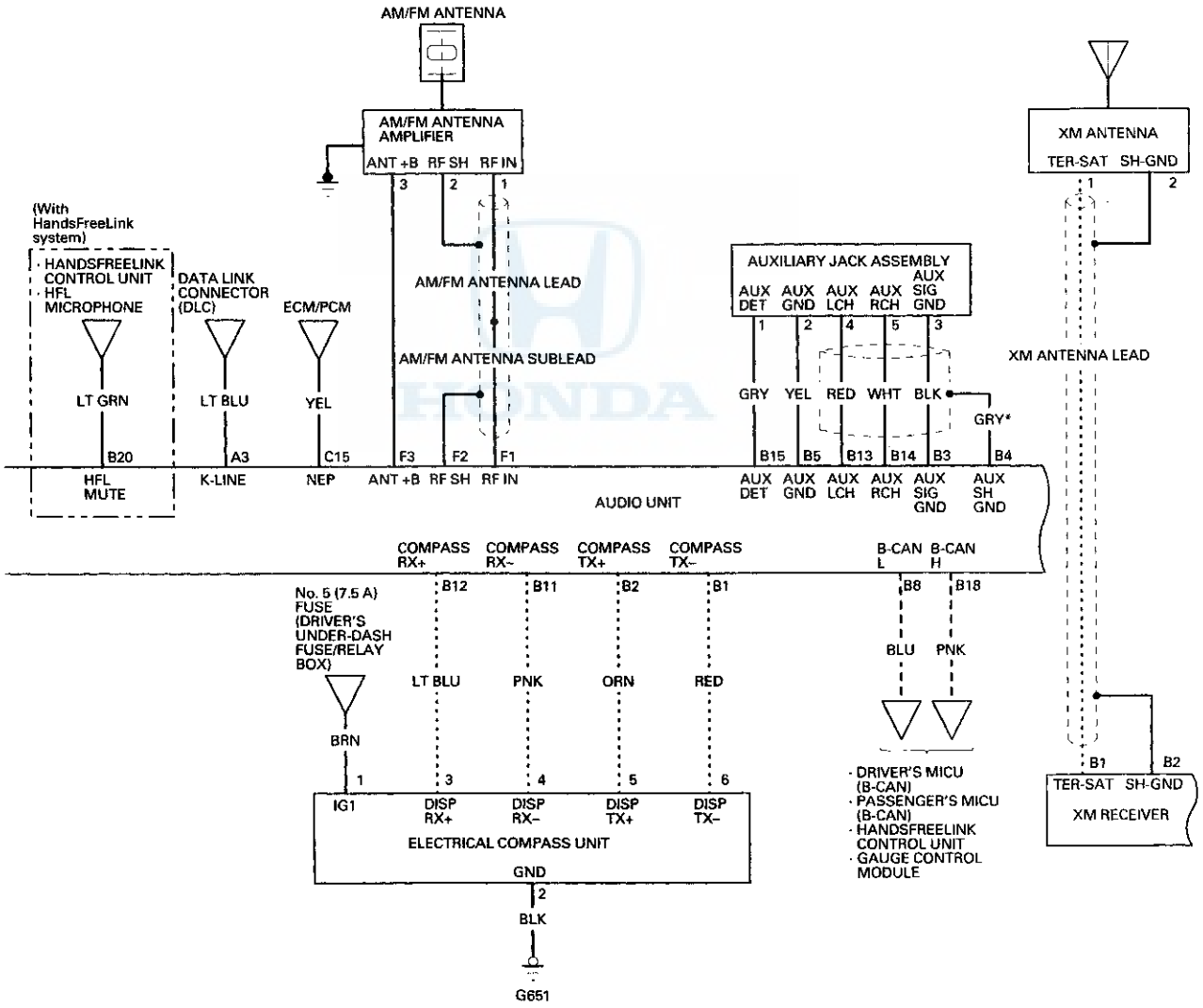


Circuit Diagram (cont'd)

Premium Audio System without navigation



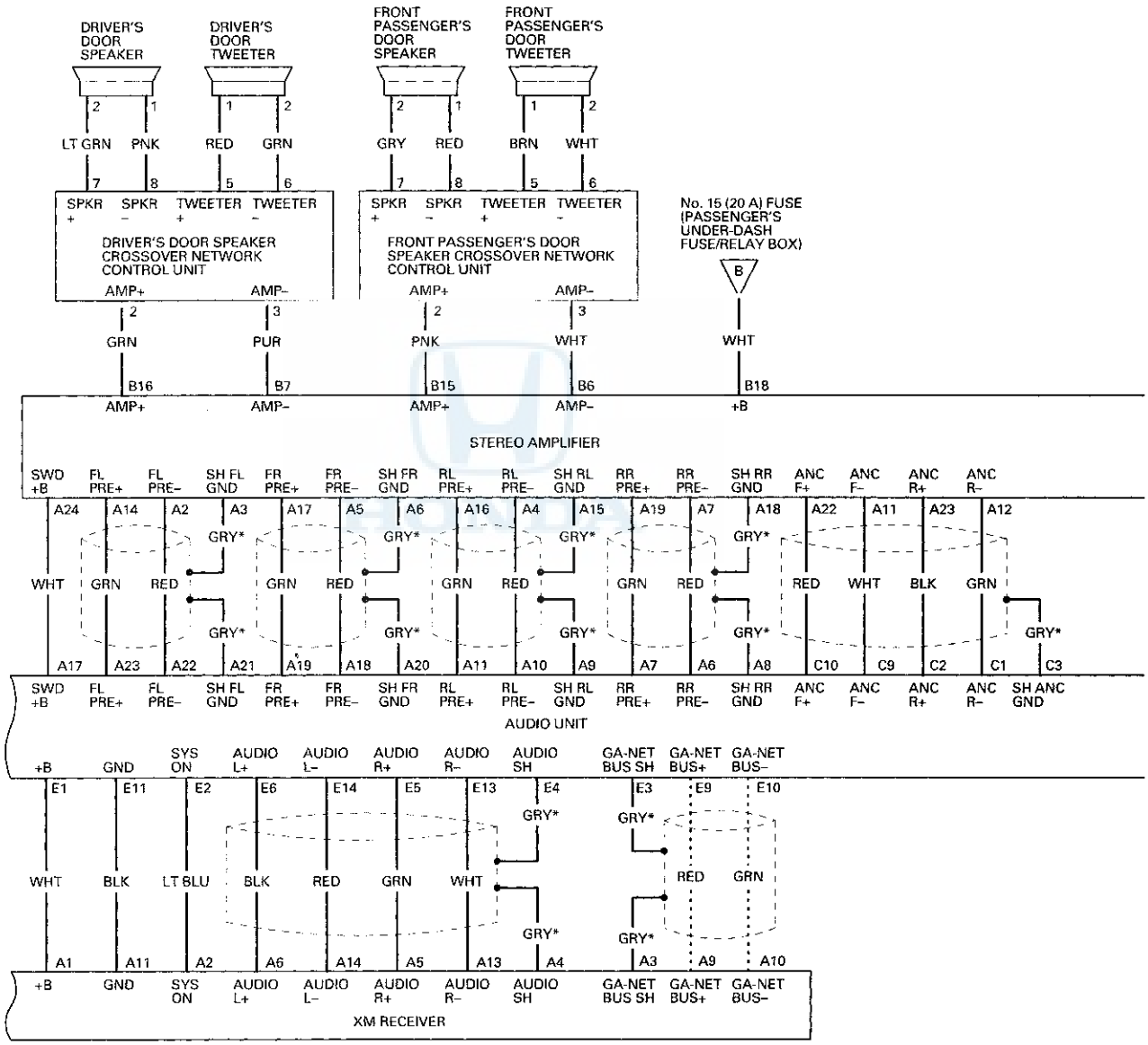
*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
- - - - - - : CAN line
. . . . . : Other communication line
– – – – – : Shielding



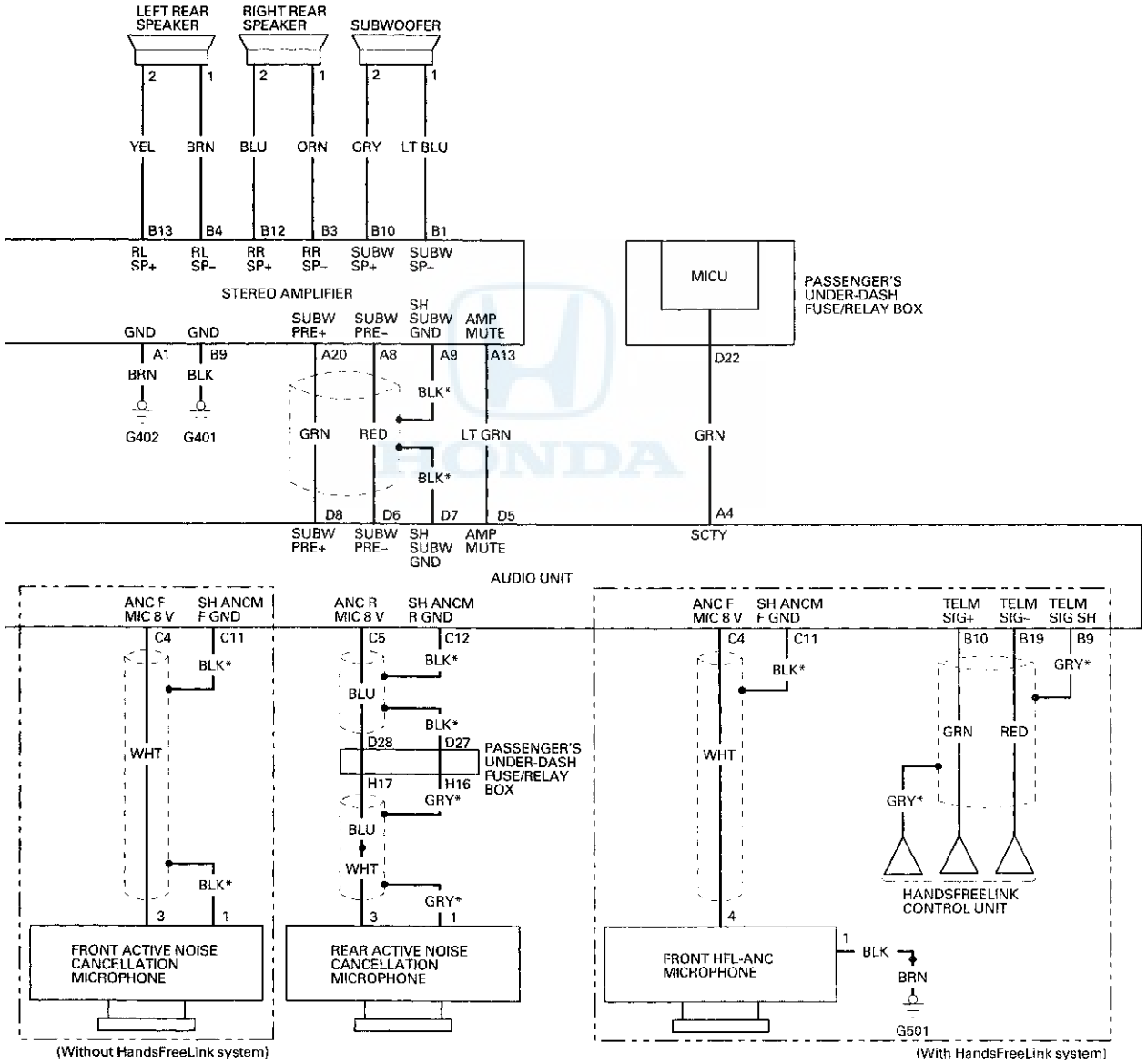
(cont'd)

Circuit Diagram (cont'd)

Premium Audio System without navigation

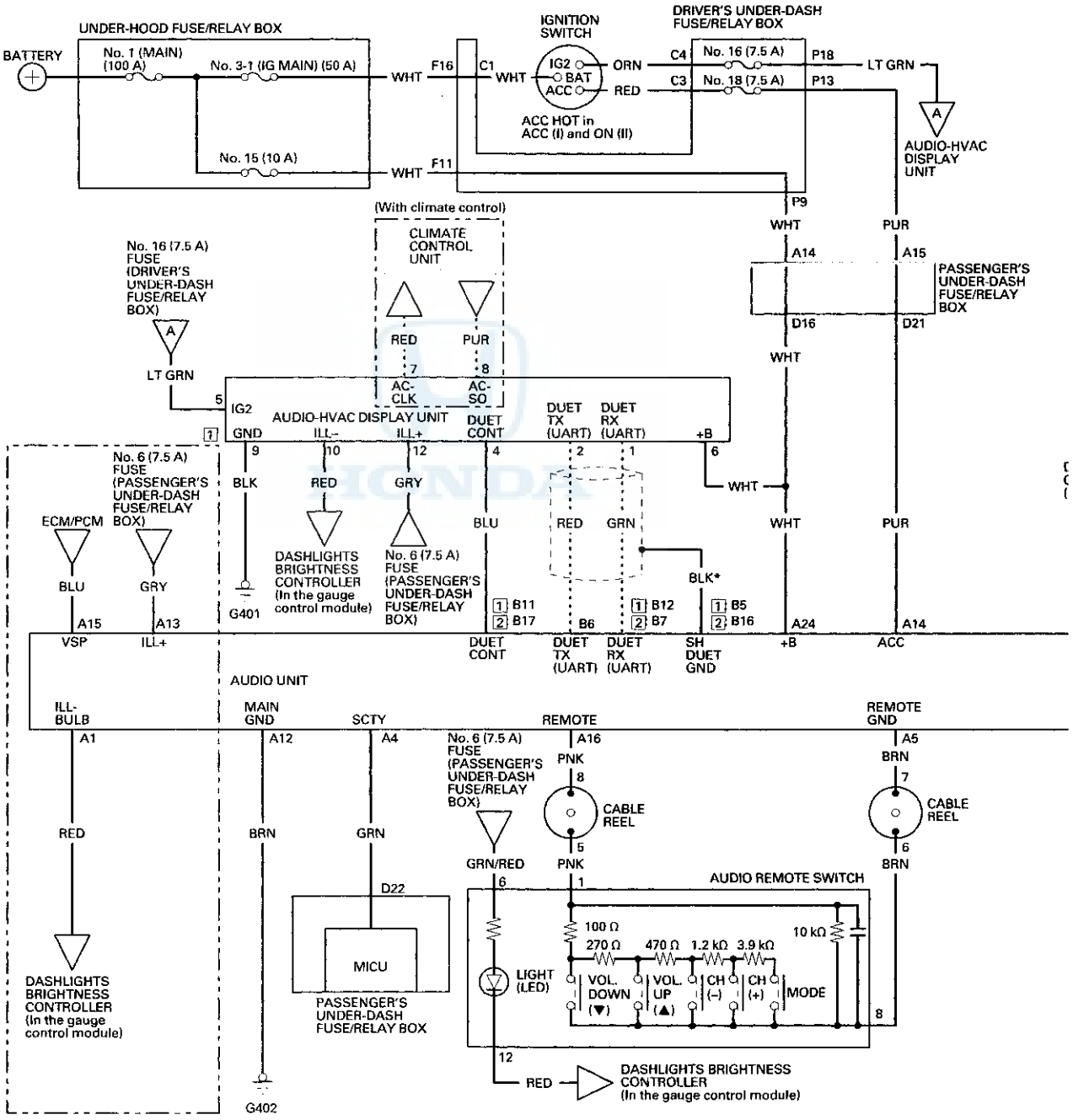


*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
- - - - - - - - : Other communication line
– – – – – – – : Shielding

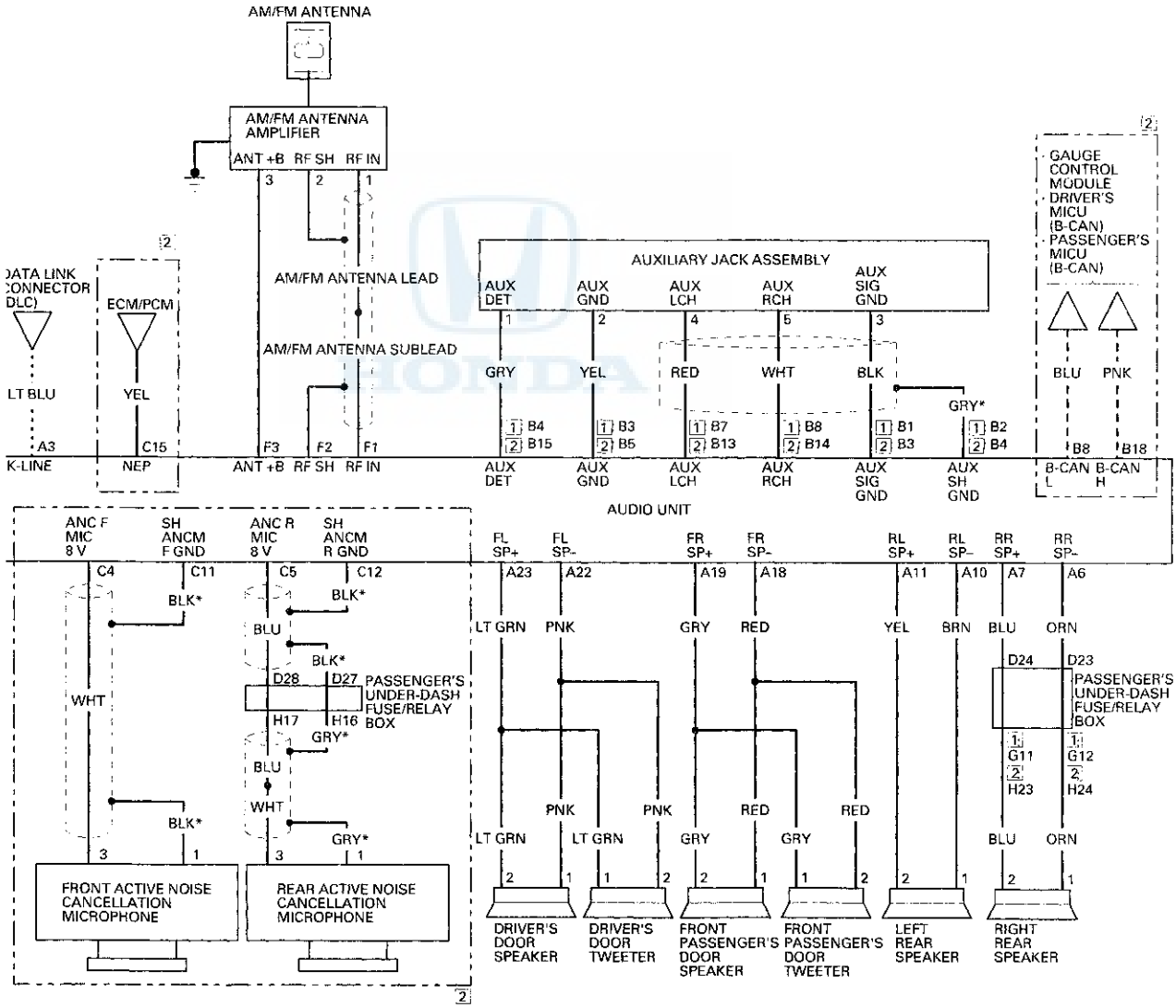


Circuit Diagram (cont'd)

Without Premium Audio System



*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
[1] 1CD type
[2] 6CD type
– – – – – –: CAN line
– – – – – –: Other communication line
– – – – – –: Shielding



Self-diagnostic Function

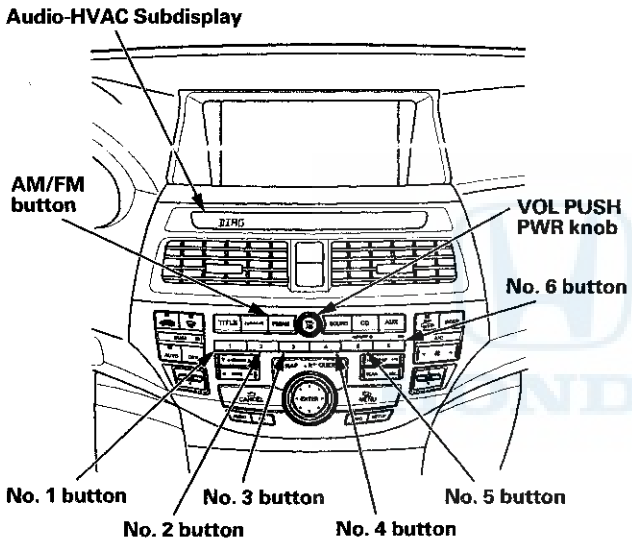
The audio system has a self-diagnostic function.

NOTE:
- Not all self-diagnostic functions appear on all models.
- There may be other self-diagnostic functions that are for factory use only.

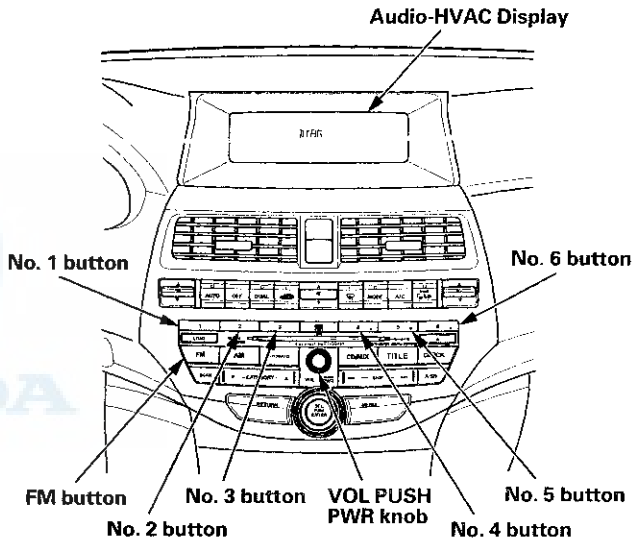
How to Use the Audio System Self-diagnostic Function

1. Turn the ignition switch to ON (II). Turn the audio unit off.
2. Push and hold the No. 1 and No. 6 buttons. While holding the buttons, push the VOL PUSH PWR knob to on. Release the buttons and the self-diagnostic function begins.

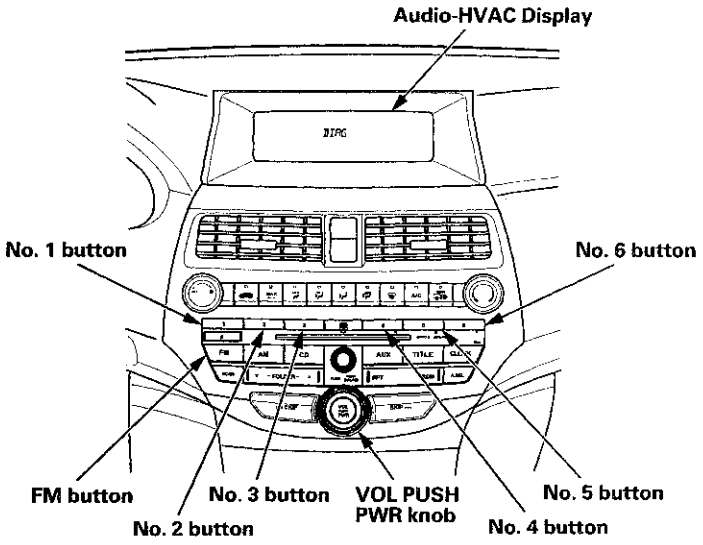
With navigation



Without navigation 6 CD type



Without navigation 1 CD type



3. By pressing a preset button, the input starts the diagnostic mode that is assigned to that preset switch.

No. 2 button

Audio button, knob, and remote switch detection: Allows individual manual selection of all audio panel knobs, buttons, and remote switches to verify if they are functional. When properly detected, the applied knob button, or remote switch name and/or value is displayed. To exit this mode, go to step 4.

No. 3 button

Entire LCD lighting/light-out mode: Turns on/off the entire LCD to show the presence or absence of an LCD failure.

No. 4 button

Illumination level indication mode: Indicates the duty cycle for the illumination dimmer control of the gauge assembly.

Gauge dimmer control values:

Headlights off: OFF

Headlights on: 01 (max low) through 22 (max high)

No. 5 button

Vehicle speed pulse indication mode: Indicates the Vehicle speed pulse.

AM/FM or FM button (Push and hold 5 sec.)

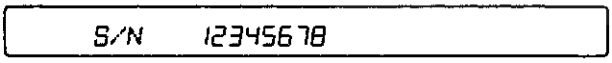
Reception level check mode: Indicates the reception level. When entering the reception level check mode, the AM/FM button or FM button is used to change the main/sub antenna.

How to Obtain the Audio Unit Serial Number

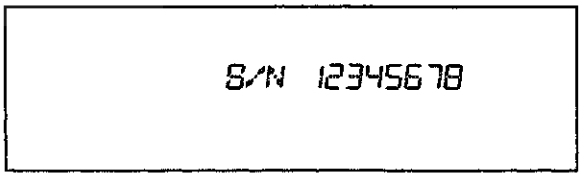
NOTE: This procedure can only be done after the power has been disconnected once and reconnected to the audio unit, and the audio-HVAC display displays CODE. With the audio unit switched off, push and hold the preset button No. 1, No. 6 and the VOL PUSH PWR knob, then release. The audio unit displays the eight digit serial number (example 12345678). Use the eight digit serial number when using the interactive network (iN) to get the 5 digit anti-theft codes.

Serial Number

With navigation



Without navigation (Premium, 6 CD, 1 CD)



(cont'd)

Self-diagnostic Function (cont'd)

4. The self-diagnostic function ends when you turn the audio unit off or turn the ignition switch to LOCK (0).

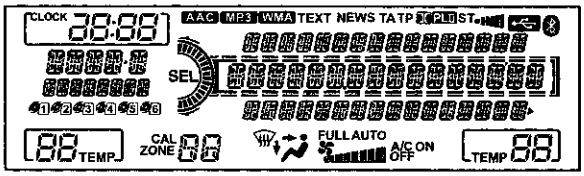
NOTE: Any other diagnostic screens shown are for factory use only.

Display Specifications

Entry LCD lighting mode (press No. 3 button)
This diagnostic screen checks for segments that may be dead (off).
The entire display must appear. If there are dead segments, replace the applicable display unit.

With navigation

Without navigation (Premium, 6 CD, 1 CD)



Entry LCD lights-outs mode (press No. 3 button)
This diagnostic screen checks for segments that may be stuck on.
The entire display must black. If the segments are stuck on, replace the applicable display unit.

With navigation

Without navigation (Premium, 6 CD, 1 CD)

Illumination level (for the gauge illumination) indication (press No. 4 button)
This diagnostic screen checks the gauge illumination. If the headlights are off, the display reads OFF.
If the headlight are on, you should see a values between 01 (max low) and 22 max high.
When you dim and brighten the gauge, you should see this value change accordingly.
If it doesn't, check for B-CAN DTCs.

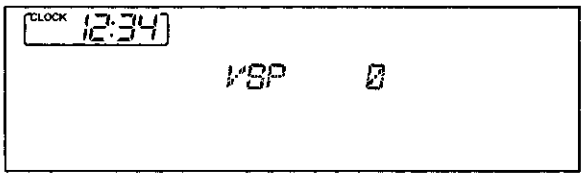
With navigation

Without navigation (Premium, 6 CD, 1 CD)

Vehicle speed pulse indication (press No. 5 button)
This diagnostic screen checks that the audio unit is receiving the VSP indication.
When you drive the vehicle, the VSP indicates the vehicle speed in km/h.

With navigation

Without navigation (Premium, 6 CD, 1 CD)



Reception level indication mode

This diagnostic screen checks the audio unit's reception level. This level then can be used in the diagnosis of audio unit reception quality. The reception level is displayed in decibels (dB).

Preperation:

- Park the vehicle outdoors in an appropriate location for good radio reception.
- Tune to a powerful local FM radio station then write down the radio station number.
- Tune to a powerful local AM radio station then write down the radio station number.

1. Enter the reception level indication mode in the self-diagnostic function.
2. Tune to the FM radio station you wrote down in Preperation using the TUNING knob, and note the decibel level of that station when you release the button.

Reception level indication (Push and hold 5 sec AM/FM or FM button.)
This diagnostic screen checks the audio units reception level that can used in diagnosis check the audio reception quality.

With navigation

Without navigation (Premium, 6 CD, 1 CD)

3. Press and release the A.SEL button to turn the AM/FM antenna amplifier off.
4. Note the decibel level of that station when you release the button.
5. Press and release the A.SEL button to turn the AM/FM antenna amplifier back on.
6. Press and hold the AM button for more than 5 seconds to enter the AM reception mode.
7. Tune to the AM radio station you wrote down in preperation using the TUNING knob, and note the decibel level of that station.
8. Press and release the A.SEL button to turn the antenna amplifier off.
9. Note the decibel level of that station when you release the button.
10. Press and release the A.SEL button to turn the AM/FM antenna amplifier back on.
11. Turn the ignition switch to LOCK(0) or audio unit off to exit the test mode.
12. Compare your results to a known-good, (make sure it is the same year and trim level) in the same location and direction, and under the same environmental conditions.

(cont'd)

Self-diagnostic Function (cont'd)

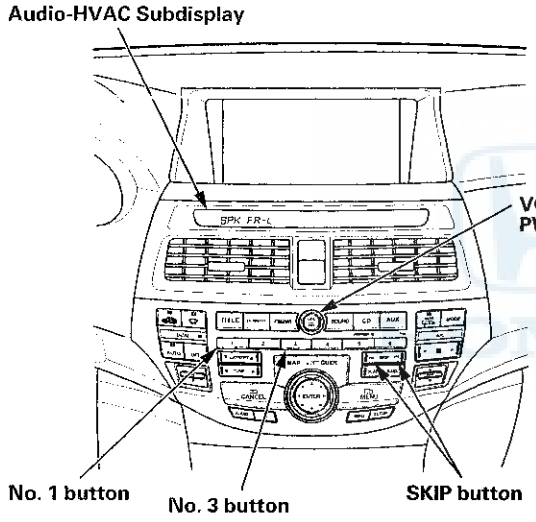
Speaker Check Mode

NOTE:
- Not all self-diagnostic functions appear on all models.
- There may be other self-diagnostic functions that are for factory use only.

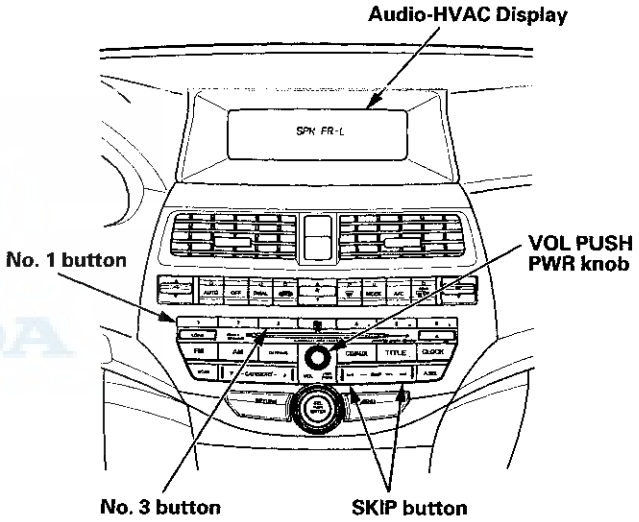
1. Turn the ignition switch to ON (II). Turn the audio unit off.
2. Push and hold the No. 1 and No. 3 buttons. While holding the buttons, push the VOL PUSH PWR knob to on. Release the buttons and the speaker check mode begins. A tone test should sound from one speaker.

   NOTE: Make sure the volume is set to a normal or slightly higher than normal volume and set the balance and fader to the center position.
3. Each time you press the SKIP button, the test moves to the next speaker in the order listed.

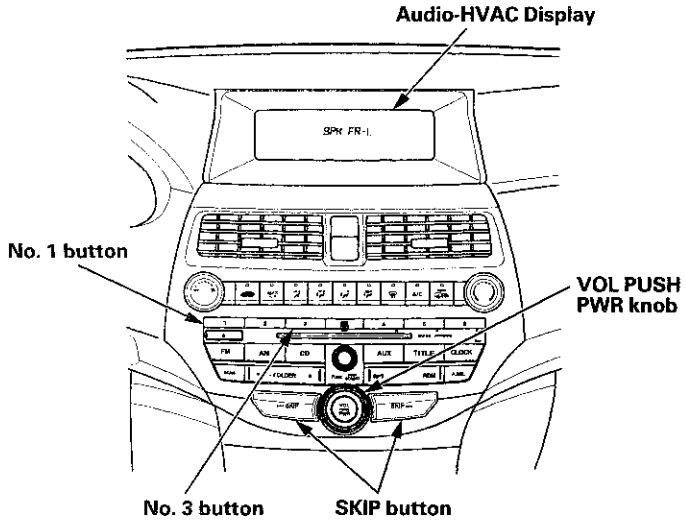
With navigation



Without navigation 6 CD type



Without navigstion 1 CD type



Display Specifications

With Premium Audio System

(▶▶|) is pressed: ①→②→③→④→⑤→⑥

(|◀◀) is pressed: ①→⑥→⑤→④→③→②

Without Premium Audio System

(▶▶|) is pressed: ①→②→③→⑤→⑥

(|◀◀) is pressed: ①→⑥→⑤→③→②

	Speaker	Displayed Segments	Remarks
①	Driver's door speaker and tweeter	SPK FR-L	You should hear a low frequency tone
②	Front Passenger's door speaker and tweeter	SPK FR-R	You should hear a low frequency tone
③	Right rear speaker	SPK RR-R	You should hear a low frequency tone
④	Subwoofer*	SPK SUBW	You should hear a low frequency tone
⑤	Left rear speaker	SPK RR-L	You should hear a low frequency tone
⑥	All speakers	SPK ALL	• You should hear a low frequency tone • The subwoofer does not sound a tone

*: With Premium Audio System

4. The speaker check mode ends when you turn the audio unit off or turn the ignition switch to LOCK (0).

NOTE: Any other diagnostic screens are shown for factory use only.

(cont'd)

Self-diagnostic Function (cont'd)

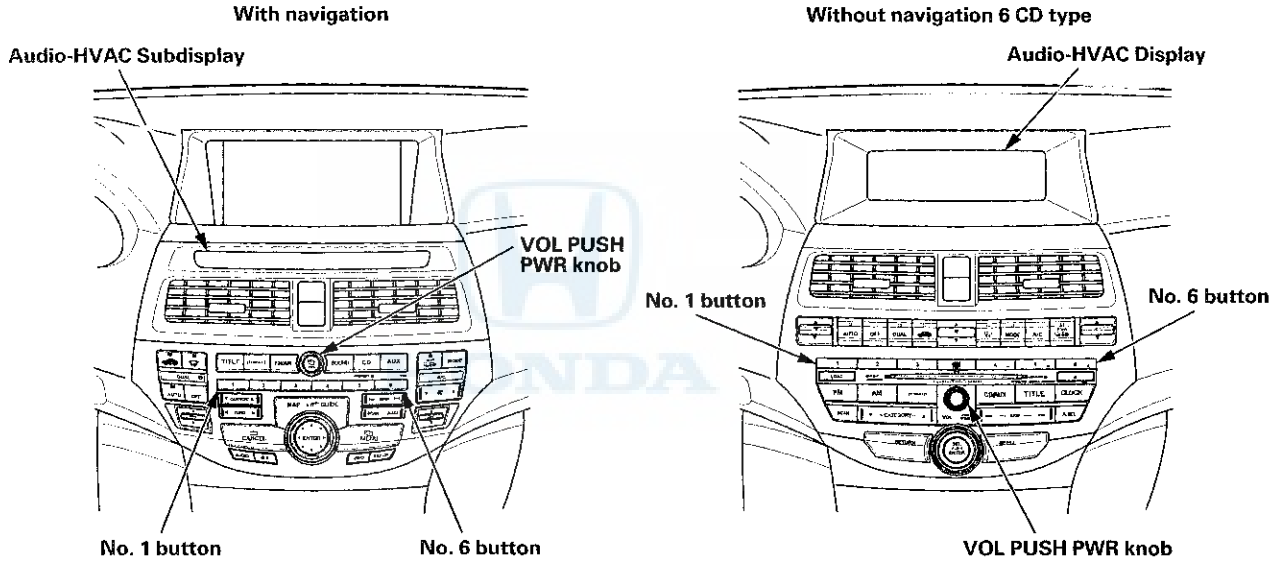
Active Noise Cancellation (ANC) System Check Mode

NOTE:
- Not all self-diagnostic functions appear on all models.
- There may be other self-diagnostic functions that are for factory use only.
- Only perform this test when you are guided from a troubleshooting procedure.
- The ANC function is not supported for 1 CD type.
- To restart the ANC check mode, turn the ignition switch to LOCK (0), then enter the check mode.

1. Turn the ignition switch to ON (II).

   NOTE: Make sure the audio system is turned off.

2. Push and hold the No. 1 and No. 6 buttons. While holding the buttons, push the VOL PUSH PWR knob to ON.



3. Press the No. 1 button, the active noise cancellation (ANC) system check mode begins.

How to check the active noise cancellation system in this check mode

- While in this system check mode, press the No. 1 button to move to the next test item.
- You must remember how many times you pressed the No. 1 button. The system will not show which test item you are doing.
- For test items 1 thru 10, the speaker will make a low-frequency hum (50 Hz) when the system is normal for more than 5 seconds up to 1 minute.
- When there is a failure in the system, the speaker will not make a low-frequency hum (50 Hz) or the hum will stop within 5 seconds for test items 1 thru 10.
- The check mode will be automatically cancelled when the time reaches 1 minute after the starting each test items.
- When you once reach to test item 11th, the test will loop ON and OFF in the 11th test.
- This check mode ends when you start the engine (ignition switch in start (III) or turn the ignition switch to LOCK (0)), because the power to the audio system will be cut off.
- If you need to check test item 2nd, 7th and/or 11th, start the check mode with the engine idling. Other test items are available with the engine idling or stopped.

Test Item No.	Test Item	Button Operation	Number of Times	Display ON/OFF	Sound from Speakers when System is Normal	Test Available Condition
———	Self-Diagnostic mode enter	Turn the audio unit off, press and hold preset buttons No. 1 and No. 6, then turn the audio unit on	———	———	None	
1st	Microphone input, speaker output	No. 1	1	ON	None	Any conditions
		No. 1	2	OFF	50 Hz hum for 1 minute	
2nd	NEP input, door/trunk switch input	No. 1	3	ON	None	• Engine idling • All doors/trunk closed
		No. 1	4	OFF	50 Hz hum for 1 minute	
3rd	Front speaker output	No. 1	5	ON	None	Any conditions
		No. 1	6	OFF	50 Hz hum for 1 minute	
4th	Rear speaker output	No. 1	7	ON	None	Any conditions
		No. 1	8	OFF	50 Hz hum for 1 minute	
5th	ANC front microphone input	No. 1	9	ON	None	Any conditions
		No. 1	10	OFF	50 Hz hum for 1 minute	
6th	ANC rear microphone input	No. 1	11	ON	None	Any conditions
		No. 1	12	OFF	50 Hz hum for 1 minute	
7th	NEP (engine speed signal) input	No. 1	13	ON	None	Engine idling
		No. 1	14	OFF	50 Hz hum for 1 minute	
8th	Door/trunk switch input	No. 1	15	ON	None	All doors/trunk closed
		No. 1	16	OFF	50 Hz hum for 1 minute	
9th	———	No. 1	17	ON	None	———
		No. 1	18	OFF	None	
10th	———	No. 1	19	ON	None	———
		No. 1	20	OFF	None	
11th	ANC operation ON/OFF	No. 1	21	ON	None	Engine speed about 2,500 rpm (A/T in P or N, M/T in neutral) Repeatedly pressing the No. 1 button switches the ANC on and off
		No. 1	22	OFF	Engine noise reduced	

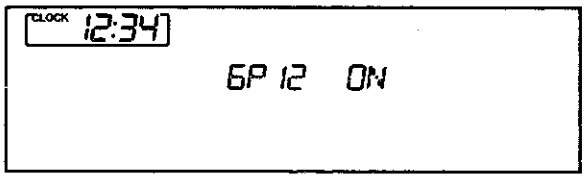
(cont'd)

Self-diagnostic Function (cont'd)

Active Noise Cancellation ON

With navigation

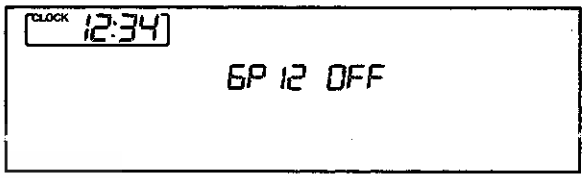
Without navigation 6 CD type



Active Noise Cancellation OFF

With navigation

Without navigation 6 CD type



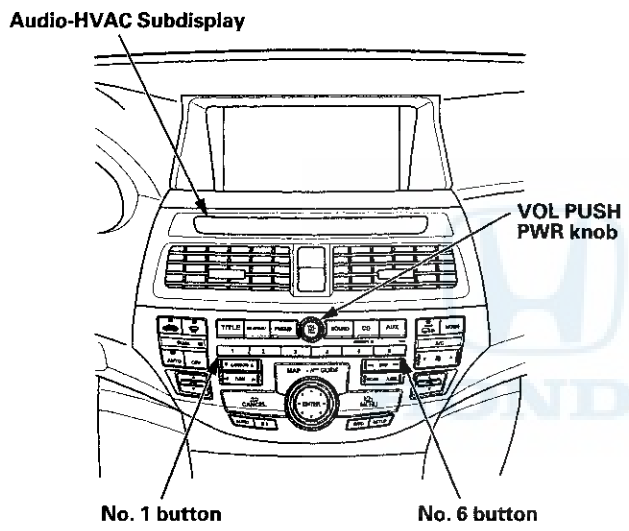
4. The self-diagnostic function ends when the audio system is turned off, or the ignition switch is turned to LOCK (0).

Communication Connection Check Mode

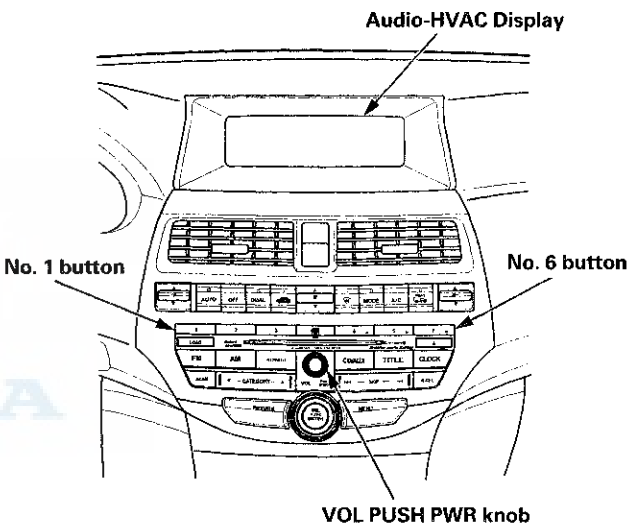
NOTE:
- Not all self-diagnostic functions appear on all models.
- There may be other self-diagnostic functions that are for factory use only.

1. Turn the ignition switch to ON (II). Turn the audio unit off.
2. Push and hold the No. 1 and No. 6 buttons. While holding the buttons, push the VOL PUSH PWR knob to on. Release the buttons.
3. Press the No. 6 button, and the communication connection check mode begins.

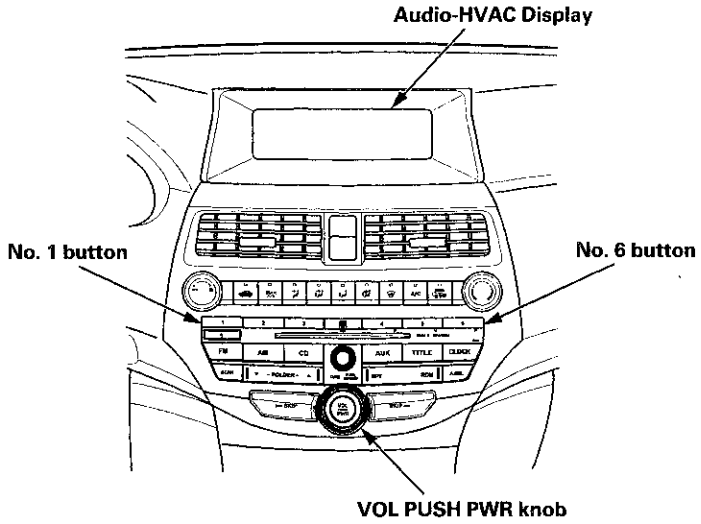
With navigation



Without navigation 6 CD type



Without navigation 1 CD type



(cont'd)

Self-diagnostic Function (cont'd)

4. Each time you press the No. 6 button, the communication connection state is displayed in the following order.

   NOTE: If the audio-HVAC subdisplay or the audio-HVAC display is blank in all headlight positions, or blank only when the headlights are turned on, check for B-CAN DTCs.

Display Specifications (With navigation)

Displayed Segments	State	Remarks
DSP OK	The audio-HVAC subdisplay unit or the audio-HVAC display unit is connected.	
DSP NG	The audio-HVAC subdisplay unit or the audio-HVAC display unit is not connected.	
AC OK	The climate control unit is connected.	
AC NG	The climate control unit is not connected.	
AMP OK 00	The stereo amplifier is connected.	Applicable to the premium audio system
AMP OK 04	The stereo amplifier is connected (Error has occurred four times in the past).	Applicable to the premium audio system
AMP NG	The stereo amplifier is not connected.	Applicable to the premium audio system

Display Specifications (Without navigation (Premium, 6 CD, 1 CD))

Displayed Segments	State	Remarks
01 119	The XM receiver unit is not connected.	Applicable to the premium audio system.
02 183	The navigation unit is not connected.	
ANT ———	The antenna amplifier is connected.	
ANT CHK	The antenna amplifier is not connected.	
AMP ———	The stereo amplifier is connected.	Applicable to the premium audio system.
AMP CHK	The stereo amplifier is not connected.	Applicable to the premium audio system.
AMP 0100	The stereo amplifier is connected.	Applicable to the premium audio system.
AMP NG 04	The stereo amplifier is not connected (error has occurred four times in the past).	Applicable to the premium audio system.
AC OK	The climate control unit is connected.	
AC NG	The climate control unit is not connected.	
CMP OK	The electrical compass unit is connected.	Applicable to the premium audio system.
CMP NG	The electrical compass unit is not connected.	Applicable to the premium audio system.
LCD 0100	The audio-HVAC display unit is connected.	
LCD NG	The audio-HVAC display unit is not connected.	

NOTE: Any other diagnostic screens are shown for the manufacturer's purpose only.

5. The self-diagnostic function ends when you turn the audio unit off or turn the ignition switch to LOCK (0).

Error Codes

The audio system can display error codes when a problem is detected with the audio disc changer, the audio disc, the XM radio, or the anti-theft code.

CD Error Codes

Error Code Displayed	Possible Cause	Solution
HEAT ERROR	Disc player is hot. This can happen if the vehicle is parked out in the hot sun all day.	Park the vehicle in a cooler place for a while and try the disc player again. If the error code is still present, try another disc. If the error code is still present, replace the audio unit.
UNSUPPORTED	Track/File format not supported.	• Current track is skipped. The next supported track of file plays automatically. • Verify that CD, CD-R, or CD-RW file names end in CD-DA or WAV. • Verify that CD, CD-R, or CD-RW with compressed music formats end in MP3 or WMA. • Other file formats like i-Tunes or Ogg are not recognized. • WMA files may have (DRM) copy protection and cannot be read.
BAD DISC/PLEASE CHECK/OWNERS MANUAL/PUSH EJECT	• CD label jammed in the mechanism. • CD eject mechanism or motor is inoperative. • CD spindle motor won't spin up the CD.	Press the EJECT button and hold it for 5 seconds. If the CD does not eject, try again. If the CD still won't eject, replace the unit.

XM Error Codes

Error Code Displayed	Possible Cause	Solution
LOADING	XM radio is acquiring audio or program information.	Wait until the radio receives the information.
OFF AIR	XM channel not in service.	Try another XM channel.
NO SIGNAL	Loss of signal.	Both terrestrial and satellite antennas have lost signal. Park the vehicle outside with a clear view of the southern horizon.
UPDATING	XM radio is receiving information update from the network.	This message disappears once the update finishes.
CHECK ANTENNA ANTENNA ERROR	XM antenna error.	Repair an open or a short in the satellite antenna. Substitute the XM antenna with a known-good one, and recheck. If the error is gone, replace the original XM antenna. If the error is still present, replace the antenna lead.
— — —	No signal from XM.	Check a known-good vehicle with XM radio. If the known-good vehicle has the same symptoms, contact XM Satellite Radio at 800—852—9696.

Audio Unit Error Codes

Error Code Displayed	Possible Cause	Solution
CODE ERROR 1	Anti-theft code mismatch (1st try).	Enter the correct anti-theft code.
CODE ERROR E	Anti-theft code mismatch (10th try).	Remove the No. 15 (10 A) fuse in the under-hood fuse/relay box, then reinsert it. You will have 10 more tries to enter the correct anti-theft code.

Symptom Troubleshooting

Poor AM or FM radio reception or interference

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Check for aftermarket accessories including cell phones and chargers plugged into the vehicle accessory power sockets.
- Check the radio reception in an open area. Poor reception/interference can be caused by any of these conditions:
  - The radio station is far away.
  - Atmospheric conditions are unfavorable.
  - Aftermarket metallic window tint.
  - A tall building, mountains, or high-voltage power lines are nearby.

1. Turn the ignition switch to ON (II).
2. Do the Seek Stop Test (see page 23-114), and the reception level indication in the Self-diagnostic Function (see page 23-57).

   Is the test vehicle within 10 % of the known-good vehicle?

   YES–Multipath interference or weak station. Operation is normal.■

   NO–Go to step 3.
3. Check the reception/interference is the same in several locations.

   Is the reception/interference the same?

   YES–Go to step 4.

   NO–Multipath interference or weak station. Operation is normal.■
4. Check the reception/interference while the engine is running.

   Is there noise (static or whine) only with the engine running?

   YES–Check the antenna and radio grounds. If OK, check the charging system and the ignition system.■

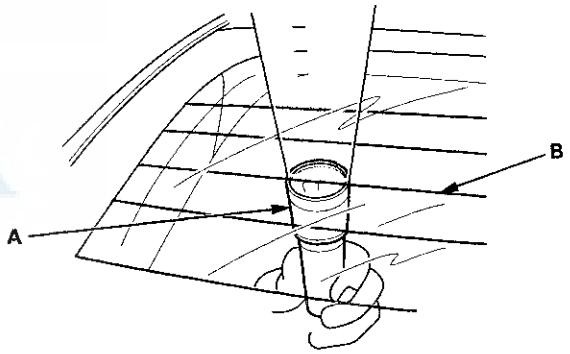
   NO–Go to step 5.
5. Turn the ignition switch to LOCK (0).
6. Remove the right C-pillar trim (see page 20-110).
7. Check the connections from the AM/FM antenna amplifier to the window antenna.

   Are there any loose or damaged connections?

   YES–Repair the connections, or substitute a known-good AM/FM antenna amplifier (see page 23-125), and retest. If the symptom/condition goes away, replace the original AM/FM antenna amplifier.■

   NO–Go to step 8.
8. With the help of an assistant inside the vehicle, have the assistant shine a strong flashlight (A) along each antenna wire (B). Check from the outside of the vehicle for any breaks or openings in the antenna wires (the light shines through any breaks or cuts).

   NOTE: It is easier to see the breaks if you do this test in a dark or shaded area.



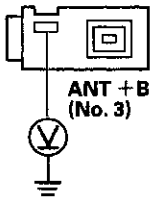
   Are there any breaks or cuts in the antenna?

   YES–Repair the window antenna. Go to AM/FM antenna repair (see page 23-126), or replace the rear window (see page 20-75) if the damaged section is too long.■

   NO–Go to step 9.

9. Disconnect the AM/FM antenna amplifier 3P connector (see page 23-125).
10. Turn the ignition switch to ON (II).
11. Measure the voltage between the AM/FM antenna amplifier 3P connector terminal No. 3 and body ground.

AM/FM ANTENNA AMPLIFIER 3P CONNECTOR



Terminal side of female terminals

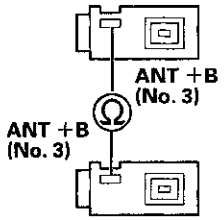
Is there battery voltage?

YES–Go to step 17.

NO–Go to step 12.

12. Turn the ignition switch to LOCK (0).
13. Remove the audio unit.
    - With navigation (see page 23-114)
    - Without navigation (see page 23-115)
14. Disconnect audio unit connector F (3P).
15. Check for continuity between audio unit connector F (3P) terminal No. 3 and the AM/FM antenna amplifier 3P connector terminal No. 3.

AUDIO UNIT CONNECTOR F (3P)
Terminal side of female terminals



AM/FM ANTENNA AMPLIFIER 3P CONNECTOR
Terminal side of female terminals

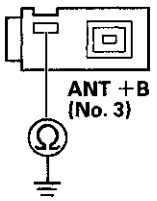
Is there continuity?

YES–Go to step 16.

NO–Repair an open in the wire between the audio unit and the AM/FM antenna amplifier. Also check the AM/FM antenna lead/sublead connector.■

16. Check for continuity between audio unit connector F (3P) terminal No. 3 and body ground.

AUDIO UNIT CONNECTOR F (3P)



Terminal side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire between the audio unit and AM/FM antenna amplifier.■

NO–Replace the audio unit.■
- With navigation (see page 23-114)
- Without navigation (see page 23-115)

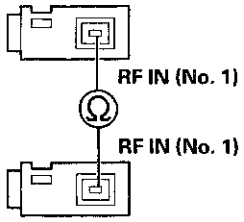
17. Remove the audio unit.
    - With navigation (see page 23-114)
    - Without navigation (see page 23-115)
18. Disconnect audio unit connector F (3P).

(cont'd)

Symptom Troubleshooting (cont'd)

19. Check for continuity between audio unit connector F (3P) terminal No. 1 and the AM/FM antenna amplifier 3P connector terminal No. 1.

AUDIO UNIT CONNECTOR F (3P)
Terminal side of female terminals



AM/FM ANTENNA AMPLIFIER 3P CONNECTOR
Terminal side of female terminals

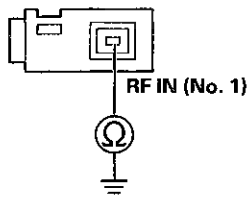
Is there continuity?

YES–Go to step 20.

NO–Replace the AM/FM antenna lead and/or sublead.■

20. Check for continuity between audio unit connector F (3P) terminal No. 1 and body ground.

AUDIO UNIT CONNECTOR F (3P)



Terminal side of female terminals

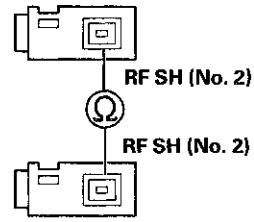
Is there continuity?

YES–Replace the AM/FM antenna lead and/or sublead.■

NO–Go to step 21.

21. Check for continuity between audio unit connector F (3P) terminal No. 2 and the AM/FM antenna amplifier 3P connector terminal No. 2.

AUDIO UNIT CONNECTOR F (3P)
Terminal side of female terminals



AM/FM ANTENNA AMPLIFIER 3P CONNECTOR
Terminal side of female terminals

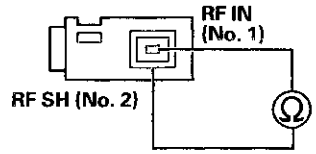
Is there continuity?

YES–Go to step 22.

NO–Replace the AM/FM antenna lead and/or sublead.■

22. Check for continuity between audio unit connector F (3P) terminals No. 1 and No. 2.

AUDIO UNIT CONNECTOR F (3P)



Terminal side of female terminals

Is there continuity?

YES–Replace the AM/FM antenna lead and/or sublead.■

NO–Replace the AM/FM antenna amplifier (see page 23-125) and recheck. If the reception still poor, replace the audio unit.■

- With navigation (see page 23-114)
- Without navigation (see page 23-115)

Audio unit power switch will not turn on (No information display and no sound)

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Push the power switch ON to see if audio unit turns ON.

   Does the audio unit display operate properly, and does the audio unit sound normal?

   YES–Intermittent failure, the system is OK at this time.■

   NO–Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Check the No. 15 (10 A) fuse in the under-hood fuse/relay box and the No. 18 (7.5 A) fuse in the driver's under-dash fuse/relay box.

   Are the fuses OK?

   YES–Go to step 5.

   NO–Replace the fuse, and recheck.■

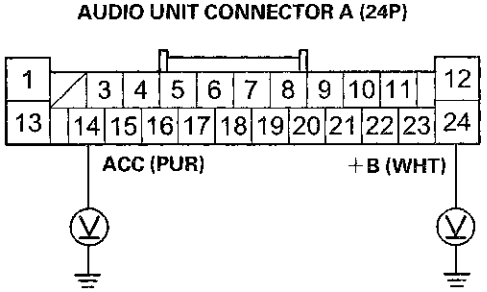
5. Remove the audio unit with navigation (see page 23-114), without navigation (see page 23-115). Check that the audio unit connectors are properly connected.

   Are they connected properly?

   YES–Go to step 6.

   NO–Repair poor connections and reconnect the connectors, and recheck the function.■

6. Turn the ignition switch to ON (II).
7. Measure the voltage between body ground and audio unit connector A (24P) terminals No. 14 and No. 24 individually.



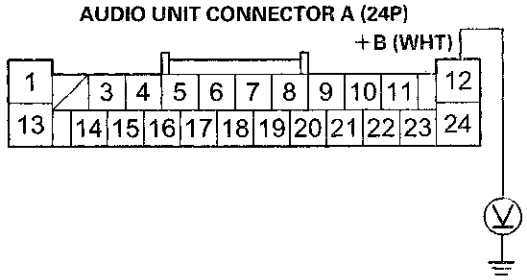
Wire side of female terminals

Is there battery voltage?

YES–Go to step 8.

NO–Repair an open in the wire(s) between the No. 15 (10 A) fuse in the under-hood fuse/relay box, the No. 18 (7.5 A) fuse in the driver's under-dash fuse/relay box and the audio unit.■

8. Measure the voltage between audio unit connector A (24P) terminal No. 12 and body ground.



Wire side of female terminals

Is there less than 0.2 V?

YES–Replace the audio unit.■

- With navigation (see page 23-114)
- Without navigation (see page 23-115)

NO–Repair an open or high resistance in the wire between the audio unit connector A (24P) terminal No. 12 and body ground (G402) (see page 22-40).■

Symptom Troubleshooting (cont'd)

Audio unit power switch will not turn off

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Check for aftermarket accessories plugged into the vehicle's accessory power sockets.

1. Turn the ignition switch to ON (II).
2. Push the power switch off or turn the ignition switch to LOCK (0) to see if the audio unit turns off.

   Does the audio unit turn off?

   YES–Go to step 3.

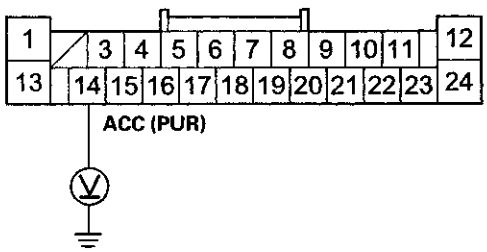
   NO–Replace the audio unit.■
   - With navigation (see page 23-114)
   - Without navigation (see page 23-115)
3. Turn the ignition switch to ON (II), push the power switch on, then turn the ignition switch to LOCK (0).

   Does the audio unit turn off?

   YES–Operation is normal.■

   NO–Go to step 4.
4. Remove the audio unit with navigation (see page 23-114), without navigation (see page 23-115).
5. Measure the voltage between audio unit connector A (24P) terminal No. 14 and body ground.

AUDIO UNIT CONNECTOR A (24P)



Wire side of female terminals

Is there battery voltage?

YES–Check for a short to power on the PUR wire.■

NO–Replace the audio unit.■
- With navigation (see page 23-114)
- Without navigation (see page 23-115)

No sound is heard from the speaker(s) (display is normal) (with premium audio)

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Set the fader and balance positions to the center.
- Before doing the troubleshooting, do the Audio unit power switch will not turn on troubleshooting (see page 23-69).

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit, and make sure the volume button is not set to the MIN level.

   Is it at the MIN level?

   YES–Raise the volume level, and recheck the function.■

   NO–Go to step 3.
3. On the steering wheel, check the navigation talk command, and/or the HandsFreeLink talk command function.

   Are the navigation talk command and/or the HFL talk command function set?

   YES–Cancel the navigation talk command by pressing the navigation BACK button, and/or HFL talk command, press the HFL BACK button, then recheck the function.■

   NO–Go to step 4.
4. Do the speaker check mode with the Self-diagnostic Function (see page 23-58).

   Do all speakers produce a tone?

   YES–System is OK at this time. Check for poor connections at the audio unit, speakers and stereo amplifier.■

   NO–Go to step 5.
5. Turn the ignition switch to LOCK (0).

6. Check the No. 15 (20 A) fuse in the passenger's under-dash fuse/relay box, the No. 15 (10 A) fuse in the under-hood fuse/relay box, and the No. 18 (7.5 A) fuse in the driver's under-dash fuse/relay box.

   Are the fuses OK?

   YES–Go to step 7.

   NO–Replace the fuse(s), and recheck.■

7. Check the speaker(s) with no sound for any damage.

   Is there any damage?

   YES–Replace the speaker (see page 23-122) and recheck.■

   NO–Go to step 8.

8. Remove the speaker(s) with no sound (see page 23-122), and disconnect its connector.

9. Check the speaker 2P connector for a loose or poor connection.

   Reconnect the speaker connector, and recheck the symptom; is the condition still present?

   YES–Go to step 10.

   NO–Intermittent failure. Operation is normal.■

10. Test the speaker(s) (see page 23-122).

    Is the speaker OK?

    YES–Go to step 11.

    NO–Replace the speaker(s) (see page 23-122).■

11. Reconnect the speaker connector(s).

12. Disconnect stereo amplifier connector B (18P) and the door speaker crossover network control unit 8P connectors.

13. Check for continuity between body ground and stereo amplifier connector B (18P) and between body ground and the door speaker crossover network control unit 8P connector according to the table.

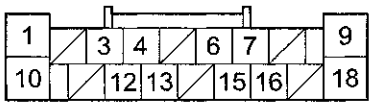
Speaker	Stereo amplifier connector	Wire color
Driver"s door speaker, Driver's door tweeter	B16 (+)	GRN
	B7 (−)	PUR
Front passenger's door speaker, Front passenger's door tweeter	B15 (+)	PNK
	B6 (−)	WHT
Right rear speaker	B12 (+)	BLU
	B3 (−)	ORN
Subwoofer	B10 (+)	GRY
	B1 (−)	LT BLU
Left rear speaker	B13 (+)	YEL
	B4 (−)	BRN

Speaker	Driver's door speaker crossover network control unit connector	Front passenger's door speaker crossover network control unit connector	Wire color
Driver's door speaker	7 (+)	——	LT GRN
	8 (−)		PNK
Driver's door tweeter	5 (+)	——	RED
	6 (−)		GRN
Front passenger's door speaker	——	7 (+)	GRY
		8 (−)	RED
Front passenger's door tweeter	——	5 (+)	BRN
		6 (−)	WHT

(cont'd)

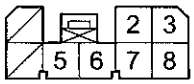
Symptom Troubleshooting (cont'd)

STEREO AMPLIFIER CONNECTOR B (18P)



Wire side of female terminals

SPEAKER CROSSOVER NETWORK CONTROL UNIT CONNECTOR (8P)



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the stereo amplifier and the door speaker crossover network control unit, or the door speaker crossover network control unit and the speaker(s).■

NO–Go to step 14.

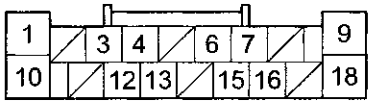
14. Measure the resistance between each pair of speaker terminals at stereo amplifier connector A (18P) and the speaker crossover network control unit according to the table.

Speaker	Driver's door speaker crossover network control unit connector	Wire color	Resistance
Driver's door speaker	7	LT GRN	About 4 Ω
	8	PNK	
Driver's door tweeter	5	RED	About 3.3 Ω
	6	GRN	

Speaker	Front passenger's door speaker crossover network control unit connector	Wire color	Resistance
Front passenger's door speaker	7	GRY	About 4 Ω
	8	RED	
Front passen-gerr's door tweeter	5	BRN	About 3.3 Ω
	6	WHT	

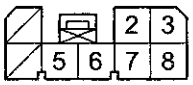
Speaker	Stereo amplifier connector	Wire color	Resistance
Right rear speaker	B12	BLU	About 4 Ω
	B3	ORN	
Subwoofer	B10	GRY/RED	About 2 Ω
	B1	LT BLU	
Left rear speaker	B13	YEL	About 4 Ω
	B4	BRN	

STEREO AMPLIFIER CONNECTOR B (18P)



Wire side of female terminals

SPEAKER CROSSOVER NETWORK CONTROL UNIT CONNECTOR (8P)



Wire side of female terminals

Is the resistance OK?

YES–Go to step 15.

NO–Repair an open or a short in the wire between the stereo amplifier and the speaker.■

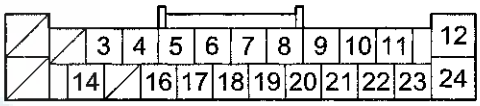
15. Disconnect audio unit connector A (24P), stereo amplifier connector A (24P), and audio unit connector D (8P).

    NOTE: Eject all the CDs before disconnecting the audio unit and CD changer to prevent damaging the CD player's load mechanism.

16. Check for continuity between audio unit connector A (24P), connector D (8P) and stereo amplifier connector A (24P) according to the table.

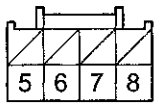
Audio unit connector	Stereo amplifier connector	Wire color
A6	A7	RED
A7	A19	GRN
A8	A18	GRY
A9	A15	GRY
A10	A4	RED
A11	A16	GRN
A18	A5	RED
A19	A17	GRN
A20	A6	GRY
A21	A3	GRY
A22	A2	RED
A23	A14	GRN
D6	A8	RED
D7	A9	BLK
D8	A20	GRN

AUDIO UNIT CONNECTOR A (24P)



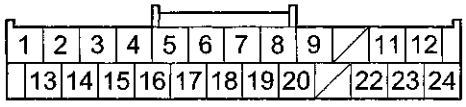
Wire side of female terminals

AUDIO UNIT CONNECTOR D (8P)



Wire side of female terminals

STEREO AMPLIFIER CONNECTOR A (24P)



Wire side of female terminals

(cont'd)

Symptom Troubleshooting (cont'd)

Is there continuity?

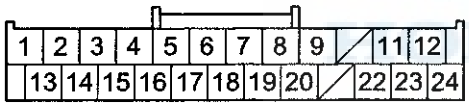
YES–Go to step 17.

NO–Repair an open in the applicable wire(s) between the audio unit and stereo amplifier (replace the affected shielded harness).■

17. Check for continuity between stereo amplifier connector A (24P) and body ground according to the table.

Stereo amplifier connector	Wire color
A2	RED
A4	RED
A5	RED
A7	RED
A8	RED
A14	GRN
A16	GRN
A17	GRN
A19	GRN
A20	GRN

STEREO AMPLIFIER CONNECTOR A (24P)



Wire side of female terminals

Is there continuity?

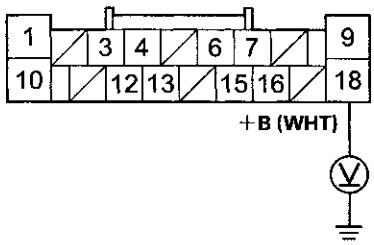
YES–Repair a short to body ground in the wire(s) between the audio unit and stereo amplifier (replace the affected shielded harness).■

NO–Go to step 18.

18. Reconnect stereo amplifier connector A (24P) and B (18P).

19. Measure the voltage between stereo amplifier connector B (18P) terminal No. 18 and body ground.

STEREO AMPLIFIER CONNECTOR B (18P)



Wire side of female terminals

Is there battery voltage?

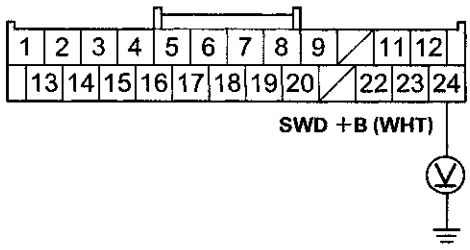
YES–Go to step 20.

NO–Repair an open in the wire between the No. 15 (20 A) fuse in the passenger's under-dash fuse/relay box and stereo amplifier connector B (18P) terminal No. 18 .■

20. Turn the ignition switch to ON (II).

21. Measure the voltage between stereo amplifier connector A (24P) terminal No. 24 and body ground.

STEREO AMPLIFIER CONNECTOR A (24P)



Wire side of female terminals

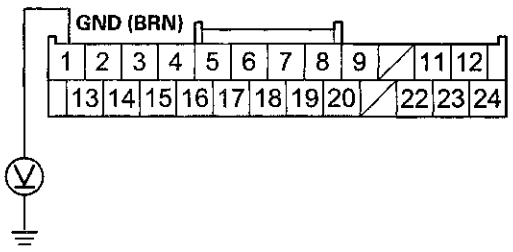
Is there battery voltage?

YES–Go to step 22.

NO–Repair an open in the wire between stereo amplifier connector A (24P) terminal No. 24 and audio unit connector A (24P) terminal No. 17.■

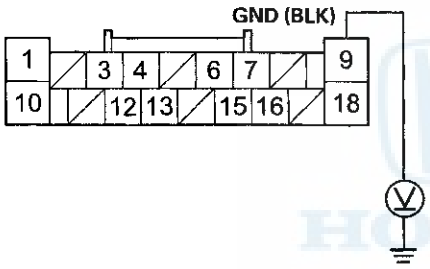
22. Measure the voltage between stereo amplifier connector A (24P) terminal No. 1 and body ground, and between stereo amplifier connector B (18P) terminal No. 9 and body ground.

STEREO AMPLIFIER CONNECTOR A (24P)



Wire side of female terminals

STEREO AMPLIFIER CONNECTOR B (18P)



Wire side of female terminals

Is there less than 0.2 V?

YES–Go to step 23.

NO–Repair an open or high resistance in the wire between stereo amplifier connector A (24P) terminal No. 1, connector B (18P) terminal No. 9 and body ground (G401, G402) (see page 22-40).■

23. Substitute a known-good door speaker crossover network control unit (see page 23-121), and recheck.

Is the symptom still present?

YES–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/ indication goes away, replace the original audio unit. If the symptoms still present, substitute a known-good stereo amplifier (see page 23-119), and recheck. If the symptom/indication goes away, replace the original stereo amplifier.■

NO–Replace the original door speaker crossover network control unit (see page 23-121).■

No Sound is heard from the speaker(s) (display is normal) (without premium audio)

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Set the fader and balance positions to the center.
- Before doing symptom troubleshooting, do the audio unit power switch will not turn on troubleshooting (see page 23-69).

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit and make sure the volume button is not set to the MIN level.

   Is it at the MIN level?

   YES–Raise the volume level, and recheck the function.■

   NO–Go to step 3.
3. Go to the speaker check mode in the audio system Self-diagnostic Function (see page 23-58).

   Do all speakers produce a tone?

   YES–Intermittent failure; the system is OK at this time. Check for poor connections at the audio unit and speakers.

   NO–Go to step 4.
4. Turn the ignition switch to LOCK (0).
5. Check the speaker(s) with no sound for any damage.

   Is there any damage?

   YES–Substitute the speaker (see page 23-122) and recheck.■

   NO–Go to step 6.
6. Check the speaker 2P connector for a loose or poor connection.

   Reconnect the speaker connector, and recheck the symptom; is the condition still present?

   YES–Go to step 7.

   NO–Intermittent failure. Operation is normal.■

(cont'd)

Symptom Troubleshooting (cont'd)

7. Test the speaker(s) (see page 23-122).

   Is the speaker OK?

   YES–Go to step 8.

   NO–Replace the speaker(s) (see page 23-122).■

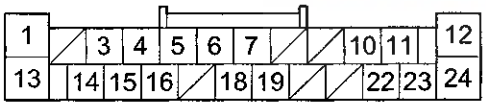
8. Reconnect the speaker connector(s).
9. Disconnect audio unit connector A (24P).

   NOTE: Eject all the CDs before removing the audio unit and CD changer to prevent damaging the CD player's load mechanism.

10. Check for continuity between audio unit connector A (24P) and body ground according to the table.

Audio unit connector	Wire color
A6	ORN
A7	BLU
A10	BRN
A11	YEL
A18	RED
A19	GRY
A22	PNK
A23	LT GRN

AUDIO UNIT CONNECTOR A (24P)



Wire side of female terminals

Is there continuity?

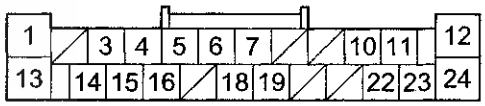
YES–Repair a short to body ground in the wire(s) between the audio unit and the speaker(s).■

NO–Go to step 11.

11. Disconnect the tweeter 2P connectors.
12. Measure the resistance between each pair of speaker terminals at audio unit connector A (24P) according to the table.

Speaker	Audio unit connector	Wire color	Resistance
Driver's door speaker	A23	LT GRN	About 4 Ω
	A22	PNK	
Front passenger's door speaker	A19	GRY	About 4 Ω
	A18	RED	
Left rear speaker	A11	YEL	About 4 Ω
	A10	BRN	
Right rear speaker	A7	BLU	About 4 Ω
	A6	ORN	

AUDIO UNIT CONNECTOR A (24P)



Wire side of female terminals

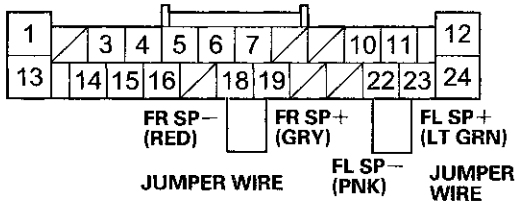
Is the resistance OK?

YES–Go to step 13.

NO–Repair an open or a short in the wire between the audio unit and the speaker(s).■

13. Disconnect the door speaker 2P connectors.
14. Connect audio unit connector A (24P) terminals with a jumper wire as shown.

AUDIO UNIT CONNECTOR A (24P)



Wire side of female terminals

15. Check for continuity between the tweeter 2P connector according to the table.

Speaker	Terminal	Wire color
Driver's door tweeter	1	LT GRN
	2	PNK
Front passenger's door tweeter	1	GRY/RED
	2	RED

DRIVER'S DOOR TWEETER 2P CONNECTOR
FRONT PASSENGERE'S DOOR TWEETER 2P CONNECTOR

Wire side of female terminals

Is there continuity?

YES–Replace the audio unit (see page 23-115).■

NO–Repair an open in the wire between the audio unit and the tweeter. ■

Auxilialry input sound is low or cannot be heard

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Use auxiliary stereo cables with 3.5 mm ends only.
- Auxiliary accessories may be played on the audio unit using the auxiliary input.

1. Turn the ignition switch to ON (II).
2. Turn the audio unit and connect an auxiliary accessory to the auxiliary input jack.
3. Check the volume operation.

   Is the sound normal?

   YES–Operation is normal at this time.■

   NO–Go to step 4.
4. Make sure auxiliary accessory volume is set to high.

   Is the volume set to high?

   YES–Go to step 5.

   NO–Raise the auxiliary accessory volume to high. Make sure the audio unit volume is turned down before retesting.■
5. Substitute a known-good auxiliary audio accessory and/or auxiliary stereo cable, and recheck.

   Does the auxiliary audio accessory operate properly?

   YES–Original auxiliary audio accessory or auxiliary stereo cable is faulty.■

   NO–Go to step 6.
6. Turn the ignition switch to LOCK (0).
7. Remove the auxiliary jack assembly (see page 23-127) and check that the auxiliary jack assembly is properly connected.

   Is the auxiliary jack assembly connected properly?

   YES–
   - Except 1 CD type: go to step 8.
   - 1 CD type: go to step 13.

   NO–Reconnect the connector, and recheck the function.■

(cont'd)

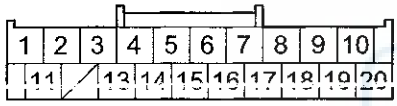
Audio System

Symptom Troubleshooting (cont'd)

8. Disconnect the auxiliary jack assembly 5P connector.
9. Disconnect audio unit connector B (20P).
10. Check for continuity between body ground and audio unit connector B (20P) according to the table.

Audio unit connector	Wire color
B3	BLK
B13	RED
B14	WHT
B15	GRY

AUDIO UNIT CONNECTOR B (20P)



Wire side of female terminals

Is there continuity?

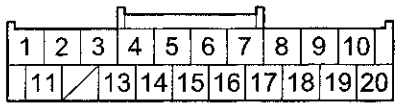
YES–There is a short to body ground in the wire(s) between the audio unit and the auxiliary jack assembly. Replace the affected shielded harness.■

NO–Go to step 11.

11. Check for continuity between audio unit connector B (20P) according to the table.

From terminal	To terminals
B3 (BLK)	B4 (GRY), B13 (RED), B14 (WHT)
B4 (GRY)	B13 (RED), B14 (WHT)
B13 (RED)	B14 (WHT)

AUDIO UNIT CONNECTOR B (20P)



Wire side of female terminals

Is there continuity?

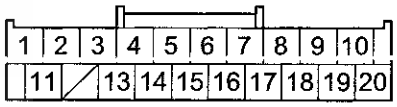
YES–There is a short in the wire(s) between the audio unit and the auxiliary jack assembly. Replace the affected shielded harness.■

NO–Go to step 12.

12. Check for continuity between audio unit connector B (20P) and the auxiliary jack assembly 5P connector according to the table.

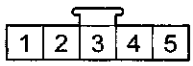
Audio unit connector	Auxiliary jack assembly connector	Wire color
B3	3	BLK
B5	2	YEL
B13	4	RED
B14	5	WHT
B15	1	GRY

AUDIO UNIT CONNECTOR B (20P)



Wire side of female terminals

AUXILIARY JACK ASSEMBLY 5P CONNECTOR



Wire side of female terminals

Is there continuity?

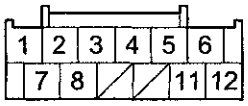
YES–Substitute a known-good auxiliary jack assembly (see page 23-127), and recheck. If the symptom/indication goes away, replace the original auxiliary jack assembly. If the symptom/indication is still present, replace the audio unit with navigation (see page 23-114), without navigation (see page 23-115).■

NO–There is an open in the wire(s) between the audio unit and the auxiliary jack assembly. Replace the affected shielded harness.■

13. Disconnect the auxiliary jack assembly 5P connector.
14. Disconnect audio unit connector B (12P).
15. Check for continuity between body ground and audio unit connector B (12P) according to the table.

Audio unit connector	Wire color
B1	BLK
B4	GRY
B7	RED
B8	WHT

AUDIO UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there continuity?

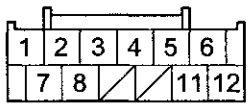
YES–There is a short to body ground in the wire(s) between the audio unit and the auxiliary jack assembly. Replace the affected shielded harness.■

NO–Go to step 16.

16. Check for continuity between audio unit connector B (12P) according to the table.

From terminal	To terminals
B1 (BLK)	B2 (GRY), B7 (RED), B8 (WHT)
B2 (GRY)	B7 (RED), B8 (WHT)
B7 (RED)	B8 (WHT)

AUDIO UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there continuity?

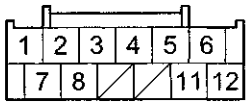
YES–There is a short in the wire(s) between the audio unit and the auxiliary jack assembly. Replace the affected shielded harness.■

NO–Go to step 17.

17. Check for continuity between audio unit connector B (12P) and auxiliary jack assembly 5P connector according to the table.

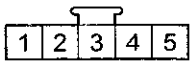
Audio unit connector	Auxiliary jack assembly connector	Wire color
B1	3	BLK
B3	2	YEL
B4	1	GRY
B7	4	RED
B8	5	WHT

AUDIO UNIT CONNECTOR B (12P)



Wire side of female terminals

AUXILIARY JACK ASSEMBLY 5P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Substitute a known-good auxiliary jack assembly (see page 23-127), and recheck. If the symptom/indication goes away, replace the original auxiliary jack assembly. If the symptom/indication is still present, replace the audio unit with navigation (see page 23-114), without navigation (see page 23-115).■

NO–There is an open in the wire(s) between the audio unit and the auxiliary jack assembly. Replace the affected shielded harness.■

Symptom Troubleshooting (cont'd)

Audio system sound is weak or distorted (display is normal)

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit, and check for sound in each mode (AM, FM, XM, and CD).

   Is there sound from the speakers, and is the sound quality normal in each mode?

   YES–Intermittent failure. The system is OK at this time. Check for loose connections at the audio unit, the amplifier, and each speaker.■

   NO–Speakers all work, sound quality is poor.■
   - If sound quality is poor only with the XM radio, or the XM radio does not function, go to Poor or no sound with XM radio (see page 23-109).
   - If the sound quality is poor only with AM or FM, go to Poor AM or FM radio reception or interference (see page 23-66).
   - If the sound is poor in all modes, go to Sound Quality Diagnosis (see page 23-110).

Radio preset memory is lost

NOTE: If only XM stations are lost, go to XM radio preset memory is lost (see page 23-108).

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit and set each of the radio station preset buttons.

   Do each of the buttons set properly?

   YES–Go to step 3.

   NO–Replace the audio unit.■
   - With navigation (see page 23-114)
   - Without navigation (see page 23-115)

3. Turn the ignition switch to LOCK (0) for 1 minute, then turn it back to ON (II).
4. Test the preset buttons for proper recall operation.

   Do the preset buttons recall the set radio stations?

   YES–System is normal at this time. Check connections at the audio unit.■

   NO–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

Volume does not change

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Set the fader and the balance positions to the center.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit, and check for sound in each mode (AM, FM, XM, and CD).

   Is the sound normal?

   YES–Go to step 3.

   NO–Go to Sound Quality Diagnosis (see page 23-110) or No sound is heard from the speaker(s) with premium audio system (see page 23-70), without premium audio system (see page 23-75).■
3. Operate the volume knob to see if the volume changes.

   Does the volume change?

   YES–Operation is normal.■

   NO–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

Volume does not increase with speed

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Test-drive the vehicle at highway speeds, and monitor if the volume increases.

   Does the volume increase?

   YES–Intermittent failure, the system is OK at this time.■

   NO–Go to step 2.
2. Verify SVC mode setting in audio unit sound adjustment set-up.

   Is the SVC set to off?

   YES–Change setting to MID, and retest.■

   NO–Go to step 3.
3. Do the Self-diagnostic Function for the vehicle speed pulse indication (see page 23-54).

   Does self-diagnostic function indicate a VSP signal?

   YES–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and retest. If the symptom/indication goes away, replace the original audio unit.■

   NO–

   - 1 CD type: Go to step 4.
   - Except 1 CD type: Check for B-CAN DTCs (communication BUS Line Error) with the HDS and go to the indicated DTC's troubleshooting. If no B-CAN DTCs or communication bus line errors are found, substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom goes away, replace the original audio unit.■
4. Remove the audio unit with navigation (see page 23-114), without navigation (see page 23-115), and disconnect audio unit connector A (24P).

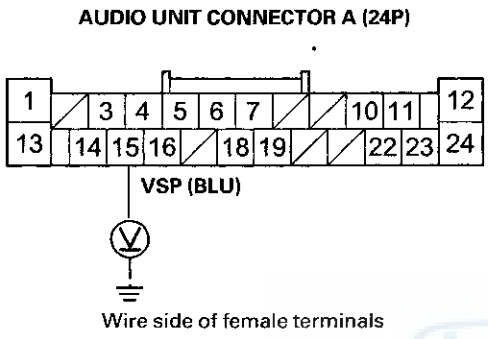
   NOTE: Eject all the CDs before removing the audio unit and CD changer to prevent damaging the CD player's load mechanism.
5. Turn the ignition switch to ON (II).

(cont'd)

Symptom Troubleshooting (cont'd)

6. Test-drive the vehicle and have an assistant measure the voltage at audio unit connector A (24P) terminal No. 15.

   NOTE: Some volt meters may show an average of 2.5 V, and others may show a constant voltage, depending on the meter's measurement speed.



Is there a 0—5 V pulse?

YES–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

NO–Repair opens or shorts in the wire between the audio unit connector A (24P) terminal No. 15 and the ECM/PCM connector A (49P) terminal No. 30. If no opens are found, update the ECM/PCM (see page 11-203), if it does not have the latest software or substitute a known-good ECM/PCM (see page 11-204).■

Volume is too high or too low when driving at freeway speeds

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Test-drive the vehicle at highway speeds, and monitor volume level.

   Is the volume level too high, or too low?

   YES–Go to step 2.

   NO–Intermittent failure, the system is OK at this time.■

2. Change SVC mode setting in sound adjustment set-up to Mid, and retest.

   Is the volume level still too high or too low?

   YES–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

   NO–Improper SVC setting for customer's sound taste.■

Radio tuner does not change stations

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit, and note the audio information on the display panel.

   Does the audio information display properly?

   YES–Go to step 3.

   NO–Go to Audio system information does not display on the audio-HVAC (sub) display unit (see page 23-83).■
3. Operate the tuning knob to see if the radio station changes.

   Does the radio station change?

   YES–Intermittent failure, the tuning knob is OK at this time.■

   NO–Go to step 4.
4. Go to the audio button, knob, and remote switch detection mode in the audio system Self-diagnostic Function (see page 23-54).

   Is the rotating portion of the selector knob (tune (sound) knob ICD) detected when operated in both directions?

   YES–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

   NO–Substitute a known-good audio switch panel, and recheck. If the symptom/indication goes away, replace the original audio switch panel (see page 23-117). If the system is still present, substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115) and recheck. If the symptom/indication goes away, replace the original audio unit.■

Audio system information does not display on the audio-HVAC (sub) display unit

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

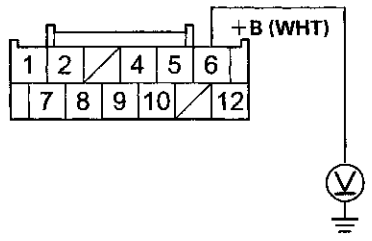
1. Remove the audio-HVAC display unit (see page 23-119).
2. Check the connections at the audio-HVAC (sub) display unit 12P connector and audio unit connector B (20P).

   Are the connectors and terminals connected properly?

   YES–Go to step 3.

   NO–Repair the connection, and recheck.■
3. Turn the ignition switch to ON (II).
4. Measure the voltage between audio-HVAC (sub) display unit 12P connector terminal No. 6 and body ground.

AUDIO-HVAC (SUB) DISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES–Go to step 5.

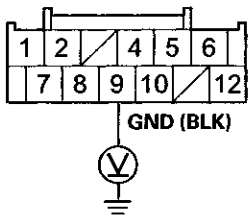
NO–Repair an open in the wire between the No. 15 (10 A) fuse in the under-hood fuse/relay box and audio-HVAC (sub) display unit 12P connector terminal No. 6.■

(cont'd)

Symptom Troubleshooting (cont'd)

5. Measure the voltage between the audio-HVAC (sub) display unit 12P connector terminal No. 9 and body ground.

AUDIO-HVAC (SUB) DISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

Is there less than 0.2 V?

YES–Go to step 6.

NO–Repair an open or high resistance in the wire between audio-HVAC (sub) display 12P connector terminal No. 9 and body ground (G402) (see page 22-40).■

6. Turn the ignition switch to LOCK (0).

7. Disconnect audio unit connector B (20P) and the audio-HVAC (sub) display unit 12P connector.

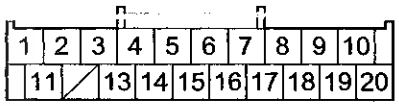
8. Check for continuity between audio unit connector B (20P) (except 1 CD type) or B (12P) (1 CD type) and the audio-HVAC (sub) display unit 12P connector according to the table.

Audio unit connector	Audio-HVAC (sub) display unit connector	Wire color
B6	2	RED
B7*1 B12*2	1	GRN
B17*1 B11*2	4	BLU

*1: Except 1 CD type
*2: 1 CD type

Except 1 CD type

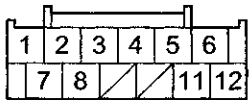
AUDIO UNIT CONNECTOR B (20P)



Wire side of female terminals

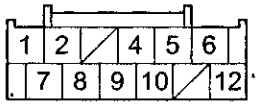
1 CD type

AUDIO UNIT CONNECTOR B (12P)



Wire side of female terminals

AUDIO-HVAC (SUB) DISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

Is there continuity?

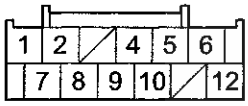
YES–Go to step 9.

NO–Repair an open in the wire(s) between the audio unit and the audio-HVAC (sub) display unit (replace the affected shielded harness).■

9. Check for continuity between the terminals of the audio-HVAC (sub) display unit 12P connector and body ground according to the table.

Audio-HVAC (sub) display unit connector	Wire color
1	GRN
2	RED
4	BLU

AUDIO-HVAC (SUB) DISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire(s) between the audio unit and the audio-HVAC (sub) display unit (replace the affected shielded harness).■

NO–Go to step 10.

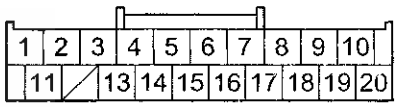
10. Check for continuity between the terminals of audio unit connector B (20P) (except 1 CD type) or B (12P) (1 CD type) according to the table.

From terminal	To terminals
B16*1 B5*2(BLK)	B7*1 B12*2 (GRN), B6 (RED)

*1: Except 1 CD type
*2: 1 CD type

Except 1 CD type

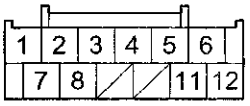
AUDIO UNIT CONNECTOR B (20P)



Wire side of female terminals

1 CD type

AUDIO UNIT CONNECTOR B (12P)



Wire side of female terminals

Is there continuity between any of the terminals?

YES–Repair a short in the wire(s) between the audio unit and the audio-HVAC (sub) display unit (replace the affected shielded harness).■

NO–Substitute a known-good audio-HVAC (sub) display unit (see page 23-119), and recheck. If the symptom/indication goes away, replace the original audio-HVAC (sub) display unit. If the symptom is still present, substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

Symptom Troubleshooting (cont'd)

Security indicator does not work properly

NOTE:
- The system operates without the 5-digit security (anti-theft) code.
- Before troubleshooting, make sure you have the anti-theft code..

1. Turn off the audio system.

   Is the security indicator (LED) on (blink)?

   YES–Go to Step 2.

   NO–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good audio switch panel (see page 23-117), and recheck. If the symptom/indication goes away, replace the original audio switch panel.■

2. Turn on the audio system.

   Is the security indicator (LED) out?

   YES–The audio unit is OK at this time. Check for loose or poor connections at the audio unit and the audio panel.■

   NO–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indicated goes away, replace the original audio unit. If the symptom is still present, substitute a known-good audio switch panel (see page 23-117), and recheck. If the symptom/indicated goes away, replace the original audio switch panel.■

Audio unit button illumination does not work (1 CD type)

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Turn the combination lighting switch to the parking light position.
3. Check the illumination of the audio unit buttons.

   Are the buttons illuminated?

   YES–Intermittent problem; the audio unit is OK at this time. Check for loose or poor connections at audio unit connector A (24P).■

   NO–Go to step 4.

4. Check the illumination of several other buttons not related to the audio system.

   Are the buttons illuminated?

   YES–Go to step 5.

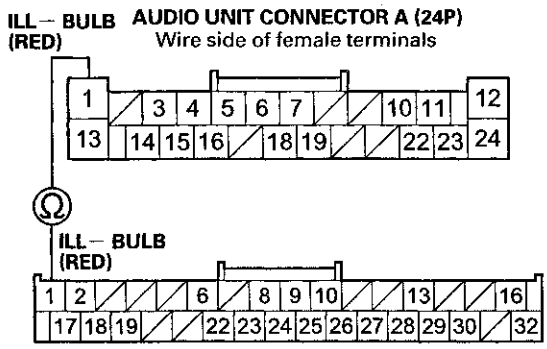
   NO–Troubleshoot the interior lights. Start by checking the No. 6 (7.5 A) fuse in the passenger's under-dash fuse/relay box. If the fuse is OK, check for an open in the wire between the passenger's under-dash fuse/relay box and audio unit.■

5. Turn the ignition switch to LOCK (0).
6. Disconnect audio unit connector A (24P).

   NOTE: Eject all the CDs before removing the audio unit and CD changer to prevent damaging the CD player's load mechanism.

7. Disconnect the gauge control module 32P connector (see page 22-351).

8. Check for continuity between audio unit connector A (24P) terminal No. 1 and gauge control module 32P connector terminal No. 1.



GAUGE CONTROL MODULE 32P CONNECTOR
Wire side of female terminals

Is there continuity?

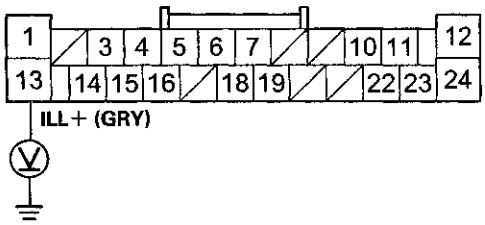
YES–Go to step 9.

NO–Repair an open in the wire between the gauge control module and the audio unit.■

9. Turn the ignition switch to ON (II).

10. With the headlight switch still on, measure the voltage between audio unit connector A (24P) terminal No. 13 and body ground.

AUDIO UNIT CONNECTOR A (24P)



Wire side of female terminals

Is there battery voltage?

YES–Check the connections at the audio unit connector A (24P). If all connections are OK, substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good audio switch panel (see page 23-117), and recheck. If the symptom/indication goes away, replace the original audio switch panel.■

NO–Repair an open in the wire between the passenger's under-dash fuse/relay box and the audio unit.■

Symptom Troubleshooting (cont'd)

Audio unit button illumination does not work (Except 1 CD type)

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Turn the combination lighting switch to the parking light position.
3. Check the illumination of the audio unit buttons.

   Are the buttons illuminated?

   YES–Intermittent problem; the audio unit is OK at this time.■

   NO–Go to step 4.
4. Check the illumination of several other buttons not related to the audio system.

   Are the buttons illuminated?

   YES–Check for B-CAN DTCs (communication BUS Line Error) with the HDS and go to the indicated DTS's troubleshooting. If no DTCs or communication bus line errors are found, substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

   NO–Troubleshoot the interior lights. Start by checking the No. 6 (7.5 A) fuse in the passenger's under-dash fuse/relay box. If the fuse is OK, check for an open in the wire between the passenger's under-dash fuse/relay box and the audio unit.■

Audio remote switch does not work properly

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit and check the audio unit operation (volume up, volume down, CH (UP), CH (DOWN), MODE).

   Is the audio unit operation OK?

   YES–Operation is normal.■

   NO–Go to step 3.
3. Go to the audio button, knob, and remote switch detection mode in the audio system Self-diagnostic Function (see page 23-54).

   Are the remote switch functions detected and functioning properly?

   YES–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and check. If the symptom/indication goes away, replace the original audio unit.■

   NO–Go to step 5.
4. Turn the ignition switch to LOCK (0).
5. Test the audio remote switch (see page 23-125).

   Is the audio remote switch OK?

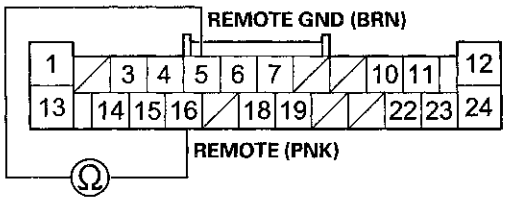
   YES–Go to step 6.

   NO–Replace the audio remote switch (see page 17-7).■
6. Remove the audio unit.
   - With navigation (see page 23-114)
   - Without navigation (see page 23-115)
7. Disconnect audio unit connector A (24P).

   NOTE: Eject all the CDs before disconnecting the audio unit and CD changer to prevent damaging the CD player's load mechanism.

8. Reconnect the audio remote switch, and measure the resistance between the audio unit connector A (24P) terminals No. 5 and No. 16 as specified in the table.

AUDIO UNIT CONNECTOR A (24P)



Wire side of female terminals

AUDIO REMOTE SWITCH TABLE

Button held down	VOL DOWN	VOL UP	CH (−)	CH (+)	MODE	(No button pressed)
Resistance	about 100 Ω	about 357 Ω	about 775 Ω	about 1.7 kΩ	about 3.7 kΩ	about 10 kΩ

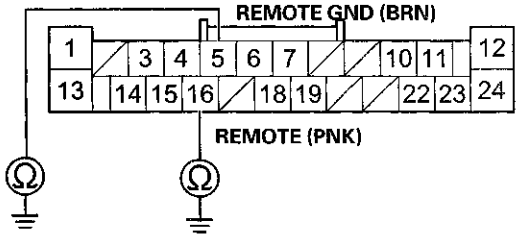
Is the resistance OK?

YES–Go to step 9.

NO–Repair a short or high resistance in the circuit between the audio unit and the audio remote switch. If the wires are OK, replace the cable reel (see page 24-225).■

9. Check for continuity between body ground and audio unit connector A (24P) terminals No. 5 and No. 16 individually.

AUDIO UNIT CONNECTOR A (24P)



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the circuit between the audio unit and the audio remote switch. If the wires are OK, replace the cable reel (see page 24-225).■

NO–Replace the audio unit.■

- With navigation (see page 23-114)
- Without navigation (see page 23-115)

Symptom Troubleshooting (cont'd)

Audio disc does not load

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Disc labels should not be used in the audio unit. They may jam and damage the player mechanism.
- Make sure the audio disc is compatible with the system (see the owner's manual for more information).

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit and insert a known-good disc to see if the symptom can be duplicated.

   Does the disc load?

   YES–Operation is normal. If the disc loads normally, but will not play, go to Audio disc does not play (see page 23-92).■

   NO–Go to step 3.
3. Insert another disc.

   Does the disc load?

   YES–The original disc is faulty.■

   NO–
   - With navigation: Substitute a known-good audio disc changer (see page 23-118), and recheck. If the symptom/indication goes away, replace the original audio disc changer.■
   - Without navigation: Substitute a known-good audio unit (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

Audio disc does not eject

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Disc labels should not be used in the audio unit. They may jam and damage the player mechanism.
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit.

   Does the system turn on?

   YES–Go to step 3.

   NO–Go to Audio unit power switch will not turn on (see page 23-69).■
3. Check to see if the disc ejects correctly with no binding when you push the EJECT button.

   Does the disc eject properly?

   YES–Operation is normal.■

   NO–
   - With navigation: Substitute a known-good audio disc changer (see page 23-118), and recheck. If the symptom/indication goes away, replace the original audio disc changer.■
   - Without navigation: Substitute a known-good audio unit (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

Audio disc changer does not load all six discs

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Disc labels should not be used in the audio unit. They may jam and damage the player mechanism.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit, and try loading six discs into the audio unit (in-dash disc changer).

   Does the audio unit accept all six discs?

   YES–Intermittent failure, the audio unit is OK at this time.■

   NO–Go to step 3.
3. Try loading the disc player with six known-good discs.

   Does the audio unit (in-dash disc changer) accept all six discs?

   YES–At least one of the original discs is faulty.■

   NO–

   - With navigation: Substitute known-good audio disc changer (see page 23-118), and recheck. If the symptom/indication goes away, replace the original audio disc changer.■
   - Without navigation: Substitute known-good audio unit (in-dash disc changer) (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit (in-dash disc changer).■

Audio disc changer does not move between discs

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Disc labels should not be used in the audio unit. They may jam and damage the player mechanism.

1. Turn the ignition switch to ON (II).
2. Insert six discs into the audio unit (in-dash disc changer), and see if the changer moves between discs.

   Does the changer operate normally?

   YES–Intermittent failure, the disc changer is OK at this time.■

   NO–Go to step 3.
3. Insert six known-good discs into the audio unit.

   Does the changer operate normally?

   YES–At least one of the original discs is faulty.■

   NO–

   - With navigation: Substitute known-good audio disc changer (see page 23-118), and recheck. If the symptom/indication goes away, replace the original audio disc changer.■
   - Without navigation: Substitute known-good audio unit (in-dash disc changer) (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit (in-dash disc changer).■

Symptom Troubleshooting (cont'd)

Special Tools Required
Diagnostic CD 07AAZ-SDBA100

Audio disc does not play

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Disc labels should not be used in the audio unit. They may jam and damage the player mechanism.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit, and try loading a disc.

   Does the disc load?

   YES–Go to step 3.

   NO–Go to Audio disc does not load (see page 23-90).■
3. Insert another disc to see if the symptom can be duplicated.

   Does the disc play?

   YES–Operation is normal.■

   NO–Go to step 4.
4. Insert audio diagnostic CD (T/N 07AAZ-SDBA100) in the audio unit.

   Does the disc play?

   YES–The original disc is faulty or has an unreadable format.■

   NO–
   - With navigation: Substitute a known-good audio disc changer (see page 23-118), and recheck. If the symptom/indication goes away, replace the original audio disc changer.■
   - Without navigation: Substitute a known-good audio unit (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

Special Tools Required
- Diagnostic CD 07AAZ-SDBA100
- Skip Test CD 07AAZ-SDBA200
- Skip Test CD 07AAZ-SDBA300

Audio disc skips

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Disc labels should not be used in the audio unit. They may jam and damage the player mechanism.

1. Confirm the vehicles tires are properly inflated.
2. Check the customer's disc for scratches and fingerprints.

   NOTE: The following test should be done with the audio unit bass and treble set to the customer's listening settings. When comparing to known-good vehicles, do the comparison on the same model and trim level.
3. Test-drive the vehicle to identify when the customer's disc skips. The audio diagnostic CD (T/N 07AAZ-SDBA100) can be used if the customer's CD is not available; use tracks 10—12.

   Does the disc skip?

   YES–Go to step 4.

   NO–Operation is normal.■
4. Compare the customer's CD that skips to a known-good vehicle under the same conditions.

   Does the disc skip in the known-good vehicle under the same conditions?

   YES–The disc player operation is normal, the problem is with the customer's disc.■

   NO–Go to step 5.

   NOTE: Do the following test with vehicle parked and the engine running.

5. Insert the diagnostic skip test CD (T/N 07AAZ-SDBA300). Play tracks 2—11, and note on which track number(s) where the disc starts skipping. Do the same test on a known-good vehicle.

   Does the disc skip on the same track(s) as the known-good vehicle?

   YES–Operation is normal.■

   NO–Go to step 6.

6. Insert the diagnostic skip test CD (T/N 07AAZ-SDBA200). Play tracks 7—11 and tracks 13—15 and note on which track number(s) the disc starts skipping. Do the same test on a known-good vehicle.

   Does the disc skip on the same track number(s) as the known-good vehicle?

   YES–Operation is normal.■

   NO–

   - With navigation: Substitute a known-good audio disc changer (see page 23-118), and recheck. If the symptom/indication goes away, replace the original audio disc changer.■
   - Without navigation: Substitute a known-good audio unit (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit.■

Audio unit button does not work

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- In order to troubleshoot the main power switch, go to Audio unit power switch will not turn on (see page 23-69).

1. Go to the audio button, knob, and remote switch detection mode in the audio Self-diagnostic Function (see page 23-54). Operate all items in the appropriate switch list.

   Switch list

With navigation:	TITLE, XM, FM/AM, PWR/VOL, SOUND, CD, AUX, 1-6, CATEGORY, TUNE, SKIP, SCAN/A. SEL, MAP/GUIDE, CANCEL, MENU, AUDIO, ☼ ☽, INFO, SETUP
With premium audio system:	1-6, LOAD, EJECT, FM, AM, XM, CD/AUX, TITLE, CLOCK, SCAN, CATEGORY, PWR, SKIP, A.SEL, RETURN, ENTER, MENU
Without premium audio system:	1-6, EJECT, FM, AM, CD, TUNE/SOUND/CD, AUX, TITLE, CLOCK, SCAN, FOLDER, RDT/RDM, A.SEL, SKIP, PWR/VOL

   Are all the items in the appropriate switch list detected?

   YES–Operation is normal.■

   NO–Substitute a known-good audio unit with navigation (see page 23-114), without navigation (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good audio switch panel (see page 23-117), and recheck. If the symptom/indication goes away, replace the original audio switch panel.■

Symptom Troubleshooting (cont'd)

Audio unit disc indicator does not work

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Discs with labels should not be used in the audio unit. They may jam and damage the player mechanism.

1. Turn on the audio system.
2. Insert a known-good disc or press the EJECT button.

   Is the DISC indicator (LED) indicated?

   YES–The audio unit is OK at this time. Check for loose or poor connections at audio unit and audio panel.■

   NO–

   - With navigation: Substitute a known-good audio disc changer (see page 23-118), and recheck. If the symptom/indication goes away, replace the original audio disc changer.■
   - Without navigation: Substitute a known-good audio unit (see page 23-115), and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good audio switch panel (see page 23-117), and recheck. If the symptom/indication goes away, replace the original audio switch panel.■

Booming sound while driving with audio unit on or off

NOTE:
- Check for all system's DTCs first with the HDS. If there are any DTCs stored, go to the indicated DTC's troubleshooting.
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Operate the audio unit, and check the function of the speakers.

   Is a booming sound or a low-frequency hum heard from the speakers?

   YES–Go to step 3.

   NO–Go to symptom troubleshooting No sound is heard from speaker(s).■
   - With premium audio system (see page 23-70).
   - Without premium audio system (see page 23-75).

3. Turn the audio system off.
4. Make sure all doors, hood, and the trunk are closed.
5. Start the engine, and let it idle.
6. Do the active noise cancellation (ANC) Self-diagnostic Function (see page 23-60).

7. Check for test items on tests 1 through 8.

   NOTE: Move on to the next test item within 50 seconds, or the self-diagnostic test ends.

   Does low-frequency hum sound heard from speakers for more than 5 second for all test items?

   YES–Go to step 8.

   NO–Go to the appropriate step listed.
   - If the all tests failed:
     With premium audio system, go to step 15.
     Without premium audio system, replace the audio unit (see page 23-115).
   - If the 3rd test failed:
     With premium audio system, go to step 29.
     Without premium audio system, replace the audio unit (see page 23-115).
   - If the 4th test failed,
     – With premium audio system, go to step 34.
     – Without premium audio system, replace the audio unit (see page 23-115).
   - If the 5th test failed,
     – With navigation: Go to step 39.
     – Without navigation: Go to step 48.
   - If the 6th test failed, go to step 59.
   - If the 7th test failed, go to step 70.
   - If the 8th test failed, go to step 80.

8. Turn the ignition switch to LOCK (0).
9. Disconnect the HDS from the DLC.
10. Start the engine, and let it idle.
11. Do the active noise cancellation (ANC) Self-diagnostic Function (see page 23-60).
12. Do the 10th test by pressing the No. 1 button.
13. Set the parking brake, and hold the engine speed at 2,500 rpm (A/T in P or N, M/T in neutral), and move on to the 11th test by pressing the No. 1 button.
14. Press the No. 1 button several times to turn the ANC on and off.

    Do you hear the low-frequency hum sound turn on and off while pressing the No. 1 button?

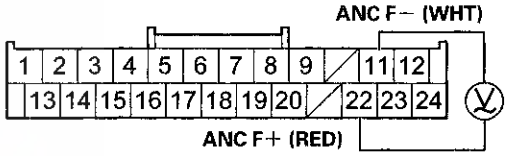
    YES–Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals between the audio unit, the ECM/PCM, and the under dash fuse box. Then, go to step 1 and recheck.

    NO–Replace the audio unit.■
    - With premium audio system (see page 23-114).
    - Without premium audio system (see page 23-115).

15. Turn the ignition switch to LOCK (0).
16. Connect a voltmeter between stereo amplifier connector A (24P) terminals No. 11 and No. 22.

    NOTE: Use the voltmeter in AC range.

STEREO AMPLIFIER CONNECTOR A (24P)



Wire side of female terminals

17. Turn the ignition switch to ON (II).
18. Prepare to do the active noise cancellation (ANC) Self-diagnostic Function (see page 23-60).
19. Measure the voltage during the 1st test with the display indicating OFF (press the No. 1 button to switch from ON to OFF).

    NOTE: Measure voltage within 50 seconds after you started the 1st test.

    Is there about 0.5 V?

    YES–Replace the stereo amplifier (see page 23-119).■

    NO–Go to step 20.

20. Turn the ignition switch to LOCK (0).

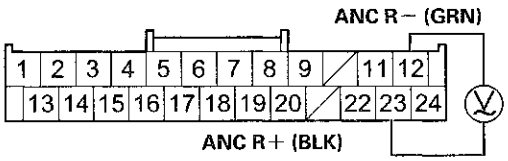
(cont'd)

Symptom Troubleshooting (cont'd)

21. Connect a voltmeter between stereo amplifier connector A (24P) terminals No. 12 and No. 23.

    NOTE: Use the voltmeter in AC range.

STEREO AMPLIFIER CONNECTOR A (24P)



Wire side of female terminals

22. Turn the ignition switch to ON (II).
23. Prepare to do the active noise cancellation (ANC) Self-diagnostic Function (see page 23-60).
24. Measure the voltage during the 1st test with the display indicating OFF (press the No. 1 button to switch from ON to OFF).

    NOTE: Measure voltage within 50 seconds after you started the 1st test, or the self-diagnostic test ends.

    Is there about 0.2 V?

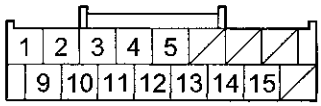
    YES–Replace the stereo amplifier (see page 23-119).■

    NO–Go to step 25.

25. Turn the ignition switch to LOCK (0).
26. Disconnect audio unit connector C (16P) and stereo amplifier connector A (24P).
27. Check for continuity between audio unit connector C (16P) and stereo amplifier connector A (24P) according to the table.

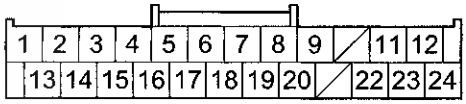
Audio unit connector	Stereo amplifier connector	Wire color
C1	A12	GRN
C2	A23	BLK
C9	A11	WHT
C10	A22	RED

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

STEREO AMPLIFIER CONNECTOR A (24P)



Wire side of female terminals

Is there continuity?

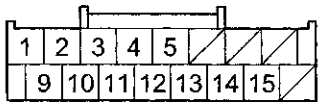
YES–Go to step 28.

NO–Repair an open in the wire between audio unit connector C (16P) and stereo amplifier connector A (24P).■

28. Check for continuity between body ground and audio unit connector C (16P) according to the table.

Audio unit connector	Wire color
C1	GRN
C2	BLK
C9	WHT
C10	RED

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire between audio unit connector C (16P) and stereo amplifier connector A (24P).■

NO–Replace the audio unit.■

- With premium audio system (see page 23-114).
- Without premium audio system (see page 23-115).

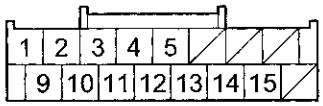
29. Turn the ignition switch to LOCK (0).

30. Disconnect audio unit connector C (16P) and stereo amplifier connector A (24P).

31. Check for continuity between audio unit connector C (16P) and stereo amplifier connector A (24P) according to the table.

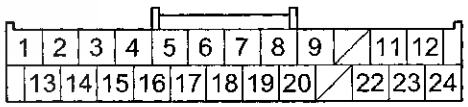
Audio unit connector	Stereo amplifier connector	Wire color
C9	A11	WHT
C10	A22	RED

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

STEREO AMPLIFIER CONNECTOR A (24P)



Wire side of female terminals

Is there continuity?

YES–Go to step 32.

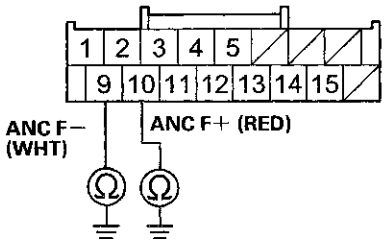
NO–Repair an open in the wire between audio unit connector C (16P) and stereo amplifier connector A (24P).■

(cont'd)

Symptom Troubleshooting (cont'd)

32. Check for continuity between body ground and audio unit connector C (16P) terminals No. 9 and No. 10 individually.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

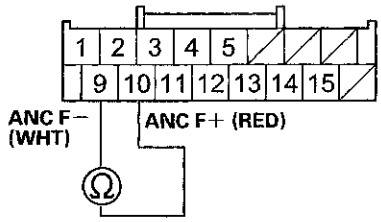
Is there continuity?

YES–Repair a short to body ground in the wire between audio unit connector C (16P) and stereo amplifier connector A (24P).■

NO–Go to step 33.

33. Check for continuity between audio unit connector C (16P) terminals No. 9 and No. 10.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there continuity?

YES–Repair a short in the wire between audio unit connector C (16P) and stereo amplifier connector A (24P).■

NO–Replace the audio unit.■

- With navigation (see page 23-114)
- Without navigation (see page 23-115)

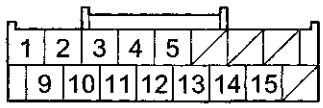
34. Turn the ignition switch to LOCK (0).

35. Disconnect audio unit connector C (16P) and stereo amplifier connector A (24P).

36. Check for continuity between audio unit connector C (16P) and stereo amplifier connector A (24P) according to the table.

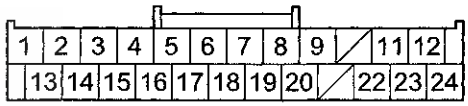
Audio unit connector	Stereo amplifier connector	Wire color
C1	A12	GRN
C2	A23	BLK

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

STEREO AMPLIFIER CONNECTOR A (24P)



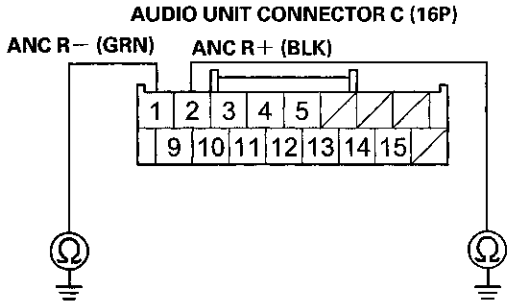
Wire side of female terminals

Is there continuity?

YES–Go to step 37.

NO–Repair an open in the wire between audio unit connector C (16P) and stereo amplifier connector A (24P).■

37. Check for continuity between body ground and audio unit connector C (16P) terminals No. 1 and No. 2 individually.



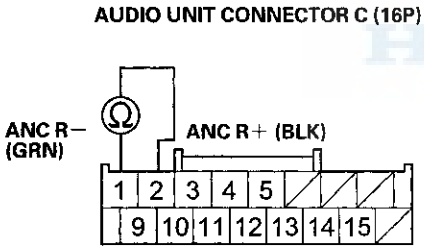
Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire between audio unit connector C (16P) and stereo amplifier connector A (24P).■

NO–Go to step 38.

38. Check for continuity between audio unit connector C (16P) terminals No. 1 and No. 2.



Wire side of female terminals

Is there continuity?

YES–Repair a short in the wire between audio unit connector C (16P) and stereo amplifier connector A (24P).■

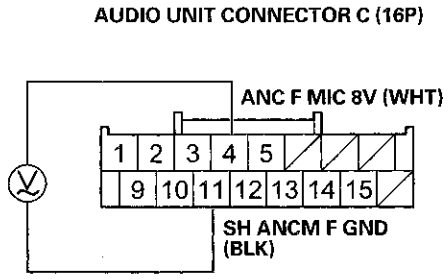
NO–Replace the audio unit .■

- With navigation (see page 23-114)
- Without navigation (see page 23-115)

39. Turn the ignition switch to LOCK (0).

40. Connect a voltmeter between audio unit connector C (16P) terminal No. 4 and No. 11.

NOTE: Use the voltmeter in AC range.



Wire side of female terminals

41. Turn the ignition switch to ACCESSORY (I).

42. Make a loud noise in front of the front HFL-navigation-ANC microphone.

Does the voltage change when making a loud noise in front of the microphone?

YES–Replace the audio unit.■

- With navigation (see page 23-114)
- Without navigation (see page 23-115)

NO–Go to step 43.

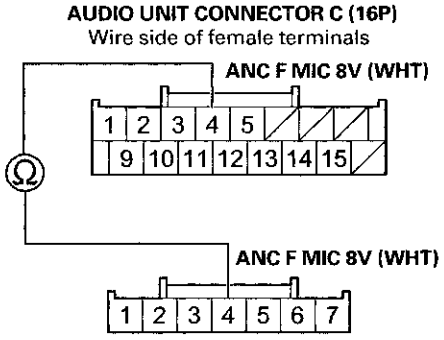
43. Turn the ignition switch to LOCK (0).

44. Disconnect audio unit connector C (16P) and the front HFL-navigation-ANC microphone 7P connector.

(cont'd)

Symptom Troubleshooting (cont'd)

45. Check for continuity between audio unit connector C (16P) terminal No. 4 and the front HFL-navigation-ANC microphone 7P connector terminal No. 4.

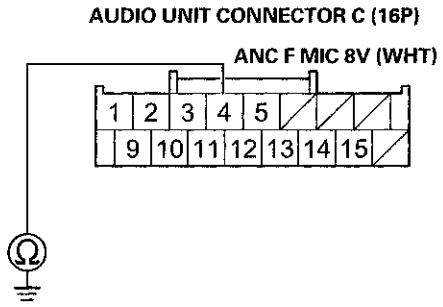


Is there continuity?

YES–Go to step 46.

NO–There is an open in the wire between audio unit connector C (16P) and the front HFL-navigation-ANC microphone 7P connector. Replace the affected shielded harness.■

46. Check for continuity between audio unit connector C (16P) terminal No. 4 and body ground.

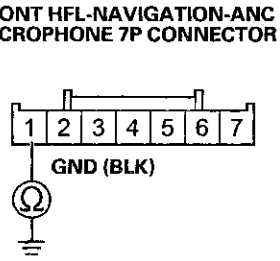


Is there continuity?

YES–There is a short to body ground in the wire between audio unit connector C (16P) and the front HFL-navigation-ANC microphone 7P connector. Replace the affected shielded harness.■

NO–Go to step 47.

47. Check for continuity between front HFL-navigation-ANC microphone 7P connector terminal No. 1 and body ground.



Is there continuity?

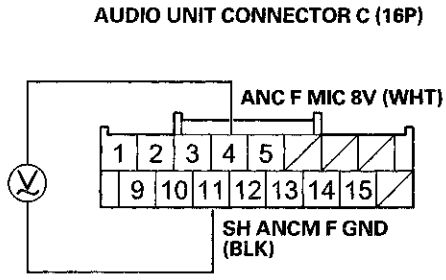
YES–Replace the front HFL-navigation-ANC microphone (see page 23-240).■

NO–Repair an open in the wire between front HFL-navigation-ANC microphone and body ground (G501) (see page 22-34).■

48. Turn the ignition switch to LOCK (0).

49. Connect a voltmeter between audio unit connector C (16P) terminals No. 4 and No. 11.

NOTE: Use the voltmeter in AC range.



50. Turn the ignition switch to ACCESSORY (I).

51. Make a loud noise in front of the rear active noise cancellation microphone.

Does the voltage change when making a loud noise in front of the microphone?

YES–Replace the audio unit (see page 23-114).■

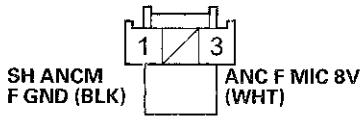
NO–Go to step 52.

52. Turn the ignition switch to LOCK (0).

53. Disconnect audio unit connector C (16P) and the front active noise cancellation microphone 3P connector.

54. Connect front active noise cancellation microphone 3P connector terminals No. 1 and No. 3 with a jumper wire.

FRONT ACTIVE NOISE CANCELLATION MICROPHONE 3P CONNECTOR

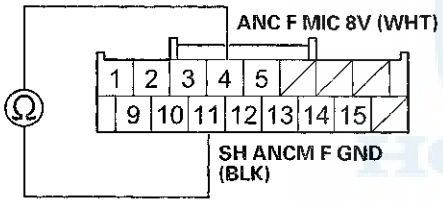


JUMPER WIRE

Wire side of female terminals

55. Check for continuity between audio unit connector C (16P) terminals No. 4 and No. 11.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there continuity?

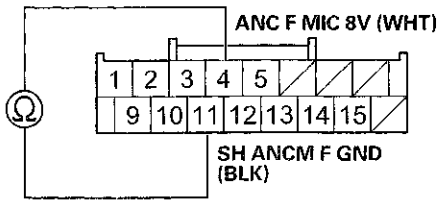
YES–Go to step 56.

NO–There is an open in the wire between audio unit connector C (16P) and the front active noise cancellation microphone 3P connector. Replace the affected shielded harness.■

56. Remove the jumper wire.

57. Check for continuity between audio unit connector C (16P) terminals No. 4 and No. 11.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

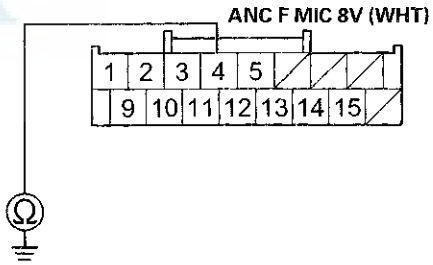
Is there continuity?

YES–There is a short in the wire between audio unit connector C (16P) and the front active noise cancellation microphone 3P connector. Replace the affected shielded harness.■

NO–Go to step 58.

58. Check for continuity between audio unit connector C (16P) terminal No. 4 and body ground.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there continuity?

YES–There is a short to body ground in the wire between audio unit connector C (16P) and the front active noise cancellation microphone 3P connector. Replace the affected shielded harness.■

NO–Replace the front active noise cancellation microphone (see page 23-120).■

59. Turn the ignition switch to LOCK (0).

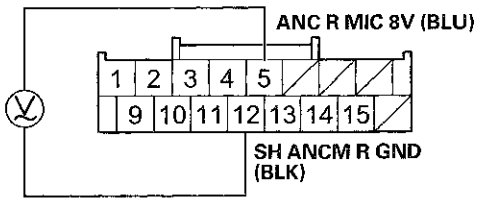
(cont'd)

Symptom Troubleshooting (cont'd)

60. Connect a voltmeter between audio unit connector C (16P) terminals No. 5 and No. 12.

    NOTE: Use the voltmeter in AC range.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

61. Turn the ignition switch to ACCESSORY (I).
62. Make a loud noise in front of the rear active noise cancellation microphone.

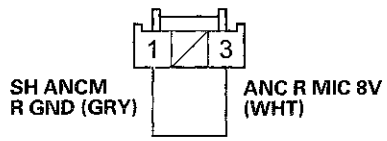
    Does the voltage change when making a loud noise in front of the microphone?

    YES–Replace the audio unit.■
    - With navigation (see page 23-114)
    - Without navigation (see page 23-115)

    NO–Go to step 63.

63. Turn the ignition switch to LOCK (0).
64. Disconnect audio unit connector C (16P) and the rear active noise cancellation microphone 3P connector.
65. Connect rear active noise cancellation microphone 3P connector terminals No. 1 and No. 3 with a jumper wire.

REAR ACTIVE NOISE CANCELLATION MICROPHONE 3P CONNECTOR

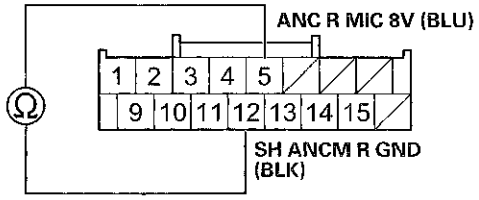


JUMPER WIRE

Wire side of female terminals

66. Check for continuity between audio unit connector C (16P) terminals No. 5 and No. 12.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

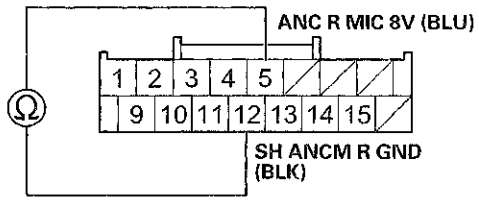
Is there continuity?

YES–Go to step 67.

NO–There is an open in the wire between audio unit connector C (16P) and the rear active noise cancellation microphone 3P connector. Replace the wire harness or the under-dash fuse/relay box (see page 22-86).■

67. Remove the jumper wire.
68. Check for continuity between audio unit connector C (16P) terminals No. 5 and No. 12.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

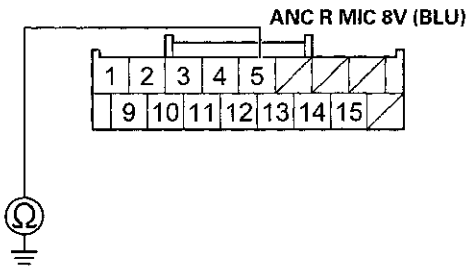
Is there continuity?

YES–There is a short in the wire between audio unit connector C (16P) and the rear active noise cancellation microphone 3P connector. Replace the wire harness or the under-dash fuse/relay box (see page 22-86).■

NO–Go to step 69.

69. Check for continuity between audio unit connector C (16P) terminal No. 5 and body ground.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there continuity?

YES–There is a short to body ground in the wire between audio unit connector C (16P) and the rear active noise cancellation microphone 3P connector. Replace the wire harness or the under-dash fuse/relay box (see page 22-86).■

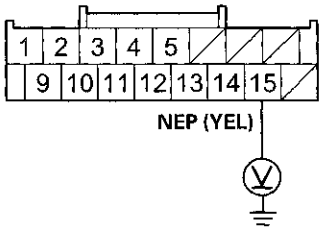
NO–Replace the rear active noise cancellation microphone (see page 23-120).■

70. Turn the ignition switch to LOCK (0).

71. Start the engine, and let it idle.

72. Measure voltage between audio unit connector C (16P) terminal No. 15 and body ground.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there about 5 V (pulses)?

YES–Replace the audio unit.■
- With navigation (see page 23-114)
- Without navigation (see page 23-115)

NO–Go to step 73.

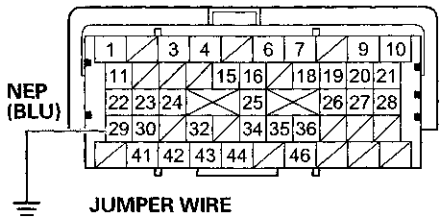
73. Turn the ignition switch to LOCK (0).

74. Jump the SCS line with the HDS.

75. Disconnect audio unit connector C (16P) and ECM/PCM connector A (49P).

76. Connect ECM/PCM connector A (49P) terminal No. 29 to body ground with a jumper wire.

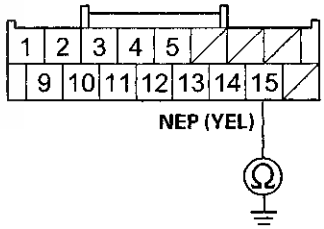
ECM/PCM CONNECTOR A (49P)



Terminal side of female terminals

77. Check continuity between audio unit connector C (16P) terminal No. 15 and body ground.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there continuity?

YES–Go to step 78.

NO–Repair an open in the wire between audio unit connector C (16P) and ECM/PCM connector A (49P).■

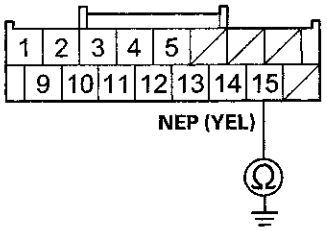
78. Remove the jumper wire.

(cont'd)

Symptom Troubleshooting (cont'd)

79. Check continuity between audio unit connector C (16P) terminal No. 15 and body ground.

AUDIO UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire between audio unit connector C (16P) and ECM/PCM connector A (49P).■

NO–Update the ECM/PCM (see page 11-203) if it does not have the latest software or substitute a known-good ECM/PCM (see page 11-204).■

80. Turn the ignition switch to LOCK (0).
81. Do the MICU input test (see step 1 on page 22-151).

Is the B-CAN line between the audio unit and the MICU OK?

YES–Replace the audio unit.■
- With navigation (see page 23-114)
- Without navigation (see page 23-115)

NO–Repair an open in the wire between audio unit connector B (20P) and MICU connector P (20P).■

Error code: XM NO SIGNAL is displayed

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Park vehicle outside with a clear view of the southern horizon.
2. Turn the ignition switch to ON (II).
3. Turn on the audio unit, and select XM radio.

Does the XM radio receive a signal?

YES–Reception interference operation is normal.■

NO–Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Check the connection at XM antenna 2P connector and XM receiver connector B (2P).

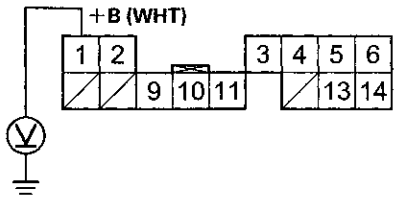
Are the connectors connected?

YES–Go to step 6.

NO–Reconnect the connectors and recheck XM radio operation. If the signal is restored, the system is OK. If the signal is not restored go to step 6.

6. Turn the ignition switch to ON (II).
7. Measure the voltage between XM receiver connector A (14P) terminal No. 1 and body ground.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

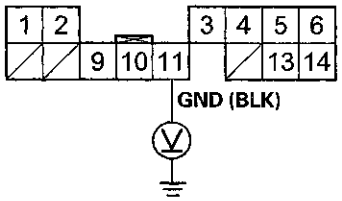
Is there battery voltage?

YES–Go to step 8.

NO–Repair an open in the wire between audio unit connector E (14P) terminal No. 1 and XM receiver connector A (14P) terminal No. 1.■

8. Measure the voltage between XM receiver connector A (14P) terminal No. 11 and body ground.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

Is there less than 0.2 V?

YES–Go to step 9.

NO–Repair an open or high resistance in the wire between audio unit connector E (14P) terminal No. 11 and XM receiver connector A (14P) terminal No. 11.

9. Substitute a known-good XM antenna (see page 23-126).

Does the XM radio receive a signal?

YES–Replace the XM antenna (see page 23-126).■

NO–Substitute a known-good XM antenna lead. If the XM receiver receives signal, replace the original XM antenna lead. If the XM receiver does not receive signal, substitute a known-good XM receiver (see page 23-120), and recheck. If the symptom/indication goes away, replace the original XM receiver.■

Error code: XM ANTENNA is displayed

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Check XM radio reception in an open area. Poor reception/interference can be caused by tall buildings, mountains, or high-voltage power lines.

1. Check the connector at the XM receiver.

Is the connector connected?

YES–Go to step 2.

NO–Reconnect the connector. If the error message does not go away, go to step 2.

2. Check the connector at the XM antenna.

Is the connector connected?

YES–Go to step 3.

NO–Reconnect the connector. If the error message does not go away, go to step 3.

3. Check the pin locations in the XM receiver connector and the XM antenna connector.

Are the pins in the correct locations?

YES–Go to step 4.

NO–Correct the pin locations. If the error message does not go away, go to step 4.

4. Substitute a known-good XM antenna (see page 23-126).

Is the error message gone?

YES–Replace the XM antenna (see page 23-126).■

NO–Go to step 5.

5. Substitute a known-good XM receiver (see page 23-120).

Is the error message gone?

YES–Replace the original XM receiver.■

NO–Replace the XM antenna lead.■

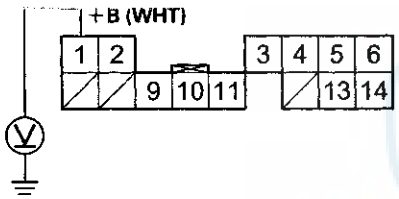
Symptom Troubleshooting (cont'd)

XM radio display is blank and no station information is displayed

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Measure the voltage between XM receiver connector A (14P) terminal No. 1 and body ground.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

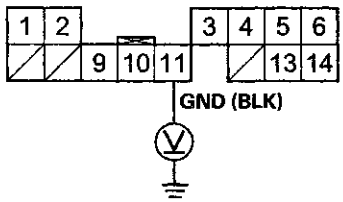
Is there battery voltage?

YES–Go to step 3.

NO–Repair an open in the wire between XM receiver connector A (14P) terminal No. 1 and audio unit connector E (14P) terminal No. 1.■

3. Measure the voltage between XM receiver connector A (14P) terminal No. 11 and body ground.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

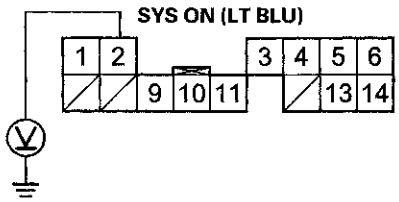
Is there less than 0.2 V?

YES–Go to step 4.

NO–Repair an open or high resistance in the wire between XM receiver connector A (14P) terminal No. 11 and audio unit connector E (14P) terminal No. 11.■

4. Turn the ignition switch to LOCK (0).
5. Measure the voltage between XM receiver connector A (14P) terminal No. 2 and body ground.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

Is there 10 V or more present?

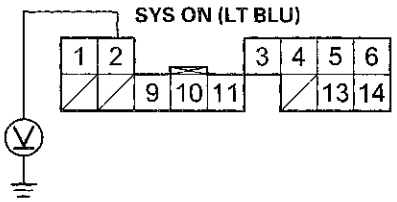
YES–Go to step 6.

NO–Substitute a known-good XM receiver (see page 23-120), and recheck. If 10 V or more is still not present, replace the original XM receiver.■

6. Turn the ignition switch to ON (II).

7. Measure the voltage between audio unit connector E (14P) terminal No. 2 and body ground.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

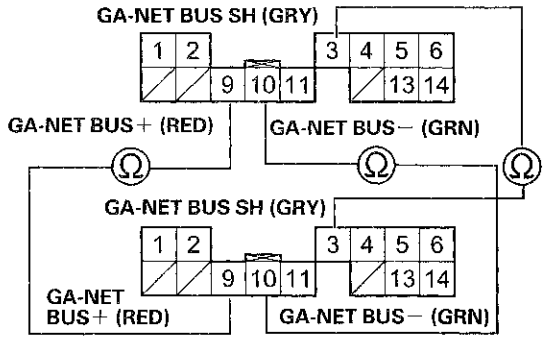
Is there less than 2.0 V?

YES–Go to step 8.

NO–Substitute a known-good audio unit (see page 23-114), and recheck. If 2.0 V or more are present, replace the original audio unit.■

8. Turn the ignition switch to LOCK (0).
9. Disconnect audio unit connector E (14P) and XM receiver connector A (14P).
10. Check for continuity between audio unit connector E (14P) and XM receiver connector A (14P) as shown.

AUDIO UNIT CONNECTOR E (14P)
Wire side of female terminals



XM RECEIVER CONNECTOR A (14P)
Wire side of female terminals

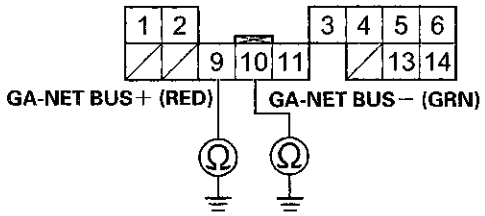
Is there continuity?

YES–Go to step 11.

NO–There is an open in the wire(s) between the audio unit and the XM receiver. Replace the affected shielded harness.■

11. Check for continuity between body ground and XM receiver connector A (14P) terminals No. 9 and No. 10 individually.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

Is there continuity?

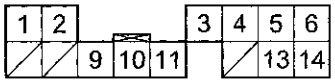
YES–There is a short to body ground in the wire(s) between the audio unit and the XM receiver. Replace the affected shielded harness.■

NO–Go to step 12.

12. Check for continuity between the terminals of XM receiver connector A (14P) according to the table.

From terminal	To terminals
A3 (GRY)	A9 (RED), A10 (GRN)
A9 (RED)	A10 (GRN)

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

Is there continuity between any of the terminals?

YES–There is a short in the wire(s) between the audio unit and the XM receiver. Replace the affected shielded harness.■

NO–Substitute a known-good audio unit (see page 23-114), and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good XM receiver (see page 23-120), and recheck. If the symptom/indication goes away, replace the original XM receiver.■

Symptom Troubleshooting (cont'd)

XM radio preset memory is lost

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit, and set each of the XM radio channel preset buttons.

   Does each of the XM radio channel preset buttons set properly?

   YES–Go to step 3.

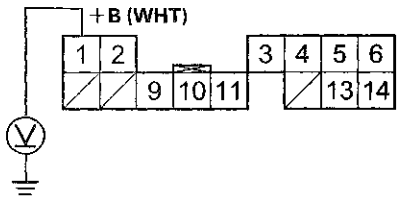
   NO–Substitute a known-good XM Receiver (see page 23-129), and recheck. If the symptom/indication goes away, replace the original XM receiver.■
3. Turn the ignition switch to LOCK (0) for 1 minute, then turn it back to ON (II).
4. Test all of the XM radio channel preset buttons for proper recall operation.

   Do the preset buttons recall the XM radio stations?

   YES–System is normal at this time. Check connections at the audio unit.■

   NO–Go to step 5.
5. Turn the ignition switch to LOCK (0).
6. Measure the voltage between XM receiver connector A (14P) terminal No. 1 and body ground.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

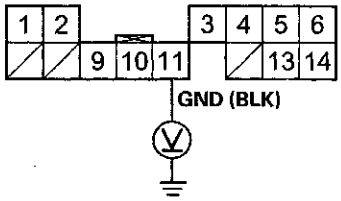
Is there battery voltage?

YES–Go to step 7.

NO–Repair an open in the wire between audio unit connector E (14P) terminal No. 1 and XM receiver connector A (14P) terminal No. 1.■

7. Measure the voltage between XM receiver connector A (14P) terminal No. 11 and body ground.

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

Is there less than 0.2 V?

YES–Substitute a known-good audio unit (see page 23-120), and recheck. If the symptom/indication goes away, replace the audio unit.■

NO–Repair an open or high resistance in the wire between audio unit connector E (14P) terminal No. 11 and XM receiver connector A (14P) terminal No. 11.■

Poor or no sound with XM radio (Audio unit does display XM channels)

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Check the radio reception in an open area. Compare it to a known-good vehicle whenever possible. Poor reception/interference can be caused by tall buildings, mountains, or high-voltage power lines that are nearby.
- If you can only tune to channel 000, 001, 174, and 247, make sure that the audio unit is set to the channel mode (see owner's manual), if it is set to the channel mode, call XM Satellite Radio customer support and check the account activation status.

1. Turn the ignition switch to ON (II).
2. Turn on the audio unit, and select XM radio.
3. Check for an error message on the display.

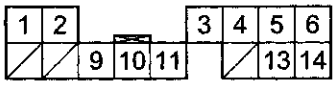
   Are there any messages displayed?

   YES–Go to error code list (see page 23-65).■

   NO–Go to step 4.
4. Turn the ignition switch to LOCK (0).
5. Disconnect audio unit connector E (14P) and XM receiver connector A (14P).
6. Check for continuity between XM receiver connector A (14P) and body ground according to the table. Then check for continuity between the same terminals listed in the table and audio unit connector E (14P) terminal No. 4 (the harness shield).

XM receiver connector	Wire color
A6	BLK
A5	GRN
A13	WHT
A14	RED

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

Is there continuity?

YES–There is a short in the wire between the audio unit and the XM receiver. Replace the affected shielded harness.■

NO–Go to step 7.

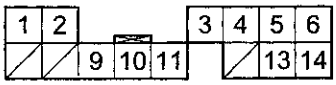
(cont'd)

Symptom Troubleshooting (cont'd)

7. Check for continuity between XM receiver connector A (14P) and audio unit connector E (14P) according to the table.

XM receiver connector	Audio unit connector	Wire color
A5	E5	GRN
A6	E6	BLK
A13	E13	WHT
A14	E14	RED

XM RECEIVER CONNECTOR A (14P)



Wire side of female terminals

Is there continuity?

YES–Substitute a known-good XM receiver (see page 23-120), and recheck. If the symptom/indication goes away, replace the original XM receiver. If symptom/indication is still present, replace the audio unit (see page 23-114).■

NO–There is an open in the wire between the audio unit and the XM receiver. Replace the affected shielded harness.■

Sound Quality Diagnosis

Special Tools Required
Diagnostic CD 07AAZ-SDBA100

Use the following tests to check sound quality.

NOTE: Before beginning the following tests, write down the customer's bass, treble, fader and balance settings, then set them to their center positions for the testing.

Left/Right Channel ID

Do this test to confirm proper channel routing.

1. Insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit.
2. Play track No. 1 (left, both, right channel ID) at a normal, or slightly higher than normal, volume level.
3. The voice should be audible only from the channel or channels when indicated.
   - If the channel ID is correct for each side, go to phase test.
   - If the channel ID is not correct, check for
     - Shorted speaker wire
     - Faulty stereo amplifier
     - Faulty audio unit

Phase Test

Do this test to confirm proper speaker phasing.

1. Insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit.
2. Play track No. 2 (phase) at a normal, or slightly higher than normal, volume level.
3. The voice should sound centered and focused when it is in-phase.
4. The voice should sound diffused, and have less bass when it is out of phase.
   - If the voice changes from in-phase to out of phase as indicated by the prompt, the phasing is correct. Go to electrical noise test.
   - If the voice always sounds out of phase, phasing is not correct. Check for:
     - Crossed speaker wire
     - Faulty stereo amplifier
     - Faulty audio unit

Electrical Noise Test

Do this test to check for electrical noise being induced into the audio system.

NOTE: Electrical noise may be caused by outside sources that cannot be handled by the audio system. Make sure you remove any cell phones and/or turn off any aftermarket devices before beginning this test.

1. Insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit.
2. Play track No. 4 (digital zero) at a normal, or slightly higher than normal, volume level.
3. Operate any electrical device that may create electrical noise in the audio system, including starting the engine.
4. Play track No. 5 (near digital zero) at a normal, or slightly higher than normal, volume level.
5. Operate any electrical device that may create electrical noise in the audio system, including starting the engine.
6. Play track No. 6 (SNR) at a normal, or slightly higher than normal, volume level.
7. Operate any electrical device that may create electrical noise in the audio system, including starting the engine.
   - If no abnormal noise is heard, go to the individual speaker test.
   - If the noise is present only during the SNR track, replace the audio unit.
   - If the noise is heard during the digital zero or near digital zero track, check for:
     - Poor ground at the audio unit, amplifier, engine, or battery cable
     - Pinched or shorted speaker or amplifier wire
     - Faulty stereo amplifier
     - Faulty audio unit
     - Other faulty components causing excessive electrical noise (ignition coils, alternator, door lock actuators, etc.). Disconnect any suspect components, and then replay the tracks that were originally noisy. If the noise is gone, check the component's circuit and the component.

(cont'd)

Sound Quality Diagnosis (cont'd)

Individual Speaker Test

Do this test to identify a faulty speaker.

1. Insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit.
2. Play track No. 30 (steady 300 Hz tone) at a normal, or slightly higher than normal, volume level.
3. Listen to each speaker for poor sound compared to the other channels. Use the audio unit's fader and balance settings to help isolate the channel with the problem.
   - If the sound quality produced by a specific speaker is poor, substitute it with a known-good speaker. If the poor sound quality continues, go to the sound balance test.
   - If the sound quality is OK, go to the sound balance test.

Sound Balance Test

Do this test to identify a faulty channel or speaker.

1. Insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit.
2. Confirm the bass and treble are set to the center positions.
3. Play track No. 3 (pink noise) at a normal, or slightly higher than normal, volume level.
4. A static type sound should be heard through all speakers.
5. Insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit of a known-good vehicle.
6. Set the bass and treble to the center positions.
7. Play track No. 3 (pink noise) all the same level as was played in step 3.
8. Compare the sounds made by the two vehicles.
   - If the sound does not have as much bass, check the subwoofer and circuit.
   - If the sound does not have enough hiss, check the tweeters and their circuits.

Frequency Sweep

Do this test to find rattles or reverberations that may cause a perception of poor sound quality.

1. Insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit.
2. Play track No. 13 (sweep from 500 Hz to 35 Hz) at a normal, or slightly higher than normal, volume level.
3. Listen to each speaker for poor sound quality or reverberations caused by specific frequencies. Use the voice-over to estimate the frequency that causes the vibration. Use the audio unit's fader and balance settings to help isolate the channel with the problem.
   - If vibrations or poor sound quality are heard, go to step 4.
   - If no vibrations or poor sound quality are heard, go to sound judging.
4. Choose the appropriate track from No. 14 to 25 (small range frequency sweep) or 26 to 53 (single frequencies) to recreate the frequency that caused the poor sound quality or vibration witnessed in step 3; this aids in diagnosis of the cause.

   NOTE: When you get to the track that recreates the problem, select the repeat function on the audio unit, this will help you isolate the cause.
5. Replace or insulate the source of the vibration or, if the speaker is the source of the poor sound quality, replace it.

Sound Judging

Do this test to compare overall sound quality, imaging, and dynamics between the customer's vehicle and a known-good vehicle. Only use a vehicle of the same model and trim level for this test.

1. In the customer's vehicle, set the bass, treble, fader, and balance settings to the customer's normal settings that were written down before beginning the test.
2. Insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit.
3. Play tracks No. 7 to 12 (sound quality, midland, dynamics, and imaging demonstration tracks) at a normal, or slightly higher than normal, volume level. Write down the volume setting being used.
4. Listen to areas of the track that stand out as being either very clear or poorer than other areas of the track.
5. In a known-good vehicle, insert the audio diagnostic CD (T/N 07AAZ-SDBA100) into the audio unit.
6. Play the tracks at the same volume level and the same bass, treble, balance, and fader settings as used in step 3 in the customer's vehicle.
7. Listen to the same area of the track that stood out as being either very clear or poorer than other areas of the track.
8. Compare the customer's vehicle's sound quality results the known-good vehicle's results.
   - If the sound quality in the customer's vehicle is comparable to the sound quality in the known-good vehicle, then the customer's vehicle is operating as designed.
   - If the sound quality is not comparable, check these items in order.
     - Loose or improperly installed speakers or other hardware that may create interference from the vibrations generated by the speakers
     - Poor power or ground to the stereo amplifier
     - Damaged speaker(s)
     - Faulty stereo amplifier
     - Faulty audio unit

(cont'd)

Sound Quality Diagnosis (cont'd)

Seek Stop Test

Do this test to check the performance of the audio unit's AM and FM reception. Refer to symptom troubleshooting: audio sound weak or distorted, or no sound is heard from speaker(s) (display is normal) (see page 23-70) before continuing with this test.

NOTE:

- Window tint, aftermarket theft-recovery devices and other aftermarket devices may affect reception.
- Changes in cloud cover and other atmospheric conditions will affect the ability of the audio unit to receive radio signals.

1. Park the customer's vehicle in an open area away from buildings or other obstructions.
2. Park a known-good vehicle (same year, model, and trim level) next to the customer's vehicle, facing the same direction.
3. Start the engine in the customer's vehicle, and turn on the radio.
4. Set the FM receiver to 87.7 MHz.
5. Press the Seek + button, and record the first station that the audio unit locks onto.
6. Press the Seek + button repeatedly, and write down each station that the audio unit locks onto until the station recorded in step 5 is reached again.
7. Set the AM receiver to 530 kHz.
8. Press the Seek + button, and record the first station that the audio unit locks onto.
9. Press the Seek + button repeatedly, and write down each station that the audio unit locks onto until the station recorded in step 8 is reached again.
10. Turn the ignition switch to LOCK (0).
11. Start the engine in the known-good vehicle, and then do steps 4 thru 10 on the known-good vehicle.
12. Compare the number of stations received in steps 6 and 9 in the customer's vehicle with the number of stations received in the known-good vehicle.
    - If the number of stations received is the same, or within 10 %, the audio unit's tuner performance is OK. The problem may be atmospheric conditions, multi-path interference, or other obstructions to the radio signal.
    - If the customer's vehicle receives fewer stations by at least 10 %, go to step 2 of poor AM or FM radio reception or interference (see page 23-66).

Audio Unit Removal/Installation

With Navigation

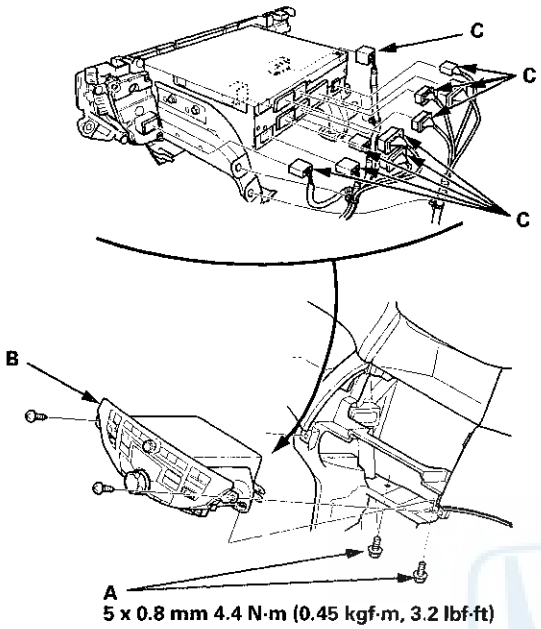
SRS components are located in this area. Review the SRS component locations (see page 24-23), and the precautions and procedures (see page 24-25) before doing repairs or service.

NOTE:

- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a workshop towel under the parts when working on them to protect the face panel from scratches or other damage.
- Eject all the discs before removing the audio unit to prevent damaging the CD player's load mechanism.
- If you are replacing the audio unit, write down the audio presets (if possible), then enter them into the new audio unit.

1. Make sure you have anti-theft codes for the audio system and the navigation system.
2. Remove the center console panel (see page 20-157) and the center pocket (see page 20-168).
3. Remove the audio disc changer (see page 23-118).
4. Remove the center pocket frame (see page 20-188).
5. Remove the driver's inner dashboard trim (see page 20-167), and passenger's dashboard trim (see page 20-173).
6. Remove the dashboard center vent (see page 20-178).

7. Remove the self-tapping screws and bolts (A), then pull out the audio unit (B).



8. Disconnect the connectors (C), then remove the audio unit.
9. Remove the interface dial (see page 23-239).
10. Remove the audio switch panel (see page 23-117).
11. Install the audio unit in the reverse order of removal.
    - Make sure all the connectors and the antenna lead are secure.
    - Enter the anti-theft codes for the audio system and the navigation system.
    - Give the new anti-theft codes to the customer if you are replacing the navigation unit.

Without Navigation

SRS components are located in this area. Review the SRS component locations (see page 24-23), and the precautions and procedures (see page 24-25) before doing repairs or service.

NOTE:

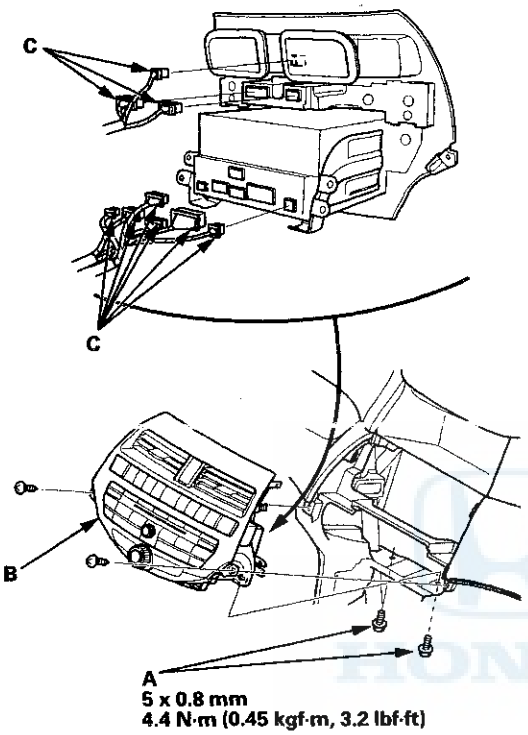
- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a shop towel under the parts when working on them to protect the face panel from scratches or other damage.
- Eject all the discs before remove the audio unit to prevent damaging the CD player's load mechanism.
- If you are replacing the audio unit, write down the audio presets (if possible), then enter them into the new audio unit.

1. Make sure you have anti-theft codes for the audio system.
2. Remove the center console panel (see page 20-157) and the dashboard center pocket (see page 20-168).
3. Remove the driver's inner dashboard trim (see page 20-167), and passenger's dashboard trim (see page 20-173).

(cont'd)

Audio Unit Removal/Installation (cont'd)

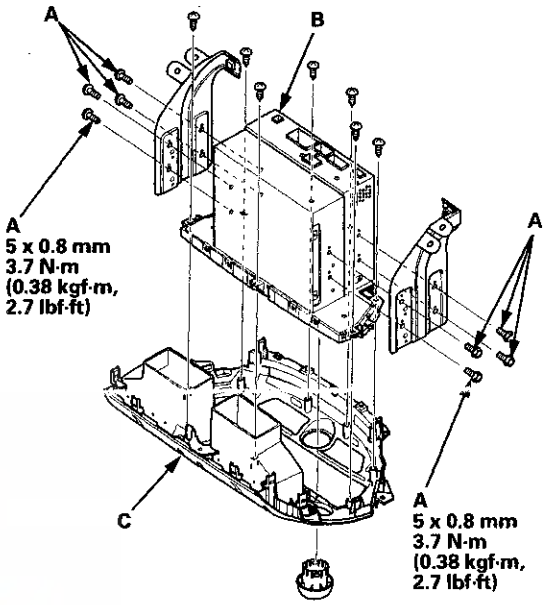
4. Remove the self-tapping screws and bolts (A), then pull out the audio unit (B).



5. Disconnect the connectors (C), then remove the audio unit.

6. Remove the climate control unit (see page 21-191).

7. Remove the mounting screws and bolts (A) from the audio unit (B), then remove the audio unit from the audio switch panel (C).



8. Install the audio unit in the reverse order of removal, and note these items:
   - Make sure all the connectors and the antenna lead are secure.
   - Enter the anti-theft codes for the audio system.
   - Set the clock.
   - Give the new anti-theft codes to the customer if you are replacing the audio unit.

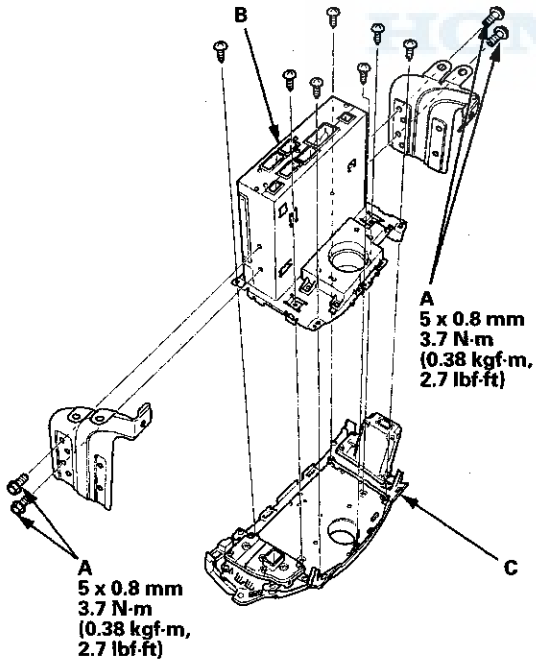
Audio Switch Panel Removal/Installation

With Navigation

NOTE:

- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a workshop towel under the parts when working on them to protect the face panel from scratches or other damage.
- Do not work in a dusty or dirty place.
- Discharge static electricity from your body before and during the work.
- Do not touch the circuit board with your bare hands.
- Do not work with dirty hands.
- Be careful not no fold the flat plate cable.
- Do not touch the terminal connector of the flat plate cable with your bare hands. (If you have touched it, wipe it off thoroughly.)

1. Remove the audio unit (see page 23-114).
2. Remove the interface dial (see page 23-239).
3. Remove the mounting screws and bolts (A) from the audio unit (B), then remove the audio unit from the audio switch panel (C).



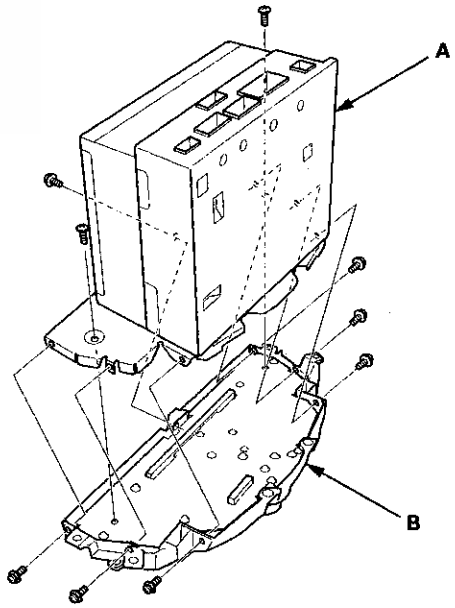
4. Install the audio switch panel in the reverse order of removal.

Without Navigation

NOTE:

- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a shop towel under the parts when working on them to protect the face panel from scratches or other damage.
- Do not work in a dusty or dirty place.
- Discharge static electricity from your body before and during the work.
- Do not touch the circuit board with your bare hands.
- Do not work with dirty hands.
- Be careful not no fold the flat plate cable.
- Do not touch the terminal connector of the flat plate cable with your bare hands. (If you have touched it, wipe it off thoroughly.)

1. Remove the audio unit (see page 23-115), and the climate control unit (see page 21-191).
2. Remove the mounting screws and the audio unit (A) from the audio switch panel (B).



3. Install the audio switch panel in the reverse order of removal.

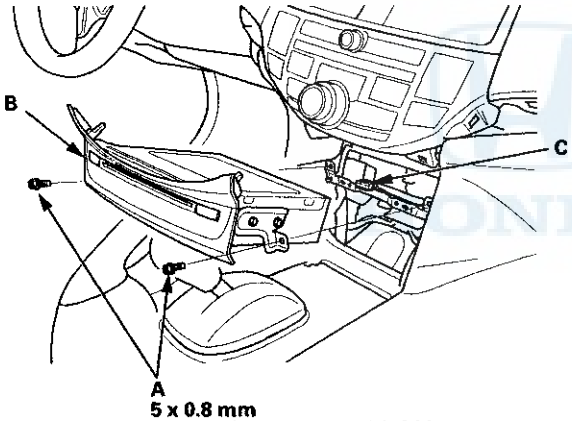
Audio Disc Changer Removal/Installation

With Navigation

NOTE:

- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a shop towel under the parts when working on them to protect the face panel from scratches or other damage.
- Eject all the discs before remove the audio disc changer unit to prevent damaging the audio disc changer load mechanism.

1. Remove the center console panel (see page 20-157) and the dashboard center pocket (see page 20-168).
2. Remove the bolts (A), then pull out the audio disc changer (B).



A
5 x 0.8 mm
4.4 N·m (0.45 kgf·m, 3.2 lbf·ft)

3. Disconnect the connector (C), then remove the audio disc changer.
4. Install the audio disc changer in the reverse order of removal.

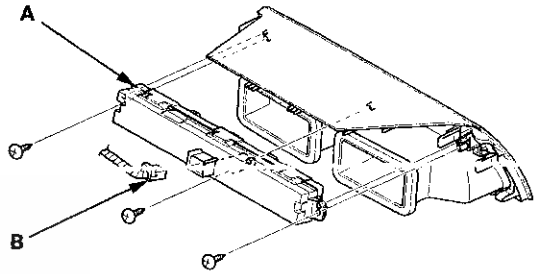
Audio-HVAC Subdisplay Unit Removal/Installation

With Navigation

NOTE:

- Put on gloves to protect your hands.
- Take care not to scratch the dashboard.

1. Remove the dashboard center vent (see page 20-178).
2. Remove the screws, then pull out the audio-HVAC subdisplay unit (A).



3. Disconnect the connector (B), and remove the audio-HVAC subdisplay unit.
4. Install the audio-HVAC subdisplay unit in the reverse order of removal.

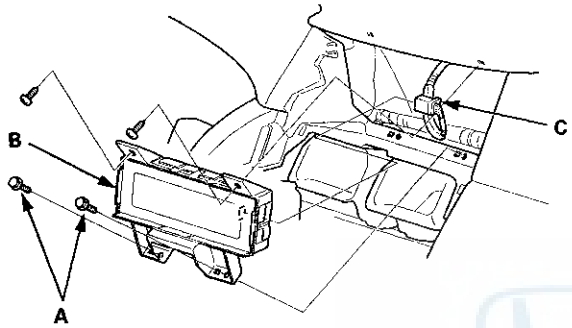
Audio-HVAC Display Unit Removal/Installation

Without Navigation

NOTE:

- Put on gloves to protect your hands.
- Take care not to scratch the dashboard.

1. Remove the audio unit (see page 23-114) and the center display visor (see page 20-171).
2. Remove the screws and bolts (A), then pull out the audio-HVAC display unit (B).

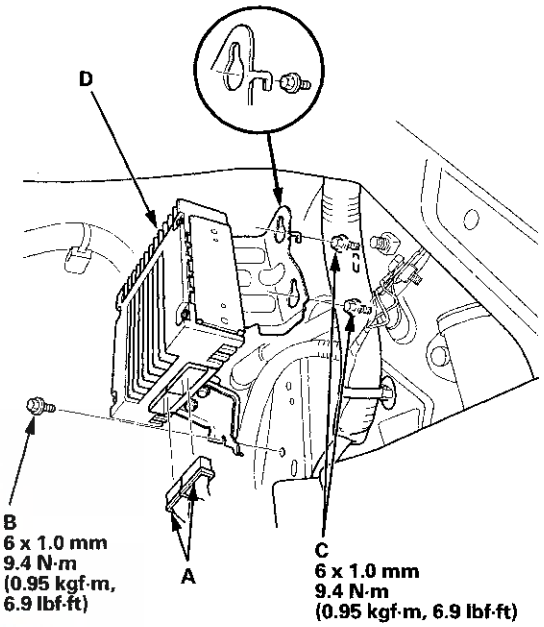


3. Disconnect the connector (C), and remove the audio-HVAC display unit.
4. Install the audio-HVAC display unit in the reverse order of removal.

Stereo Amplifier Removal/Installation

With Premium Audio System

1. Remove the glove box (see page 20-174).
2. Disconnect the connectors (A).

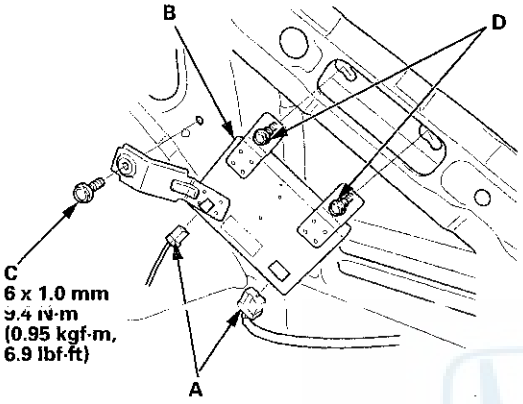


3. Remove the bolt (B) and loosen the bolts (C) securing the stereo amplifier (D).
4. Lower the stereo amplifier through the footwell area.
5. Install the stereo amplifier in the reverse order of removal.

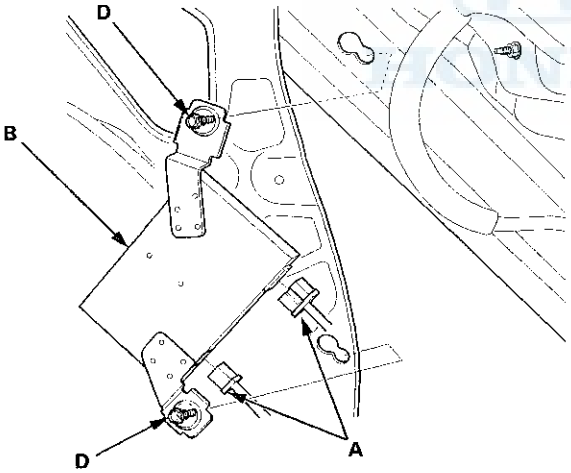
XM Receiver Removal/Installation

1. Open the trunk lid, and remove the right trunk side trim panel (see page 20-132).
2. Disconnect the connectors (A) from the XM receiver (B).

4-Door



2-Door

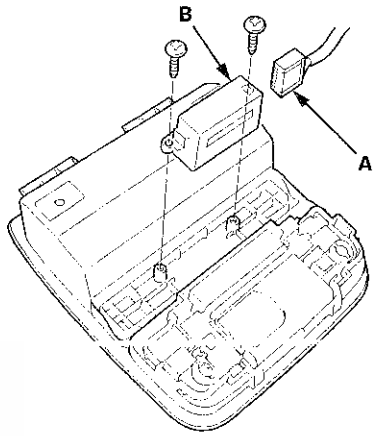


3. Remove the mounting bolt (C) and loosen the mounting bolts (D), then remove the XM receiver.
4. Install the XM receiver in the reverse order of removal.

Active Noise Cancellation Microphone Removal/Installation

Front

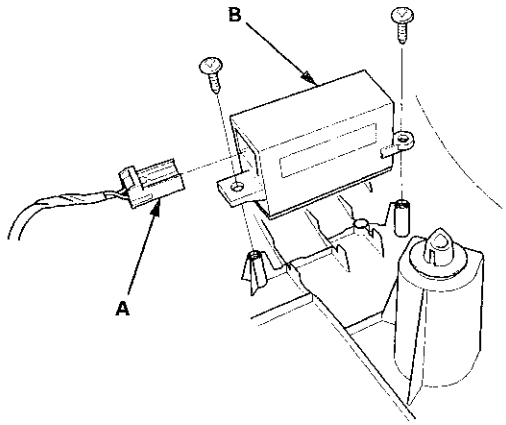
1. Remove the roof console (see page 20-140), and disconnect the connector (A) from the front active noise cancellation microphone (B).



2. Remove the screws and the front active noise cancellation microphone.
3. Install the microphone in the reverse order of removal.

Rear

1. Remove the rear shelf (see page 20-128).
2. Disconnect the connector (A), then remove the screws and the rear active noise cancellation microphone (B).

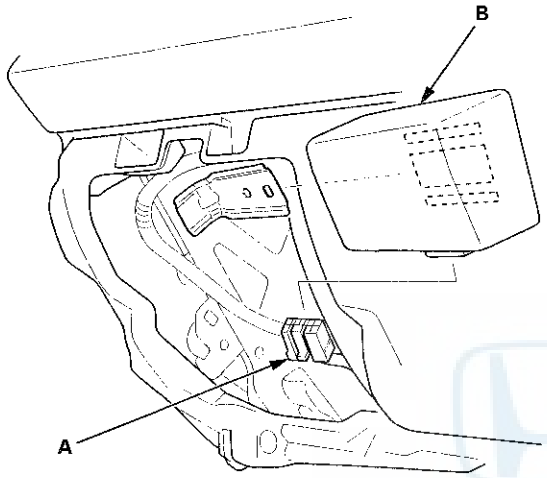


3. Install the microphone in the reverse order of removal.

Crossover Network Control Unit Removal/Installation

Driver's Door Speaker Crossover Network Control Unit

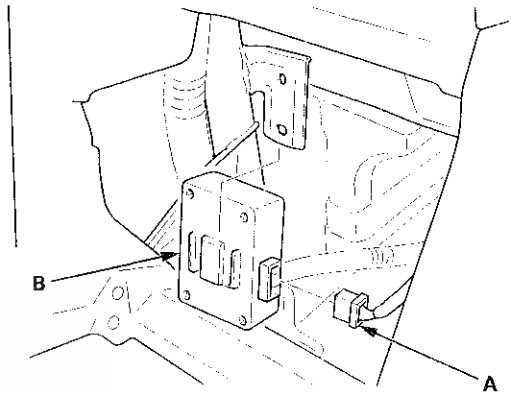
1. Remove the driver's dashboard lower cover (see page 20-166).
2. Disconnect the connector (A), then remove the driver's door speaker crossover network control unit (B).



3. Install the driver's door speaker crossover network control unit in the reverse order of removal.

Front Passenger's Door Speaker Crossover Network Control Unit

1. Remove the center console panel (see page 20-157), then remove the audio pocket (see page 20-168).
2. Disconnect the connector (A), then remove the passenger's door speaker crossover network control unit (B).



3. Install the passenger's door speaker crossover network control unit in the reverse order of removal.

Audio System

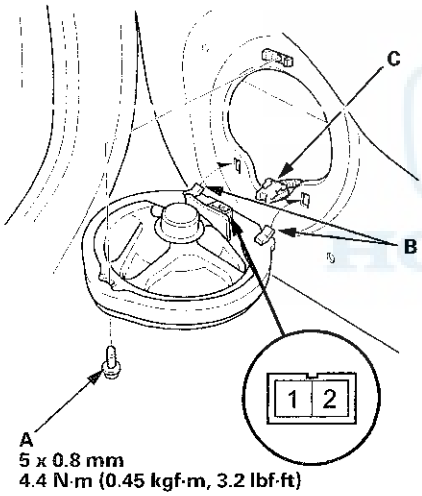
Speaker Test/Replacement

Front Door Speaker

1. Remove the door panel.
   - 4-door (see page 20-17)
   - 2-door (see page 20-12)
2. Remove the bolt (A). Then lift the speaker straight up to release the lower clips (B).

NOTICE

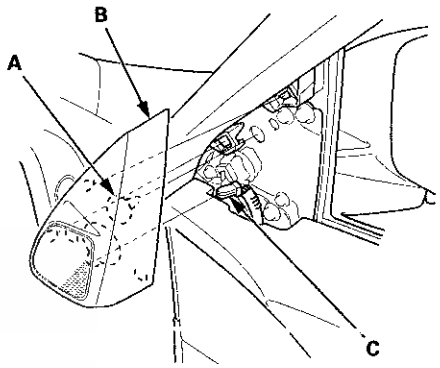
If you pull the speaker out too far from the door, you will damage the lower clips.



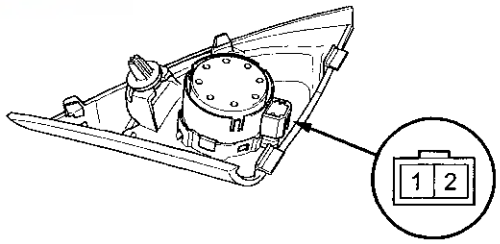
3. Disconnect the 2P connector (C), and remove the speaker.
4. Measure the resistance between the terminals No. 1 and No. 2. There should be about 4 Ω.
5. If the resistance is not as specified, replace the door speaker.

Front Door Tweeter (With Premium Audio System)

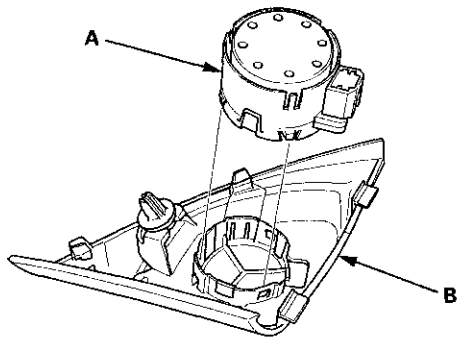
1. Detach the clip (A) and remove the front door tweeter cover (B). Then disconnect the connector (C).



2. Measure the resistance between the front door tweeter 2P connector terminals No. 1 and No. 2. There should be about 3.3 Ω.

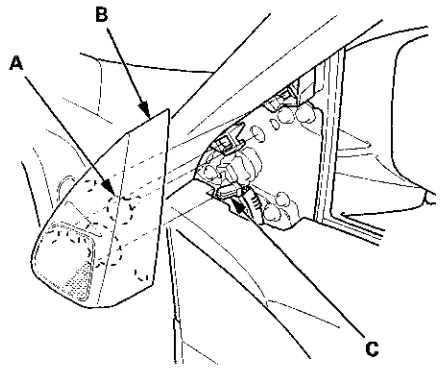


3. If the resistance is not as specified, replace the front door tweeter. Remove the front door tweeter (A) from front door tweeter cover (B).

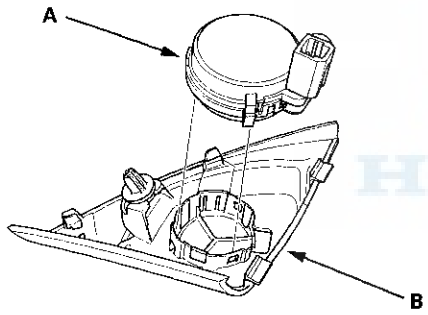


Front Door Tweeter (Without Premium Audio System)

1. Detach the clip (A) and remove the front door tweeter cover (B). Then disconnect the connector (C).

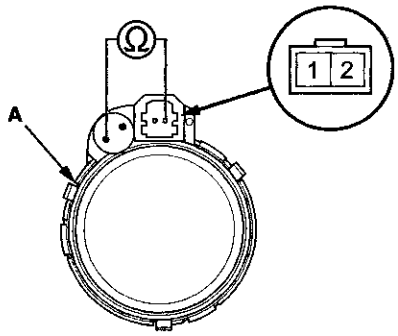


2. Remove the front door tweeter (A) from the front tweeter cover (B).



3. Check the capacitor condition. If any malfunction is found, replace the front door tweeter.

4. Measure the resistance between the front door tweeter (A) terminal No. 2 and the outside terminal of the capacitor. There should be about 4 Ω.



5. If the resistance is not as specified, replace the front door tweeter.

(cont'd)

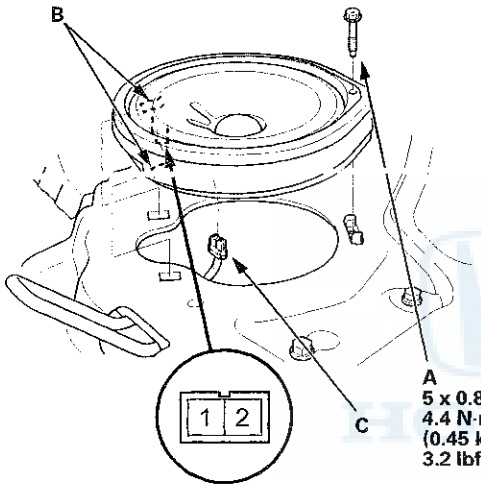
Speaker Test/Replacement (cont'd)

Rear Speaker

1. Remove the rear shelf (see page 20-128).
2. Remove the mounting bolt (A), then tilt the speaker forward to release the front clips (B).

NOTICE

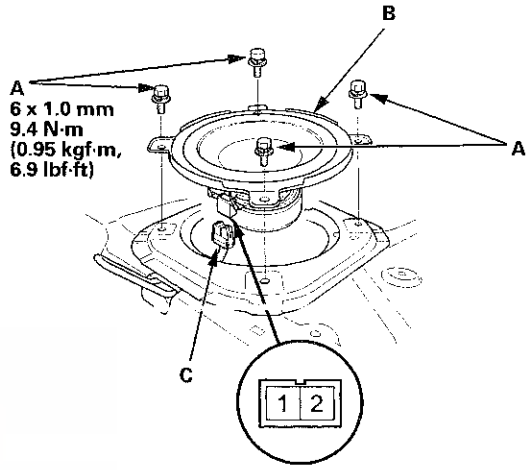
If you pull the speaker out too far from the rear bulkhead, you will damage the lower clips.



3. Disconnect the 2P connector (C), and remove the rear speaker.
4. Measure the resistance between the terminals No. 1 and No. 2. There should be about 4 Ω.
5. If the resistance is not as specified, replace the rear speaker.

Subwoofer

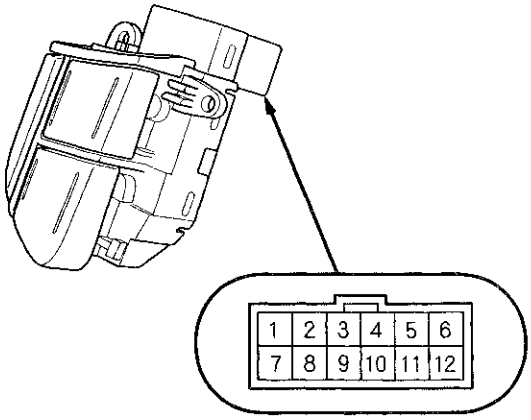
1. Remove the rear shelf (see page 20-128).
2. Remove the four mounting bolts (A) from the subwoofer (B).



3. Disconnect the 2P connector (C), and remove the subwoofer.
4. Measure the resistance between the terminals No. 1 and No. 2. There should be about 2 Ω.
5. If the resistance is not as specified, replace the subwoofer.

Audio Remote Switch Test

1. Remove the steering wheel (see page 17-6).
2. Remove the audio remote switch (see page 17-7).



3. Measure the resistance between the terminals No. 1 and No. 8 in each switch position according to the table.

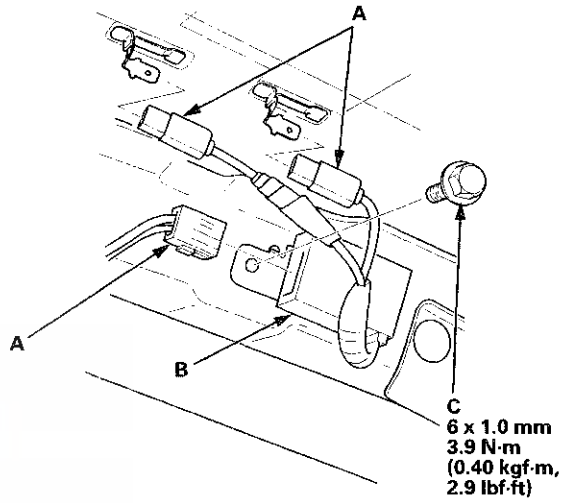
Button held down	Resistance
No button pressed	About 10 kΩ
MODE	About 3.7 kΩ
CH (+)	About 1.7 kΩ
CH (−)	About 775 Ω
▲ (VOL.UP)	About 357 Ω
▼ (VOL.DOWN)	About 100 Ω

4. If the resistance is not as specified, replace the audio remote switch.

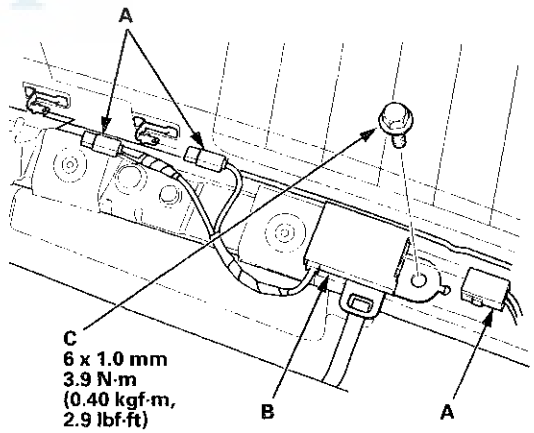
AM/FM Antenna Amplifier Replacement

1. Remove the C-pillar trim.
   - 4-door (see page 20-110)
   - 2-door (see page 20-110)
2. Disconnect the connectors (A) from the AM/FM antenna amplifier (B).

4-Door



2-Door

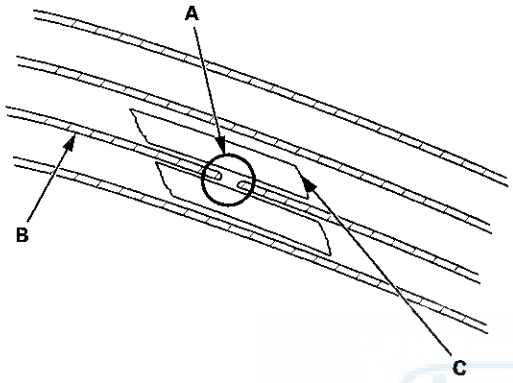


3. Remove the bolt (C) and the AM/FM antenna amplifier.
4. Install the AM/FM antenna amplifier in the reverse order of removal.

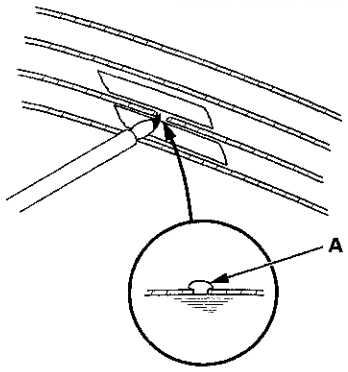
AM/FM Antenna Repair

NOTE: To make an effective repair, the broken section must be no longer than one inch.

1. Lightly rub the area around the broken section (A) with fine steel wool, then clean it with isopropyl alcohol.



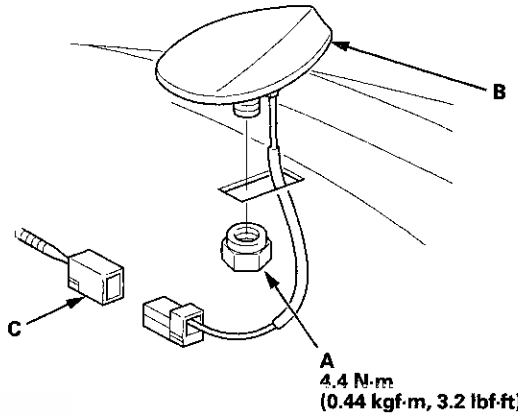
2. Carefully mask above and below the broken portion of the window antenna wire (B) with cellophane tape (C).
3. Using a commercially available rear window defogger repair kit, apply a heavy coat of paint (A) extending about 1/8" on both sides of the break. Allow 30 minutes to dry.



4. Check for continuity in the repaired wire.
5. Apply a second coat of paint in the same way. Let it dry 3 hours before removing the tape.

XM Antenna Replacement

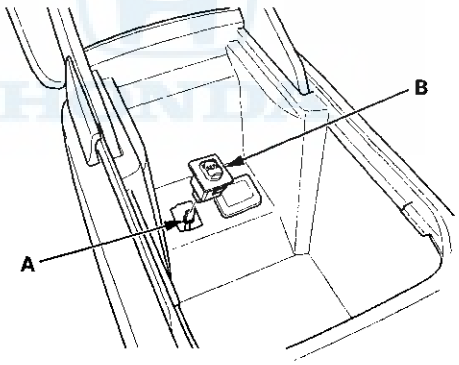
1. Remove the headliner (see page 20-140).
2. Remove the nut (A) from the XM antenna (B).



3. Disconnect the connector (C) and remove the XM antenna.
4. Install the XM antenna in the reverse order of removal.

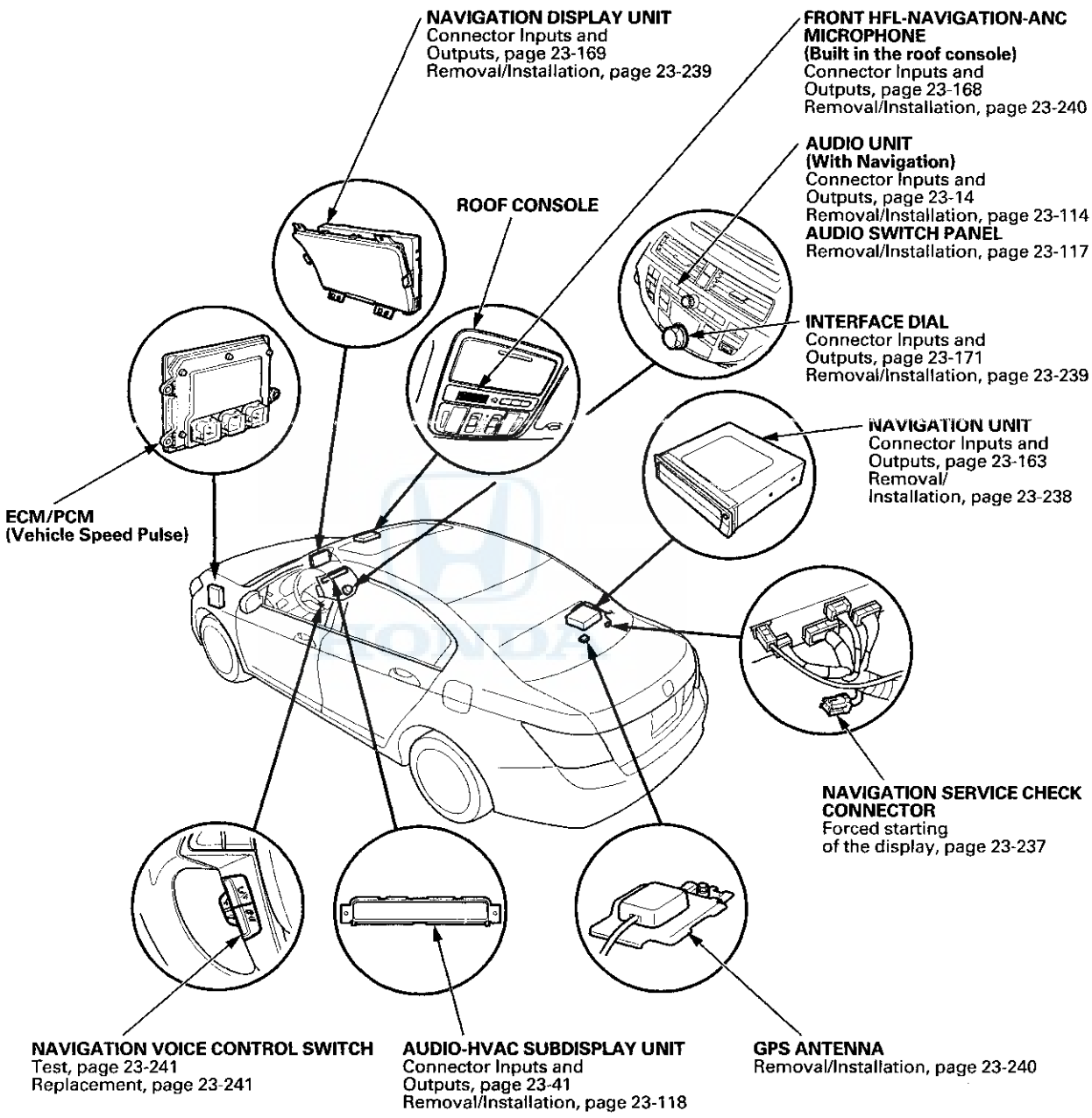
Auxiliary Jack Assembly Replacement

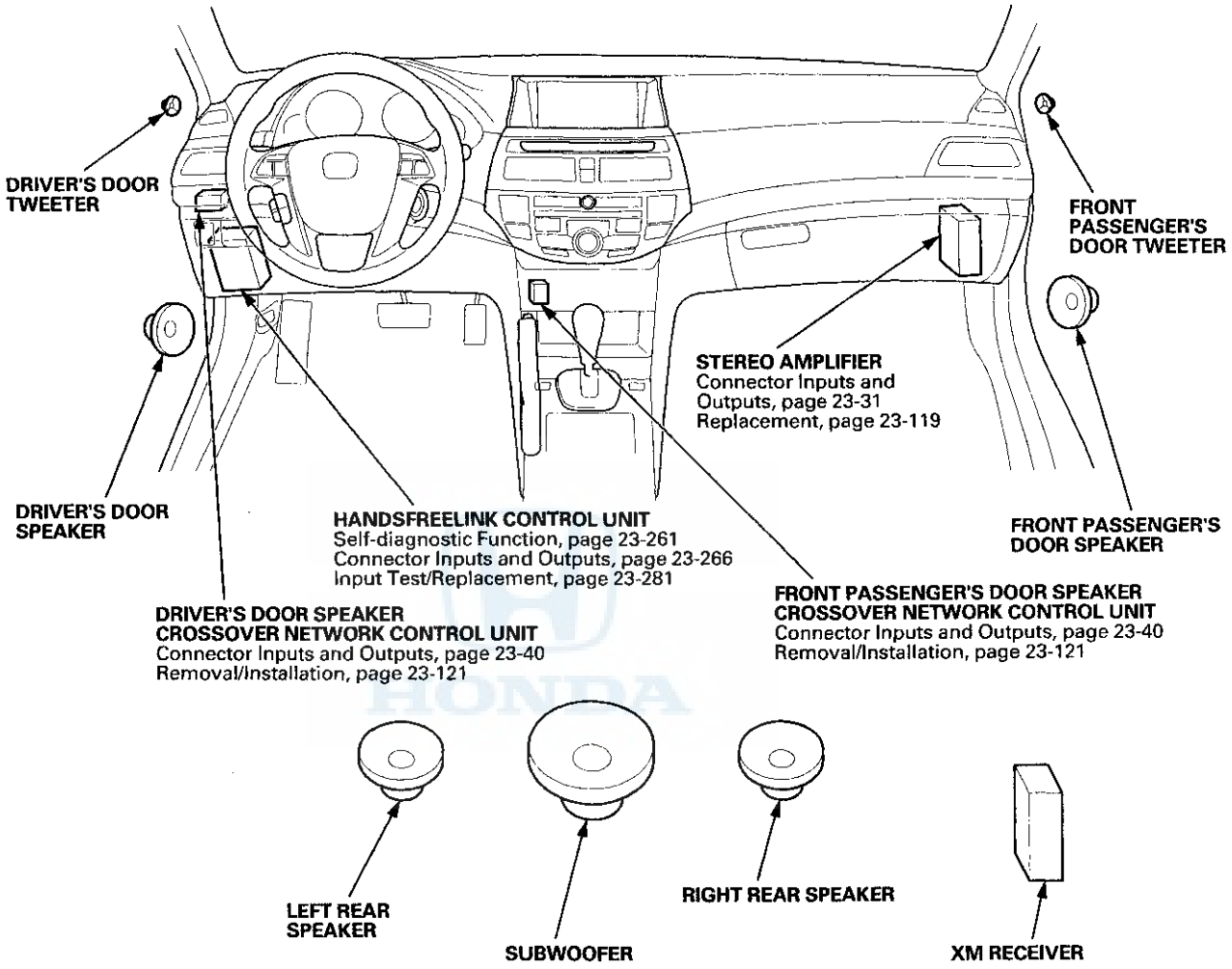
1. Remove the center console (see page 20-158).
2. Disconnect the 5P connector (A), and carefully pull out the auxiliary jack assembly (B) from the center console box.



3. Install the auxiliary jack assembly in the reverse order of removal.

Component Location Index




DRIVER'S DOOR TWEETER
FRONT PASSENGER'S DOOR TWEETER
STEREO AMPLIFIER
Connector Inputs and Outputs, page 23-31
Replacement, page 23-119
DRIVER'S DOOR SPEAKER
HANDSFREELINK CONTROL UNIT
Self-diagnostic Function, page 23-261
Connector Inputs and Outputs, page 23-266
Input Test/Replacement, page 23-281
FRONT PASSENGER'S DOOR SPEAKER
DRIVER'S DOOR SPEAKER CROSSOVER NETWORK CONTROL UNIT
Connector Inputs and Outputs, page 23-40
Removal/Installation, page 23-121
FRONT PASSENGER'S DOOR SPEAKER CROSSOVER NETWORK CONTROL UNIT
Connector Inputs and Outputs, page 23-40
Removal/Installation, page 23-121
LEFT REAR SPEAKER
SUBWOOFER
RIGHT REAR SPEAKER
XM RECEIVER

General Troubleshooting Information

General Operation

Refer to the navigation system manual for the navigation system operating procedures.

Anti-theft Feature

The navigation system and audio unit have a coded theft protection circuit. Make sure you have the anti-theft security code before:

- Disconnecting the battery.
- Disconnecting the navigation unit connector A (8P).
- Removing the No. 15 (10 A) fuse from the under-hood fuse/relay box.

After service, reconnect power to the navigation unit, and turn the ignition switch to ON (II). Enter the 4-digit anti-theft security code, then select Done.

If the code cannot be found, use the interactive Network (iN) to look it up. You can view the serial number in one of the ECU Info diagnostic screens (see page 23-176). Alternatively, you can find the serial number on the underside label which is located on the navigation unit in the trunk.

When replacing the navigation unit, be sure to give the customer the new anti-theft security code.

Symptom Diagnosis

Certain circumstances and system limitations will result in occasional vehicle positioning errors. Some customer's may think this indicates a problem with the navigation system when, in fact, the system is normal. Keep the following items in mind when interviewing customer's about symptoms of the navigation system.

Self-Inertial Navigation Limitations

The limitations of the self-inertial portion of the navigation system (the yaw rate sensor and the vehicle speed signal) can cause discrepancies between the vehicle's actual position and the indicated vehicle's position (GPS vehicle position).

The following circumstances may cause vehicle positioning errors:

- Moving the vehicle with the engine stopped and the vehicle stopped, such as by ferry or tow truck, or if the vehicle is spun on a turn table.
- Tire slippage, changes in tire rolling diameters, and some driving situations may cause discrepancies in travel distances. Examples of this include:
  - Continuous tire slippage on a slippery surface
  - Driving with snow chains mounted
  - Abnormal tire pressure
  - Incorrect tire size
  - Frequent lane changes across a wide highway
  - Continuous driving on a straight or gently curving highway
  - Very bumpy roads
- Tolerances in the system and map inaccuracies sometimes limit how precisely the vehicle's position is indicated. Examples of this include:
  - Driving on roads not shown on the map (map matching is not possible)
  - Driving on a road that winds in one direction, such as a loop bridge, an interchange, or a spiral parking garage
  - Driving on a road with a series of sharp hair-pin turns
  - Driving near a gradual highway exit or transition
  - Driving on one of two close parallel roads
  - Making many 90 degree turns

Global Positioning System (GPS) Limitations

The GPS cannot detect the vehicle's position or elevation during the following instances:

- For the first 5 to 10 minutes after reconnecting the battery (this process can take as long as 45 minutes).
- When the satellite signals are blocked by tall buildings, mountains, tunnels, large trees, inside parking structures or large trucks.
- When the GPS antenna is blocked by metallic window tinting or by an object placed above it in the vehicle. The GPS antenna requires a clear unobstructed view of the sky.
- When there is no satellite signal output (signal output is sometimes stopped for satellite servicing).
- When the satellite signals are blocked by the operation of some electronic aftermarket accessories including, but not limited to non-OEM in-dash entertainment units (radio, CD players/changers, radar detectors and theft recovery systems) and cell phones placed near the navigation system.

The accuracy of the GPS is reduced during these instances:

- Metallic window tinting above the GPS antenna.
- When only three or less satellite signals are received (Four satellite signals are required for accurate positioning).
- When driving near high tension power lines.
- When the satellite control centers are experiencing problems.

Muting Logic

Whenever the navigation system is giving guidance, the front speakers are muted. When the navigation voice control system is being used, all of the speakers are muted. If the HandsFreeLink is in use, the voice control system is unavailable and a message appears onscreen.

LCD Display Unit Limitations

NOTE: The screen is not touch sensitive. Use the interface dial and buttons to select items on the screen.

- In cold temperatures, the display may stay dark for the first 2 or 3 minutes until it warms up.
- When the display is too hot because of direct summer sunlight, it will remain dark until the temperature drops (you may see an error message displayed stating this fact).
- When the humidity is high and the interior temperature is low, the display may appear cloudy. The display will clear up after some use.
- Fingerprints on the screen may be noticeable. Clean the screen with a soft, damp cloth. You may use a mild cleaner intended for eye glasses or computer screens. To avoid scratching the panel, do not rub too hard or use abrasive cleaners or shop towels.

Symptom Duplication

- When the symptom can be duplicated, verify that it is not a characteristic of the system. Review the navigation system manual and compare it to a known-good vehicle (with the same software and database), under the same conditions. If the symptom is not the same as the known-good vehicle, follow the self-diagnostic procedures and the appropriate troubleshooting procedures.
- When the symptom does not reappear or only reappears intermittently, ask the customer about the conditions when the symptom occurred.
  - Always ask the customer to demonstrate the problem.
  - Try to establish possible user error or misunderstanding of the system.
  - Try to establish if outside interference may have been the cause.
  - Try to duplication the symptom under the same conditions the customer experienced.
  - Vibration, temperature extremes, and moisture (dew, humidity) are factors that are difficult to duplicate.
  - Inspect the vehicle for after-market electronic devices (vehicle locators, amps, radar detectors, etc.) that may be hidden.

NOTICE

When troubleshooting navigation system problems, ensure that the known-good vehicle is the same software version year and model as the vehicle being serviced. Mixing incompatible navigation DVDs or other system components can delay the troubleshooting process by creating symptoms or issues causing effects unrelated to the original problem.

(cont'd)

General Troubleshooting Information (cont'd)

Service Precautions

- If you need to replace the navigation unit, you can back-up the navigation data and transfer it to a new navigation unit. See Save users memory (see page 23-186).
- When the battery is disconnected, the internal GPS clock resets is reset to 0:00. The clock resets to the correct time after the system finishes GPS initialization.
- Before disconnecting the battery, make sure you have the anti-theft codes for the audio system and the navigation system. Also obtain any PGM-FI or transmission DTCs and freeze frame date (which are lost when the ECM/PCM loses power).
- After reconnecting the battery, you have to wait to get the initial signal from the satellite. It will take from 10 to 45 minutes.
- Adjust the setup clock settings (time zone and daylight savings) in the navigation system.
- Before returning the vehicle to the customer, enter the anti-theft codes for the audio system and the navigation system.

System Initialization

If the navigation system loses power (like the battery was disconnected), the navigation system requires initialization. Once completed, your system is ready to use.

This initialization requires the following:

- Entering the 4-digit anti-theft security code to unlock the system
- GPS initialization (may not be needed depending of the length of time the system was without power)
- Map matching to align the GPS to a location on the map

Entering the Security Code

Any time the navigation system loses power, you need to enter the 4-digit anti-theft code on the navigation system display. This 4-digit code is located on a small code card that was given to the customer. Enter the 4-digit code.

If the navigation system anti-theft code is missing use the interactive Network (iN) to look it up. You need the serial number for the navigation unit to do this.

You can view the serial number by entering the diagnostic mode. Select Unit Check from the main menu, then the ECU info diagnostic screen. This gives you the serial number without removing the navigation unit.

The iN may display more than one code for a given serial number. This is because serial numbers are not unique. You may have to try more than one 4-digit code.

If no code is shown, or if the code(s) given do not work in the navigation unit, contact the Automobile Warranty department. If the code 0000 works, replace the navigation unit.

When replacing the navigation unit or audio unit, make sure you give the customer the new anti-theft security code.

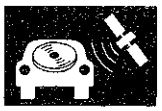
GPS Initialization

NOTE: You must park the vehicle outside with a clear view of the southern sky.

Depending on the length of time the battery was disconnected, your system may require GPS initialization. If it does, the following screen appears:

The navigation system lost power and is acquiring its location from the GPS satellites. This usually takes less than 10 minutes.

*** Start the engine.**
*** Park the vehicle in an open area away from trees, power lines, and tall buildings.**
*** Remove loose articles, cell phones, or electrical accessories located near the GPS antenna.**
*** If this screen is displayed repeatedly when starting the vehicle, see your dealer.**



If this procedure is not necessary, the system proceeds directly to the Disclaimer screen. During initialization, the system searches for all available GPS satellites, and obtains their orbital information. During this procedure the vehicle should be out in the open with a clear view of the sky.

If the navigation system finds the satellites properly, this box clears, and changes to the Disclaimer screen. If within 10 minutes the system fails to locate a sufficient number of satellites to locate your position, the following screen appears.

Something is interfering with the system's ability to acquire its location. Check the following:

*** The vehicle must be in an open area with a clear view of the sky.**
*** Remove sources of GPS interference like metallic window tint above antenna, or electrical items near antenna(see owner's manual for details).**
*** Check GPS antenna cable connection.**
*** Restart the engine and repeat the GPS acquire procedure. If the problem persists, see your dealer.**

It this screen appears, turn off the engine, then restart the vehicle and move it to a different location. If the disclaimer screen appears, the GPS initialization is complete.

NOTE:

- The average acquiring time is less than 10 minutes, but it can take as long as 45 minutes.
- If the system is still unable to acquire a signal, follow the instructions on the screen. If this screen appears again, go to troubleshooting for the GPS icon is white or not shown (see page 23-225).
- Skip to a CSF screen by pushing the MENU and the INFO buttons at the same time and you can move to a System Links screen.

Map Matching

This part of the initialization matches the GPS coordinates with a road on the map screen. To do this part of the procedure, make sure that the navigation system displays a map, and drive the vehicle on a mapped road shown on the map screen. Do not enter a destination at this time. When the name of the current road you are driving on, appears at the bottom of the screen, the entire procedure is complete. Your system is now ready to use.

Obtaining A Navigation DVD

If the navigation DVD is lost or damaged, or you need a yearly updated navigation DVD, you have two ways to purchase one. You can either call 888-549-3798, or order on-line at www.hondanavi.com.

Both methods require a credit card. The DVD for this model has a white label, and cannot be ordered through the parts system. The following DVDs will not work in this navigation system:

- Earlier model navigation DVDs (black, orange, light blue label and the older versions with a white label)
- Map software programs manufactured by other companies
- DVD movies, or DVDs containing audio recordings

Update DVDs are available for purchase usually in the fall of each year. They may contain the following:

- Enhanced maps and points of interest (POI) coverage
- Fixes for minor software bugs
- Additional features

NOTE:

- Map matching must be done any time the DVD is removed or replaced.
- Always order navigation DVDs on an as-needed basis. During a typical model year, each color DVD may undergo a half a dozen software only version upgrades to fix minor issues on some or all models the DVD supports. This is normal. Usually only the letter at the end of the version number changes, while the database (maps and POIs) remain unchanged.
- Never promise your customer future free updates. There are no free programs for updating the navigation DVD. Update DVDs are generally available for purchase each fall. The online DVD order site provides information when an update for a particular color DVD is available.
- Damaged discs are not covered by warranty unless they have been damaged by the navigation system.

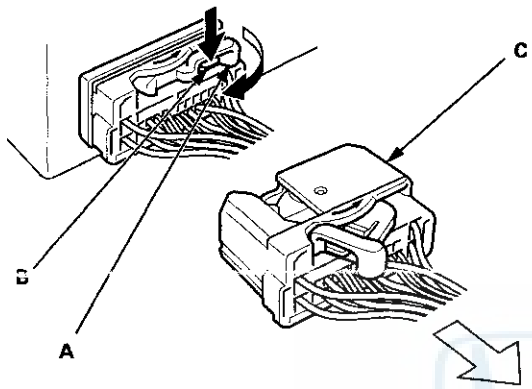
(cont'd)

General Troubleshooting Information (cont'd)

Lever-Locked Connector

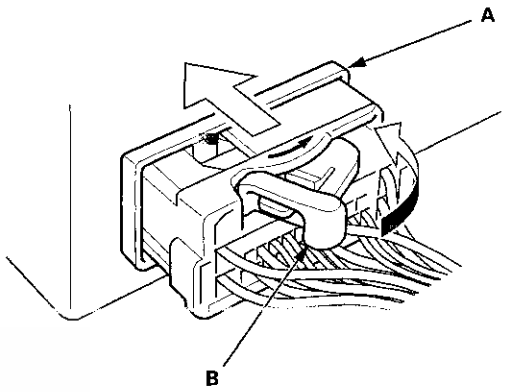
Disconnecting

To disconnect the connector, pull the lever (A) while pushing the lock tab (B) down, then pull the connector (C).



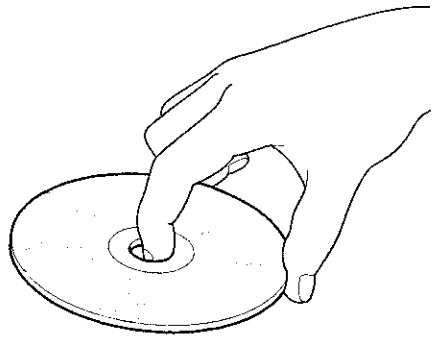
Connecting

To connect the connector, push the connector into the connector sleeve (A). As the connector is pressed in, the lever (B) moves to the locked position.

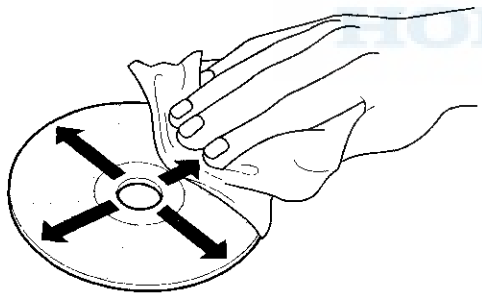


DVD Handling and Cleaning

To avoid damaging or leaving fingerprints on the DVD, always handle it by the edges and place it in a jewel case whenever it is outside the navigation unit. Deep scratches or fingerprints on the back of the DVD can cause intermittent rebooting or other system errors.



Smudges and fingerprints can be carefully removed using a mild cleaner and tissues designed to clean eyeglasses. To clean a DVD, use a clean soft cloth. Very gently wipe across the DVD from the center to the outside edge, never in a circular motion.



Do not place stabilizer rings or labels on the DVD.

Earliest DVD Version Application for Each Model

Each navigation DVD contains a map/POI (point of interest) database and the navigation system software for each model that it supports. Inserting an older DVD can cause problems since it lacks the software to provide the specific features needed for that model. Unfortunately, the navigation software does not detect or warn you that the version is outdated, and it may even appear to operate.

NOTE: Replacing a DVD just because the version number is higher is not always warranted. A higher software version does not necessarily mean it contains newer software for your model. The DVD contains software for all models that use the same color DVD, and a revised number may or may not have software fixes or upgrades for the model in question.

Typical warning symptoms that an outdated DVD is being used include:

- The Honda model navigation screen displays a Acura logo while booting up.
- A newly introduced model feature or current accessory may not display properly, and Extension displays instead.

  NOTE: Extension may be displayed when using Music Link, but should never be displayed when XM is selected.
- The current street (the street being driven on) does not appear properly at the bottom of the map screen display when the vehicle is driven on a main road.

  NOTE: If necessary, compare the operation to the navigation system of the same model and year vehicle that has a current DVD.

(cont'd)

General Troubleshooting Information (cont'd)

How to Identify Navigation DVD Versions, and How to Inspect A DVD for Damage

To determine the navigation version on a particular model, start the engine, then locate the navigation unit. Open the DVD door, and push the eject button to eject the DVD. Hold the DVD by the edges, and check for these items:

- Check any official Honda service website for more service information about the navigation DVDs.
- The DVD label color.
- Read the DVD version on the label, and note it on the repair order. The version number is near the bottom of the label text (for example, ver: 4.23A). You will need this version number:
  - To verify that the DVD version is appropriate for the vehicle. Check any official Honda service website for more service information.
  - Any time you call Tech Line regarding a navigation system issue.
  - To answer customer inquires concerning update or coverage issue.

    NOTE: Customers may obtain DVDs from sources outside the normal ordering process. If you determine this is the case, recommend that your customer purchase the appropriate DVD from the Honda Disc Fulfillment Center (see ORDERING A DVD).
  - Check the underside of the DVD for signs of mishandling. Deep scratches, or random scratches, light swirl marks, or fingerprints can cause random lock-ups, reboots, erratic voice response, erratic positioning errors, and DVD read or format errors.

    NOTE: A damaged DVD is not covered under warranty unless the disc is damaged by the navigation unit. Damage by the navigation unit typically appears as circular scratches caused by something rubbing against the DVD as it spins. The damage may appear as arcs or complete circles on the DVD reading surface.
  - Verify that the underside of the DVD is silver, and not a copy with a blue color. Copies will not work properly and can cause other symptoms that mimic hardware problems.
- Incorrectly colored DVDs being put into navigation vehicles. This causes the system to either display error messages, or causes system malfunctions that mimic a hardware problem. This results in the customer leaving with a malfunctioning navigation system.
- The DVD version provided to the customer is out-of date or incompatible with a particular model. This inconveniences your customer by delaying the repair, or by causing additional (and unnecessary) returns to your dealership.
- The customer experiences bugs or other issues that have already been resolved in later versions currently available at the fulfillment desk.

If the DVD is defective, or has any of the issues mentioned above, return the vehicle to your customer and recommend that they order the proper DVD from the Honda Disc Fulfillment Center.

NOTE: If it is determined that the navigation unit is defective (through the appropriate service manual troubleshooting procedures) and the DVD will not eject, order a replacement navigation unit, and also order a DVD from the Honda Disc Fulfillment Center.

Navigation DVDs do not come with replacement navigation units. If you are replacing a navigation unit because it is defective (following appropriate service manual troubleshooting), and the DVD does not eject, order a DVD from the Disc Fulfillment Center.

How to Answer Customer Questions About Navigation Coverage

Some customers may ask questions regarding a city, address, or POI (point of interest) covered by the navigation system. It is better to verify a coverage question on an actual vehicle than to disappoint your customer by promising coverage that may be incomplete or missing in their area. The following suggestions can be used to answer coverage inquiries from your customer.

Is my address covered by the navigation system?

Using a current production vehicle (of the same model), try and enter the customer's address (street first) to see if their area is covered. Always enter the street first, because sometimes their city may be included in a neighboring township, or under some larger metropolitan city name. If the address is shown in a vehicle, you might recommend that your customer purchase an update.

Is my city covered by the navigation system?

For general questions about whether a city is covered, view the map coverage link on the DVD order site. On the site, select a year, and select a model, then click on the Coverage link. You then select a state or province, and the cities are listed. This does not guarantee that the customer's road or address is in the system. Verifying on an actual production vehicle is always the best guarantee that your information is accurate.

The gas station on my corner is now a restaurant. Why is it still incorrect in the navigation system?

For POI-related customer questions, explain that businesses are constantly moving, and there can be a considerable lag in updating the millions of POIs in the system. The database is updated annually, and the best way to the verify whether the POI is accurate is verify the inquiry on a current production vehicle.

Answers to these and other questions regarding coverage can be found in these locations:

- In the Frequently Asked Questions section of the navigation system manual.
- At the online DVD order site, by clicking on the FAQs link.

How do I find the local address of a business that is part of a national chain (for example, Starbucks)?

There are three ways to find the local address to businesses:

- If you know the phone number of the business, select Phone Number and enter the 10 digit phone number (area code plus seven digit number).
- Select Category, then Restaurant. Enter the keyword Star. The resulting list includes all restaurants that have the letters Star anywhere in the name.
- Select Name and enter Starbucks. For more common business names, like McDonalds, you may have to search through a list that includes other businesses like McDonalds Welding, McDonalds Automotive, etc.

Why are some features different or missing compared to my previous Acura vehicle?

Hardware and software continually go through updates and improvements. Features may change or disappear over time based on the navigation system development.

Precaution on Customer Navigation DVD "Sneak Previews"

Your customer might request a look (or sneak preview) at features in the latest navigation software. You should never preview a navigation DVD in a customer's vehicle. Inserting a newer DVD installs the latest software from the DVD into the memory of the customer's navigation system. When the original DVD is reinstalled, the newer software remains in memory and is often incompatible with the customer's original DVD Map and POI database, or software.

If your customer wishes to see the latest navigation coverage or software features, demonstrate it on an in-stock vehicle that already has the latest DVD version.

If, a newer version is loaded either by the dealer or the customer, the only remedy is to enter the navigation diagnostic mode's Version screen and do a forced download. Check any official Honda service website for more information about what patches may need reinstalling.

(cont'd)

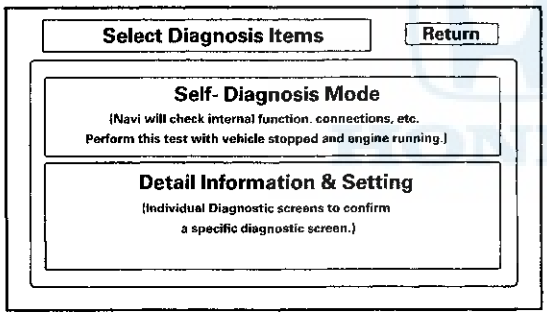
General Troubleshooting Information (cont'd)

How to Check Error History (Navigation DTCs)

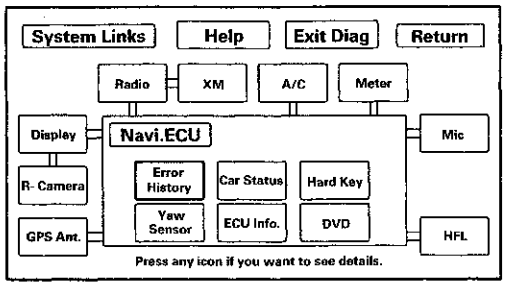
NOTE: The navigation DTCs cannot be retrieved with the HDS.

The Error History feature is to record intermittent navigation issues that occur while using the system by setting navigation DTCs. Sometimes the customer complaint cannot be duplicated. The error history may record the information needed to diagnose the problem. To check the error history:

1. Start the engine.
2. Press and hold the MAP/GUIDE, MENU, and CANCEL buttons for 3 seconds, or connect the SCS service connector to the navigation service connector located in the trunk (see page 23-237).
3. When the Select Diagnosis Items menu is displayed, select Self-Diagnosis Mode.

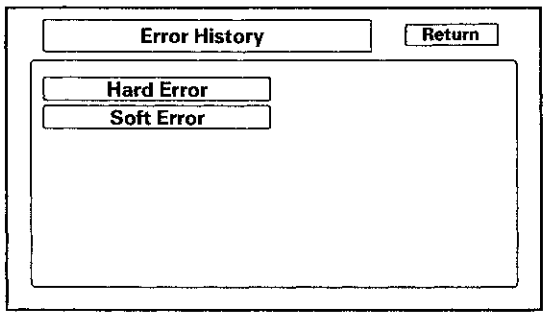


4. When the navigation unit has hard error codes, the Error History icon appears yellow when the Self Diagnosis mode (System links) screen is displayed. When no hard errors are stored, the icon appears gray. To view the errors with their DTC codes, select the error history icon.



5. Select Hard Error.

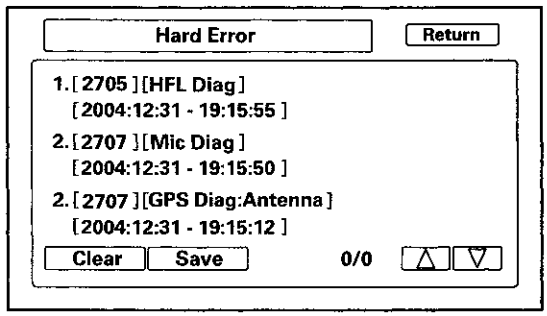
NOTE: Soft errors are for factory use only.



Hardware Error History

6. The Hard Error screen displays the following information for each error:
   - The DTC trouble code for the error
   - A brief description of the DTC code
   - The date and time when the error occurred.

   NOTE:
   - To see additional errors, use the interface dial to select UP or DOWN.
   - Select Clear to delete the error history. The Save feature is for factory use only.
7. Use the DTC Symptom Troubleshooting table to troubleshoot the error.



8. Clear the DTCs.
9. Select Return to exit the error history.

Software Error (Soft error) History

Software errors are not available. They are for factory use only.

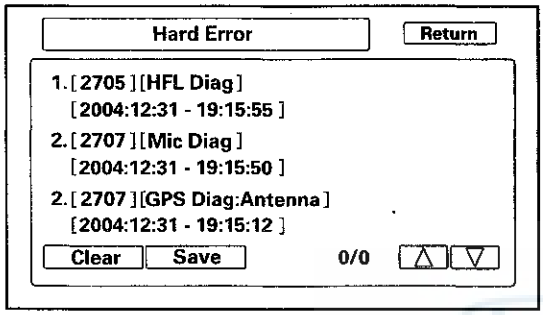
How to Clear Error History

1. Do the steps in How to check Error History.
2. Select Clear in the error menu.

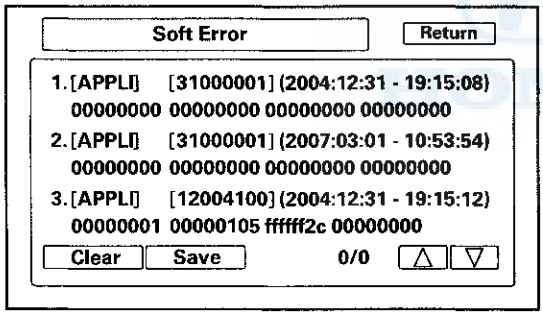
NOTE:

- By selecting Clear, all software and hardware errors stored in history are erased at the same time.
- Save is for factory use only.

Hard error history is displayed

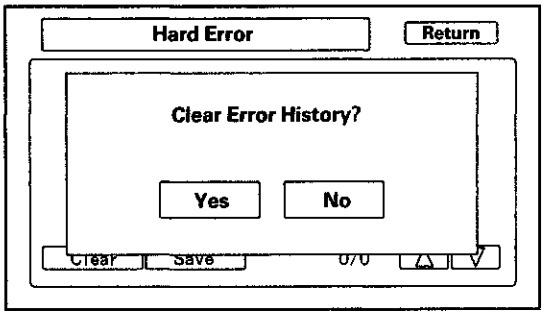


Soft error history is displayed (Software errors are for factory use only)

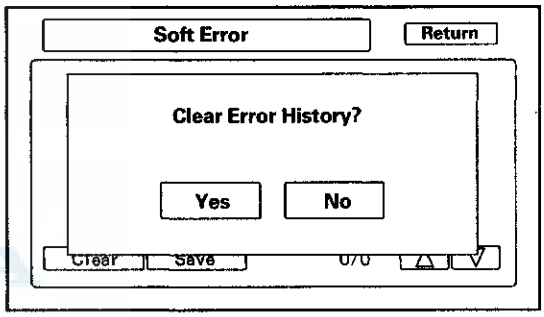


3. After selecting Clear then selecting Yes, both Hard Error history and Soft Error history are cleared at the same time.

Hard error history clear



Soft error history clear (Software errors are for factory use only)



4. Press return to exit.

DTC Troubleshooting Index

DTC	Description	Circuit	Failure Detection	Page	Also Check for
1001	FROM system Info Error	Flash ROM management	Navigation unit internal data error.	DTC Troubleshooting (see page 23-196)	Low or weak battery voltage.
1101	Media Bus Send Error	Media condition monitoring	Navigation unit internal media error.	DTC Troubleshooting (see page 23-196)	Low or weak battery voltage.
1201	DVD High Temp	DVD drive	Navigation unit temperature above the upper limit. Failure in navigation unit fan circuit.	DTC Troubleshooting (see page 23-197)	• Low or weak battery voltage. • High temperature around the navigation unit.
1202	DVD Low Temp	DVD drive	Navigation unit temperature below the lower limit.	DTC Troubleshooting (see page 23-197)	• Low or weak battery voltage. • Low temperature around the navigation unit.
1301	GPS Antenna Error	GPS Antenna	GPS Antenna circuit malfunction.	DTC Troubleshooting (see page 23-198)	Low or weak battery voltage.
1302	GPS Receiver Error 1	GPS Receiver	GPS antenna circuit malfunction. Navigation unit internal GPS receiver malfunction.	DTC Troubleshooting (see page 23-199)	Low or weak battery voltage.
1303	GPS Receiver Error 2	GPS Receiver	Navigation unit internal GPS receiver malfunction.	DTC Troubleshooting (see page 23-200)	Low or weak battery voltage.
1304	Gyro Error 1	Gyro	Navigation unit internal gyro malfunction.	DTC Troubleshooting (see page 23-200)	Low or weak battery voltage.
1305	Gyro Error 2: ECU Temp XX °C	Gyro	Navigation unit internal gyro malfunction.	DTC Troubleshooting (see page 23-201)	• Low or weak battery voltage. • Excessively high or low trunk temperature • locked navigation unit cooling fan
1306	Vehicle Speed Pulse	Vehicle Speed Pulse	VSP circuit malfunction.	DTC Troubleshooting (see page 23-201)	Check for F-CAN DTCs.
1307	DVD Read Error	DVD disc	Scratched/Dirty DVD or Navigation unit internal DVD ROM drive.	DTC Troubleshooting (see page 23-202)	Low or weak battery voltage.
1402	Audio Error 2	CD	Mechanical malfunction in the CD Changer.	DTC Troubleshooting (see page 23-202)	Low or weak battery voltage.
1403	Audio Error 3	Display	Mechanical malfunction with navigation display unit.	DTC Troubleshooting (see page 23-203)	Low or weak battery voltage.
1409	Audio Error 9	XM	XM antenna/circuit malfunction.	DTC Troubleshooting (see page 23-203)	Low or weak battery voltage.
1501	Aircon Error	Aircon	Communication error between climate control unit and navigation unit (open/short).	DTC Troubleshooting (see page 23-204)	Low or weak battery voltage.

DTC	Description	Circuit	Failure Detection	Page	Also Check for
2601	Display Diag: Connect	Display	GA-NET Bus circuit malfunction (open/short). ECU Bus circuit malfunction (open/short).	DTC Troubleshooting (see page 23-206)	
2602	Display Diag: ROM	Display	Navigation display unit internal malfunction.	DTC Troubleshooting (see page 23-208)	
2603	Display Diag: RAM	Display	Navigation display unit internal malfunction.	DTC Troubleshooting (see page 23-208)	
2605	H/U Diag: Connect	H/U	GA-NET Bus circuit malfunction (open/short).	DTC Troubleshooting (see page 23-209)	
2607	XM Diag	XM	GA-NET Bus circuit malfunction (open/short). XM antenna circuit malfunction.	DTC Troubleshooting (see page 23-210)	
2609	VRAM Diag	ECU VRAM	Navigation unit internal VRAM malfunction.	DTC Troubleshooting (see page 23-211)	
2610	DRAM Diag	ECU DRAM	Navigation unit internal DRAM malfunction.	DTC Troubleshooting (see page 23-211)	
2701	GPS Diag: Antenna	GPS	GPS antenna malfunction.	DTC Troubleshooting (see page 23-212)	
2702	GPS Diag: Receiver in Navi ECU	GPS	GPS antenna malfunction.	DTC Troubleshooting (see page 23-212)	
2703	Aircon Diag	Aircon	Communication error between climate control unit and navigation unit (open/short).	DTC Troubleshooting (see page 23-204)	• Check for F-CAN DTCs. • DTC sets if Self-Diagnosis Mode is run with the ignition switch in ACCESSORY (I).
2705	HFL Diag	HFL	HandsFreeLink control unit internal malfunction.	DTC Troubleshooting (see page 23-213)	Check for F-CAN DTCs.
2706	Gyro Diag: ECU Temp XX °C	Gyro	Navigation unit internal malfunction.	DTC Troubleshooting (see page 23-215)	• Excessively high or low trunk temperature • Blocked navigation unit cooling fan
2707	Mic Diag	Mic	Mic circuit malfunction (open/short).	DTC Troubleshooting (see page 23-215)	

Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
Navigation system stays on the GPS initialization screen	System Initialization (see page 23-132)	• Navigation unit • Internal defect in GPS antenna • GPS antenna/cable is disconnected or damaged • The wrong color DVD or version is installed • The DVD is damaged or dirty • Harness/fuses/switches
Vehicle position icon constantly leaves road, moves erratically, or is displayed very far from actual vehicle position	Symptom Troubleshooting (see page 23-218)	• Navigation unit • Internal defect in GPS antenna • GPS antenna/cable • ECM/PCM (speed pulse) • Harness/fuses/switches
System always comes up in in-line diagnostic mode	Factory diagnostic screen in Line Diag (see page 23-180)	
Navigation system does not accept security code	Symptom Troubleshooting (see page 23-232)	• The DVD is damaged or dirty • Anti-theft code not matching
Navigation frequently asks for anti-theft code and/or needs GPS initialization	Symptom Troubleshooting (see page 23-234)	• Loss of voltage or poor ground (G651) • Navigation unit • Software not up to date • Low battery voltage • Harness/fuses/switches
GPS icon is white or not shown	Symptom Troubleshooting (see page 23-225)	• Navigation unit • Internal defect in GPS antenna • Aftermarket accessories connected to the system • GPS antenna/cable • Harness/fuses/switches
Vehicle icon wanders across the map when driving (does not follow a displayed road) or map or vehicle ICON spins	Symptom Troubleshooting (see page 23-231)	• Navigation unit • GPS antenna/cable • ECM/PCM (speed pulse) • Internal defect in GPS antenna
No picture is displayed	Symptom Troubleshooting (see page 23-217)	• The wrong color DVD or version is installed • The DVD is damaged or dirty • Navigation unit • Navigation display unit • Harness/fuses/switches
Picture has lines or rolls	Symptom Troubleshooting (see page 23-221)	• Aftermarket accessories connected to the system • Navigation unit • Navigation display unit • Harness/fuses/switches
Picture is missing a color or tone or is an odd color	Symptom Troubleshooting (see page 23-219)	• The wrong color DVD or version is installed • The DVD is damaged or dirty • Navigation unit • Navigation display unit • Aftermarket accessories connected to the system • Harness/fuses/switches

Symptom	Diagnostic procedure	Also check for
Display day/night mode does not work or does not work properly	Symptom Troubleshooting (see page 23-230)	• Navigation unit • The gauge brightness level is set to High in day or night mode • Navigation display unit • Gauge control module (CAN) • The navigation display brightness is not set to auto mode • Harness/fuses/switches
System locks up or freezes constantly	Symptom Troubleshooting (see page 23-230)	• Navigation unit • The wrong color DVD or version is installed • The DVD is damaged or dirty • Harness/fuses/switches
Voice guidance cannot be heard, is broken up, or there is static	Symptom Troubleshooting (see page 23-225)	• Volume or voice feedback setting (see Owner's manual) • Navigation unit • Audio unit/amplifier • Harness/fuses/switches
Voice control does not work/respond	Symptom Troubleshooting (see page 23-226)	• Navigation unit • Microphone • Harness/fuses/switches • HandsFreeLink control unit • Audio unit (ANC circuit)
Navigation cannot control HVAC by voice command	Symptom Troubleshooting (see page 23-229)	• The wrong color DVD or version is installed • The DVD is damaged or dirty • Harness/fuses/switches • Wrong navigation unit (model code) • B-CAN DTCs
Navigation cannot control XM radio	Symptom Troubleshooting (see page 23-234)	• The wrong color DVD or version is installed • The DVD is damaged or dirty • Audio unit • XM receiver • Harness
Navigation cannot control audio system	Symptom Troubleshooting (see page 23-233)	• Audio unit • Harness • The wrong color DVD or version is installed • The DVD is damaged or dirty
Interface dial buttons do not work	Symptom Troubleshooting (see page 23-223)	• Navigation unit • The wrong color DVD or version is installed • The DVD is damaged or dirty • Navigation display unit • Interface dial • Harness/fuses/switches
Today's Destinations button is dim and not selectable in the Enter destination by screen (grayed-out)	The customer has not entered a group of locations for Today's Destinations. This is normal. The button is only selectable if the customer is using this function.	See Owner's Manual

(cont'd)

Symptom Troubleshooting Index (cont'd)

Symptom	Diagnostic procedure	Also check for
Previous Destinations button is dim and not selectable in the Enter destination by screen (grayed-out)	The vehicle or the navigation unit may be new, or the customer deleted the destination. Without a stored previous destination, the system can't route to a previous destination. Enter a destination, and allow the system to route to it. After the trip, the Previous Destinations button will be selectable.	
Address cannot be found or system gives poor routing	• Verify proper operation and system limitations using the navigation system manual. • See Answering customer question about Navigation coverage in general troubleshooting.	• Database limitations (address not in database) • Wrong color DVD installed • Older database
The map will not display the Southern portion of the U.S. or the Northern parts of Canada	North American coverage is different for U.S./Canada markets. See the version diagnostic screen for details on coverage differences (see page 23-192)	The wrong colored DVD or market DVD is installed
Navigation display stays on with ignition switch in LOCK (0)	Symptom Troubleshooting (see page 23-233)	• Harness/fuses/switches • Aftermarket accessories connected to the system
DVD read error messages	Symptom Troubleshooting (see page 23-229)	• Navigation unit • The wrong color DVD or version installed • Navigation display unit • The DVD is damaged or dirty
Error messages are displayed	See Error Message table (see page 23-195)	
Navigation system will not go beyond the disclaimer screen and displays the OK button	Also see Interface Dial buttons do not work	• The wrong color DVD or version installed • The DVD is damaged or dirty • Navigation unit
The navigation anti-theft code card is lost or missing	See anti-theft feature (see page 23-130)	
The vehicle icon lags behind when the vehicle turns	See self-inertial navigation limitations (see page 23-130)	• Aftermarket accessories connected to the system • GPS antenna/cable
Navigation screen is darker than normal or takes time to brighten when it is cold	See LCD unit limitations (see page 23-131)	Compare to a known-good vehicle
The navigation clock is off by 1 to 3 hours after replacing the navigation unit	See service precautions (see page 23-132)	• Do map matching (see page 23-133) • GPS antenna/cable • Check and adjust the clock settings
A new navigation DVD is needed	See obtaining a navigation DVD (see page 23-133)	
Time is not correct	Reset Time Adjustment in set-up See service precautions (see page 23-132)	• The wrong color DVD or version is installed • Reset Time Adjustment in set-up • A defective GPS receiver in the navigation unit
The DVD is scratched or dirty	See DVD Handling and Cleaning (see page 23-135)	Navigation unit

Symptom	Diagnostic procedure	Also check for
The wrong DVD was installed and now the system does not function properly	See Precaution customer Sneak Previews (see page 23-137)	• Install the correct version DVD • Check any official Honda service website for
A POI cannot be found	See how to answer customer questions about navigation coverage (see page 23-137)	• The DVD is damaged or dirty • The database may be out of date. Confirm the POI exists in a current production vehicle
A specific city cannot be found	See how to answer customer questions about navigation coverage (see page 23-137)	• The DVD is damaged or dirty • The database may be out of date. Confirm the address exists in a current production vehicle
An In Line Diagnosis screen appears every time vehicle is started	See factory diagnostic screen In Line Diag (see page 23-180)	
The Acura Globe Screen (not the Honda Globe Screen) appears every time the vehicle is started	Symptom troubleshooting (see page 23-235)	Also see the symptom the wrong DVD was installed and now the system does not function properly
Navigation unit will not eject or accept the navigation DVD	Symptom troubleshooting (see page 23-236)	

Navigation System

System Description

Overview

The navigation system is a highly-sophisticated, hybrid locating system that uses satellites and a map database to show you where you are and to help guide you to a desired destination.

The navigation system receives signals from the global positioning system (GPS), a network of 24 satellites in orbit around the earth. By receiving signals from several of these satellites, the navigation system can determine the latitude, longitude, and elevation of the vehicle. In addition, signals from the system's yaw rate sensor and the ECM/PCM (vehicle speed pulse) enable the system to keep track of the vehicle's direction and speed of travel.

This hybrid system has advantages over a system that is either entirely self-contained or one that relies totally on the GPS. For example, the self-contained portion of the system can keep track of vehicle position even when satellite signals cannot be received. When the navigation system is on, the GPS can keep track of the vehicle position even when the vehicle is transported by ferry.

The navigation system applies all location, direction, and speed information to maps and calculates a route to the destination entered. As you drive to that destination, the system provides both visual and audio guidance.

This navigation system also has voice recognition that allows voice control of most of the navigation functions. The Navigation TALK and BACK buttons on the steering wheel activate the voice control. The voice control also allows control of the audio and climate functions. The max brightness signal is passed to the navigation unit through the F-CAN bus.

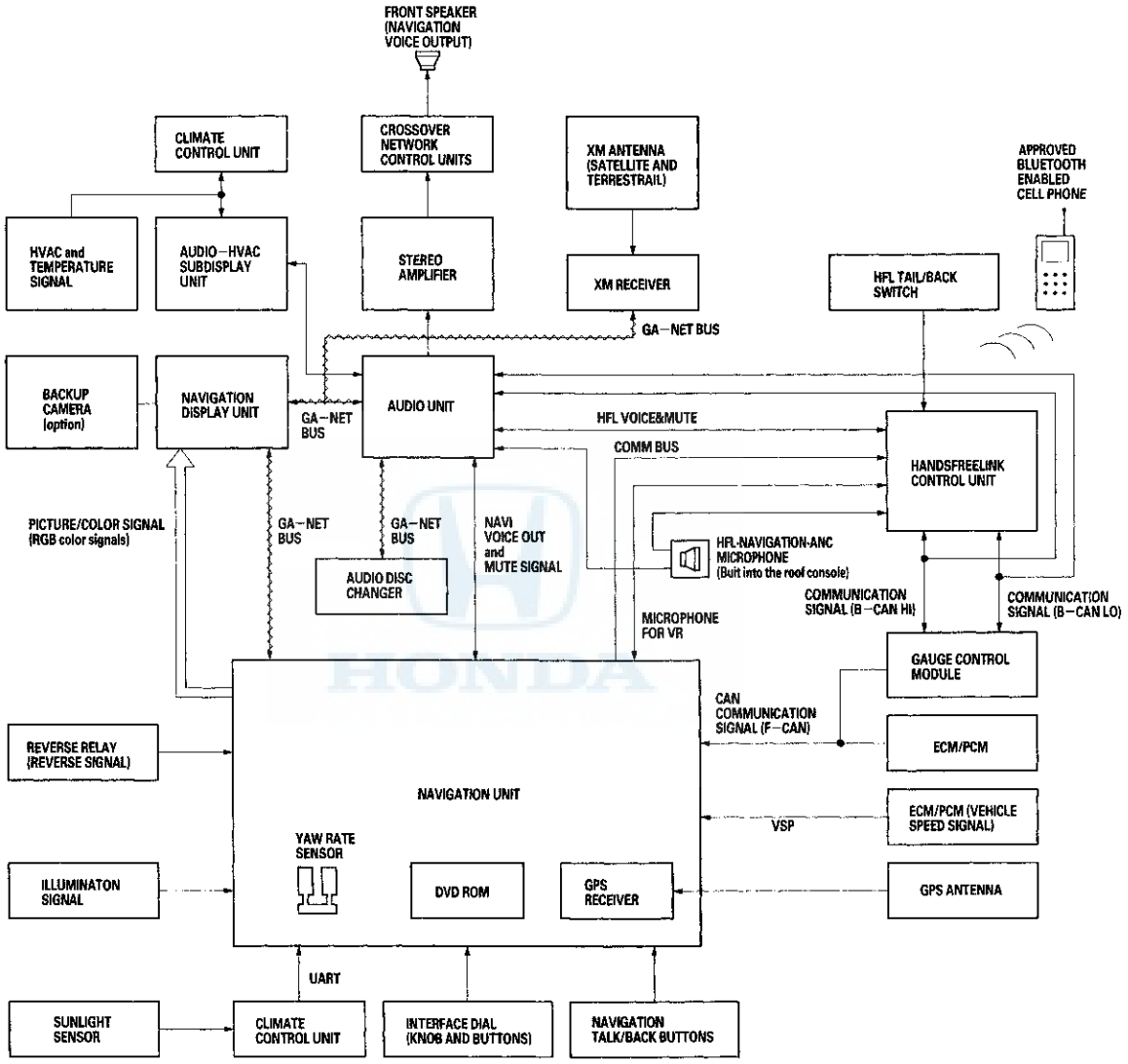
The illumination signal (headlights ON) is used by the navigation unit to automatically switch the display between Night and Day brightness modes. When the gauge control module brightness control is set to max brightness, the navigation system stays in the day mode, even with the headlights on.

The GA-NET II communication bus passes information back and forth between the navigation display unit, the navigation unit and the audio system. The information passed on this bus is audio settings directed by the navigation unit.

The Comm. Bus connects the HFL, and navigation units. This bus supports these functions:

- The navigation unit sends a POI phone number (on the Calculate route to screen) to the HandsFreeLink control unit for dialing.
- The navigation system could download the cellular phone book and call phone numbers in the book.
- The navigation unit can sense the status of a phone that is paired to the HFL.

System Diagram



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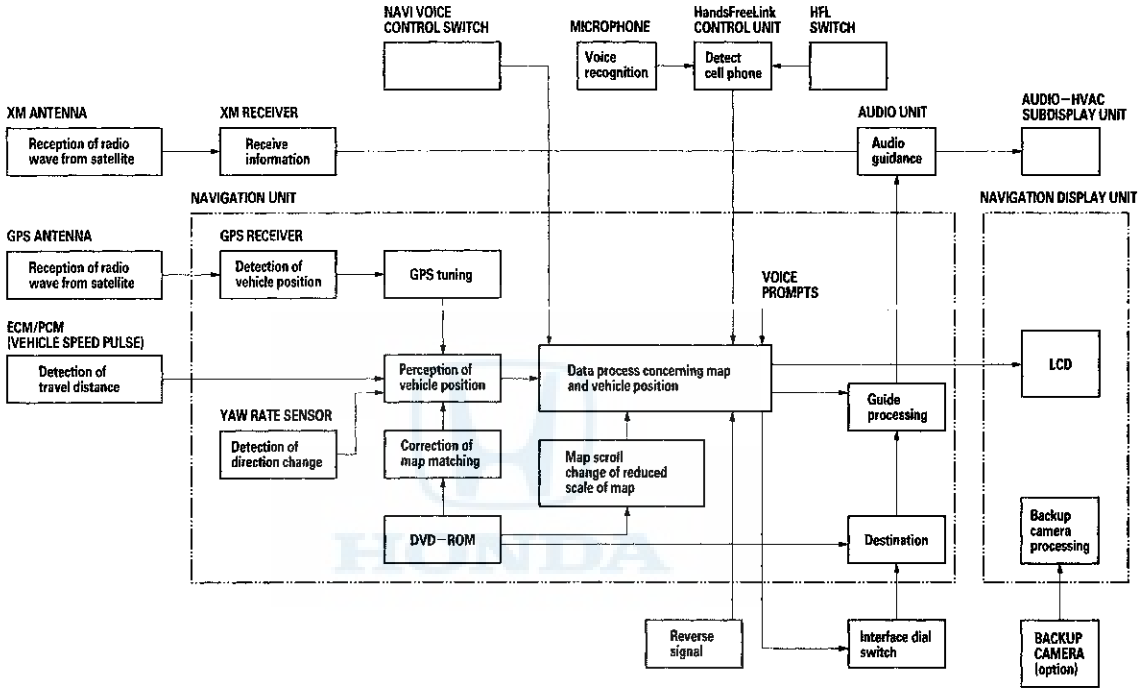
System Description (cont'd)

Navigation Function

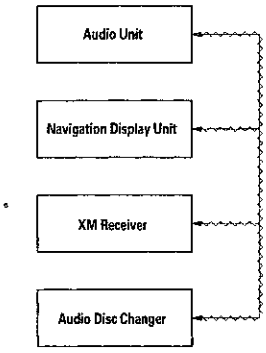
The navigation system is composed of the navigation unit, the ECM/PCM (vehicle speed pulse), the GPS antenna, microphone, the voice control switch, audio unit, and the audio-HVAC subdisplay unit.

Function Diagram



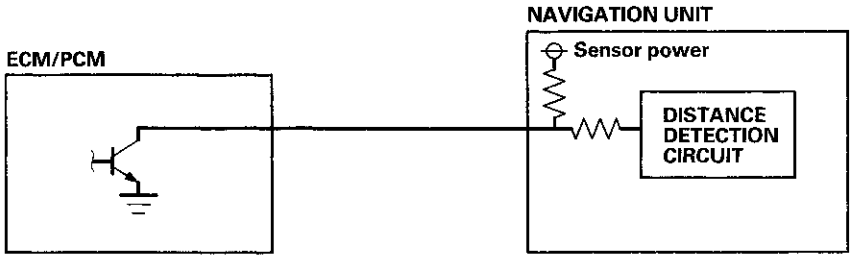
GA-Net Bus Configuration

The GA-Net bus passes audio and navigation commands throughout the navigation and audio components. These commands include navigation audio/XM selections by voice, and XM station and music title names. Because the entire bus is interconnected between components, an open or short in the GA-Net bus harness may cause any or all of these functions to become inoperative.



Vehicle Speed Pulse

The vehicle speed pulse is sent by the ECM/PCM. The ECM/PCM receives a signal from the outputshaft (countershaft) speed sensor, then processes the signal and transmits it to the gauge control module and other systems.



Yaw Rate-Lateral Acceleration Sensor

The yaw rate-lateral acceleration sensor (located in the navigation unit) detects the direction change (angular speed) of the vehicle. The sensor is an oscillation gyro built into the navigation unit.

Sensor Element Structure

The sensor element is shaped like a tuning fork, and it consists of the piezoelectric parts, the metal block, and the support pin. There are four piezoelectric parts: one to drive the oscillators, one to monitor and maintain the oscillation at a regular frequency, and two to detect angular velocity. The two oscillators, which have a 90-degree twist in the center, are connected at the bottom by the metal block and supported by the support pin. A detection piezoelectric part is attached to the top of each oscillator. The driving piezoelectric part is attached to the bottom of one oscillator, and the monitoring piezoelectric part is attached to the bottom of the other oscillator.

Oscillation Gyro Principles

The piezoelectric parts have electric/mechanical transfer characteristics. They bend vertically when voltage is applied to both sides of the parts, and voltage is generated between both sides of the piezoelectric parts when they are bent by an external force. The oscillation gyro functions by utilizing this characteristic of the piezoelectric parts and Coriolis force. (Coriolis force deflects moving objects as a result of the earth's rotation.) In the oscillation gyro, this force moves the sensor element when angular velocity is applied.

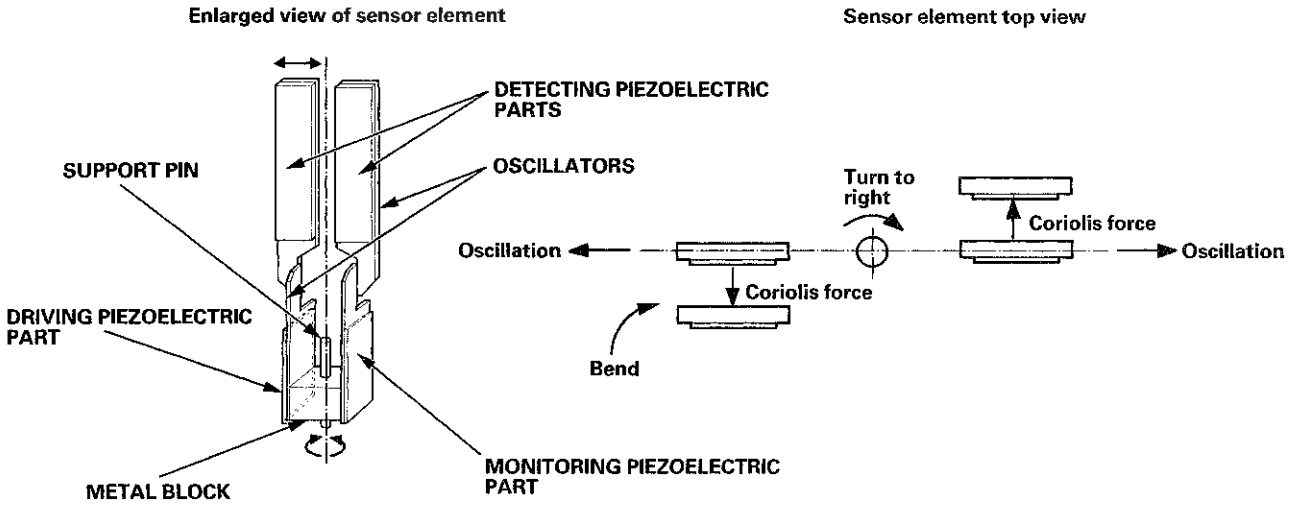
(cont'd)

Navigation System

System Description (cont'd)

Operation

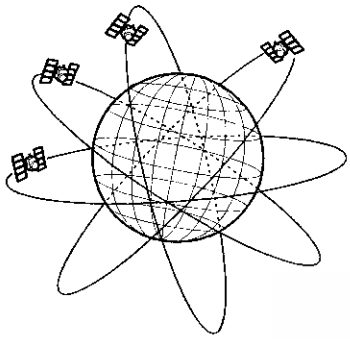
1. The driving piezoelectric part oscillates the oscillator by repeatedly bending and returning when an AC voltage of 6 kHz is applied to the part. The monitoring-side oscillator resonates because it is connected to the driving-side oscillator by the metal block.
2. The monitoring piezoelectric part bends in proportion to the oscillation and outputs voltage (the monitor signal). The navigation unit control circuit controls the drive signal to stabilize the monitor signal.
3. When the vehicle is stopped, the detecting piezoelectric parts oscillate right and left with the oscillators, but no signal is output because the parts are not bent (no angular force).
4. When the vehicle turns to the right, the sensor element moves in a circular motion with the right oscillator bending forward and the left oscillator bending rearward. The amount of forward/rearward bend varies according to the angular velocity of the vehicle.
5. The detecting piezoelectric parts output voltage (the yaw rate signal) according to the amount of bend. The amount of vehicle direction change is determined by measuring this voltage.



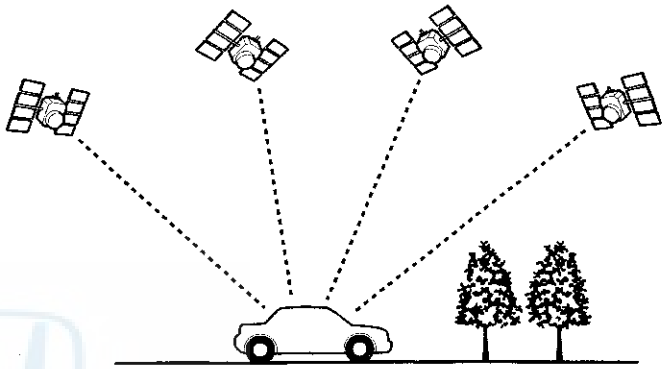
Global Positioning System (GPS)

The global positioning system (GPS) enables the navigation system to determine the current position of the vehicle by using the signals transmitted from the satellites in orbit around the earth. The satellites transmit the satellite identification signal, orbit information, transmission time signal, and other information. When the GPS receiver receives a signal from four or more satellites simultaneously, it calculates the current position of the vehicle based on the distance to each satellite and the satellite's position in its respective orbit.

Position detection Image with GPS satellite



NOTE: Four satellites on each of 6 orbits.



Precision of GPS

The precision of the GPS varies according to the number of satellites from which signals are received and the view of the sky. The acuracy is indicated by the color of the GPS icon shown on the display.

GPS ICON COLOR	NUMBER OF SATELLITES	CONDITION	DESCRIPTION
No GPS icon	None	Faulty reception	The GPS can't be utilized due to a faulty GPS receiver, open in the wire, or other fault or interference.
	2 or less	Impossible to detect vehicle position	GPS function is normal. The satellite signals received by the GPS are too few to detect the vehicle position.
White GPS icon	3	Vehicle position detectable in 2 dimensions	The longitude and latitude of the vehicle position can be detected. (Less precise than detection in three dimensions)
Green GPS icon	4 or more	Vehicle position detectable in 3 dimensions (elevation displayed)	The longitude, latitude and the altitude of the vehicle position can be detected. (More precise than detection in two dimensions)

GPS Antenna

The GPS antenna amplifies and transmits the signals received from the satellites to the GPS receiver.

GPS Receiver and Clock

The GPS receiver is built into the navigation unit. It calculates the vehicle position by receiving the signal from the GPS antenna. The current time, vehicle position and signal reception condition is transmitted from the GPS receiver to the navigation unit to adjust vehicle position.

Navigation Unit

The navigation unit calculates the vehicle position and guides you to the destination. The unit performs map matching correction, GPS correction, and distance tuning. It also controls the menu functions and the DVD-ROM drive, and interprets voice commands. With control of all these items, the navigation unit makes the navigation picture signal, then it transmits the signal to the navigation display unit and audio driving instructions to the audio unit.

(cont'd)

Navigation System

System Description (cont'd)

Calculation of Vehicle Position

The navigation unit calculates the vehicle position (the driving direction and the current position) by receiving the directional change signals from the yaw rate sensor and the travel distance signals from vehicle speed pulse (VSP) signal of the ECM/PCM.

Map Matching Tuning

The map matching tuning is accomplished by indicating the vehicle position on the roads on the map. The map data transmitted from the DVD-ROM is checked against the vehicle position data, and the vehicle position is indicated on the nearest road. Map matching tuning does not occur when the vehicle travels on a road not shown on the map, or when the vehicle position is far away from a road on the map.

GPS Tuning

The GPS tuning is accomplished by indicating the vehicle position as the GPS's vehicle position. The navigation unit compares its calculated vehicle position data with the GPS vehicle position data. If there is large difference between the two, the indicated vehicle position is adjusted to the GPS vehicle position.

Distance Tuning

The distance tuning reduces the difference between the travel distance signal from the VSP and the distance data on the map. The navigation unit compares its calculated vehicle position data with the GPS vehicle position data. The navigation unit then decreases the tuning value when the vehicle position is always ahead of the GPS vehicle position, and it increases the tuning value when the vehicle position is always behind the GPS vehicle position.

Route Guidance

The navigation unit can calculate different routes to a selected destination. You have five options:

- Direct Route—Calculate a route that is the most direct.
- Easy Route—Calculate a route that minimizes the number of turns needed.
- Minimize Freeways—Calculate a route that avoids freeway travel. If that is not possible, keep the amount of freeway travel to a minimum. This is not selectable (button grayed out) for trips greater than 100 miles.
- Minimize Toll Roads—Calculate a route that avoids, or minimizes travel on toll roads. This is not selectable (button grayed out) for trips greater than 100 miles.
- Maximize Freeways—Calculate a route that uses freeways as much as possible.

Audio Guidance

The navigation unit transmits audio driving instructions before entering an intersection or passing a junction. The audio instructions come through the audio unit to the front speakers.

NOTE: The front speakers are muted whenever the navigation system is giving guidance commands, and all of the speakers when the voice control system is being used.

Muting Signal Logic

The audio muting logic is orchestrated by the audio unit. The audio unit determines what audio source has priority to use the speakers.

The priority of the audio sources is as follows:

HFL has the highest priority, followed by navigation, and finally the radio/CD-DVD player. The priority is passed by HFL to the audio unit by dedicated mute wires. The navigation mute signal is passed to the stereo amplifier.

The navigation unit temporarily disables the voice control buttons, but allows guidance to be heard. In addition, the audio unit suppresses the output from the audio unit, XM receiver, disc player, or other audio accessories.

When the navigation system sends out a voice route guidance command, the audio front speaker is muted, and the navigation voice is heard in the front speakers.

When the navigation voice control system is in use, all of the speakers are muted, and the navigation voice prompts are heard from the front speakers.

Solar Angle

The climate control unit uses the sun's angle, along with the sunlight sensor to control the driver/passenger A/C air flow.

Off Road Tracking (bread-crumbs)

Off road tracking dots that can be followed on the map retrace your route back to a mapped (digitized) road.

Clock and Time Zone

The clock set up allows you to set daylight savings time, auto time zone and time adjustment.

DVD-ROM

The navigation DVD includes:
- Map Data
- Point of interest (POI)
- Navigation software

Audio Unit

The audio unit receives the voice guidance instructions from the navigation unit and transmits the instructions through the front speaker even when the audio system is in use. The audio unit also uses the HFL-navigation-ANC microphone signal to check the ANC output.

NOTE: If the navigation volume and/or voice feed back is turned off, this feature is disabled.

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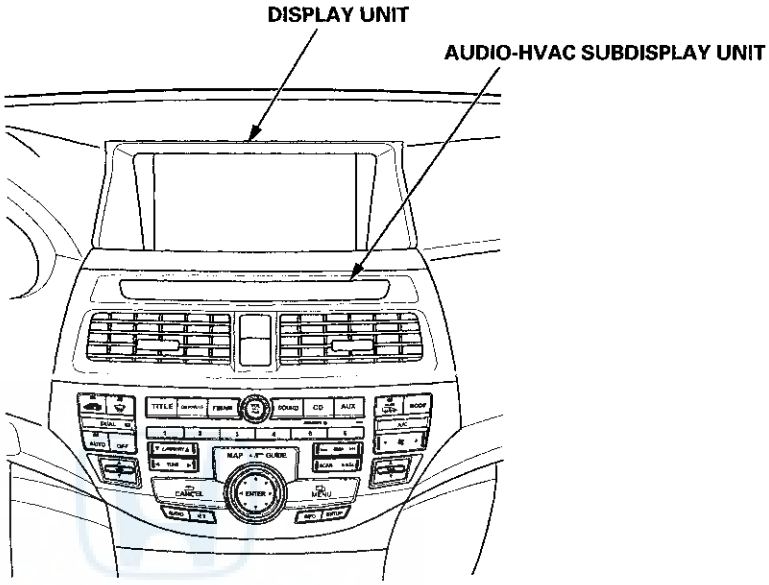
System Description (cont'd)

Display Unit

The display unit uses a liquid crystal display (LCD). The LCD is a 8-inch-diagonal, thin film transistor (TFT), strip type with 336,960 picture elements. The color film and fluorescent light are laid out on the back of the liquid crystal film.



Microphone (Mic)

Receives voice commands and transmits them to the navigation unit or HandsFreeLink control unit or active noise cancellation (ANC) for interpretation.

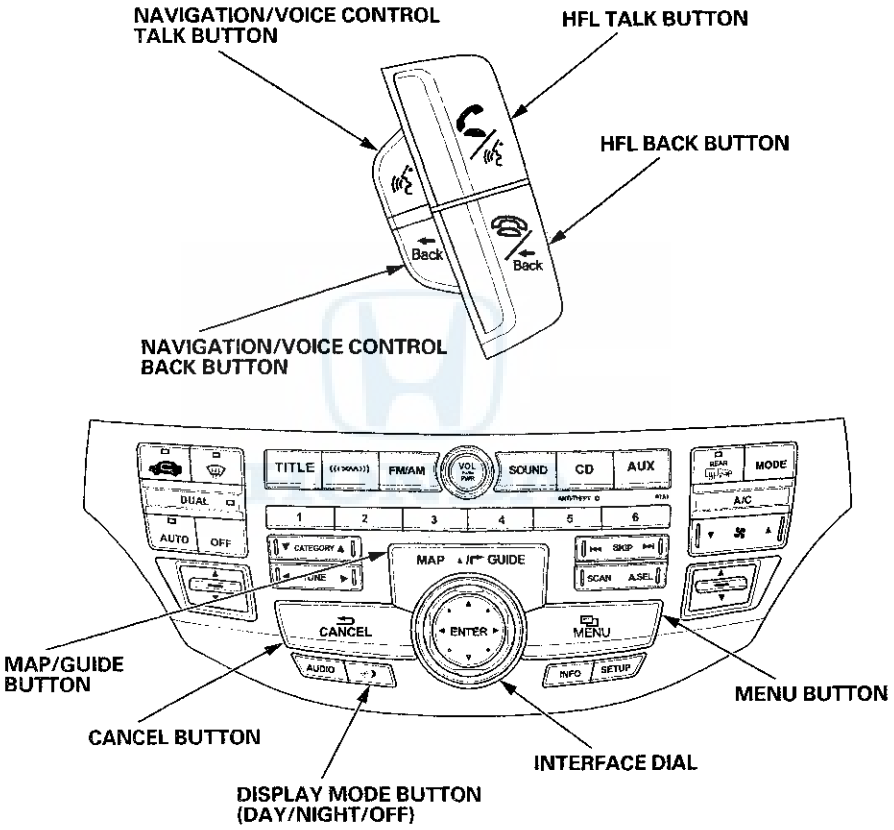
These systems share the same microphone.

NAVIGATION TALK Button

Activates the voice control system in the navigation unit to accept voice commands.

NAVIGATION BACK Button

Returns the display to the previous screen (similar function as the CANCEL button).



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System Description (cont'd)

Glossary

The following is a glossary of terms pertaining to the Voice Recognition Navigation System.

Item	Definition
Address Book	The HFL system can import a copy of the phone book from and approved HFL compatible phone and can display the imported phone book on the navigation screen as the address book. See the Owner's Manual for more information.
B-CAN	Body CAN Bus (see CAN)
Breadcrumbs (White dots)	Off road tracking dots that can be followed on the map to retrace your route back to a mapped (digitized) road. This function can be turned on/off in Setup screen 1.
CAN	Controller Area Network. This communication network allows processors in the vehicle to send/receive information. The fuel pulses used by the MID trip computer are received from the ECM/PCM using the F-CAN (Fast Controller Area Network) bus.
CPU	Central Processing Unit. The main device within the navigation unit that coordinates the rest of the electronic functions.
CSS	Output shaft (Countershaft) Speed Signal. This sensor reads the output shaft speed at the transmission and provides a speed pulse to the ECM/PCM.
Database	This consists of the Map data, and the POI (Points Of Interest) data stored on the DVD.
DBW	Drive By Wire. Allows electrical control of the throttle without the need of a mechanical linkage.
DCA	Detailed Coverage Area. Main metropolitan areas in the Lower 48 states, and Canada are mapped to this level. See the Navigation system manual for a list of these areas.
DTC	Diagnostic Trouble Codes. Use the HDS tablet to obtain, and troubleshoot the cause of these codes.
Dead Reckoning	The use of the speed signal, and yaw rate sensor to position the vehicle on the map even when tall buildings, or driving in a tunnel obscures the GPS signal.
Digitized Road	A road that appears on the navigation screen. The road name will appear at the bottom of the navigation screen. If the user drives off-road the navigation system displays Not on a digitized road, and after 1/2 mile, the breadcrumbs appear.
Disclaimer Screen	Screen containing cautionary information. It is meant to be read carefully, and acknowledged by the customer when using the navigation system.
DVD or DVD-ROM	Digital Versatile Disk. The navigation program and database resides on this disc. See the Navigation System Manual for information on how to order a replacement or an update navigation DVD.
ECM	Engine Control Module. Typically referred to as the ECM.
FAQ	Frequency Asked Questions. See the Navigation System Manual for a list of the customer FAQs, and troubleshooting information.
F-CAN	Fast CAN Bus (see CAN)
GA-Net	The GA-Net allows the audio unit to communicate with all the audio and navigation components in a vehicle. If there is an open in the GA-Net, components or the entire audio and navigation system may appear inoperative.
GPS	Global Positioning System. A network of 24 satellites in orbit around the earth. The navigation system can simultaneously receive signals from up to 12 satellites to accurately position the vehicle on the map.

Item	Definition
HDS	Honda Diagnostic System. A hand held tablet PC used for in diagnosing vehicle problems. This device can be used to obtain DTC codes for diagnosis of the navigation system and CAN related problems.
HFL	HandsFreeLink uses Bluetooth technology as a wireless link between it and an approved Bluetooth compatible cell phone. See the vehicle Owner's Manual or Quick Start Guide for more information.
H/U	Head Unit. The navigation system display assembly in the dash.
Initialization	This refers to the period needed to re-acquire the GPS satellite orbital information whenever the navigation system power has been disconnected. This can take from 10 to 45 minutes.
LCD	Liquid Crystal Display (the navigation screen)
Map Matching	The received GPS information allows the navigation system to position the vehicle on the map. Map matching has occurred if the map screen displays the current street name in the bottom-shaded area.
Mic	Abbreviation for the microphone used for receiving voice commands. It is located near the map light in the ceiling. The active noise cancellation unit may also use it to check its turning.
MID	Multi-Information Display
MP3 Music Files	MP3 is an audio coding format. MP3 is a popular audio compression format on the internet and computers. CDs and PC cards with these files can be played on some vehicle audio systems.
MW	Maneuver Window. While on-route to a destination, this window displays information about the next maneuver.
Navi	Abbreviation for the Navigation System.
Off-Road Tracking	See Breadcrumbs
Off Route	This occurs when the user leaves mapped roads. Off-road tracking dots (breadcrumbs) are displayed if the option is enabled in the setup menu. The user can use them to return to a mapped road. The bottom of the navigation screen displays Not on a digitized road
Outlying Areas	These are rural areas that typically have only their main roads mapped. All other roads are shown in light brown for reference only since they have not been verified.
Paired	Linking your cell phone to the HFL
PC Card Slot	The PC card (PCMCIA, type II) slot is for factory use only. Make sure that the sliding door is closed at all items, if opened, an error message is displayed on the screen.
PCM	Powertrain Control Module. This unit supplies the navigation system speed signal, and charge signal via the F-CAN network. Also refered to as ECM.
PCMCIA	A computer industry defined term referring to the PC Card slot standard.

(cont'd)

System Description (cont'd)

Item	Definition
PIN	Personal Identification Number, a random 4 digit number created by the customer to protect personal information.
POI	Point Of Interest. These are the businesses, schools, etc. found under the Places option on the main menu.
Polygon	Colored areas on the map screen denoting parks, schools, etc. See the Navigation System Manual, Driving to Your Destination, for a list of the assigned colors.
QWERTY	Keyboard layout resembling the typewriter keys. The keyboard layout can be changed to an alphabetical layout in the Setup mode.
SCS service connector	The service check signal 2-pin connector used to put the navigation system into the diagnostic mode.
Security Code	Code needed to activate the navigation system. You can get the security code from the interactive network (iN) by entering the navigation unit serial number. You can find the serial number on the diagnostic screens (Unit Check, Navi ECU) or on the underside of the navigation unit.
Touch Screen Buttons or Touch Sensor	Navigation display panel has 2 layers of clear film on the screen panel. If you touch the screen panel, the film layers engage and the display unit detects the touch point.
Tuning	A continual update of internal navigation system scaling factors. See the individual sensor tuning discussions under either System Description, or System Diagnostic Mode.
Unverified Streets	These streets have not been verified for turn restrictions, one-way, etc. They appear light brown on the map. You can enter address destinations in these areas, but depending on your Unverified Routing choice in setup, voice guidance may end at the last verified street closest to your destination.
USB Jack	Allows the customers to play data such as input audio recording from portable audio devices (such as i-Pod) or data from USB flash memory.
Verified Streets	These streets consist of the detailed metropolitan coverage areas, and all other inter-town connection roads. These roads are shown in black on the map.
VP	Vehicle Position. When in map mode, this circular icon shows the vehicle position on the map. Touch this icon to show the latitude, longitude, and elevation of your current position.
VR	Voice Recognition. This allows voice control of many of the navigation functions. The hardware consists of the microphone, voice control switch (navigation Talk/navigation Back buttons), and the front speakers. See the overview for more information.
VSP	Vehicle Speed Pulse. This pulse signal coming from the ECM/PCM (via the CSS) is used to update the Vehicle position on the map. These pulses do not indicate direction (forward or backward). When in reverse, the navigation receives a signal and directs the VP to move backwards on the map.
XM	This device receives information from the XM satellites and passes XM audio information to the audio unit. In addition, traffic information is sent to the navigation unit (see AcuraLink).
Yaw Sensor	This device is located in the navigation unit and senses the side-to-side twisting force generated when the vehicle turns. See a detailed description of how this sensor works.

Diagnostic System Diagram

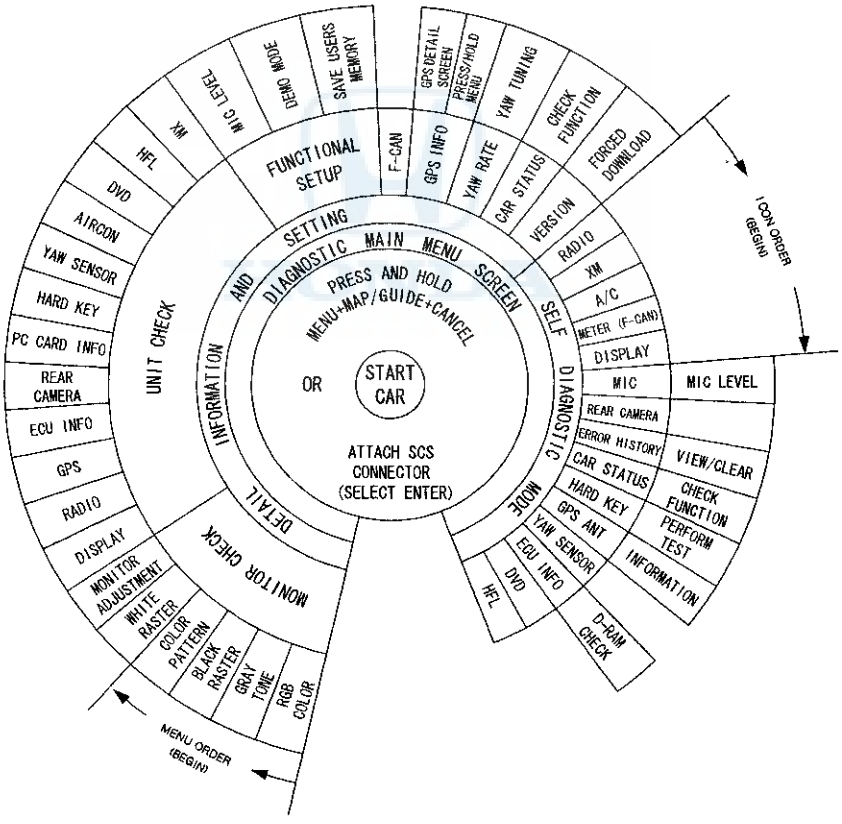
This diagram below shows all of the navigation diagnostic features available for system troubleshooting. The diagram starts at the center, and works outward in layers.

Access to the diagnostic features begins by starting the vehicle. This is necessary so the system can check the other systems connected by various busses. After starting the vehicle you can enter the diagnostic mode either by pressing and holding MENU, MAP/GUIDE, and CANCEL, or by connecting the 2-PIN SCS service connector.

The main menu screen allows 2 checking modes - one automatic, and one manual:

- The automatic diagnostic check starts when you select "SELF DIAGNOSTIC MODE". The system runs for several seconds, and reports any issues with Red icons. Rotate the interface dial and select the icon you wish obtain the problem details.
- The manual diagnostic check is selected from the main menu by selecting "DETAIL INFORMATION AND SETTING". The traditional diagnostic menu is displayed. This allows you to obtain additional details as instructed in the troubleshooting procedures.

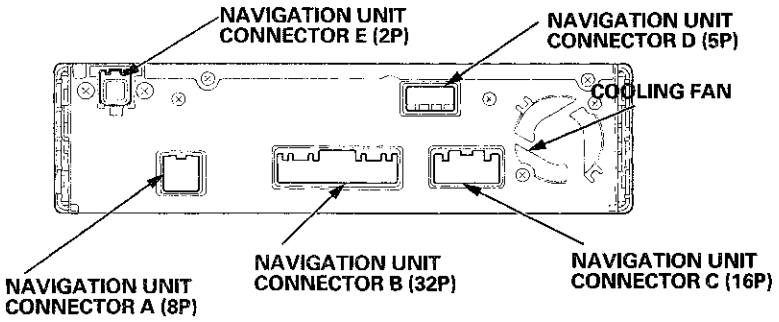
NOTE: Do not clear or change settings unless specified by either the Service Manual troubleshooting procedures or by the factory. Otherwise, you may accidentally delete customer information, or remove the latest flash software version installed by the factory.

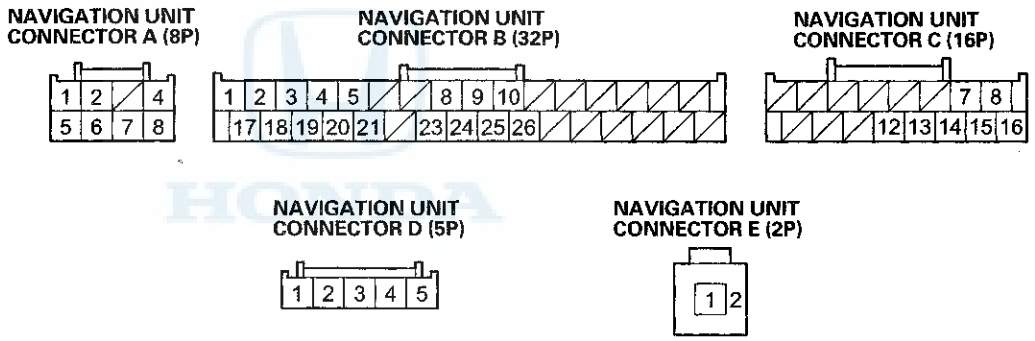


(cont'd)

System Description (cont'd)

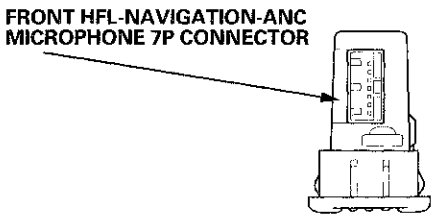
Navigation unit connectors



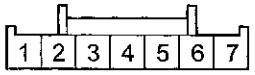


All connectors show wire side of female terminals

Front HFL-navigation-ANC microphone 7P connector

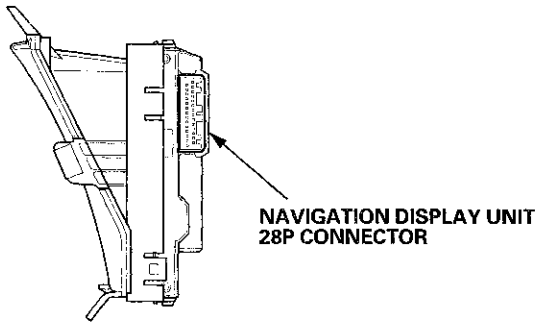


FRONT HFL-NAVIGATION-ANC MICROPHONE 7P CONNECTOR

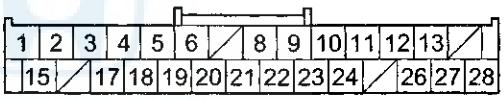


wire side of female terminals

Navigation display unit 28P connector

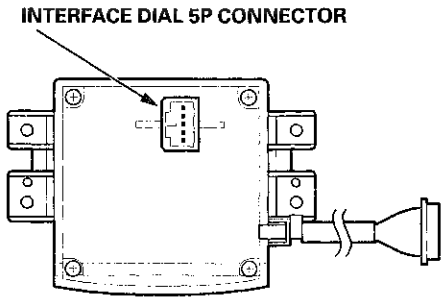


NAVIGATION DISPLAY UNIT 28P CONNECTOR

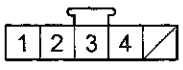


Wire side of female terminals

Interface dial 5P connector



INTERFACE DIAL 5P CONNECTOR

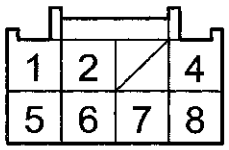


Wire side of female terminals

(cont'd)

System Description (cont'd)

Navigation Unit Inputs and Outputs for Connector A (8P)

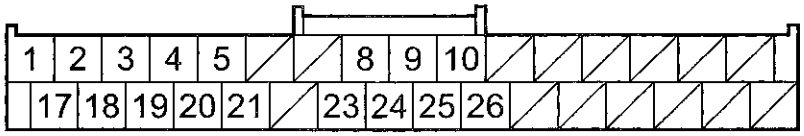


Wire side of female terminals

Navigation Unit Connector A (8P)

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
1	WHT	+B (+B Power source)	Continuous power source	Battery voltage	If open: Display picture goes out (display back light still on). NOTE: System will reboot to enter code screen. If short to ground: Blows fuse No. 15 (10 A) in the under-hood fuse/relay box.
2	PUR	ACC (Accessory)	Power source for accessories	Battery voltage at ACCESSORY (I)	If open: Display picture goes out (display back light still on). If short to ground: Blows fuse No. 18 (7.5 A) in the driver's under-dash fuse/relay box.
4	BLK	GND (Ground) (G651)	Ground for navigation unit	0 V	If open: No effect on system. If short to ground: No effect on system.
5	LT BLU	BACK LT (Back light or reverse signal)	Reverse signal of select lever from Multiplex Integrated Control Unit (A/T) or backup light switch (M/T)	In reverse, battery voltage: Otherwise 0 V	If open: Navigation never sees reverse. Diagnostic screen Car Status, Back=0. If short to ground: Blows fuse No. 5 (7.5 A) in the driver's under-dash fuse/relay box.
6	BLU	VSP OUT (Vehicle speed pulse)	Vehicle speed pulse signal from ECM/PCM	0—5 V pulses average 2.5 V (Depending on bus traffic)	If open: No vehicle speed pulses. Diagnostic screen Car Status, VSP Navi=0. If short to ground: No vehicle speed pulses. Diagnostic screen Car Status, VSP Navi=0.
7	RED	DIAG+ (Diagnostic positive)	Service check signal for navigation system	5—6 V	If open: No effect on system. If short to ground: System goes into diagnostic mode at key ON (I) and (II).
8	YEL	DIAG— (Diagnostic negative)	Ground for service check signal	0 V	If open: The system will not go into diagnostic mode when using the SCS service connector. If short to ground: No effect on system.

Navigation Unit Inputs and Outputs for Connector B (32P)



Wire side of female terminals

Navigation Unit Connector B (32P)

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
1	WHT	R SIG 1 (Red signal)	Red color signal	0.7 V AC average	If open: Red color missing (see RGB Color diagnostic). If short to ground: Red color missing (see RGB Color diagnostic).
2	RED	G SIG 1 (Green signal)	Green color signal	0.7 V AC average in RGB color diagnostic mode	If open: Green color missing (see RGB Color diagnostic). If short to ground: Green color missing (see RGB Color diagnostic).
3	GRY*	SH SIG 1 (Shield signal)	Shield for terminal No. 1, 2, 17, 18, 19	0 V	If open: No change to display. If short to ground: No change to display.
4	ORN	AC-SI (Air conditioner serial in)	Communication signal for climate control unit	———	If open/short: HVAC will not respond to navigation commands.
5	GRY	ILL+ (Illumination positive)	Parking light on signal	Lights on: battery voltage, Lights off: 0 V	If open: When brightness = Auto, night mode for the display is inoperative when lights on. If short to ground: Blows No. 6 (7.5 A) fuse in passenger's under-dash fuse/relay box.
8	WHT	F-CAN H (CAN high)	F-CAN bus communication	Pulses 2.5—6 V average 2.5 V (depends on F-CAN communication traffic)	If open: 1) System Links Meter shown as red. 2) F-CAN System Link = NG. 3) Car status (ILL CANCEL) = 0. If short: Same diagnostic conditions as when open, and also sets the U0029 (F-CAN BUS OFF).
9	GRY*	SH ECU BUS (Shield display bus)	Shield for display bus No. 10, 20 terminal	0 V	If open: No change to display. If short to ground: No change to display.
10	GRN	ECU BUS+ (Display bus positive)	Data bus+GA-NET	0—5 V pulses average 2.5 V (depends on bus traffic)	If open: Navigation buttons do not work. If short to ground: Navigation buttons do not work.

*: The shielded wires have a heat-shrink tube insulating the outside of the wire.
The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

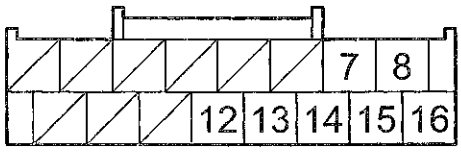
System Description (cont'd)

Navigation Unit Connector B (32P)

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
17	YEL	B SIG 1 (Blue signal)	Blue color signal	0.2 V AC average in RGB color diagnostic mode	If open: Blue color missing (see RGB Color diagnostic). If short to ground: Blue color missing (see RGB Color diagnostic).
18	BLK	C SIG 1 (Composite signal)	Composite video (vertical/horizontal) Synchronizing signal	0.2 V AC average in RGB color diagnostic mode	If open: Picture rolls horizontally, colors still visible. If short to ground: Picture rolls horizontally, colors still visible.
19	GRN	GND SIG 1 (Ground signal)	Ground for color signal	0 V	If open: No change to display. If short to ground: No change to display.
20	PUR	AC-SO 1 (Air conditioner serial out)	Communication signal for climate control unit	———	If open/short: HVAC will not respond to navigation commands.
21	BRN	AC-CLK 1 (Air conditioner clock)	Check signal for climate control unit	———	If open/short: HVAC will not respond to navigation commands.
23	BLU	JOG (Interface dial Jog)	Interface dial operation signal	0—5 V pulses	If open: You cannot operate navigation system If short to ground: You cannot operate navigation system
24	RED	F-CAN L (CAN low)	F-CAN bus communication	Pulses 2.5—6 V 2.5 V average (depends on bus traffic)	If open: 1) System Links Meter shown as red. 2) F-CAN System Link = NG. 3) Car status (ILL CANCEL) = 0. If short: Same diagnostic conditions as when open, and also sets the U0029 (F-CAN BUS OFF).
25	GRY*	SH JOG (Interface dial Shield jog)	Shield for terminal No.23	———	———
26	RED	ECU BUS— (Display bus negative)	Data bus—	0—5 V pulses 2.5 V average (depends on bus traffic)	If open: Navigation buttons do not work. If short to ground: Hard buttons work OK.

*: The shielded wires have a heat-shrink tube insulating the outside of the wire.
The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

Navigation Unit Inputs and Outputs for Connector C (16P)



Wire side of female terminals

Navigation Unit Connector C (16P)

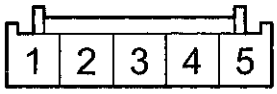
Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
7	BLK	RG L+ (Route guidance voice left positive)	Left audio signal of voice guidance, and Voice Recognition (VR) prompts	Audio signal 0.004−0.04 V	If open: If voice activated, radio speakers buzz; if voice off, no effect. If short to ground: If voice activated, radio speakers buzz; if voice off, no effect.
8	GRN	MIC SIG+ (HFL mic signal positive)	Microphone output signal positive	4−5 V (navigation TALK button pressed)	If open: microphone signal shown as red in diagnostic screens: System Links and Functional Setup Mic Level. If short to ground: microphone signal shown as red in diagnostic screens: System Links and Functional Setup Mic Level.
12	BRN	STRG SW (Navigation remote switches)	Steering switch output	4−5 V (navigation TALK button pressed) 2.5−3 V (navigation BACK button pressed)	If open: Steering wheel navigation TALK and navigation BACK buttons do not work. If short to ground: Steering wheel navigation TALK, and navigation BACK buttons do not work.
13	GRY*	RG L SH (Route guidance shield)	Shield for No. 7, 14 terminals	0 V	If open: No effect on voice output. If short to ground: No effect on voice output.
14	WHT	RG L GND (Route guidance ground)	Ground for voice guidance, and Voice Recognition (VR) prompts	0 V	If open: No effect on voice output. If short to ground: No effect on voice output.
15		SH MIC (HFL mic signal shield)	Shield for No. 8, 16 terminals	0 V	If open: No effect on voice control. If short to ground: No effect on voice control.
16	RED	MIC SIG− (HFL mic signal negative)	Ground for microphone signal	0 V	If open: microphone signal shown as red in diagnostics: System Links and Functional Setup Mic Level. If short to ground: No effect on voice recognition.

*: The shielded wires have a heat-shrink tube insulating the outside of the wire.
The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

System Description (cont'd)

Navigation Unit Inputs and Outputs for Connector D (5P)



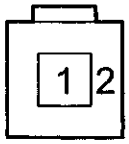
Wire side of female terminals

Navigation Unit Connector D (5P)

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
1	RED	HFL COMM3 (HFL communication 3)	Communication signal for HFL	——	Solid red HFL icon in Navi System Link
2	WHT	HFL COMM4 (HFL communication 4)	Communication signal for HFL	——	Solid red HFL icon in Navi System Link
3	BLK	HFL COMM1 (HFL communication 1)	Communication signal for HFL	——	HFL icon in Navi System Link changes between red and green
4	GRN	HFL COMM2 (HFL communication 2)	Communication signal for HFL	——	HFL icon in Navi System Link changes between red and green
5	GRY*	HFL COMM SH (shield HFL)	Shield for terminals No.1, 2, 3, 4	——	——

*: The shielded wires have a heat-shrink tube insulating the outside of the wire.
The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

Navigation Unit Inputs and Outputs for Connector E (2P)



Wire side of female terminals

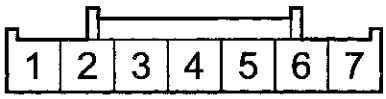
Navigation Unit Connector E (2P)

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
1	——	SIG (GPS)	GPS signal	5 V	If open: GPS icon on screen is not shown, system links screen GPS Ant. shown as red. If short to body ground: Same as open.
2	——	SH (GPS)	Ground for GPS signal	0 V	If open: GPS icon on screen is not shown, system links screen GPS Ant. shown as red. If short to body ground: No effect on system.

(cont'd)

System Description (cont'd)

FRONT HFL-Navigation-ANC Microphone Inputs and Outputs for 7P Connector

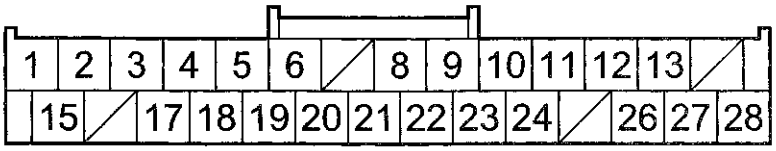


Wire side of female terminals

Front HFL-Navigation-ANC Microphone 7P Connector

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
1	BLK	GND (Ground) (G501)	Ground for HFL-navigation-ANC microphone	0 V	If open: You can not operate voice recognition. If short to ground: No effect on voice recognition.
2	GRY	MIC− (HFL mic signal negative)	Ground for microphone signal	0 V	If open: microphone signal shown as red in diagnostics: System Links and Functional Setup Mic Level. If short to ground: No effect on voice recognition.
3	BRN	MIC+ (HFL mic signal positive)	Microphone output signal positive	8 V	If open: microphone signal shown as red in diagnostics: System Links and Functional Setup Mic Level. If short to ground: Microphone signal shown as red in diagnostic screens: System Links and Functional Setup Mic Level.
5	LT GRN	HFL MUTE	HFL MUTE signal	0−5 V	If open: You can not operate HFL sound. If short to ground: You can not operate audio sound.
6	PUR	ACC (Accessory)	Power source for accessory	Battery voltage at ACCESSORY (I)	If open: You can not operate voice control. If short to ground: Blows fuse No. 18 (7.5 A) in the driver's under-dash fuse/relay box.
7	WHT	+B (+B Power source)	Continuous power source	Battery voltage	If open: You can not operate HFL and voice control. If short to ground: Blows fuse No. 15 (10 A) in the under-hood fuse/relay box.

Navigation Display Unit Inputs and Outputs for 28P Connector



Wire side of female terminals

Navigation Display Unit 28P Connector

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
1	WHT	+B (+B power source)	Continuous power source	Battery voltage	If open: Screen completely off (no backlight visible). If short to ground: Blows fuse No. 15 (10 A) in the under-hood fuse/relay box.
2	PUR	ACC (Accessory)	Power source for accessory	Battery voltage at ACCESSORY (I)	If open: Display and buttons do not work. If short to ground: Blows fuse No. 18 (7.5 A) in the driver's under-dash fuse/relay box.
3	RED	GA-NET BUS+ (GA-NET bus positive)	Data bus+GA-Net	0—5 V pulses average 2.5 V depends on bus traffic	If open: Navigation buttons do not work. If short to ground: Navigation buttons do not work.
4	GRY*	GA-NET BUS SH (GA-NET)	Shield for No. 3, 17 terminals	0 V	If open: No change to display. If short to ground: No change to display.
5	GRN	ECU BUS+ (GA-NET) (Display bus positive)	Data bus+ GA-Net	0—5 V pulses average 2.5 V depends on bus traffic	If open: Navigation buttons do not work. If short to ground: Navigation buttons do not work.
6	GRN	SECURITY+	Security signal to rear screen	0 V	If open: The security system will set, and will not trip when display is removed. If short to ground: The security system will set, and will not trip when display is removed.
8	WHT	R SIG 1 (Red signal)	Red color signal	0.7 V AC	If open: Red color missing (see RGB Color diagnostic). If short to ground: Red color missing (see RGB Color diagnostic).
9	RED	G SIG 1 (Green signal)	Green color signal	0.7 V AC	If open: Green color missing (see RGB Color diagnostic). If short to ground: Green color missing (see RGB Color diagnostic).
10	BLK	GND (Ground) (G651)	Ground for display unit	0 V	If open: No change to display. If short to ground: No change to display.

*: The shielded wires have a heat-shrink tube insulating the outside of the wire.
The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

(cont'd)

System Description (cont'd)

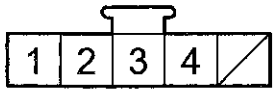
Navigation Display Unit 28P Connector

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
11*1	GRY*2	CAMERA SH (Shield camera)	Shield for No. 12, 13, 26, 27 terminals	0 V	If open: No change to rearview camera image. If short to ground: No change to rearview camera image.
12*1	BLK	CAMERA GND (Ground camera)	Ground for camera signal	0 V	If open: No change to rearview camera image. If short to ground: No change to rearview camera image.
13*1	WHT	CAMERA V (VCC supply)	Power source for rearview camera	8 V	If open: When put into reverse, the navigation screen goes black (backlight still operation) If short to ground: When put into reverse, the navigation screen goes black (backlight still operative).
15	GRY	ILL+ (Illumination positive)	Parking light on signal from dash and console lights	Battery voltage if lights on: otherwise 0 V	If open: When brightness=Auto, night mode for the display is inoperative when lights on. If short to ground: Blows fuse No. 6 (7.5 A) in the passenger's under-dash fuse/relay box.
17	GRN	GA-NET BUS− (GA-NET bus negative)	Data bus− GA-Net	0−5 V pulses average 2.5 V depends on bus traffic	If open: Navigation buttons do not work. If short to ground: Hard buttons work OK.
18	GRY*2	SH ECU BUS (Shield ECU bus)	Shield for display bus terminal No. 5, 19	0 V	If open: No change to display. If short to ground: No change to display.
19	RED	ECU BUS− (Display bus negative)	Data bus− GA-Net	0−5 V pulses average 2.5 V depends on bus traffic	If open: Navigation buttons do not work. If short to ground: Hard and touch buttons work OK.
20	YEL	SECURITY−	Security signal to audio unit	0 V	If open: The security system will set, and will not trip when display is removed. If short to ground: The security system will set, and will not trip when display is removed.
21	BLU	GND SIG 1 (Ground signal)	Ground for color signal	0 V	If open: No change to display. If short to ground: No change to display.
22	YEL	B SIG 1 (Blue signal)	Blue color signal	0−1 V AC	If open: Blue color missing (see RGB Color diagnostic). If short to ground: Blue color missing (see RGB Color diagnostic).
23	BRN	C SIG 1 (Composite signal)	Composite video (vertical/horizontal) synchronizing signal	0.3 V AC	If open: Picture rolls horizontally, colors still visible. If short to ground: Picture rolls horizontally, colors still visible.
24	BLK*2	SH SIG 1 (Shield signal)	Shield for No. 8, 9, 21, 22, 23 terminals	0 V	If open: No change to display. If short to ground: No change to display.
26*1	GRN	RC VCC (Video camera)	Video signal for rearview camera	0.3 V	If open: No change to rearview camera image. If short to ground: No change to rearview camera image.
27*1	RED	RC GND (Ground camera)	Ground for rearview camera signal	0 V	If open: No change to rearview camera image. If short to ground: No change to rearview camera image.
28*1	BRN	CAMERA ADPT (Adaptive camera)	Control signal for rearview camera	0 V	If open: No change to rearview camera image. If short to ground: No change to rearview camera image.

*1: With optional rearview camera

*2: The shielded wires have a heat-shrink tube insulating the outside of the wire.
The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

Interface Dial Inputs and Outputs for 5P Connector



Wire side of female terminals

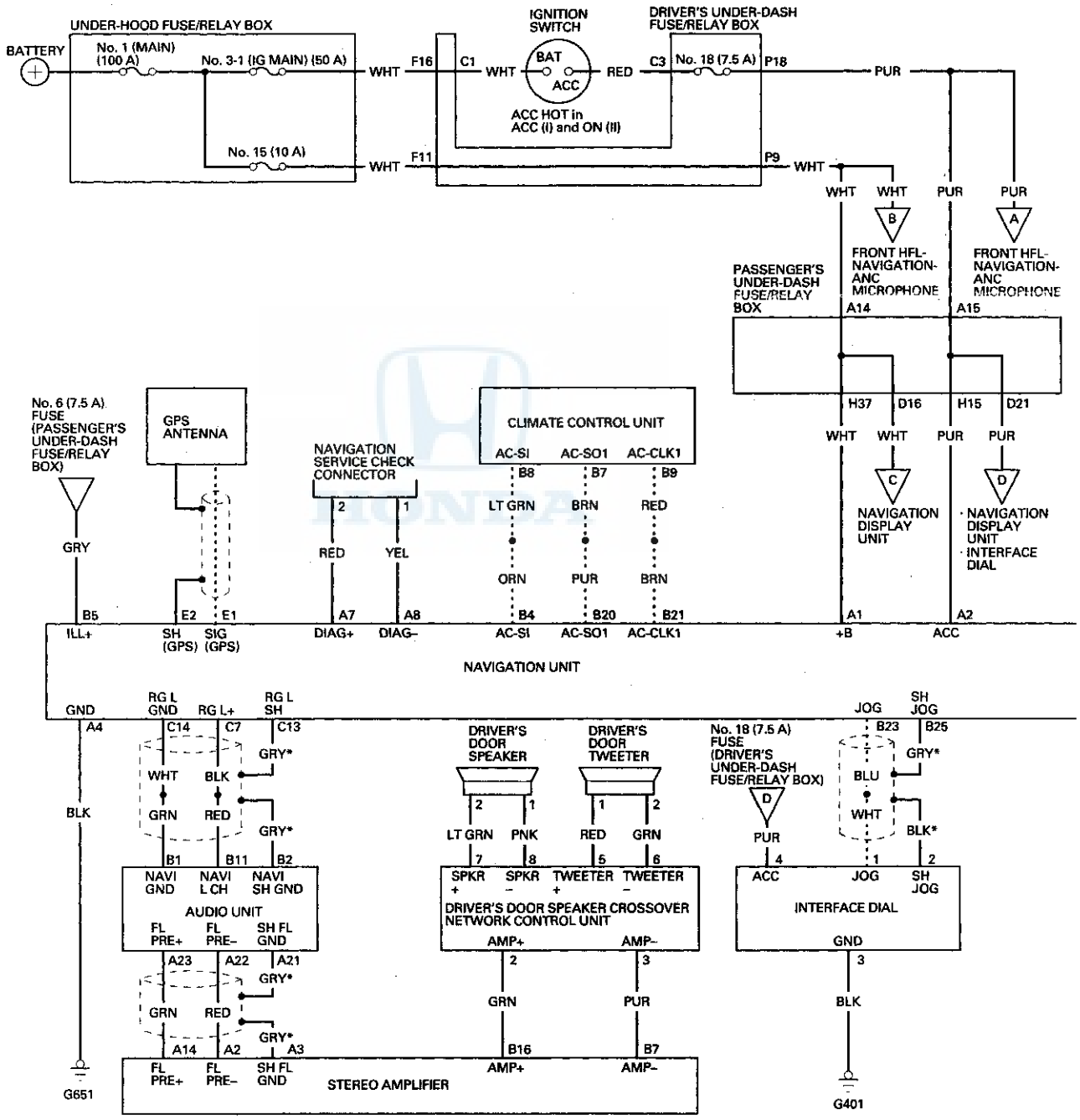
Interface Dial 5P Connector

Terminal Number	Wire Color	Terminal Name	Description	Voltage (about)	Symptom
1	WHT	JOG (jog)	Interface dial operation signal	0—5 V pulses	If open: You can not operate navigation system. If short to ground: You can not operate navigation system.
2	BLK*	SH JOG (Shield jog)	Shield for terminal No. 1	——	——
3	BLK	GND (Ground) (G401)	Ground for interface dial	0 V	If open: You can not operate navigation system. If short to ground: You can not operate navigation system.
4	PUR	ACC (Accessory)	Power source for interface dial	Battery voltage at ACCESSORY (I)	If open: You can not operate navigation system. If short to ground: Blows fuse No. 18 (7.5 A) in the driver's under-dash fuse/relay box.

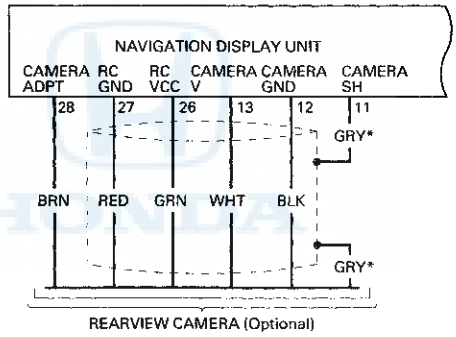
*: The shielded wires have a heat-shrink tube insulating the outside of the wire.
The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.

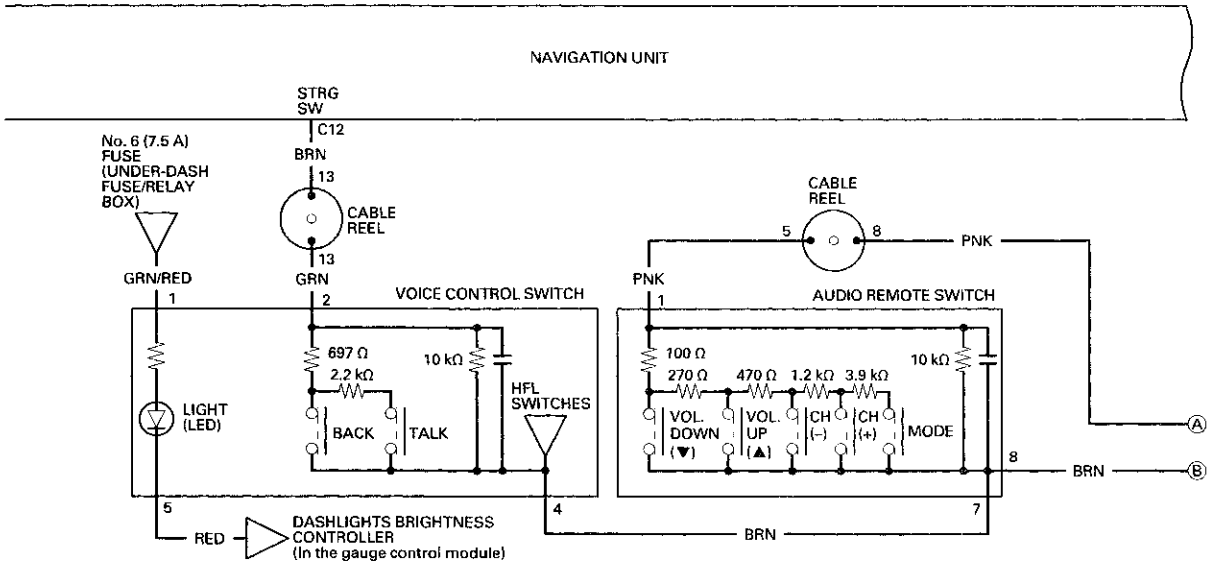
Navigation System

Circuit Diagram



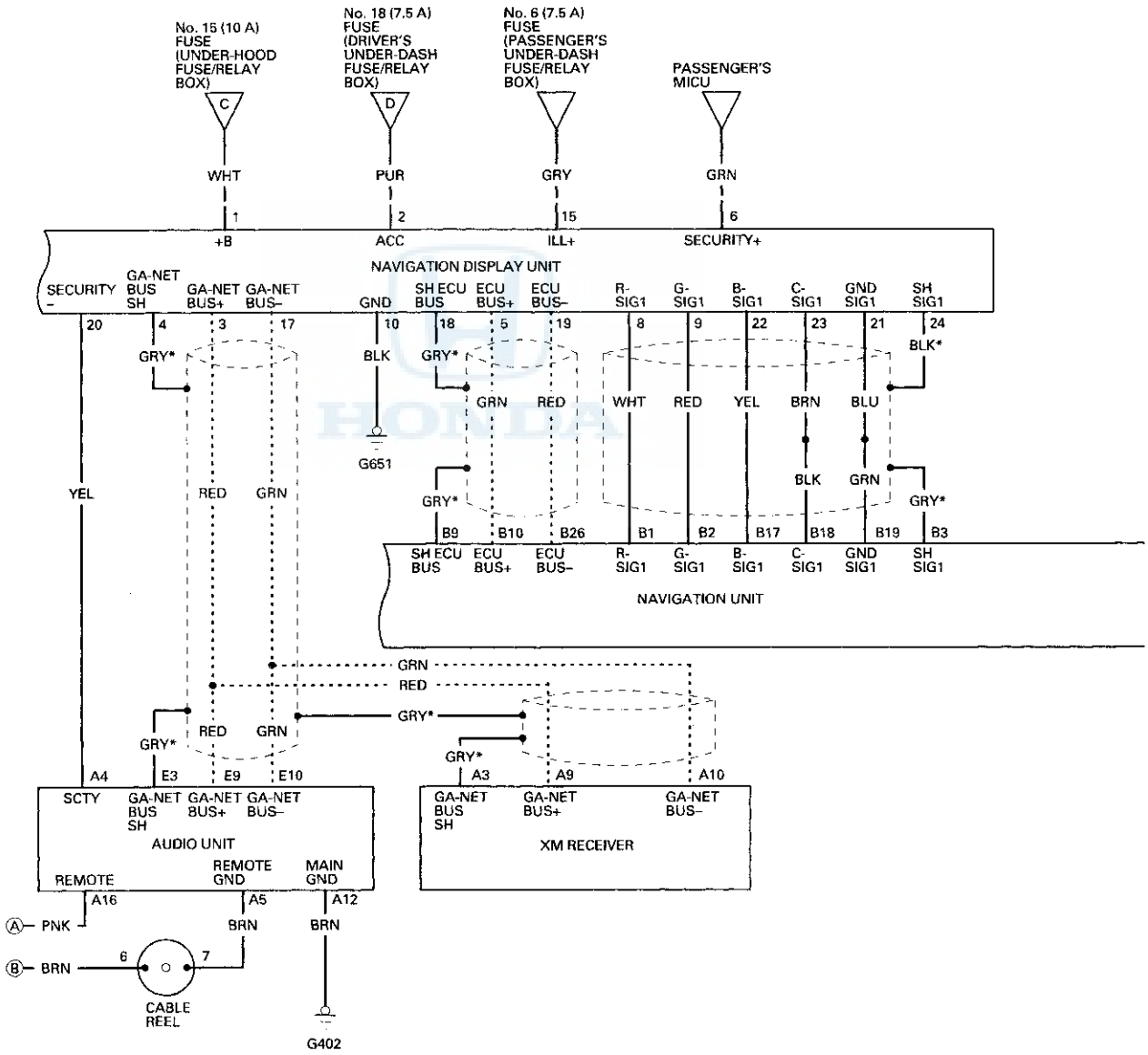
*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
..... : Other communication line
– – – – – – : Shielding



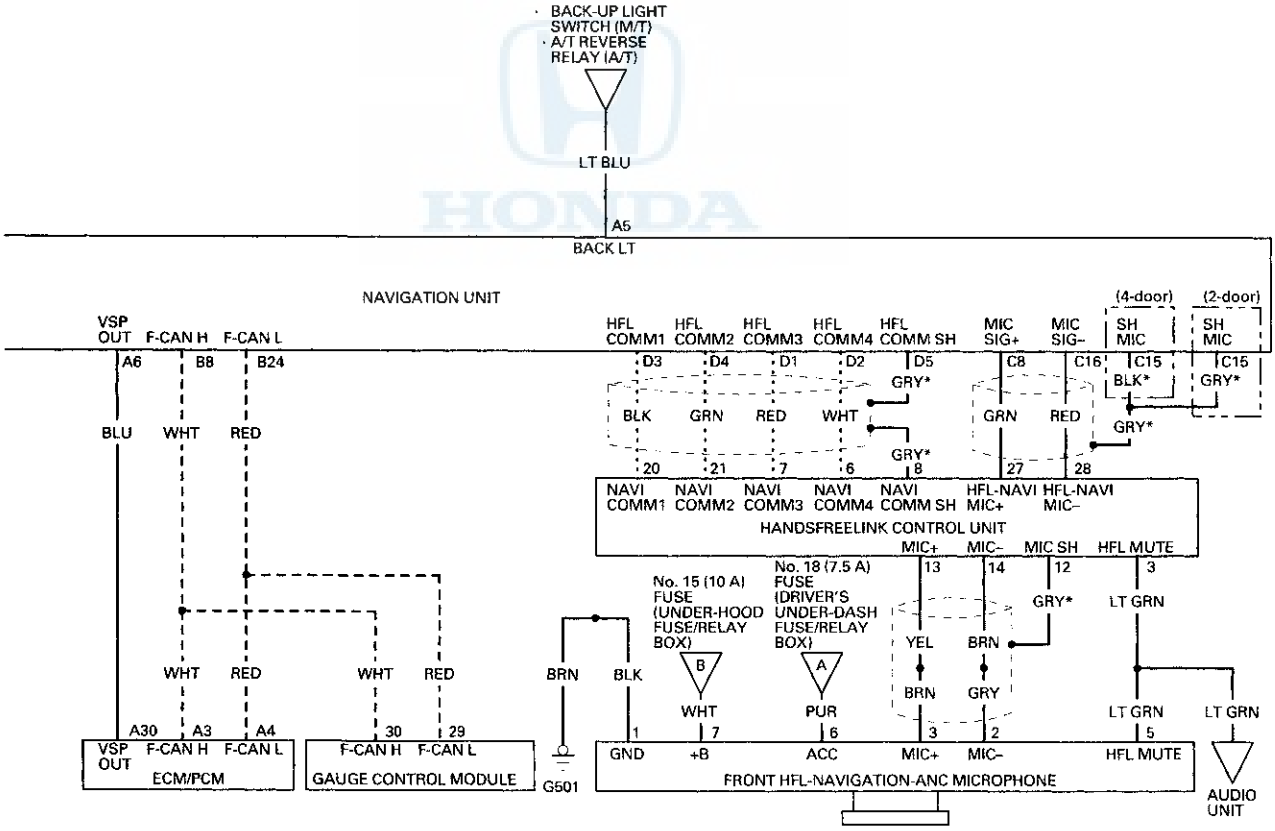


(cont'd)

Circuit Diagram (cont'd)



*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
– – – – – – : CAN line
– – – – – – : Other communication line
– – – – – – : Shielding



System Diagnostic Mode

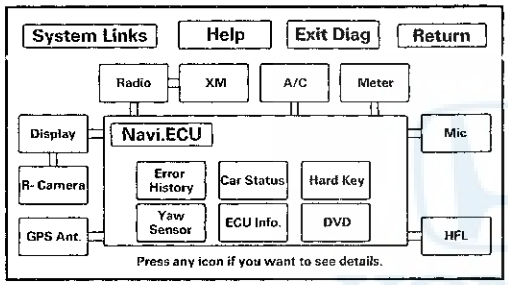
Start-up procedure and Diagnostic Menu

There are two ways to enter the diagnostic mode:

Method 1:

Start the vehicle. When the globe screen appears, connect the SCS service connector (see page 23-237) to the navigation service connector located behind the navigation unit in the trunk. The screen changes to the System Links screen and automatically begins running the self diagnostic. See the System Links section for more information.

NOTE: When finished troubleshooting, make sure to remove the SCS service connector.

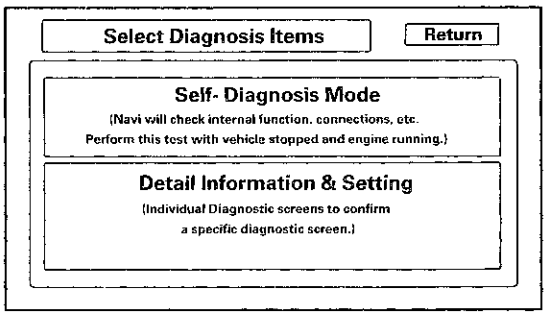


Method 2:

Start the vehicle, and at the disclaimer screen use the navigation display hard buttons as described below:

Make sure the battery is in good condition then press and hold the three buttons MAP/GUIDE, MENU, and CANCEL, for about 3 seconds. The display screen goes directly to the Select Diagnosis Items menu shown below.

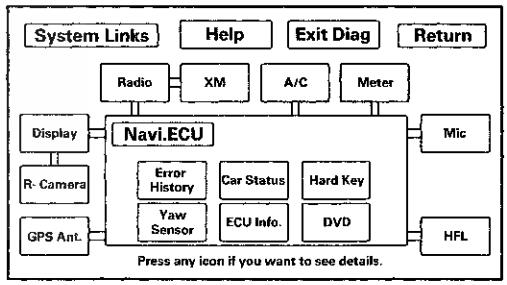
- Self-Diagnosis Mode (runs the automatic diagnosis of the navigation system)
- Detail Information & Setting (allows you to manually diagnose the navigation system)



System Links

1. Enter this screen by connecting the SCS service connector or by selecting Self Diagnosis Mode from the navigation screen main menu. The message at the bottom of the screen flashes indicating the diagnosis is running. Make sure you enter the audio anti-theft code.

   NOTE:
   - The system cannot complete a full diagnosis unless the engine is running.
   - DTC 1501 and/or 2703 can be stored when the ignition switch is at ACCESSORY (I). With the ignition switch is in ACCESSORY (I), the climate control unit is turned off and the navigation unit loses communication and stores DTCs. Therefore, there is a possibility that the system is normal even though 2703 is stored. Check system links with the engine running, and if it appears normal, the system is OK at this time.



2. Rotate the interface dial to select the icon you want to diagnose. Push in the selector to see the details of that diagnostic function.

   The System Links function runs automatically and displays a flashing message at the bottom of the screen reminding you to have the engine running for the test. The diagnostic tests the following:

   - Most of the wires connecting the navigation components shown in the block diagram.
   - The results from the various components shown in the block diagram.
   - The microphone is tested by listening to the bong sound produced by the navigation unit from the speakers when the diagnosis is started. This requires that the audio system be operating normally.

   When the diagnosis finishes, the icons turn different colors based on their test status. The color definitions are shown below and can also be seen by selecting Help on the System Links screen.

   The indication on the screen may not change until you exit and reenter the Self-Diagnosis mode. In some cases, you may have to restart the engine for the indication to change. After you repair the affected component or harness, repeat this diagnosis.

Each icon color is explained in the table.

Icon Colors	Description
Green	The system run a diagnosis and the results are OK.
Red	Errors that require replacement of hardware or harness. Examples are connection error or memory diagnosis errors. Troubleshoot for DTCs.
Yellow	Errors that does not require hardware replacement, such as an open display cover, an incorrect DVD, leaving the ignition switch in ACCESSORY (I), or because of a missing accessory, like the rearview camera.
White	The diagnosis is running. The screen functions are locked out while the diagnosis runs.
Gray	The system cannot automatically check this function. You have to select the diagnosis item and manually do additional testing, like checking the navigation buttons in the Hard Key test. When you complete the Hard Key test and return to the System Links menu, the gray icon turns green.

NOTE: By selecting the HELP icon, you can see a description for each color.

(cont'd)

System Diagnostic Mode (cont'd)

Icon Color Information

Icon	Icon Color				
	GREEN	RED	YELLOW	WHITE	GRAY
Display	Result of Connection under the Display diagnosis menu is OK.	Result of Connection under the Display diagnosis menu is NG.	—	Executing (Not completed)	—
Radio	Result of Connection under the Radio diagnosis menu is OK.	Result of Connection under the Radio diagnosis menu is NG.	—	Executing (Not completed)	—
XM	Result of Connection under the XM diagnosis menu is OK.	Result of Connection under the XM diagnosis menu is NG.	—	Executing (Not completed)	—
GPS Ant.	All result of Antenna and Receiver in NAVI ECU is OK.	Any result of Antenna and Receiver in NAVI ECU is OK.	—	Executing (Not completed)	—
R-Camera	Result of Connection under the R-Camera diagnosis menu is OK. (YOP)	Result of Connection under the R-Camera diagnosis menu is NG. (YOP)	Result of the Connection under the R-Camera diagnosis menu is NG. (YOP)	Executing (Not completed)	—
A/C*	Result of Connection under the Aircon diagnosis menu is OK while Ignition is ON.	Result of Connection under the Aircon diagnosis menu is NG while Ignition is ON.	While Ignition is OFF.	Executing (Not completed)	—
Meter (F-CAN)	All result of F-CAN related units are OK.	Any result of F-CAN related units are NG.	—	Executing (Not completed)	—
HFL	Result of Connection under the HFL diagnosis menu is OK.	Result of Connection under the HFL diagnosis menu is NG.	—	Executing (Not completed)	—

*: DTC 2703 can be stored when the ignition switch is in ACCESSORY (I). With the ignition switch in ACCESSORY (I), the climate control unit is turned off and the navigation unit loses communication and stores DTCs. It is possible that the system is normal with DTC 2703 stored. Check the system links with the engine running, and if it shows normal, the system is OK at this time.

Icon	Icon Color				
	GREEN	RED	YELLOW	WHITE	GRAY
Mic	The microphone detects the sound "Pi-Pi-Pon" at the system link menu.	The microphone could not detects the sound "Pi-Pi-Pon" at the system link menu.	———	Executing (Not completed)	———
ECU Info.	Both V-RAM or D-RAM is OK, and all Program Flash, Serial No., Model is available, and the DVD lid is closed.	Either the V-RAM or D-RAM is NG, or any of the Program Flash, Serial No., Model is unavailable.	DVD lid is opened	Executing (Not completed)	———
Hard Key	All buttons are pressed and are detected under Hard key menu.	All buttons are not pressed or pressed but not detected under Hard key menu, or exit from Hard key menu without the button not detected.	———	———	Until changing to Hard key menu.
Error History	———	———	Hard Error or Soft Error is detected under Error History menu.	Executing (Not completed)	Hard Error or Soft Error is not detected under Error History menu.
DVD	DVD mechanism is normal and the proper DVD is installed.	———	Improper DVD is installed, or DVD is not installed, or can not identify software version from the DVD or internal mechanism failure.	Executing (Not completed)	———
Yaw Sensor	Result of the Yaw Sensor diagnosis menu is OK.	Result of the Yaw Sensor diagnosis menu is NG.	Result of the Zero Point Output under the Yaw Sensor diagnosis menu is NO CHECK.	Executing (Not completed)	———
Car Status	———	———	———	———	Check these systems manually.

(cont'd)

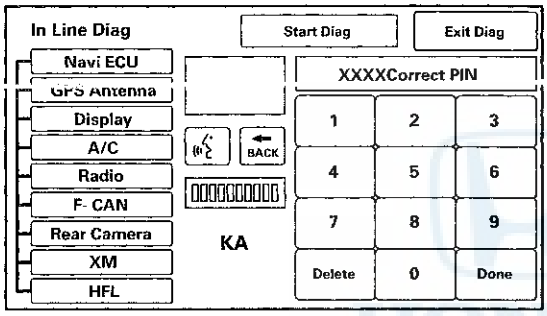
System Diagnostic Mode (cont'd)

Factory diagnostic screen In Line Diag

NOTE: If the vehicle left the factory in the factory diagnostic mode, you will see this screen every time you turn on the ignition. You may also see this screen if you recently replaced the navigation unit.

When a navigation unit is powered up for the first time at the factory, the factory diagnosis screen (In Line Diag) appears. Normally the factory does the steps necessary to verify proper operation and terminate the factory diagnosis.

Until the proper confirmation sequence is done, the screen appears every time the vehicle is started.



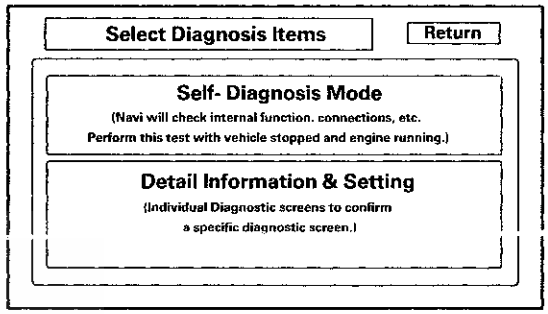
Follow the steps below to prevent the screen from showing up in the future:

- Press and hold the buttons MENU, MAP/GUIDE, and CANCEL for about 3 seconds. The Select Diagnosis items screen appears.
- Press and hold the MAP/GUIDE button for 5—10 seconds. A screen with a Complete button, appears.
- Press complete, then Return, and then shut the key off for 5 seconds. Do not disconnect the battery during this period as the unit is saving the setting to the SRAM memory. The In Line Diag should not appear again.
- Restart the vehicle, and confirm normal operation by completing the TQI of the Navigation System Service Bulletin.

Detailed Information & Settings

These sections allows you to run a specific diagnosis and allows additional setting choices for some screens that are not shown when selecting an icon from the System Links screen.

When you select the menu item Detail Information & Setting menu, the main diagnosis menu is displayed.

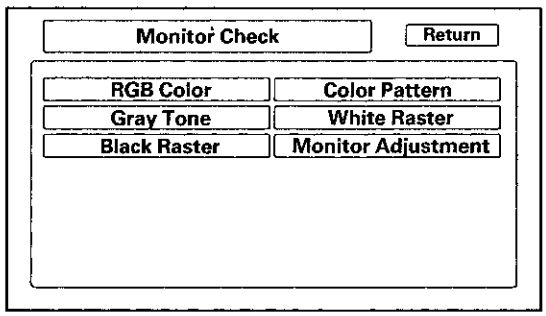


Monitor Check

Overview of navigation display unit

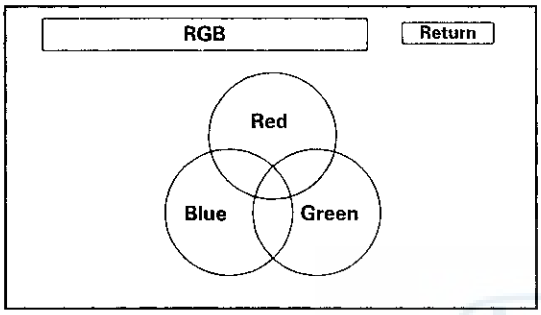
- The navigation display unit communicates with the navigation unit over its own GA-Net bus. Information sent by the navigation unit to the navigation display unit includes commands to control the LCD back light.
- The security system protects the navigation display unit by daisy-chaining the security signal through it, and then passing the signal to the audio unit.
- The illumination input from the gauge brightness control provides back lighting for the buttons surrounding the screen.

These screens allow you to troubleshoot the navigation display unit. Select the item you want to troubleshoot, and follow the diagnostic instructions.



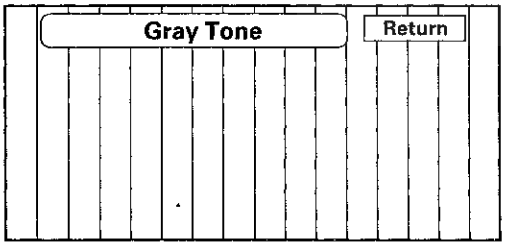
RGB Color

This screen verifies that the navigation display unit is receiving the video (R, G, B and Composite sync) signals properly. The three primary colors should all appear without distortion. The combination of all three should produce a central white section. If any of the colors are missing, troubleshoot for the color signal (see page 23-219). If the picture has lines in it or scrolls horizontally, or vertically, troubleshoot for a Composite sync problem (see page 23-221).



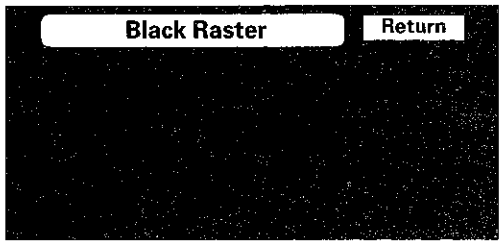
Gray Tone

This screen diagnoses problems with contrast. You should be able to see the changes from bar to bar across the scale. It is normal for the two bars on either side to appear the same. If you can't see changes from bar to bar, replace the navigation display unit.



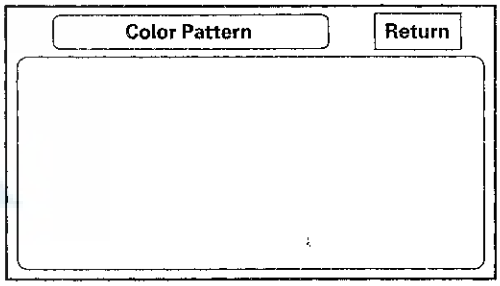
Black Raster

This diagnostic screen checks for pixels that may be stuck on. The entire display must be black. If pixels are stuck on, replace the navigation display unit.



Color Pattern

The chart below shows the colors being used for the map and menu screens. This is for factory use only. To check the color signal, use the RGB Color diagnostic found under the Monitor Check.

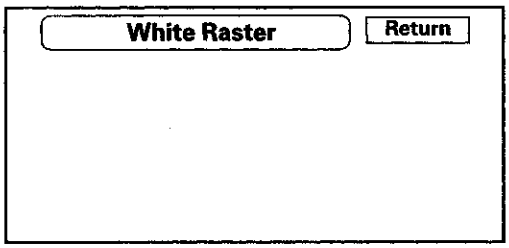


(cont'd)

System Diagnostic Mode (cont'd)

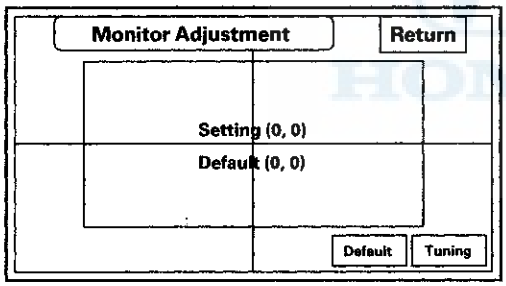
White Raster

This diagnostic screen checks for pixels that may be dead (off). The entire display must be white. If there are dead pixels, replace the navigation display unit.



Monitor Adjustment

This allows you to center the navigation display. Use the interface dial to move the picture up/down or left/right. It is unlikely that you will ever need to adjust the monitor position. The Default button will reset the display position to factory specifications.

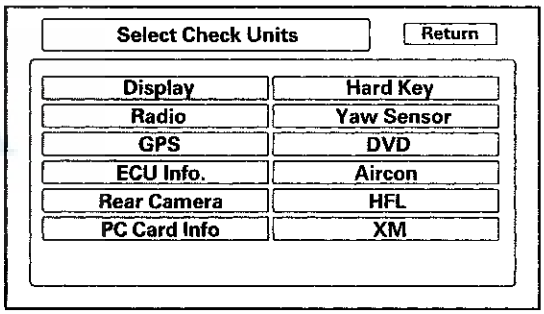


Unit Check (Quick Check)

Some of the tests and screens that are displayed under the Unit Check are different from the more detailed checks listed in other areas.

To start the test, select the item you want to check.

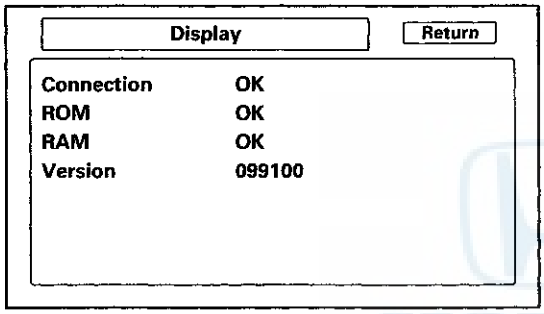
- Display
- Radio
- GPS
- ECU Info.
- Rear Camera
- PC Card Info.
- Hard Key
- Yaw Sensor
- DVD
- Aircon
- HFL
- XM



Display

This diagnosis does additional checks on the communication bus between the navigation unit and the navigation display unit. In addition, this test checks the internal electronic functions.

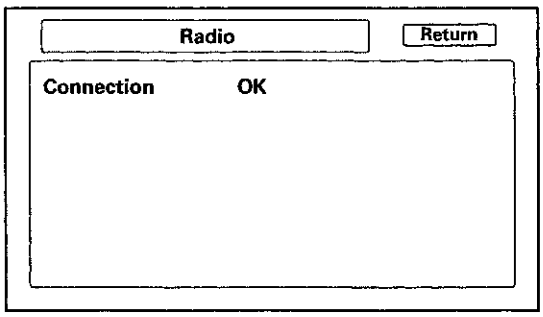
- When the connection is NG, first check for loose terminals at the navigation unit and the navigation display unit connections. Next check for an open or short in the ECU Bus line between the navigation unit and the navigation display unit. If the line has an open or short, replace the affected shielded harness.
- If the ROM or RAM is NG, replace the navigation display unit.
- The version represents the software version in the display.



Radio

If NG is indicated, check for loose audio unit connectors.

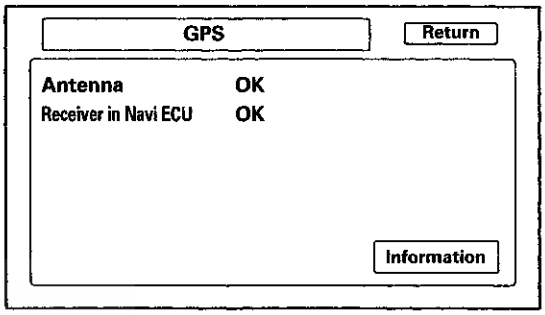
NOTE: If the XM link appears red, but the radio link appears green in the navigation system link, refer to audio system symptom troubleshooting.



GPS

If GPS indicates NG (ANT), then check the entire GPS antenna wire from the navigation unit to the GPS antenna. If the wire is crushed or damaged, try a known-good GPS antenna. If the diagnosis then reads OK, replace the original GPS antenna. If the diagnosis still reads NG (ANT), replace the navigation unit.

Select information to see the GPS satellite details.



(cont'd)

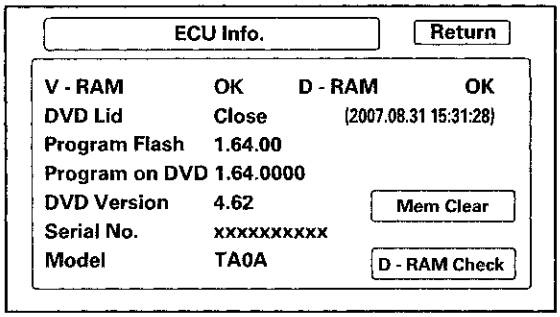
System Diagnostic Mode (cont'd)

ECU Info.

This screen looks for problems in the navigation unit. When you initiate this diagnosis, the navigation unit may freeze or delay up to a minute while the diagnosis runs.

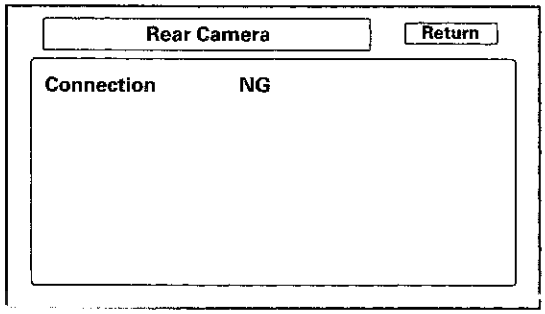
NOTE: Do not try to end this diagnosis by pressing OK or Mem clear before it finishes, otherwise the system may reboot.

- If V-RAM or D-RAM is NG, replace the navigation unit.
- DVD lid displays the state of DVD Lid of navigation unit.
- Program Flash: Displays the version of the navi software in memory.
- Program on DVD: If displayed, this value represents the version of the navigation software on the navigation DVD.
- DVD version represents the database version on the DVD. You can find this information in either the Setup Screen Version, or in the Diagnostic Screen Version.
- Serial No. should be the same as the serial number found on the underside of the navigation unit. You need this number to obtain the security code from the Interactive Network (iN) system.
- The Mem Clear is for factory use and should not be used unless instructed by the factory.
  Selecting this will clear the customer's settings, personal information, GPS orbital data, and anything else stored in memory.



Rear Camera (Optional)

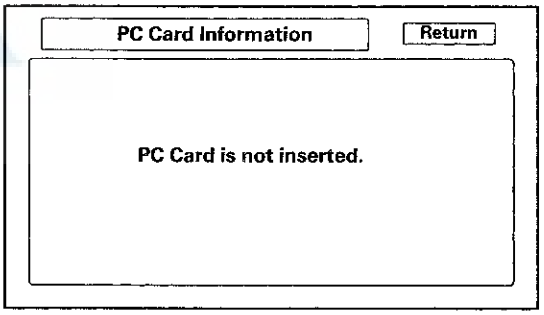
- If the optional rearview camera is connected, it will be displayed as OK.
- It displays OFF when the optional rearview camera is not connected.



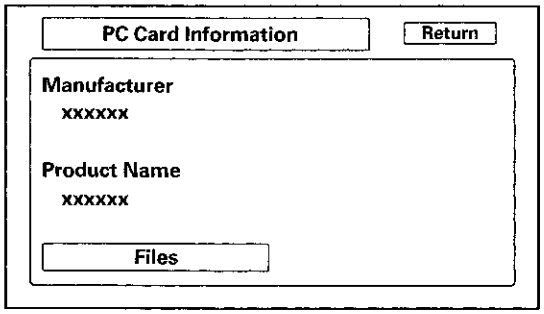
PC Card info.

There is no PC Card in the PC slot, and the screen should display, PC Card is not inserted.

NOTE: Do not insert any card or object into the slot.



If the factory provides a PC card and instructs you to insert it, the screen displays the Manufacturer, and Product Name as shown in the following screen.



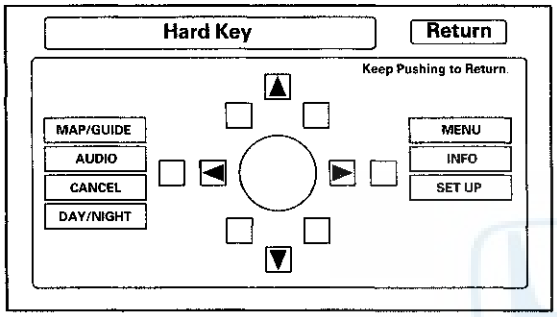
Hard Key

This diagnostic tests the interface dial and the buttons that surround it. For this model, the interface dial and buttons do not use the GA-Net bus for communications.

To complete the test, touch each button on the vehicle's audio switch panel, and move the interface dial to each indicated position. As each function is tested, the corresponding button on the display should highlight.

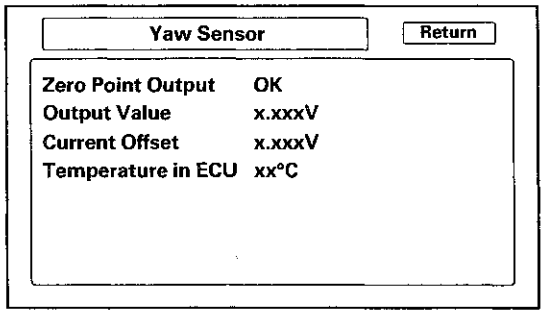
To exit, push in and hold the selector knob.

NOTE: You cannot use the onscreen return button to exit this function



Yaw Sensor

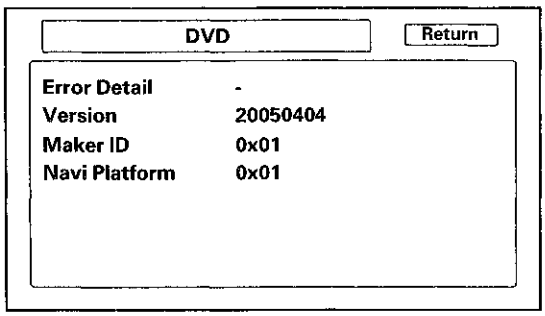
This screen gives a quick test of the yaw sensor functionality based on the two voltages Sensor and Offset. For more information see the Yaw Rate diagnosis.



DVD

This diagnosis tests the navigation DVD reader.

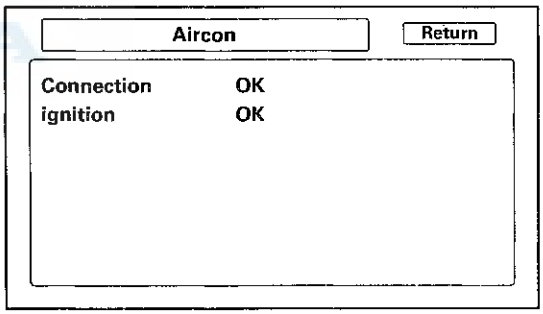
NOTE: If this test fails, remove the navigation DVD, clean it, and retest before ordering a new DVD.



Aircon

This diagnostic tests the climate bus connection (AC-SI and AC-SO) between the navigation unit and climate control unit. Make sure the engine is running for this test.

NOTE: If this test is run with the ignition switch is in ACCESSORY (I), the result will be NG.

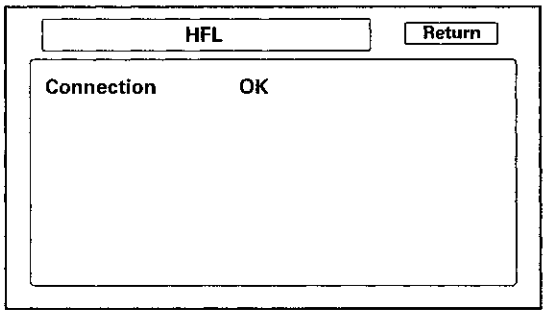


(cont'd)

System Diagnostic Mode (cont'd)

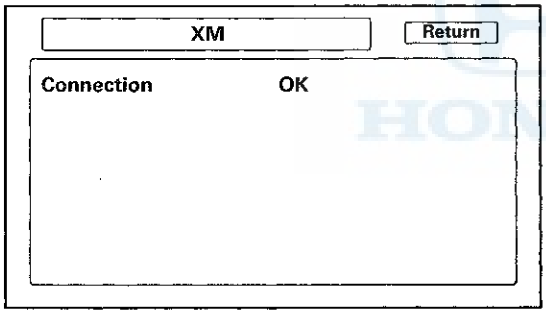
HFL

This checks the 4 wire communication bus between the HandsFreeLink control unit and the navigation unit.



XM

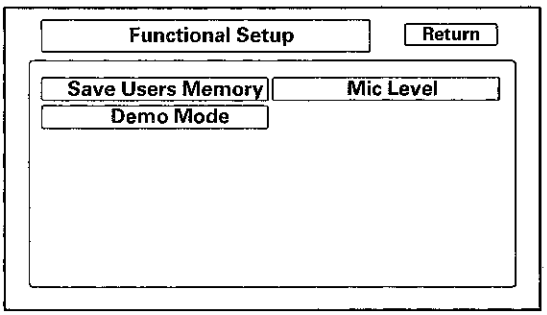
- This checks the GA-NET Bus line to the XM receiver.
- When connection is shown with NG, check the connection between XM receiver and audio unit.



Functional Setup

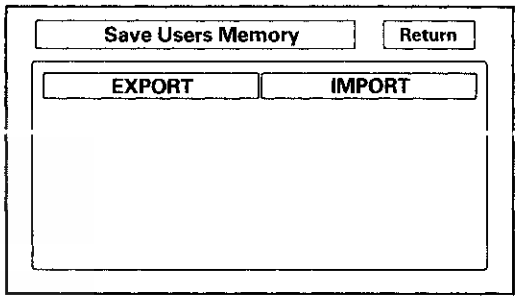
Select the item you want to check.

- Save Users Memory
- Demo Mode
- Mic Level



Save Users Memory

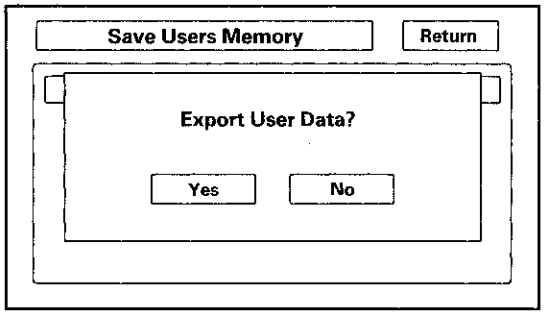
When replacing the navigation unit, this function allows the dealer to transfer the customer's personal data to the new navigation unit. The transferred information includes their Setup settings, and personal addresses. The dealer inserts a PC card to the navigation unit, and then selects the Save Users Memory function. The two functions in this diagnostic screen are EXPORT and IMPORT. EXPORT saves the customer's data to the PC card, and IMPORT moves the PC card files to the new navigation unit.



Before starting this function, see the PC Card FAQs for information regarding PC cards, and how to use this function.

1. Select the EXPORT button to move the customer's data from the original navigation unit to the PC card. Select YES on the Export User Data Confirmation screen. The process takes only a couple of seconds. The system stores two files on the card.

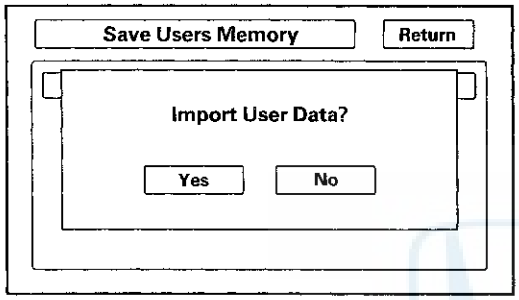
   NOTE: If the EXPORT button is grayed out, check the PC card's edge connector, and the pins inside the navigation unit (with a flashlight) for damage.



2. After installing the customer's original DVD in the new navigation unit, allow the system to boot up. Insert the PC card in the new navigation unit and enter the Save Users Memory in the navigation system diagnostic mode.

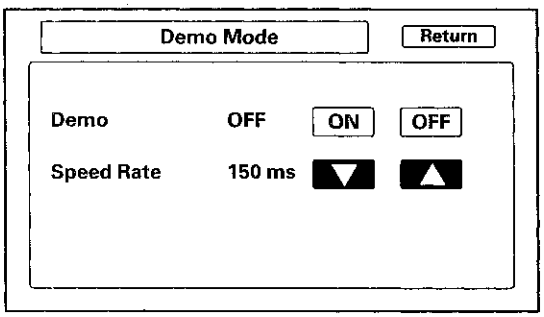
3. Select the IMPORT button to move the two files stored by the Export process from the PC card to the new navigation unit. Select YES on the Import User Data Confirmation screen. When the transfer is finished (a few seconds) the system automatically reboots. After the system reboots, remove the PC card from the PC card slot.

   NOTE: If the IMPORT button is grayed out, check if the Model and the Program Flash shown on the Version screen are the same for the two navigation units.



Demo Mode

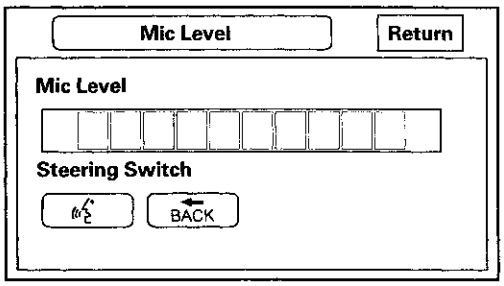
This screen is for factory use only, and should always be set to OFF. Occasionally the DEMO setting is turned ON when vehicles are being used at Auto Shows or similar events. Turning this feature on, allows the navigation system to automatically follow a route to a destination when the vehicle is stationary. The Speed Rate changes the speed of the demo mode.



Mic Level

This diagnostic allows you to independently test the microphone and the navigation TALK and BACK buttons. They are used to activate the voice control system. The microphone is located near the map light in the roof console. The microphone can now isolate the driver's voice even when there is noise or other conversations in the vehicle. To properly check the microphones, make sure you are sitting in the driver's seat.

- Press the navigation TALK button on the steering wheel, wait unit you hear a beep, and in a normal voice say "testing". The TALK indicator on the screen should momentarily turn green, and the text Now Recording... should appear in yellow. If the talk indicator shown on the screen does not briefly turn green, check the wiring from the steering wheel navigation TALK button to the navigation unit. If there is no Mic Level movement when you speak, then you should check the wires running from the microphone in the roof console to the HandsFreeLink control unit and the navigation unit. If the wires are OK, the microphone must be faulty; replace the microphone located in roof console (see page 23-240).
- Press the navigation BACK button on the steering wheel. This should cause the Cancel indicator on the screen to momentarily turn green. If it does not briefly turn green, check the wiring from the steering wheel navigation BACK button to the navigation unit.



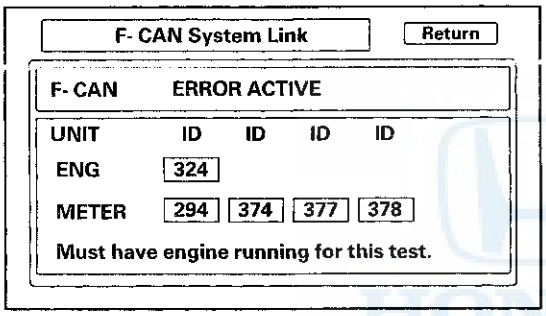
(cont'd)

System Diagnostic Mode (cont'd)

F-CAN System Link

F-CAN (Fast Controller Area Network) passes information between processors on the network. The F-CAN network uses a communication protocol that transmits data at 500 Kbps.

- If the diagnostic screen below reads NG with the ignition switch is in ON (II), then diagnostic trouble codes (DTCs) for the F-CAN can be retrieved with the HDS (Honda Diagnostic System). The data displayed in the ID boxes is irrelevant.
- For more details on troubleshooting the F-CAN, refer to the multiplex integrated control system and the PGM-FI system.

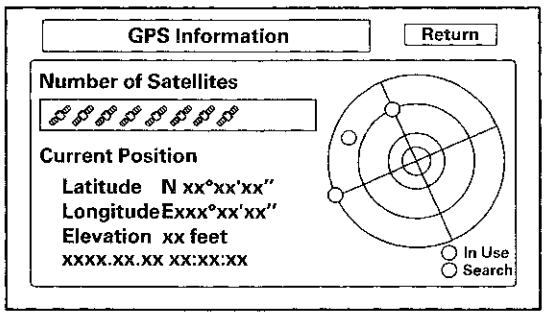


GPS Information

This screen shows the current status of GPS reception. The circular diagram shows the current location of the GPS satellites (yellow numbers) as they would appear in the sky. The outer circle represents the horizon (0 degrees elevation). The middle and inner circles represents 30 and 60 degrees respectively. The very center of the diagram (90 degrees elevation) is directly overhead. Nearby obstructions, like tall buildings will block satellites in that direction. That is why it is necessary to be in an open area to effectively troubleshoot GPS reception issues. The satellite numbers shown on the diagram correspond to the PRN number in the GPS Details screen. There are always at least 24 active GPS satellites in orbit. Because satellites fail, and have to be removed from service, spares are always parked in orbit, ready to be activated. This is why the PRN (satellite ID number) can be greater than 24.

NOTE: When you use this screen for troubleshooting, park the vehicle outside, away from buildings, tall trees, and high-tension wires for at least 10 minutes with the engine running.

- The Number of Satellites box shows the number of acquired satellites (maximum of 12). It should contain three or more icons. If not, troubleshoot for GPS icon is white or not shown (see page 23-225).
- The Current Position shows latitude, longitude, and elevation (in feet). If there are less than four satellites, the elevation can be grossly inaccurate.
- The Date/Time field shows the current date, and also a time that includes daylight savings and other offsets entered by the customer in Setup screen 2 Adjust Time Zone/Clock.

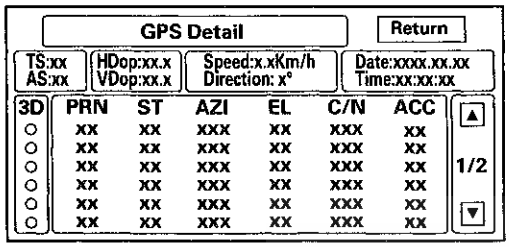


NOTE: Pressing the map/guide button displays the satellite number on each circle.

GPS Detail

By pressing and holding the MENU button for 2 seconds, a GPS Detail screen appears. This screen displays real time incoming satellite positional data when the vehicle is outside in the open. The information shown on this screen is for factory use.

NOTE: The date shown in an example only.



- The box TS/AS and H Dop/V Dop is for factory use.
- The Speed and Direction information is updated in real time when driving.
- The Date/Time Information is the same as in Setup screen 2 Adjust Time Zone/Clock.
- If the 3D icon is shown above the yellow dots, this implies that at least four satellites are available for map positioning, and the GPS indicator on the map screen will be green. See the Global Positioning System detailed explanation in the System Description.
- If the row of data in the table below begins with a yellow dot, the AZI and EL fields can be used to locate each satellite on the circular GPS diagram (see prior screen).

NOTE: The table of values define the terms at the top of the columns in the GPS Detail screen.

Column	Description	Problem indication
3D	Active satellites (Yellow Dot)	If 3D or 2D is missing when the vehicle is parked outside, follow GPS icon is white or not shown troubleshooting (see page 23-225).
PRN	The satellite ID number	
ST	The status: 0 = cannot view or searching, 2 = acquiring	If all 0, then, do GPS icon is white or not shown troubleshooting (see page 23-225).
AZI	Azimuth, the angle (0—360) clockwise from north	
EL	Elevation from the horizon (90 deg is overhead)	
C/N	Receiver sensitivity	Normal signal is 49-52, no signal: 27-33
ACC	Satellite accuracy	
△ 1/2 or 2/2 ▽	Shows view of all satellites in two screen views 1/2 or 2/2	

(cont'd)

System Diagnostic Mode (cont'd)

Yaw Rate

This diagnosis checks the yaw rate sensor in the navigation unit. This device detects when the vehicle turns, and repositions the vehicle position icon on the map screen. For more detailed information, see the yaw rate sensor theory of operation under System Description (see page 23-150).

- Sensor indicates the voltage output from the yaw rate sensor. It should indicate about 2.500 V when the vehicle is stopped.
- Offset is the reference voltage or standard within the yaw rate sensor. It also should indicate about 2.500 V when the vehicle is stopped.
- A sensor output voltage LOWER than the Offset voltage indicates that the vehicle is turning to the right.

  A sensor output voltage HIGHER than the Offset voltage indicates that the vehicle is turning to the left.
- The yaw rate offset, and sensor should both indicate about 2.500 V when the vehicle is stopped. If either reads zero, or 5.000 V, replace the navigation unit.
- The yaw rate offset and sensor should be within +/−0.01 V of each other when the vehicle is stopped. The sensor value should change relative to the offset as the vehicle turns while driving. If not, replace the navigation unit.

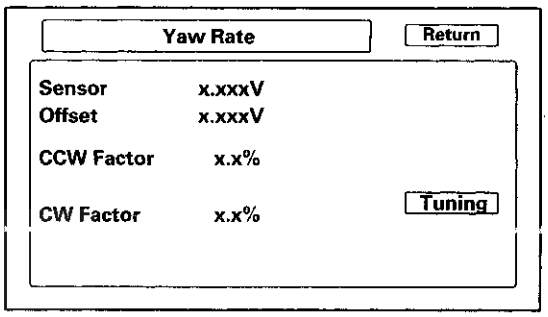
Example: Vehicle stopped

Normal		**Abnormal**	
Offset	2.526 V	Offset	2.526 V
Sensor	2.516−2.536 V	Sensor	2.623 V

Example: Vehicle turning

Normal		**Abnormal**	
Offset	2.526 V	Offset	2.526 V
Sensor	2.678 V (left turn) 2.478 V (right turn)	Sensor	2.623 V (no change on turns)

- Sensitivity study represents the status of the internal tuning function. At initialization, this value starts at 6 and increases to 10 as the internal correction values become more accurate.
- The settings CCW Cal Factor, CW Cal Factor, and Set are for factory use only. THIS SHOULD NEVER BE ADJUSTED.
- For detailed analysis of the yaw rate select tuning.



Yaw Rate Tuning

This diagnosis allows you to graphically display problems with the yaw rate sensor.

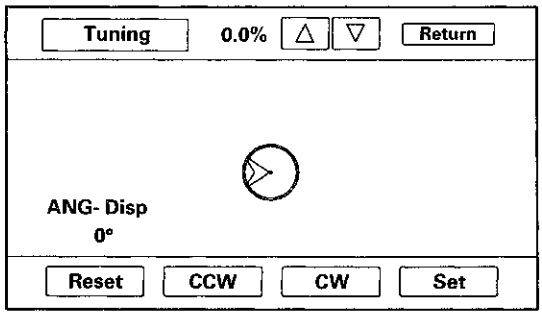
- The ANG-Disp value accumulates any differences between the offset and sensor voltages (see Yaw Rate diagnosis). When the sensor functions properly, the random changes in these two voltages generally cancels out, so the value is 0. However if one voltage is consistently higher than the other, then the ANG-Disp value accumulates the constant change.
- The Reset button temporarily clears the angular accumulation (ANG-Disp), and clears the display dots.
- Do not touch the CCW, CW, or Set buttons. These are used for factory setup only.

Two tests are explained. For large problems with the sensor values, the stationary test usually confirms whether the sensor is defective. For yaw rate issues related to driving, do the road test.

1. Stationary test: If the VP icon spins in place and the ANG-Disp value slowly increases or decreases in value, the yaw rate sensor is defective. Replace the navigation unit.
2. Road test: Drive the vehicle on a very straight road. Enter the diagnostic mode, select Yaw rate, and touch the Tuning button. While driving down a straight road, the white dots should trace a straight line across the screen. However, if you are driving on a straight road, and you notice the dots constantly dropping down or heading up as you drive, the navigation unit's yaw sensor is defective. You can touch Reset to clear ANG-Disp, and dotted lines.

   If either test above fails, please enter Yaw rate sensor defective for the problem description, on the Navigation core return form.

   NOTE: The CCW, CW and Set buttons are disabled and cannot be activated.



Car Status

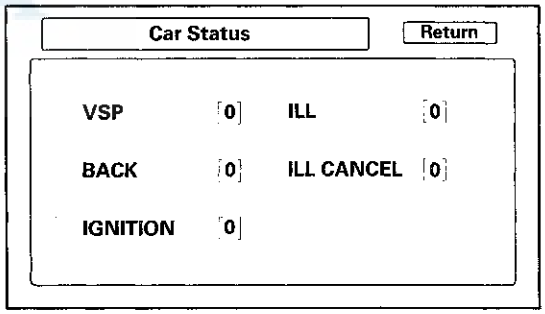
Use this screen to confirm that the navigation unit is properly receiving input signals. Signals equal to (0) are OFF, and signals equal to (1) are ON. If the value on the display does not match the actual vehicle status, then check the wire carrying the signal.

- VSP-Vehicle Speed Pulse from ECM/PCM (Connector A (8P) terminal No.6)
  a) OFF (0) when vehicle is not moving
  b) ON (1) when vehicle is moving

The VSP comes from the ECM/PCM as a dedicated signal. Internally, the navigation unit compares the actual VP on the map against street data to adjust the pulse to speed scaling factor. As this scaling factor becomes more accurate, the Level gradually increases from 0 to 10 (see the Tire Calibrate diagnostic screen).

- BACK-Reverse indication from taillight relay (Connector A (8P) terminal No.5)
  a) OFF (0) when the shift lever is in any position other than reverse
  b) ON (1) when the shift lever is in reverse

The Back signal is used by the navigation unit to allow the map screen to show the VP moving backwards when in reverse. This signal is needed because the Speed Pulse has no direction indication.



(cont'd)

System Diagnostic Mode (cont'd)

- IGNITION-Ignition Switch Position Indication (Connector A (8P) terminals No. 1 and 2)
  Detects if the engine is running is running using information provided over the F-CAN bus.
  a) OFF (0) when the ignition switch position is in ACCESSORY (I)
  b) ON (1) when the ignition switch position is in ON (II)
- ILL-Illumination Indication (Connector B (32P) terminal No. 5)
  a) OFF (0) when parking lights, or headlights are off
  b) ON (1) when parking lights, or headlights are on

The navigation uses the signal to determine whether to put the navigation screen into the Day or Night brightness mode. (Setup screen 1)

- ILL CANCEL
  This item detects whether the illumination cancel function is in use.
  a) OFF (0) if illumination cancel is not selected
  b) ON (1) if illumination cancel is activated

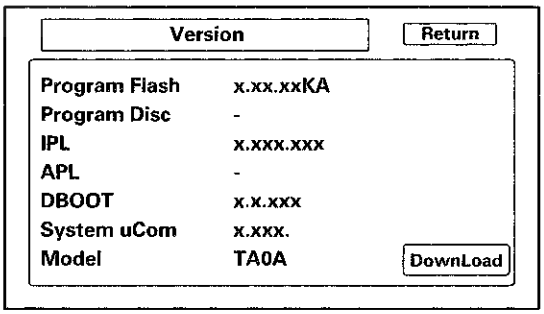
The illumination cancel function is activated by increasing the dash brightness to MAX. The F-CAN bus passes this information from the gauge control module to the navigation unit.

NOTE: This setting is unaffected by the display mode hard button located below and to the left of the interface dial.

Version

This screen displays the current version information for the navigation system software. In addition, this screen allows the loading of updated software if requested by the factory, or instructed by a Service Bulletin. Software may be loaded from a CD or a PC card.

- Program Flash: Displays the version of the navigation software in memory.
- Program Disc: If displayed, this value represents the version of the navigation software on the navigation DVD.
  NOTE: The last two letters of the Program Flash or DVD fields indicate which DVD is installed in the unit. The letters KA imply that a United States DVD is installed. If the letters are KC, then a Canada DVD is installed. (See coverage discussion below.)
- IPL, APL, DBOOT, and System uCom, are all for factory use.
- Model: For this model, the field should begin with TA0.
- Download: Do not touch, unless instructed by the factory.
  Check any official Honda service website for more service information about navigation DVDs.



There are two navigation DVDs produced for this model.

- The white DVD labeled United States is for the US market and contains maps for the contiguous 48 US states, and some southern portions of Canada.
  Customers wanting additional northern coverage in Canada, can purchase a Canada DVD by contacting the DVD fulfillment desk.
- The gray DVD labeled Canada, is for the Canada market, and contains maps for all of Canada, plus some of the northern US states. If customers with this DVD require full US coverage (including states like Florida and Texas), they may purchase a United States DVD by contacting the DVD fulfillment desk.

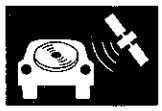
PC Card FAQs

Question	Answer
Where do we buy the flash memory or adaptors, and what do we ask for?	You need a PCMCIA type II adaptor and a flash memory chip. You can purchased them at a computer, or office supply store. The card is the same size and shape as the PC card in the HDS. Adaptors that accept multiple flash types are not recommended.
What memory flash chips will work with what adaptors?	The flash memory devices that have been tested include Compact Flash (CF), and ATA style (like the card in the HDS). Other card types and flash memory chips may work, but have not been tested.
What capacity card do I need for this function?	A memory chip with capacity of 64 MB to 2 GB will work. The two files moved to the PC card during export are less than a Megabyte in size.
Should the dealer have a dedicated PC card for the Export and Import navigation function?	Yes, treat the PC card as a dedicated special tool that you can use any time you need to transfer the navigation personal files to a new navigation unit on '08 or later vehicles.
What device can I use to maintain the PC card, and delete files	Any computer store sells USB style card readers that accept the PC card, and a allow you to do file maintenance on your PC card. Most laptops will also accept the PC card.
Can we move the customer's data to different models?	No, the files are model specific and will only load into a navigation unit with the same part number.
Can we move the customer's data to the same vehicle with a different software version? (Like moving version 4.41 to version 4.51)	The customer's files can only be transferred to a new navigation unit if the Model and the Program Flash shown on the Version screen are the same. Files cannot be transferred to the different model and different versions.
Will other files on the PC card like images or music files prevent the Export/Import function from working?	No, the system simply adds two small files that are recognized by the new navigation unit when performing the import function. However, it the PC card is full, the Export function won't work correctly.
Do I have to delete the files on the PC card after each transfer of the personal data?	After the transfer of personal data to the new navigation unit, the files remain on the PC card. Since this is confidential information, we recommend that you delete these files after each use. Please note that each time you export navigation files of the same model and version, the files are overwritten. Over time the PC card accumulates two files for each version of the 8 or so Honda navigation PC models.
If the memory card formatting what format should I use?	If the PC card needs to be formatted, use the FAT (file allocation table) file system.
I can't enter the navigation diagnostic mode to do the Export/Import function. How can I transfer the personal data?	Some internal navigation unit ECU failures may make it impossible to use the Export/Import function.

(cont'd)

System Diagnostic Mode (cont'd)

Question	Answer
Why wont the Export or Import functions work? What do I check as part of troubleshooting?	• The card may not be fully inserted into the slot. Eject the PC card, and inspect for warping or damage to the edge connector. Never use excessive force to insert a PC card. This can damage the pins in the rear of the slot. • The PC card may not contain files that are recognized by the new navigation unit. Navigation data can only be transferred between navigation units with the same Model code, and with the same navi Program flash version. • The flash memory chip type may not be accepted by the system. Only Compact Flash and ATA cards have been tested. • The card's PCMCIA adaptor may prevent a known-good PC card from being recognized. Avoid multi-slot type PCMCIA adaptors that accept several different flash memory types. • The card may be full and as a result the files are stored, but without any data. Export and import appear to function, but move nothing. Delete unused files from the PC card. • There may not be any files on the PC card. If the PC card has a write protection switch, make sure it is turned off before using the Export function. • Although flash memory chips are reliable, occasionally they develop bad sectors or other formatting errors that prevents them from accepting files. The PC card should be reformatted using the FAT format. • The PC card may have been formatted using the format NTFS. Only the FAT format is accepted by the system. • Hard Disc Drive (HDD) cards may not work properly in the system and can overheat or quit functioning, particularly in a hot vehicle. They are not recommended. • Before performing the Import function, ensure that the original navigation DVD is loaded into the new navigation unit and working properly.



Error Message Table

Screen Error Message	Solution
Navigation system is unable to acquire a proper GPS signal.	Make sure there is nothing on the dashboard blocking the GPS antenna. If not, move the vehicle to an open space away from tall buildings, trees, etc. Aftermarket metallic window tinting and other aftermarket devices can affect the GPS reception.
Navigation unit door is open or No DVD disc is installed. Please check system.	Make sure the navigation DVD is the correct color and is not scratched or damaged. Make sure it is installed with the label side up and the navigation unit door is snapped fully closed.
No DVD disc, please check system.	Check that the correct color and version navigation DVD is installed with the label side up.
Display temp is too high. System will shut down until display cools down.	This message appears briefly when the display temperature is too high, and then the display turns off until the temperature cools down. The system turns back on when the display cools down.
Outside temperature is low, system will take awhile to start up.	The temperature is below −22 °F(−30 °C) and the navigation unit has difficulties reading the navigation DVD. The system will start up when the temperature warms up.
DVD disc reading error (unformatted), please consult your dealer.	Check the navigation DVD for the correct color and software version. Also check for deep scratches or other damage. Make sure you are using an official Honda navigation DVD (white in color). The system cannot read other mapping databases or video DVDs. Check any official Honda service website for more service information about the navigation system and software updates.
Route has not been completed. Please try again from a different location.	Routing to or from a place (new area) that is not in the database. Try planning a different route to or from a different location that is clearly displayed on the map (map matched).
No alternate route found. Original route will be followed.	No alternate route method was found. The original route method will be used.
This destination cannot be found in database.	The destination was not found in the database. Try another destination nearby, or select the destination with the interface dial.

DTC Troubleshooting

DTC 1001: FROM System Info Error

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Turn the ignition switch to LOCK (0) and then back to ON (II).
2. Check for the hard error code (see page 23-138).

   Is DTC 1001 indicated?

   YES–Replace the navigation unit (see page 23-238), because there is an internal problem with the Flash-ROM.■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 1101: Media Bus Send Error

NOTE:
- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the hard error code (see page 23-138).

   Is DTC 1101 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 1201: DVD High Temp

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- This code sets when the internal temperature of the navigation unit ECU rises above 158 °F (70 °C). The navigation unit is designed to shut down to protect the navigation unit ECU. This could be caused by an inoperative navigation unit ECU fan or if the trunk temperature exceeds the maximum. Do the troubleshooting when the unit is within the allowable temperature range.

1. Check that the temperature is below 158 °F (70 °C) in the trunk.
2. Clear the hard error code (see page 23-139).
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for the hard error code (see page 23-138).

   Is DTC 1201 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 1202: DVD Low Temp

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- This code sets when the internal temperature of the navigation unit ECU falls below −4 °F (−20 °C). The navigation unit is designed to shut down to protect the navigation unit ECU. This is usually caused by very cold exterior temperatures. Do the troubleshooting when the unit is within the allowable temperature range.

1. Check that the temperature is above −4 °F (−20 °C) in the trunk.
2. Clear the hard error code (see page 23-139).
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for the hard error code (see page 23-138).

   Is DTC 1202 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC Troubleshooting (cont'd)

DTC 1301: GPS Antenna Error

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- Make sure the vehicle is parked outside, away from buildings.
- Aftermarket electronic devices located near the navigation unit or GPS antenna can potentially interfere with the operation of the navigation system.

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the hard error code (see page 23-138).

   Is DTC 1301 indicated?

   YES–Go to step 4.

   NO–Intermittent failure, the system is OK at this time.■
4. Turn the ignition switch to LOCK (0).
5. Check for poor connections or loose terminals at the navigation unit connector E (2P).
6. Clear the hard error code.
7. Turn the ignition switch to LOCK (0) and then back to ON (II).
8. Check for the hard error code.

   Is DTC 1301 indicated?

   YES–Go to step 9.

   NO–Intermittent failure, the system is OK at this time.■
9. Turn the ignition switch to LOCK (0).
10. Replace a known-good GPS antenna (see page 23-240).
11. Turn the ignition switch to ON (II).
12. Clear the hard error code.
13. Turn the ignition switch to LOCK (0) and then back to ON (II).
14. Check for the hard error code.

    Is DTC 1301 indicated?

    YES–Replace the original GPS antenna.■

    NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 1302: GPS Receiver Error 1

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- Make sure the vehicle is parked outside, away from buildings.
- Aftermarket electronic devices located near the navigation unit or GPS antenna can potentially interfere with the operation of the navigation system.

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the hard error code (see page 23-138).

   Is DTC 1302 indicated?

   YES–Go to step 4.

   NO–Intermittent failure, the system is OK at this time.■
4. Turn the ignition switch to LOCK (0).
5. Check for poor connections or loose terminals at the navigation unit connector E (2P).
6. Clear the hard error code.
7. Turn the ignition switch to LOCK (0) and then back to ON (II).
8. Check for the hard error code.

   Is DTC 1302 indicated?

   YES–Go to step 9.

   NO–Intermittent failure, the system is OK at this time.■
9. Turn the ignition switch to LOCK (0).
10. Replace a known-good GPS antenna (see page 23-240).
11. Turn the ignition switch to ON (II).
12. Clear the hard error code.
13. Turn the ignition switch to LOCK (0) and then back to ON (II).
14. Check for the hard error code.

    Is DTC 1302 indicated?

    YES–Replace the original GPS antenna.■

    NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC Troubleshooting (cont'd)

DTC 1303: GPS Receiver Error 2

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- Make sure the vehicle is parked outside, away from buildings.
- Aftermarket electronic devices located near the navigation unit or GPS antenna can potentially interfere with the operation of the navigation system.

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the hard error code (see page 23-138).

   Is DTC 1303 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 1304: Gyro Error 1

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- Make sure the vehicle is parked outside, away from buildings.
- Aftermarket electronic devices located near the navigation unit or GPS antenna can potentially interfere with the operation of the navigation system.

1. Clear hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the hard error code (see page 23-138).

   Is DTC 1304 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 1305: Gyro Error 2:ECU Temp XX °C

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- Aftermarket electronic devices located near the navigation unit or GPS antenna can potentially interfere with the operation of the navigation system.

1. Check that the trunk temperature is between −4 °F (−20 °C) and 158 °F (70 °C).
2. Clear hard error code (see page 23-139).
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for the hard error code (see page 23-138).

   Is DTC 1304 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 1306: Vehicle Speed Pulse

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0), and then start the engine.
3. Check for the hard error code (see page 23-138).

   Is DTC 1306 indicated?

   YES–Go to step 4.

   NO–Intermittent failure, the system is OK at this time.■

4. Drive the vehicle and watch the VSP signal.

   Does the VSP signal change from [0] to [1] as you drive?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Do the symptom troubleshooting for Vehicle position icon constantly leaves road, moves erratically or is very far from actual position (see page 23-218).■

DTC Troubleshooting (cont'd)

DTC 1307: DVD Read Error

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check any official Honda service website for more information about the navigation system and software updates.
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- Inspect the navigation DVD for scratches or damage.

1. Check the navigation DVD.

   Is the navigation DVD the correct color and version for the vehicle? Is it scratch f ree?

   YES–Go to step 2.

   NO–Replace the navigation DVD and retest.■

2. Turn the ignition switch to ON (II).

   Is there a DVD error message?

   YES–Go to DVD screen error messages (see page 23-229).■

   NO–Go to step 3.

3. Clear the hard error code (see page 23-139).
4. Turn the ignition switch to LOCK (0) and then back to ON (II).
5. Check for the hard error code (see page 23-138).

   Is DTC 1307 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 1402: Audio Error 2

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the hard error code (see page 23-138).

   Is DTC 1402 indicated?

   YES–Check if the audio unit functions are working properly. If any problems are found, go to affected troubleshooting in audio section.■

   NO–Intermittent failure, the system is OK at this time.■

DTC 1403: Audio Error 3

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the hard error code (see page 23-138).

   Is DTC 1403 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time.■

DTC 1409: Audio Error 9

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the hard error code (see page 23-138).

   Is DTC 1409 indicated?

   YES–Check the XM error codes (see page 23-65). If any codes are detected, go to affected troubleshooting in audio (XM) section.■

   NO–Intermittent failure, the system is OK at this time.■

DTC Troubleshooting (cont'd)

DTC 1501: Aircon Error

DTC 2703: Aircon Diag

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check for B-CAN DTCs and resolve them before troubleshooting.
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- DTC 1501 and/or 2703 can be stored when the ignition switch is at ACCESSORY (I). With the ignition switch is in ACCESSORY (I), the climate control unit is turned off and the navigation unit loses communication and stores DTCs. Therefore, there is a possibility that the system is normal even DTC 1501 and/or 2703 is stored. Check System Links (see page 23-176) with the engine running, and if it shows normal, the system is OK at this time. If not, do this troubleshooting.

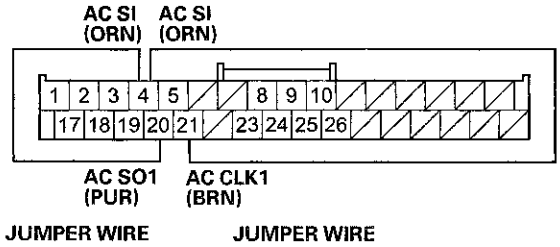
1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Check the System Links.

   Is the A/C icon red?

   YES–Go to step 5.

   NO–Intermittent failure, the system is OK at this time.■
5. Turn the ignition switch to LOCK (0).
6. Disconnect navigation unit connector B (32P).
7. Connect navigation unit connector B (32P) terminals No. 4, No. 20, and No. 21 with a jumper wire.

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

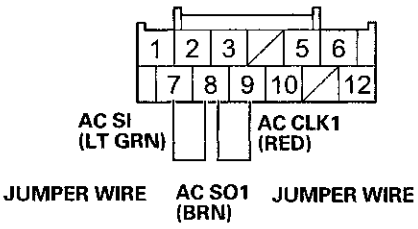
8. Turn the ignition switch to ON (II).
9. Do the climate control Self-Diagnostic Mode (see page 21-101).

   Are both HEAT/VENT indicators solid with the remaining icons blinking?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Go to step 10.
10. Turn the ignition switch to LOCK (0), then disconnect the jumper wire.
11. Disconnect climate control unit connecter B (12P).
12. Connect climate control unit connector B (12P) terminals No. 7, No. 8, and No. 9 with a jumper wire.

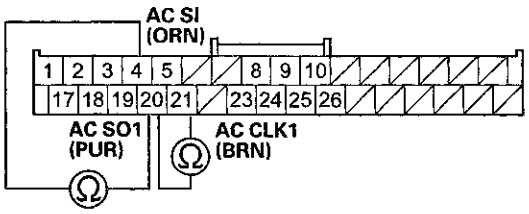
CLIMATE CONTROL UNIT CONNECTOR B (12P)



Wire side of female terminals

13. Check for continuity between navigation unit connector B (32P) terminals No. 4, No. 20, and between terminals No. 20 and No. 21.

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

Is there continuity?

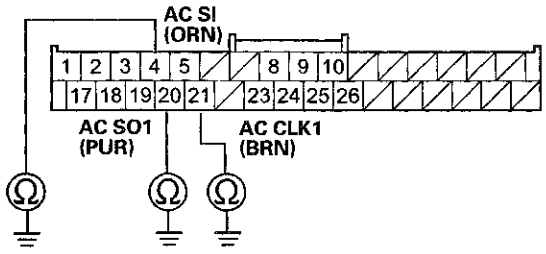
YES–Go to step 14.

NO–Repair an open in the wire(s) between the navigation control unit and the climate control unit.■

14. Disconnect the jumper wire.

15. Check for continuity between body ground and navigation unit connector B (32P) terminals No. 4, No. 20, and No. 21 individually.

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

Is there continuity?

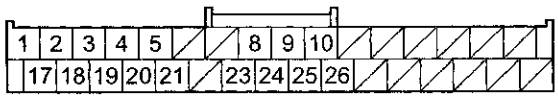
YES–Repair a short to body ground in the wire(s) between the navigation control unit and the climate control unit.■

NO–Go to step 16.

16. Check for continuity between the terminal of navigation unit connector B (32P) according to the table.

From terminal	To terminals
B4 (ORN)	B20 (PUR), B21 (BRN)
B20 (PUR)	B21 (BRN)

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

Is there continuity?

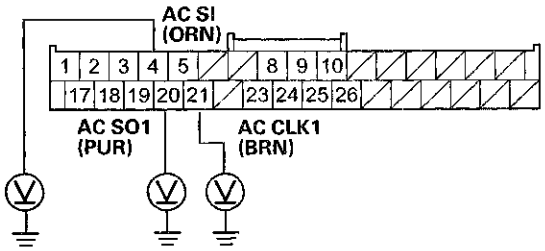
YES–Repair a short in the wire(s) between the navigation unit and climate control unit.■

NO–Go to step 17.

17. Turn the ignition switch to ON (II).

18. Measure the voltage between body ground and navigation unit connector B (32P) terminals No. 4, No. 20, and No. 21 individually.

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

Is there more than 0.2 V?

YES–Repair a short to power in the wire(s) between the navigation unit and the climate control unit.■

NO–Replace the climate control unit (see page 21-190).■

DTC Troubleshooting (cont'd)

DTC 2601: Display Diag: Connect

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check for B-CAN DTCs and resolve them before troubleshooting.
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Check the System Links.

   Is the Display icon red?

   YES–Go to step 5.

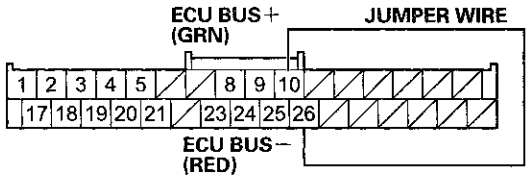
   NO–Intermittent failure, the system is OK at this time.■
5. Check for poor connections or loose terminals at navigation unit connector B (32P), audio unit connector E (14P), and XM receiver connector A (14P).

   Are the connections OK?

   YES–Go to step 6.

   NO–Repair poor connections or loose terminals, and recheck the Self-Diagnosis Mode (see page 23-176).■
6. Turn the ignition switch to LOCK (0).
7. Disconnect navigation unit connector B (32P) and the navigation display unit 28P connector.
8. Connect the navigation unit connector B (32P) terminals No. 10 and No. 26 with a jumper wire.

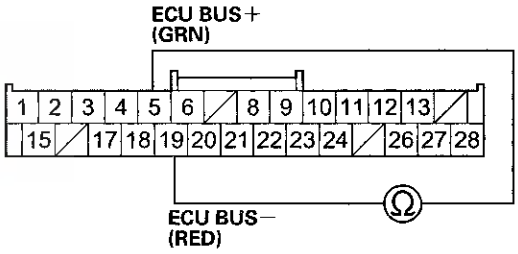
NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

9. Check for continuity between navigation display unit 28P connector terminals No. 5 and No. 19.

NAVIGATION DISPLAY UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

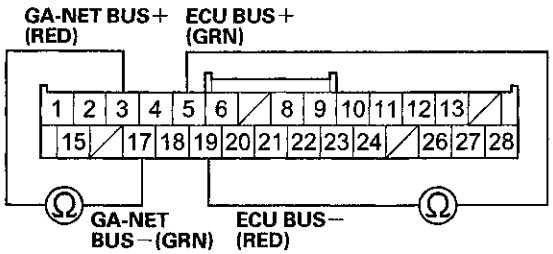
YES–Go to step 10.

NO–There is an open in the wire between the navigation unit and the navigation display unit. Replace the affected shielded harness.■

10. Disconnect the jumper wire.
11. Disconnect audio unit connector E (14P) and XM receiver A (14P) connector.

12. Check for continuity between navigation display unit 28P connector terminals No. 5 and No. 19, and between terminals No. 3 and No. 17.

NAVIGATION DISPLAY UNIT 28P CONNECTOR



Wire side of female terminals

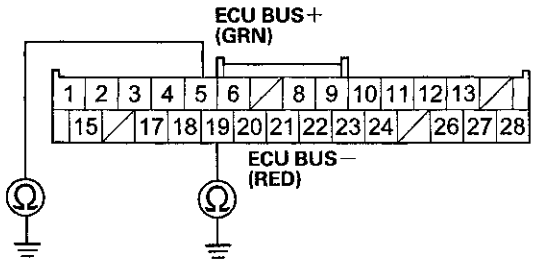
Is there continuity?

YES–There is a short in the wire(s) between GA-NET (+) and (−) wire. Replace the affected shielded harness.■

NO–Go to step 13.

13. Check for continuity between body ground and navigation display unit 28P connector terminals No. 5 and No. 19 individually.

NAVIGATION DISPLAY UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–There is a short to body ground in the wire(s) between the navigation display unit and the navigation unit. Replace the affected shielded harness.■

NO–Go to step 14.

14. Reconnect the all connectors, then turn the ignition switch to ON (II).

15. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).

16. Check the System Links.

Is the Display icon red?

YES–Go to step 17.

NO–Intermittent failure, the system is OK at this time.■

17. Turn the ignition switch to LOCK (0).

18. Disconnect audio unit connector E (14P), and then turn ignition switch to ON (II).

19. Go into the Diagnostic Menu, and Select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).

20. Check the System Links.

Is the Display icon red?

YES–Go to step 21.

NO–Internal short circuit in the audio unit.■

21. Turn the ignition switch to LOCK (0).

22. Connect audio unit connector E (14P).

23. Disconnect XM receiver connector A (14P), and then turn the ignition switch to ON (II).

24. Go into the Diagnostic Menu, and Select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).

25. Check the System Links.

Is the Display icon red?

YES–Replace the navigation display unit (see page 23-239).■

NO–Replace the XM receiver (see page 23-120).■

DTC Troubleshooting (cont'd)

DTC 2602: Display Diag: ROM

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check for B-CAN DTCs and resolve them before troubleshooting.
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Select the Display.

   Is the ROM NG?

   YES–Replace the navigation display unit (see page 23-239).■

   NO–Intermittent failure, the system is OK at this time.■

DTC 2603: Display Diag: RAM

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check for B-CAN DTCs and resolve them before troubleshooting.
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items Menu (see page 23-176).
4. Select the Display.

   Is the RAM NG?

   YES–Replace the navigation display unit (see page 23-239).■

   NO–Intermittent failure, the system is OK at this time.■

DTC 2605: H/U Diag: Connect

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check for B-CAN DTCs and resolve them before troubleshooting.
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check the Error History (see page 23-138).

   Is DTC 2601 indicated?

   YES–Do the DTC 2601 troubleshooting.

   NO–Go to step 4.
4. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
5. Check the System Links.

   Is the Radio icon red?

   YES–Go to step 6.

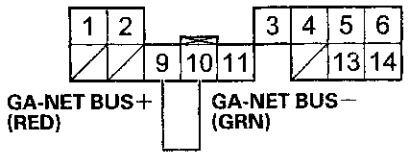
   NO–Intermittent failure, the system is OK at this time.■
6. Turn the ignition switch to LOCK (0).
7. Check for poor connections or loose terminals at audio unit connector E (14P), XM receiver connector A (14P), and navigation display unit 28P connector.

   Are there connections OK?

   YES–Go to step 8.

   NO–Repair poor connections or loose terminals, and recheck the Self-Diagnosis Mode (see page 23-176).■
8. Disconnect audio unit connector E (14P), XM receiver connector A (14P), and navigation display unit 28P connector.
9. Connect audio unit connector E (14P) terminals No. 9 and No. 10 with a jumper wire.

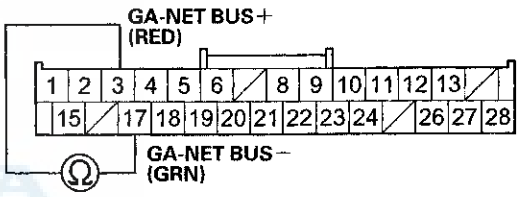
AUDIO UNIT CONNECTOR E (14P)



Wire side of female terminals

10. Check for continuity between the navigation display unit 28P connector terminals No. 3 and No. 17.

NAVIGATION DISPLAY UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Go to step 11.

NO–There is an open in the wire(s) between the audio unit and the navigation display unit. Replace the affected shielded harness.■

11. Substitute a known-good audio unit (see page 23-114).
12. Turn the ignition switch to ON (II).
13. Clear the hard error code.
14. Turn the ignition switch to LOCK (0) and then back to ON (II).
15. Check for the hard error code (see page 23-138).

    Is DTC 2605 indicated?

    YES–Replace the original audio unit.■

    NO–Replace the navigation display unit (see page 23-239).■

DTC Troubleshooting (cont'd)

DTC 2607: XM Diag

- Check the vehicle battery condition first (see page 22-90).
- NOTE: Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check the Error History (see page 23-138).

   Is DTC 2601 indicated?

   YES–Do the DTC 2601 troubleshooting.

   NO–Go to step 4.
4. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
5. Check the System Links.

   Is the XM icon red?

   YES–Go to step 6.

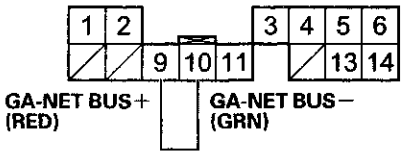
   NO–Intermittent failure, the system is OK at this time.■
6. Turn the ignition switch to LOCK (0).
7. Check for poor connections or loose terminals at the XM receiver connector, the satellite signal antenna connector, and the navigation display unit 28P connector.

   Are the connections OK?

   YES–Go to step 8.

   NO–Repair poor connections or loose terminals.■
8. Disconnect XM receiver connector A (14P), the navigation display unit 28P connector, and audio unit connector E (14P).
9. Connect XM receiver connector A (14P) terminals No. 9 and No. 10 with a jumper wire.

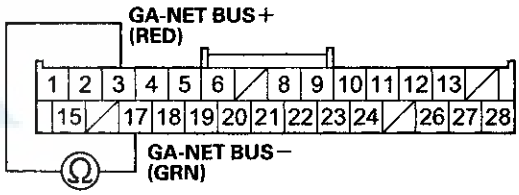
AUDIO UNIT CONNECTOR E (14P)



Wire side of female terminals

10. Check for continuity between navigation display unit 28P connector terminals No. 3 and No. 17.

NAVIGATION DISPLAY UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Check the XM error codes (see page 23-65). If any codes are detected, go to the applicable troubleshooting in audio (XM) section.■

NO–Repair an open in the wire between navigation display unit and XM receiver.■

DTC 2609: VRAM Diag

- Check the vehicle battery condition first (see page 22-90).
- NOTE: Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Select the System Links, then select the ECU Info.

   Is V-RAM OK indicated?

   YES–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

   NO–Replace the navigation unit (see page 23-238).■

DTC 2610: DRAM Diag

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Select the ECU Info in the System Links.

   Is D-RAM OK indicated?

   YES–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

   NO–Replace the navigation unit (see page 23-238).■

DTC Troubleshooting (cont'd)

DTC 2701: GPS Diag: Antenna

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- Make sure the vehicle is parked outside, and away from buildings.
- Check for electronic aftermarket accessories (possibly hidden) mounted near the GPS antenna or the navigation unit.

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Select the GPS Ant. in the System Links.

   Is Antenna OK indicated?

   YES–Intermittent failure, the system is OK at this time.■

   NO–Go to step 5.
5. Turn the ignition switch to LOCK (0).
6. Check for poor connections at navigation unit connector E (2P).

   Is the connection OK?

   YES–Replace the GPS antenna (see page 23-240).■

   NO–Repair the poor connection(s).■

DTC 2702: GPS Diag: Receiver in Navi ECU

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).
- Make sure the vehicle is parked outside, away from buildings.
- Check for electronic aftermarket accessories (possibly hidden) mounted near the GPS antenna or the navigation unit.

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Select the GPS Ant. in the System Links.

   Is Receiver in Navi ECU OK indicated?

   YES–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

   NO–Replace the navigation unit (see page 23-238).■

DTC 2705: HFL Diag

NOTE: Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Select the System Links.

   Is the HFL icon red?

   YES–Go to step 5.

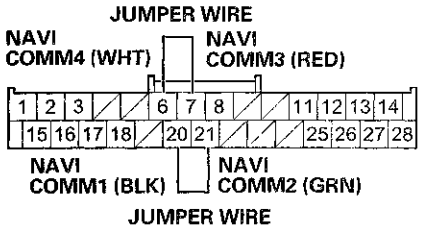
   NO–Intermittent failure, the system is OK at this time.■
5. Turn the ignition switch to LOCK (0).
6. Connect the HDS to the DLC (see page 23-252).
7. Clear the DTCs with the HDS.
8. Turn the ignition switch to LOCK (0) and then back to ON (II).
9. Check for DTCs with the HDS.

   Are there any HFL DTCs indicated?

   YES–Do the HFL DTC troubleshooting.■

   NO–Go to step 10.
10. Turn the ignition switch to LOCK (0).
11. Disconnect navigation unit connector D (5P).
12. Disconnect the HandsFreeLink control unit 28P connector.
13. Connect HandsFreeLink control unit 28P connector terminals No. 6 and No. 7 with a jumper wire, then connect the terminals No. 20 and No. 21 with a jumper wire.

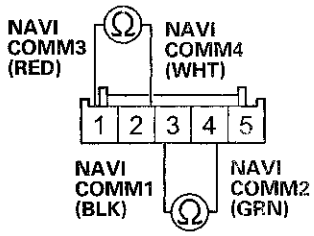
HANDSFREELINK CONTROL UNIT 28P CONNECTOR



Wire side of female terminals

14. Check for continuity between navigation unit connector D (5P) terminals No. 1 and No. 2 then check for continuity between terminals No. 3 and No. 4.

NAVIGATION UNIT CONNECTOR D (5P)



Wire side of female terminals

Is there continuity?

YES–Go to step 15.

NO–There is an open in the wire between the navigation unit and the HandsFreeLink control unit. Replace the affected shielded harness.■

15. Disconnect the jumper wire.

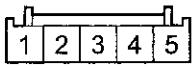
(cont'd)

DTC Troubleshooting (cont'd)

16. Check for continuity between the terminals of navigation unit connector D (5P) according to the table.

From terminal	To terminals
D1 (RED)	D2 (WHT), D3 (BLK), D4 (GRN)
D2 (WHT)	D3 (BLK), D4 (GRN)
D3 (BLK)	D4 (GRN)

NAVIGATION UNIT CONNECTOR D (5P)



Wire side of female terminals

Is there continuity?

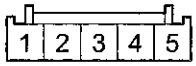
YES–There is a short in the wires between the navigation unit and the HandsFreeLink control unit. Replace the affected shielded harness.■

NO–Go to step 17.

17. Check for continuity between navigation unit connector D (5P) and body ground according to the table.

Navigation unit connector	Wire color
D1	RED
D2	WHT
D3	BLK
D4	GRN

NAVIGATION UNIT CONNECTOR D (5P)



Wire side of female terminals

Is there continuity?

YES–There is a short to body ground in the wires between the navigation unit and the HandsFreeLink control unit. Replace the affected shielded harness.■

NO–Replace the HandsFreeLink control unit (see page 23-281).■

DTC 2706: Gyro Diag:ECU Temp XX °C

NOTE:Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Check that the trunk temperature is between −4 °F (−20 °C) and 158 °F (70 °C).
2. Clear the hard error code (see page 23-139).
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for the hard error code (see page 23-138).

   Is DTC 2706 indicated?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Intermittent failure, the system is OK at this time. If the vehicle repeatedly comes back with the DTC, replace the navigation unit (see page 23-238).■

DTC 2707: MIC Diag

NOTE: Before you troubleshoot, make sure to follow the General Troubleshooting Information (see page 23-130).

1. Clear the hard error code (see page 23-139).
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Go into the Diagnostic Menu, and select the Self-Diagnosis Mode in the Select Diagnosis Items menu (see page 23-176).
4. Check the System Links.

   Is the Mic icon red?

   YES–Go to step 5.

   NO–Go to step 11.
5. Turn the ignition switch to LOCK (0).
6. Check for poor connections or loose terminals at HandsFreeLink control unit 28P connector, HFL-navigation-ANC microphone 7P connector, and navigation unit connector D (5P).

   Are the connections OK?

   YES–Go to step 7.

   NO–Repair poor connections or loose terminals.■
7. Connect the HDS to the DLC (see page 23-252).
8. Clear the DTCs with the HDS.
9. Turn the ignition switch to LOCK (0) and then back to ON (II).
10. Check for DTCs with the HDS.

    Is DTC B1775 or B1776 indicated?

    YES–Troubleshooting the indicated DTC.■

    NO–Go to step 13.
11. Select the Mic in the System Links.
12. Press the navigation Talk switch on the steering wheel switch, then check the Mic Level (see page 23-187).

    Is the microphone level OK?

    YES–Intermittent failure, the system is OK at this time.■

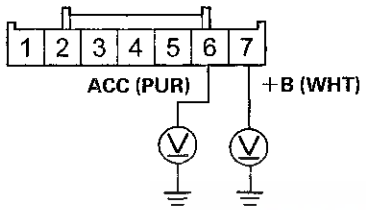
    NO–Replace the front HFL-navigation-ANC microphone (see page 23-240).■
13. Turn the ignition switch to LOCK (0).

(cont'd)

DTC Troubleshooting (cont'd)

14. Disconnect the front HFL-navigation-ANC microphone 7P connector.
15. Turn the ignition switch to ON (II).
16. Measure the voltage between the body ground and front HFL-navigation-ANC microphone 7P connector terminals No. 6 and No. 7 individually.

FRONT HFL-NAVIGATION-ANC MICROPHONE 7P CONNECTOR



Wire side of female terminals

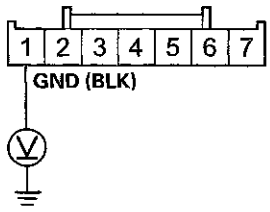
Is there battery voltage?

YES–Go to step 17.

NO–Repair an open in the wire(s).■

17. Turn the ignition switch to LOCK (0).
18. Reconnect the front HFL-navigation-ANC microphone 7P connector.
19. Turn the ignition switch to ON (II).
20. Measure the voltage between the HFL-navigation-ANC microphone 7P connector terminal No. 1 and body ground.

FRONT HFL-NAVIGATION-ANC MICROPHONE 7P CONNECTOR



Wire side of female terminals

Is there less than 0.2 V?

YES–Replace the front HFL-navigation-ANC microphone (see page 23-240).■

NO–Repair an open or high resistance in the wire between front HFL-navigation-ANC microphone 7P connector and body ground (G501).■

No picture is displayed

Diagnostic Test: Self-Diagnosis Mode

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check if ☼ ☽ button has been pressed, and turned off the display (see owner's manual for more information).
- Check the connectors for poor connections or loose terminals.
- Before troubleshooting, make sure you have the anti-theft code for the navigation system.
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.

1. Check the No. 15 (10 A) fuse in the under-hood fuse/relay box and No. 18 (7.5 A) fuse in the driver's under-dash fuse/relay box, and reinstall the fuses if they are OK.

   Are the fuses OK?

   YES–Go to step 2.

   NO–Replace the fuse(s), and recheck.■

2. Do the Forced Starting of Display (see page 23-237).

   Is the diagnosis menu of the picture diagnosis displayed?

   YES–Go into Self-Diagnosis Mode (see page 23-176) to check the links.■

   NO–Go to step 3.

3. Shield the navigation display unit from the sun with your hand, and check that the display is back lit (only back light is ON.)

   Can you see the back light?

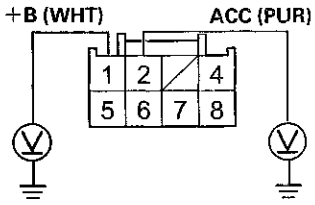
   YES–Substitute a known-good navigation unit (see page 23-238), and retest. If the problem goes away, replace the original navigation unit. If the problem is still present, replace the navigation display unit (see page 23-239).■

   NO–Go to step 4.

4. Turn the ignition switch to ON (II).

5. Measure the voltage between body ground and navigation unit connector A (8P) terminals No. 1 and No. 2 individually.

NAVIGATION UNIT CONNETCOR A (8P)



Wire side of female terminals

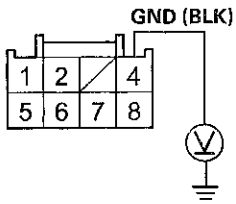
Is there battery voltage?

YES–Go to step 6.

NO–If the +B wire does not have voltage, repair an open in the wire between the under-hood fuse relay box and the navigation unit. If the ACC wire does not have voltage, repair an open in the wire between the under-dash fuse/relay box and the navigation unit.■

6. Measure the voltage between navigation unit connector A (8P) terminal No. 4 and body ground.

NAVIGATION UNIT CONNETCOR A (8P)



Wire side of female terminals

Is there less than 0.2 V?

YES–Go to step 7.

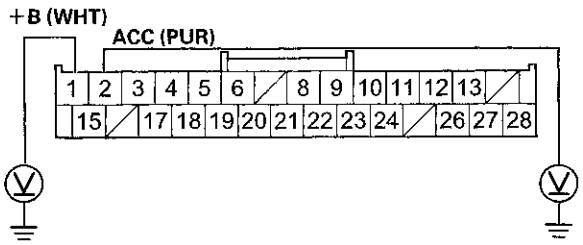
NO–Repair an open or high resistance in the wire between the navigation unit and body ground (G651) 4-door (see page 22-46), 2-door (see page 22-48).■

(cont'd)

Symptom Troubleshooting (cont'd)

7. Measure the voltage between body ground and navigation display unit 28P connector terminals No. 1 and No. 2 individually.

NAVIGATION DISPLAY UNIT 28P CONNETCOR



Wire side of female terminals

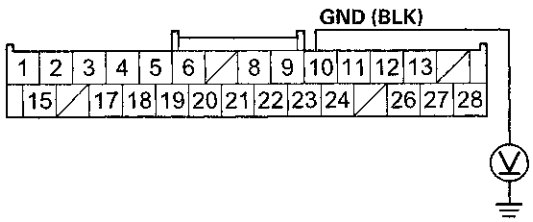
Is there battery voltage?

YES–Go to step 8.

NO–If the +B wire does not have voltage, repair an open in the wire between the under-hood fuse/relay box and the navigation display unit 28P connector. If the ACC wire does not have voltage, repair an open in the wire between the under-dash fuse/relay box and the navigation display unit 28P connector.■

8. Measure the voltage between the navigation display unit 28P connector terminal No. 10 and body ground.

NAVIGATION DISPLAY UNIT 28P CONNETCOR



Wire side of female terminals

Is there less than 0.2 V?

YES–Substitute a known-good navigation unit (see page 23-238) and retest. If the problem goes away, replace the original navigation unit. If the problem is still present, replace the navigation display unit.■

NO–Repair an open or high resistance in the wire between the navigation display unit and body ground (G401) (see page 22-40).■

Vehicle position icon constantly leaves road, moves erratically, or is displayed very far from actual vehicle position

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check that the GPS antenna is plugged in.
- This is not the same condition as when driving off-road (or on a fire or logging road). This condition is caused by a loss of map matching from a bad sensor input. Check for after market window tinting or other objects that can block the GPS signal. Always do the Map matching (see page 23-133) before proceeding with the troubleshooting.
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.
- Check the GPS signal reception in an open area.

1. Check the GPS icon on the navigation screen.

Is the GPS icon white?

YES–Do the troubleshooting for GPS icon is white or not shown (see page 23-225).■

NO–Go to step 2.

2. Go into the Self-Diagnosis Mode, and use the Yaw Rate test (see page 23-190) to check the yaw rate sensor.

3. Go into the Self-Diagnosis Mode, and use the Car Status test (see page 23-191) to check the vehicle speed pulse.

Are the yaw rate sensor and vehicle speed pulse OK?

YES–The condition may be normal. Check to see if the condition occurs in the same place in a known-good vehicle. If it does, the problem could be in the database. Go to step 4.

NO–If the problem is the yaw rate sensor, replace the navigation unit (see page 23-238). If the problem is the vehicle speed pulse, check for an open in the wire between the navigation unit and the ECM/PCM (VSP signal). If the wire is OK, substitute a known-good navigation unit and retest. If the problem goes away, replace the original navigation unit. If the problem is still present, update the ECM/PCM (see page 11-203) if it does not have the latest software or substitute a known-good ECM/PCM (see page 11-204).■

4. Substitute a known-good navigation unit, and check to see if the problem occurs in the same place.

   Does the problem occur in the same place?

   YES–The problem is in the database. Report the problem according to the Navigation System Manual under Reporting Errors.■

   NO–Replace the original navigation unit (see page 23-238).■

Picture is missing a color or tone or is an odd color

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.
- Check the navigation screen settings for brightness, contrast, and black level, and check the color screen for map color and menu color.
- Before troubleshooting, make sure you have anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.
- Check for aftermarket accessories that may interfere with the navigation system.

1. Go into the Detail Information & Settings select Monitor Check, and use RGB Color test under Monitor Check (see page 23-180).

   Are the red, green, and blue colored circles shown?

   YES–The system is OK at this time.■

   NO–Go to step 2.

2. Turn the ignition switch to LOCK (0).
3. Disconnect navigation unit connector B (32P) and the navigation display unit 28P connector.
4. Check for loose terminals at navigation unit connector B (32P) and the navigation display unit 28P connector.

   Are there loose terminals?

   YES–Repair the terminal.■

   NO–Go to step 5.

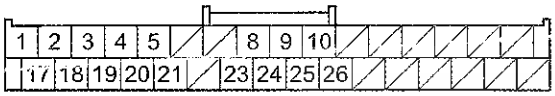
(cont'd)

Symptom Troubleshooting (cont'd)

5. Check for continuity between the terminals of navigation unit connector B (32P) and the navigation display unit 28P connector according to the table.

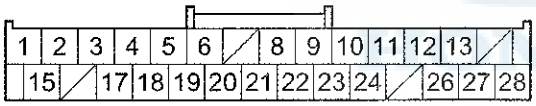
From terminal		To terminal	
Navigation unit connector	Navigation display unit connector	Navigation unit connector	Navigation display unit connector
B3 (GRY)	24 (BLK)	B1 (WHT)	8 (WHT)
		B2 (RED)	9 (RED)
		B17 (YEL)	22 (YEL)
		B19 (GRN)	21 (BLU)

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

NAVIGATION DISPLAY UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity between any of the terminals?

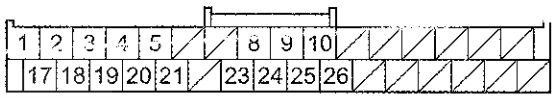
YES–There is a short in the wire(s) between the navigation unit and the navigation display unit. Replace the affected shielded harness.■

NO–Go to step 6.

6. Check for continuity between the appropriate terminals of navigation unit connector B (32P) and the navigation display unit 28P connector based on the missing color(s).

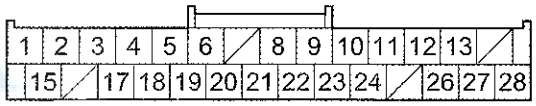
Missing color	Navigation unit connector	Navigation display unit connector	Wire color
Blue	B17	22	YEL
Green	B2	9	RED
Red	B1	8	WHT

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

NAVIGATION DISPLAY UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

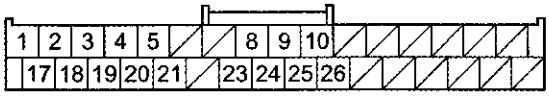
YES–Go to step 7.

NO–There is an open in the wire(s) between the navigation display unit and the navigation unit. Check for poor connections or loose terminals at the navigation display unit and the navigation unit. If a poor connection or loose terminal is found, replace the affected shielded harness.■

7. Check for continuity between the appropriate terminals of navigation unit connector B (32P) and the navigation display unit 28P connector based on the missing color(s).

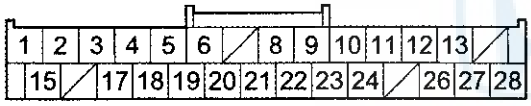
Missing color	Navigation unit connector B (32P)	Navigation display unit 28P connector
Blue	B17	10, 24
Green	B2	10, 24
Red	B1	10, 24

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

NAVIGATION DISPLAY UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–There is a short to body ground in the circuit between the navigation display unit and the navigation unit. Replace the affected shielded harness.■

NO–Replace the navigation unit (see page 23-238). If the problem is still unresolved, replace the navigation display unit (see page 23-239).■

Picture has lines or rolls

Diagnostic Test: Monitor Check

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Always compare the screen image to a known-good vehicle. If the screen looks the same, inform the customer that it is a characteristic of the system.
- Check the connectors for poor connections or loose terminals.
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.
- Check the navigation screen settings for brightness, contrast, and black level, and check the color screen for map color and menu color.
- Before troubleshooting, make sure you have anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.

1. Check for electronic aftermarket accessories (possibly hidden) mounted near the navigation display unit or the navigation unit.

   Are there any electronic accessories?

   YES–Disable the accessories, and recheck.■

   NO–Go to step 2.

2. Turn the ignition switch to ON (II), and start up the navigation screen and check it.

   Is the picture scrolling horizontally (left to right or right to left)?

   YES–

   - If the color is normal: go to step 3.
   - If the picture is scrolling with missing color: go to step 9.

   NO–Go to step 13.

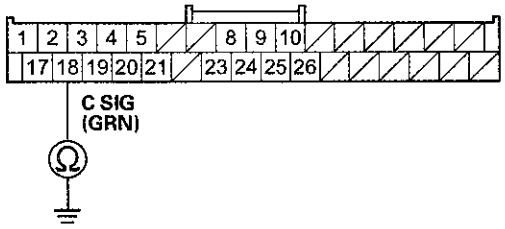
3. Turn the ignition switch to LOCK (0).
4. Disconnect navigation unit connector B (32P).
5. Disconnect navigation display unit 28P connector.

(cont'd)

Symptom Troubleshooting (cont'd)

6. Check for continuity between navigation unit connector B (32P) terminal No. 18 and body ground.

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

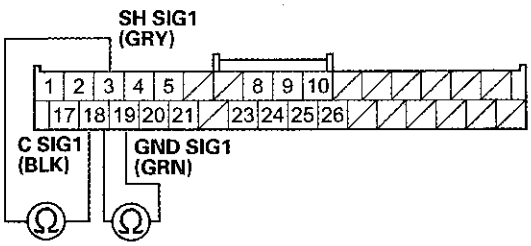
Is there continuity?

YES–There is a short to body ground in the wire(s) between the navigation unit and the navigation display unit. Replace the affected shielded harness.■

NO–Go to step 7.

7. Check for continuity between navigation unit connector B (32P) terminals No. 18 and No. 3, and between terminals No. 18 and No. 19 individually.

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

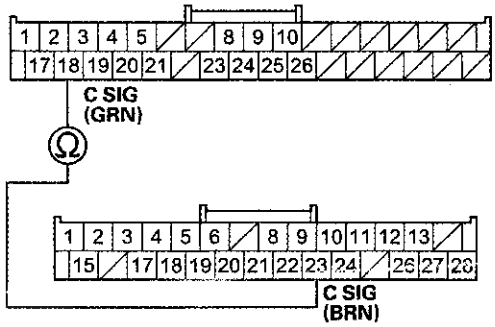
Is there continuity?

YES–There is a short in the wires between the navigation unit and the navigation display unit. Replace the affected shielded harness.■

NO–Go to step 8.

8. Check for continuity between navigation unit connector B (32P) terminal No. 18 and navigation display unit 28P connector terminal No. 23.

NAVIGATION UNIT CONNECTOR B (32P)
Wire side of female terminals



NAVIGATION DISPLAY UNIT 28P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Substitute a known-good navigation unit (see page 23-238), and retest. If the problem goes away, replace the original navigation unit. If the problem still present, replace the navigation display unit (see page 23-239).■

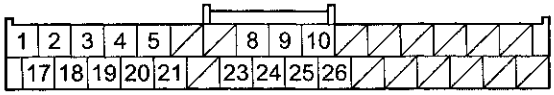
NO–There is an open in the wire(s) between the navigation unit and the navigation display unit. Replace the affected shielded harness.■

9. Turn the ignition switch to LOCK (0).
10. Disconnect navigation unit connector B (32P).
11. Disconnect navigation display unit 28P connector.

12. Check for continuity between the terminals of navigation unit connector B (32P) according to the table.

From terminal	To terminals
B18 (GRN)	B1 (WHT), B2 (RED), B17 (YEL)

NAVIGATION UNIT CONNECTOR B (32P)



Wire side of female terminals

Is there continuity?

YES–There is a short in the wires between the navigation unit and the navigation display unit. Replace the affected shielded harness.■

NO–Substitute a known-good navigation unit (see page 23-238), and retest. If the problem goes away, replace the original navigation unit. If the problem still present, replace the navigation display unit (see page 23-239).■

13. Go into the Detail Information & Settings, select Monitor Check, and use RGB Color diagnosis under Monitor Check (see page 23-180).

Is the picture missing a red, green, or blue color?

YES–Do troubleshooting for the Picture is missing a color or tone or is an odd color (see page 23-219).■

NO–Operation is normal at this time. Check for loose connections.■

Interface dial buttons do not work

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Make sure that the correct DVD color and version are installed. The wrong navigation DVD or software version can cause a hardware malfunction.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.
- Before troubleshooting, make sure you have anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.

1. Start the vehicle.
2. Go into the Detail Information & Settings select Unit Check, and use Hard Key test under Unit Check (see page 23-182).

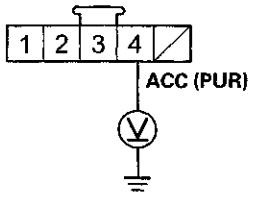
Do the interface dial buttons work properly?

YES–The system is OK at this time.■

NO–Go to step 3.

3. Turn the ignition switch to LOCK (0).
4. Remove the audio switch panel (see page 23-117).
5. Turn the ignition switch to ON (II).
6. Measure the voltage between the interface dial 5P connector terminal No. 4 and body ground.

INTERFACE DIAL 5P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES–Go to step 7.

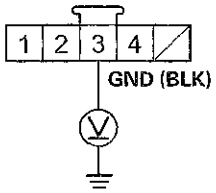
NO–Repair an open in the wire between the driver's under-dash fuse/relay box and the interface dial.■

(cont'd)

Symptom Troubleshooting (cont'd)

7. Measure the voltage between interface dial 5P connector terminal No. 3 and body ground.

INTERFACE DIAL 5P CONNECTOR



Wire side of female terminals

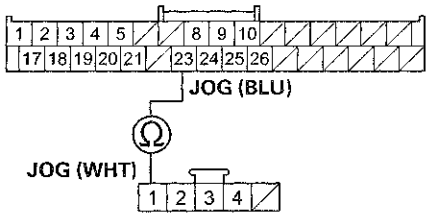
Is there less than 0.2 V?

YES–Go to step 8.

NO–Repair an open or high resistance in the wire between the interface dial and body ground (G401) (see page 22-40).■

8. Turn the ignition switch to LOCK (0).
9. Disconnect the interface dial 5P connector and navigation unit connector B (32P).
10. Check for continuity between navigation unit connector B (32P) terminal No. 23 and interface dial 5P connector terminal No. 1.

NAVIGATION UNIT CONNECTOR B (32P)
Wire side of female terminals



INTERFACE DIAL 5P CONNECTOR
Wire side of female terminals

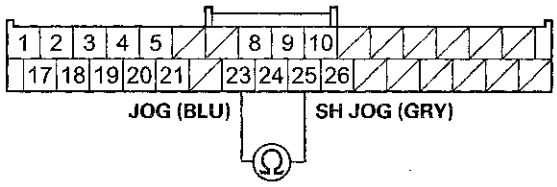
Is there continuity?

YES–Go to step 11.

NO–There is an open in the wire between the interface dial and the navigation unit. Replace the affected shielded harness.■

11. Check for continuity between navigation unit connector B (32P) terminals No. 23 and No. 25.

NAVIGATION UNIT CONNENCTOR B (32P)



Wire side of female terminals

Is there continuity?

YES–Short in the wires. Replace the affected shielded harness.

NO–Go to step 12.

12. Substitute a known-good interface dial (see page 23-239), and recheck.

Is the system OK?

YES–Replace the original interface dial (see page 23-239).■

NO–Replace the navigation unit (see page 23-238).■

GPS icon is white or not shown

Diagnostic Test: Self-Diagnosis Mode

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- With good reception, the icon is normally green.
- Make sure the GPS antenna is plugged in.
- Check for any aftermarket accessories or metallic window tinting that may be interfering with the GPS signal.
- Make sure the vehicle is parked outside, away from buildings.
- Refer to GPS Information (see page 23-188) for realtime satellite reception display.

1. Check for aftermarket metallic window tint on the rear window and electronic aftermarket accessories (possibly hidden) mounted near the GPS antenna or the navigation unit.

   Is there aftermarket metallic window tint or electronic accessories?

   YES–Remove tint or the accessories and recheck.■

   NO–Go to step 2.

2. Turn the ignition switch to ON (II).

3. Go into the Self-Diagnosis Mode, and use the System Links diagnosis (see page 23-176) to check the GPS antenna.

   Is the GPS Ant icon red?

   YES–Check for a kinked, crushed, or disconnected GPS antenna wire. If the icon is still red, replace the GPS antenna (see page 23-240).■

   NO–Check that nothing is blocking the GPS antenna located under the package shelf and recheck. Substitute a known-good GPS antenna (see page 23-240), and recheck. If the symptom is gone, replace the GPS antenna. If the symptom is still present, substitute a known-good navigation unit (see page 23-238) and recheck. If the symptom is gone, replace the original navigation unit.■

Voice guidance cannot be heard, is broken up, or there is static

Diagnostic Test: Self-Diagnosis Mode

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the navigation volume level (see Owner's Manual).
- Check the connectors for poor connections or loose terminals.
- If the Hard Error Code stored, check the Hard Error Code troubleshooting first.
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Before troubleshooting, make sure you have anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.

1. Turn the ignition switch to ON (II).

2. Press the SET-UP button.

3. Check the volume and voice feedback setting for the navigation system in set-up.

   Is either set to OFF?

   YES–Set the voice feedback to ON, and select an audible level for the volume.■

   NO–Go to step 4.

4. Check the audio system operation.

   Can you hear the audio?

   YES–Go to step 5.

   NO–Troubleshoot the audio system.■

5. Select the Self-Diagnosis mode.

6. Clear the hard error code.

7. Turn the ignition switch to LOCK (0), and then back to ON (II).

8. Check for the hard error code.

   Is there a Hard Error Code stored?

   YES–Refer to the Hard Error Code troubleshooting.■

   NO–Go to step 9.

(cont'd)

Symptom Troubleshooting (cont'd)

9. Substitute and a known-good audio unit (see page 23-114), and recheck.

   Is the system OK?

   YES–Replace the audio unit (see page 23-114).■

   NO–Replace the navigation unit (see page 23-238).■

Voice control does not work/respond

Diagnostic Test: Mic Level

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Make sure that the correct DVD color and version are installed.
- Check any official Honda service website for more service information about the navigation system.
- Before assuming that a voice complaint is hardware related, ensure that the voice control system is being operated correctly.
  - Make sure you are on the correct screen when trying to issue a voice command. For instance, the command "Find the nearest Italian Restaurant" only works on Map screen. (See the Navigation System manual for a complete list of allowed voice commands for the information being displayed).
  - Close the windows and moonroof.
  - Set the fan speed to low (1 or 2).
  - Adjust the air flow from the air conditioning vents so that they do not blow against the microphone on the ceiling.
  - Pause after pressing the navigation TALK button, then give a voice command clearly in a natural speaking voice.

    If the system cannot recognize your command, speak louder.
  - If you speak a command with something in your mouth, or your voice is too husky, or high pitched, the system may misunderstand your command.
- Check for a loose roof console microphone; if it's loose, tighten it.
- Before troubleshooting, make sure you have anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.
- Determine if the problem only happens to one person, or everyone who uses the system.
- If the system only has a problem with one person's voice, this should be considered a system limitation.

1. Turn the ignition switch to ON (II).
2. Go into the Self-Diagnosis Mode select, Mic Icon Menu, and use the Mic Level test under Functional Setup (see page 23-187) to check the operation of the Talk and Back buttons.

   Are the navigation TALK and BACK buttons operational?

   YES–Go to step 3.

   NO–Check for an open or short to ground on navigation unit connector C (16P) terminal No. 12.■
3. Use the Mic Level diagnostic under Functional Setup (see page 23-187) to check the operation of the microphone.

   Is the microphone operational?

   YES–Check the operation of the voice control system (see the Navigation System Manual).■

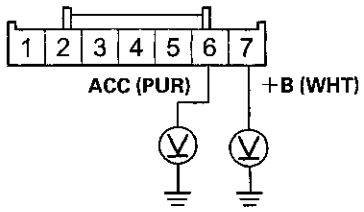
   NO–Go to step 4.
4. Clear the hard error code.
5. Turn the ignition switch to LOCK (0), and then back to ON (II).
6. Check for the hard error code.

   Is DTC 2707 indicated?

   YES–Do the 2707 troubleshooting.■

   NO–Go to step 7.
7. Measure the voltage between the front HFL-navigation-ANC microphone 7P connector terminals No. 6 and No. 7 individually.

FRONT HFL-NAVIGATION-ANC MICROPHONE 7P CONNECTOR



Wire side of female terminals

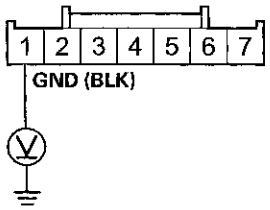
Is there battery voltage?

YES–Go to step 8.

NO–If the +B wire does not have voltage, repair an open in the wire between the under-hood fuse/relay box and the front HFL-navigation-ANC microphone 7P connector. If the ACC wire does not have voltage, repair an open in the wire between the under-dash fuse/relay box and the front HFL-navigation-ANC microphone 7P connector.■

8. Measure the voltage between front HFL-navigation-ANC microphone 7P connector terminal No. 1 and body ground.

FRONT HFL-NAVIGATION-ANC MICROPHONE 7P CONNECTOR



Wire side of female terminals

Is there less than 0.2 V?

YES–Go to step 2.

NO–Repair an open or high resistance in the wire between the front HFL-navigation-ANC microphone and body ground (G501) (see page 22-34).■

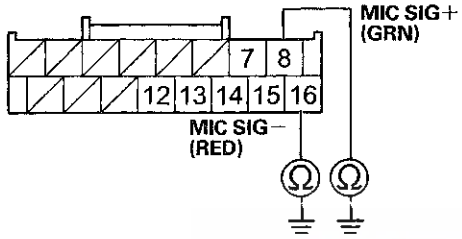
9. Turn the ignition switch to LOCK (0).

(cont'd)

Symptom Troubleshooting (cont'd)

10. Disconnect the HandsFreeLink control unit 28P connector.
11. Disconnect the navigation unit connector C (16P).
12. Check for continuity between body ground and navigation unit connector C (16P) terminal No. 8 and No. 16 individually.

NAVIGATION UNIT CONNECTOR C (16P)



Wire side of female terminals

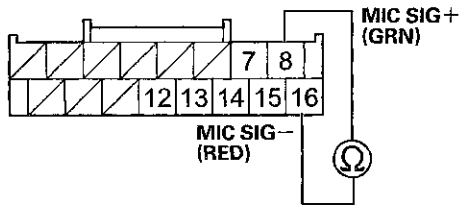
Is there continuity?

YES–There is a short to body ground in the wire(s) between the navigation unit and the front HFL-navigation-ANC microphone. Replace the affected shielded harness.■

NO–Go to step 13.

13. Check for continuity between navigation unit connector C (16P) terminals No. 8 and No. 16.

NAVIGATION UNIT CONNECTOR C (16P)



Wire side of female terminals

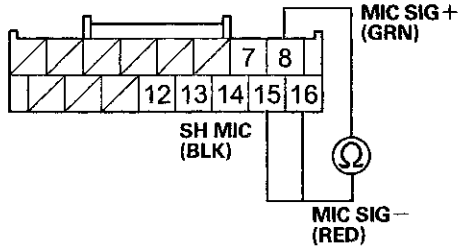
Is there continuity?

YES–There is a short in the wire(s) between the navigation unit and the front HFL-navigation-ANC microphone. Replace the affected shielded harness.■

NO–Go to step 14.

14. Check for continuity between navigation unit connector C terminal No. 8 to No 15 and No. 16, individually.

NAVIGATION UNIT CONNECTOR C (16P)



Wire side of female terminals

Is there continuity?

YES–There is a short in the wire(s) between the navigation unit and the front HFL-navigation-ANC microphone. Replace the affected shielded harness.■

NO–Substitute known-good components in this order until the problem goes away:■

- Front HFL-navigation-ANC microphone (see page 23-240).
- HandsFreeLink control unit (see page 23-281).
- Navigation unit (see page 23-238).

DVD read error messages

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Make sure that the correct DVD color and version are installed.
- Confirm the correct DVD color and version is installed in the navigation unit (see page 23-135).
- Refer to General Troubleshooting for a list of common DVD screen error messages and the probable causes (see page 23-195).
- Check any official Honda service website for more service information about the navigation system.
- Go into the Diagnostic mode and use the ECU Info diagnostic (see page 23-182) to check the status of the DVD cover.
- Inspect the navigation DVD for scratches or damage.
- The following troubleshooting is for the error message shown on the error messages table (see page 23-195).

1. Check the DVD reading surface for scratches and finger prints.

   Are there any scratches or finger prints on the DVD-ROM reading surface?

   YES–Clean or replace the DVD (see page 23-237).■

   NO–If the problem occurs occasionally when the system is cold, this is normal. If the problem occurs frequently when driving, replace the navigation unit (see page 23-238).■

Navigation cannot control HVAC by voice command

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check the connectors for poor connections or loose terminals.
- Check for and resolve all CAN DTCs before troubleshooting the navigation system.
- If the Hard Error Code stored, check the Hard Error Code troubleshooting first.
- Before troubleshooting, make sure you have the anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.
- Verify that the correct navigation unit is installed for this model. Go into the Diagnostic mode and use Version (see page 23-192).
- Make sure that the correct DVD color and version are installed.
- Check any official Honda service website for more service information about the navigation system.

1. Connect the HDS to the DLC (see page 21-101).
2. Check for B-CAN or F-CAN DTCs in the data list.

   Are there any DTCs in the B-CAN or F-CAN systems?

   YES–Troubleshoot and repair all CAN related DTCs, and then retest.

   NO–Go to step 3.

3. Turn the ignition switch to ON (II).
4. Select the Self-Diagnosis Mode.
5. Check for error code in the Error History.

   Are there any Hard Error Code stored?

   YES–Refer to the Hard Error Code troubleshooting.■

   NO–Go to step 6.

6. Substitute a known-good climate control unit (see page 21-190), and reconnect all connectors, and retest.

   Does the symptom go away?

   YES–Replace the original climate control unit (see page 21-190).■

   NO–Replace the navigation unit (see page 23-238).■

Symptom Troubleshooting (cont'd)

Display day/night mode does not work or does not work properly

NOTE:

- Turn the headlight, on and check that the dash brightness setting is not set to high.
- Check the connectors for poor connections or loose terminals.
- Always check for and resolve all CAN DTCs before troubleshooting the navigation system.
- Verify that the correct navigation unit is installed for this model. Go into the Self-Diagnostic Mode, and use Version (see page 23-192).
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.

1. Turn the headlights on, and adjust the dash brightness up and down, then to the middle range.

   Does the display change to day and night modes when turning the headlights on and off?

   YES–The system is OK at this time.■

   NO–Go to step 2.

2. Cover the sunlight sensor on the dash, then turn the headlights on and off.

   Does the navigation display dim and brighten normally?

   YES–The system is OK at this time.

   NO–Check the ILL+ circuit for an open or short to ground between the navigation display unit to the gauge control module. If OK, substitute known-good units in this order, and recheck the system:
   - Navigation unit (see page 23-238)
   - Climate control unit (see page 21-190)
   - Gauge control module (see page 22-351)

System locks up or freezes constantly

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check for connectors for poor connections or loose terminals.
- Always check for and resolve all CAN DTCs before troubleshooting the navigation system.
- Verify that the correct navigation unit is installed for this model. Go into the Self-Diagnostic Mode, and use Version (see page 23-192).
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.
- Before troubleshooting, make sure you have anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.
- Check the DVD for damage or scratches.

1. Turn the ignition switch to ON (II).
2. Remove the DVD, and check the DVD reading surface for scratches and finger prints.

   Are there any scratches or finger prints on the DVD-ROM reading surface?

   YES–Clean or replace the DVD-ROM (see page 23-237) and recheck.■

   NO–Go to step 3.

3. Turn the ignition switch to LOCK (0), and then back to ON (II).

   Does the system reboot, lock up, or freeze?

   YES–Replace the navigation unit (see page 23-238).■

   NO–The system is OK at this time. Go into the Self-Diagnostic Mode, and use the Unit Check diagnosis (see page 23-182) to check the navigation unit and navigation display unit status. If the status is NG, replace the affected units.■

Vehicle icon wanders across the map when driving (does not follow a displayed road) or map or vehicle ICON spins

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check for connectors for poor connections or loose terminals.
- This is not the same condition as when driving off-road (or on a fire or logging road).
- This condition is caused by a loss of map matching from a bad sensor input. Check for aftermarket or other objects that can block the GPS signal. Always perform Map Matching (see page 23-133) before proceeding with the troubleshooting.
- Always check for and resolve all CAN DTCs before troubleshooting the navigation system.
- Verify that the correct navigation unit is installed for this model. Go into the Self-Diagnostic Mode, and use Version (see page 23-192).
- Make sure that the correct DVD color and version are installed.
- Check for aftermarket metallic window tinting.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.
- Before troubleshooting, make sure you have the anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.
- Check the DVD for damage or scratches.

1. Check the GPS icon on the navigation screen.

   Is the GPS icon white or missing?

   YES–Do the troubleshooting for GPS icon is white or not shown (see page 23-225).■

   NO–Go to step 2.

2. Go into the Self-Diagnostic Mode, and use the Yaw Rate diagnosis (see page 23-190) to check the yaw rate sensor.

   Is the yaw rate sensor OK?

   YES–Go to step 3.

   NO–Replace the navigation unit (see page 23-238).■

3. Go into the Self-Diagnostic Mode, and use the Car Status diagnosis (see page 23-191) to check the vehicle speed pulse (VSP) and the BACK signals.

   Are the vehicle speed pulse and the BACK signals OK?

   YES–The problem may be a characteristic of the system. Check to see if the problem occurs in the same place in a known-good vehicle. If it does, the problem could be in the database. Go to step 4.

   NO–

   - If the problem is the vehicle speed pulse, troubleshoot the vehicle speed signal circuit. LT BLU wire for an open or a short. If OK, swap a known-good ECM/PCM. If the problem or symptom goes away, update the ECM/PCM (see page 11-203) if it does not have the latest software or substitute a known-good ECM/PCM (see page 11-204).
   - If the BACK signal is indicated ON (1), when in any shift lever position other than reverse, troubleshoot the back-up light switch circuit (M/T) or MICU (A/T).■

4. Substitute a known-good navigation unit (see page 23-238), and check to see if the problem occurs in the same place.

   Does the problem occur in the same place?

   YES–The problem is in the database and should be considered a characteristic of the system. Report the problem according to the Navigation System Owner's Manual under Reporting Errors and look for improvements in future databases.■

   NO–Replace the navigation unit (see page 23-238).■

Symptom Troubleshooting (cont'd)

Navigation system does not accept security code

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- The system will not operate without the 4-digit security (anti-theft) code. Follow the this procedure. (After 10 consecutive tries, you must cycle the key to continue trying)
- The Navigation System Diagnosis and Core Return Form is available on ISIS, under Job aids, and can be printed out for recording this information. This information will help the reman facility determine what caused the failure.
- Always check for and resolve all CAN DTCs before troubleshooting the navigation system.
- Verify that the correct navigation unit is installed for this model. Go into the Self-Diagnostic Mode, and use Version (see page 23-192).
- Check connectors for poor connections or loose terminals.
- Before troubleshooting, make sure you have the anti-theft codes for the audio system and the navigation system.
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.

1. Go into the Self-Diagnostic Mode, and use the ECU Info under the Unit Check diagnosis (see page 23-182). A brief diagnosis runs for 20 seconds, and the serial number is displayed.

   Is the serial number displayed?

   YES–Go to step 4.

   NO–Go to step 2.

2. Remove the navigation unit (see page 23-238).

3. Check the serial number on the label on the underside of the navigation unit.

   Is the serial number confirmed on the underside of the navigation unit?

   YES–Go to step 4.

   NO–Replace the navigation unit (see page 23-238).■

4. Using the serial number, look up the navigation security code in the Interactive Network (iN). (click: Service, Vehicle Information, Anti-Theft code Inquiry, and then select Navigation from the product dropdown box). Enter the serial number.

   Is a 4-digit code displayed on the screen?

   YES–Go to step 5.

   NO–Call the Warranty Department to obtain the code (the telephone number is in the PDI service bulletin). Then go to step 5.

5. Check that the obtained code works to bypass the code screen in the navigation system.

   Does the code work?

   YES–The system is OK at this time. Return the vehicle to the customer and give them the anti-theft code.■

   NO–Go to step 6.

6. Try entering four zeros (0000) as the code.

   Do the four zeros work to bypass the code screen?

   YES–Replace the navigation unit (see page 23-238), and enter Security code is 0000 in the problem description field of the core return form.■

   NO–Replace the navigation unit (see page 23-238), and enter Won't take security code, in the problem description field of the core return form; (as proof, enclose the sticker that contains the serial number and the code).■

Navigation display stays on with ignition switch in LOCK (0)

NOTE:

- Check for aftermarket accessories that may interfere with the navigation system.
- Check the connectors for poor connections or loose terminals.
- Before troubleshooting, make sure you have anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.
- The vehicle may have been used for a show event. Check for a short jumper harness in-line with the navigation unit connector A (8P). If a jumper harness is present, remove it, and return it to Tech Line.

1. Remove the key from the ignition.

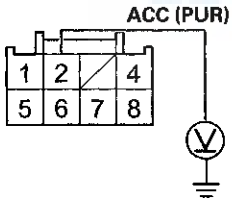
   Does the navigation screen stay on?

   YES–Go to step 2.

   NO–The system is OK at this time.■

2. Measure the voltage between body ground and navigation unit connector A (8P) terminal No. 2.

NAVIGATION UNIT CONNETCOR A (8P)



Wire side of female terminals

Is there battery voltage?

YES–Repair a short to power in the wire between the driver's under-dash fuse/relay box and navigation unit connector A (8P).■

NO–Replace the navigation unit (see page 23-238).■

Navigation cannot control audio system

Diagnostic Test: System Links

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Check for and resolve all CAN DTCs before troubleshooting the navigation system.
- Verify that the correct navigation unit is installed for this model. Go into the Self-Diagnostic Mode, and use Version (see page 23-192).
- Check for connectors for poor connections or loose terminals.
- Before troubleshooting, make sure you the have anti-theft codes for the audio system and the navigation system.
- After troubleshooting, enter the anti-theft codes for the audio system and the navigation system.
- Make sure that the correct DVD color and version are installed.
- Inspect the DVD for dirt or damage.
- Check any official Honda service website for more service information about the navigation system.

1. Turn the ignition switch to ON (II).
2. Make sure the anti-theft code for the audio system is entered.
3. Go into the Self-Diagnostic Mode, and use the Self-Diagnosis Mode (see page 23-176).
4. Check the system Links.

   Is the Radio icon red?

   YES–Do the troubleshooting for the Voice guidance cannot be heard, is broken up, or there is static (see page 23-225).■

   NO–Go to step 5.

5. Substitute a known-good navigation unit (see page 23-238), and recheck.

   Can the navigation system control audio/disc?

   YES–Replace the original navigation unit (see page 23-238).■

   NO–Do the audio system troubleshooting.■

Symptom Troubleshooting (cont'd)

Navigation cannot control XM radio

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- Make sure that the correct DVD color and version are installed.
- Check any official Honda service website for more service information about the navigation system.

1. Start the vehicle.
2. Make sure the anti-theft code for the audio system is entered.
3. Go into the Self-Diagnostic Mode, and use the Self-Diagnosis Mode (see page 23-176).
4. Check the system Links.

   Is the XM icon red?

   YES–Do the troubleshooting for the Voice guidance cannot be heard, is broken up, or there is static (see page 23-225).■

   NO–Go to step 5.

5. Substitute a known-good navigation unit (see page 23-238).

   Can the navigation system control XM radio?

   YES–Replace the original navigation unit (see page 23-238).■

   NO–Replace the XM receiver (see page 23-120).■

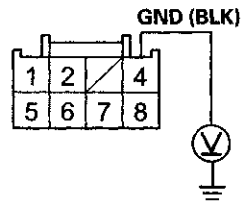
Navigation frequently asks for anti-theft code and/or needs GPS initialization

NOTE:

- Check the vehicle battery condition first (see page 22-90).
- This is often caused by a loss of battery power or a poor ground.
- Make sure that the correct DVD color and version are installed.
- Check any official Honda service website for more service information about the navigation system.

1. Turn the ignition switch to ON (II).
2. Measure the voltage between navigation unit connector A (8P) terminal No. 4 and body ground.

NAVIGATION UNIT CONNETCOR A (8P)



Wire side of female terminals

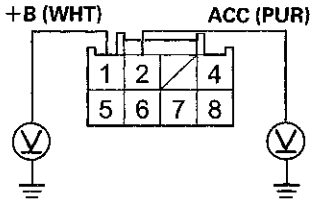
Is there less than 0.2 V?

YES–Go to step 3.

NO–Repair an open or high resistance in the wire between the navigation unit and body ground (G651) 4-door (see page 22-46), 2-door (see page 22-48).■

3. Measure the voltage between body ground and navigation unit connector A (8P) terminals No. 1 and No. 2 individually.

NAVIGATION UNIT CONNETCOR A (8P)



Wire side of female terminals

Is there battery voltage?

YES–Replace the navigation unit (see page 23-238).■

NO–Repair an open in the wire between the under-hood fuse relay box and the navigation unit. If the ACC wire does not have voltage, repair an open in the wire between the under-dash fuse/relay box and the navigation unit.■

The Acura Globe Screen (not the Honda Globe Screen) appears every time the vehicle is started

NOTE: The navigation DVD and the navigation unit are correct for the vehicle, but earlier and possibly later versions of the navigation software may have been installed. When this happens, the software may not be recognized by the navigation unit, and could cause the navigation unit to revert to a an Acura model profile.

1. Remove the navigation unit (see page 23-238) and verify that the part number printed on the navigation unit label is the correct one for the year/model vehicle you are working on.

   Is the correct navigation unit installed based on the part number?

   YES–Go to step 2.

   NO–Replace the navigation unit with the correct unit for the year/model vehicle you are working on.■

2. Reinstall the navigation unit.
3. Remove the navigation DVD.
4. Note the software version marked on the DVD label and verify if it is the correct version for the vehicle year/model you are working on by checking any official Honda service website, and searching for any related service information about the navigation system and navigation software.

   Is the software version marked on the DVD label the correct one for the vehicle year/model you are working on?

   YES–Replace the navigation unit (see page 23-238).■

   NO–Go to step 5.

5. Obtain the correct version DVD (see page 23-133) and install it.

   Does the navigation system boot-up with the Honda Globe Screen?

   YES–The problem is resolved, troubleshooting is complete.■

   NO–The system still shows Honda Globe Screen. Replace the navigation unit (see page 23-238).■

Symptom Troubleshooting (cont'd)

Navigation unit will not eject or accept the navigation DVD

1. Check the No. 15 (10 A) fuse in the under-hood fuse/relay box and the No. 18 (7.5 A) fuse in the driver's under-dash fuse/relay box.

   Are the fuses OK?

   YES–Go to step 2.

   NO–Replace the blown fuse(s), and recheck.■

2. Turn the ignition switch to ON (II).

3. Eject the navigation DVD from the navigation unit (see page 23-237).

   Does the navigation DVD eject?

   YES–Go to step 4.

   NO–Go to step 5.

4. Reinsert the navigation DVD into the navigation unit.

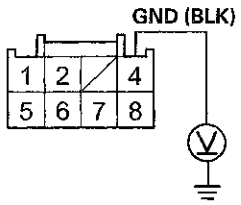
   Does the navigation unit accept the navigation DVD?

   YES–No problems at this time, the system is normal. Inspect for loose or poor connections at navigation unit connector A (8P) terminals No. 1, No. 2, and No. 4.■

   NO–Replace the navigation unit (see page 23-238).■

5. Measure the voltage between navigation unit connector A (8P) terminal No. 4 and body ground.

   NAVIGATION UNIT CONNETCOR A (8P)



   Wire side of female terminals

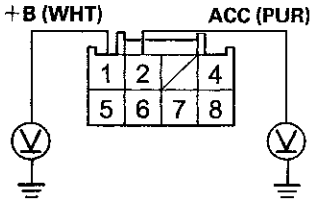
   Is there less than 0.2 V?

   YES–Go to step 6.

   NO–Repair an open or high resistance in the BLK wire between navigation unit connector A (8P) and body ground (G651) 4-door (see page 22-46), 2-door (see page 22-48).■

6. Measure the voltage between body ground and navigation unit connector A (8P) terminal No. 1 and No. 2 individually.

   NAVIGATION UNIT CONNETCOR A (8P)



   Wire side of female terminals

   Is there battery voltage?

   YES–Replace the navigation unit (see page 23-238).■

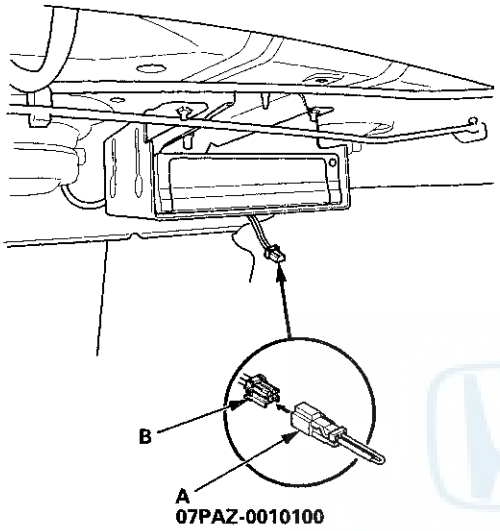
   NO–Repair an open in the wire between body ground and navigation unit connector A (8P) terminal No. 1 and the No. 15 (10 A) fuse in the under-hood fuse/relay box or navigation unit connector A (8P) terminal No. 2 and the No. 18 (7.5 A) fuse in the driver's under-dash fuse/relay box.■

Forced Starting of Display

Special Tools Required

SCS Service Connector 07PAZ-0010100

1. Turn the ignition switch to LOCK (0).
2. Connect the SCS service connector (A) to the navigation service connector (B) located behind the navigation unit.



3. Turn the ignition switch to ON (II).
4. Check that the diagnosis menu for the picture diagnosis starts up, and then changes to the System Links menu.

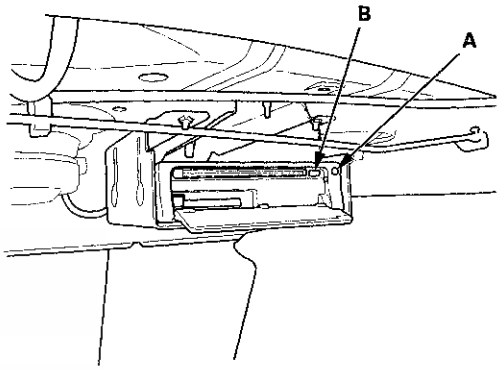
   NOTE: If the display fails to display the System Links screen, refer to no picture is displayed (see page 23-217).

DVD-ROM Replacement

NOTE:

- Check any official Honda service website for more service information about the navigation system and software updates.
- Do not replace the DVD to give a customer a preview of an update DVD.

1. Turn the ignition switch to ON (II).
2. Push the open button (A) of the navigation unit located on the left side of the trunk.



3. Press the EJECT button (B).
4. Remove the DVD
5. Insert the new DVD with the label facing up.
6. Close the front cover. Do not turn the ignition switch to LOCK (0); watch the navigation screen until the data is downloaded to the navigation unit.
7. Do the Map Matching (see page 23-133).

   NOTE: After servicing, the front cover and PC card slot door must be closed. If you start up the navigation system with the front cover or PC card slot door open, the display will indicate an error message.

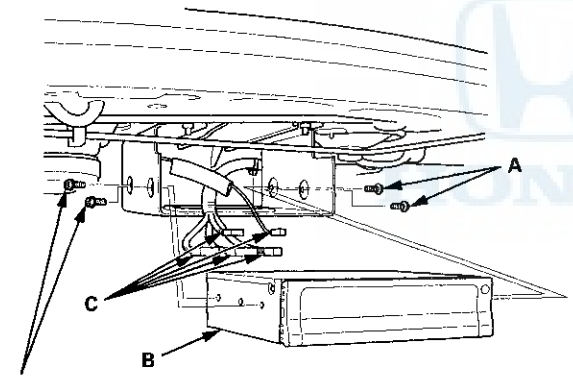
Navigation Unit Removal/Installation

NOTE:

- Before you replace the navigation unit, back-up the customer data using system diagnostic mode Save Users Memory under the Functional Set up (see page 23-186).
- If the navigation unit is replaced or disconnected, a Map Matching must be done (see page 23-133).

1. Turn the ignition switch to ON (II).
2. Eject the DVD from the original navigation unit (see page 23-237). To avoid scratching or damaging the DVD, temporarily place the DVD in a jewel case.

   NOTE: If the DVD does not eject, refer to symptom troubleshooting Navigation unit does not eject or accept the navigation DVD.
3. Turn the ignition switch to LOCK (0).
4. Remove the four bolts (A) from the navigation unit (B).



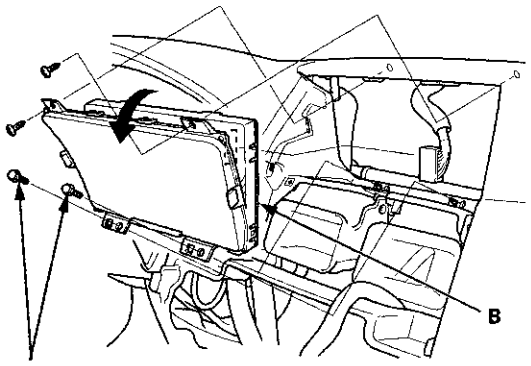
A
5 x 0.8 mm
3.7 N·m (0.38 kgf·m, 2.7 lbf·ft)

5. Disconnect the navigation unit connectors (C).
6. Install the unit in the reverse order of removal.
7. Turn the ignition switch to ON (II), then reinstall the customer's original navigation DVD, verifying that the DVD is free of scratches or smudges.
8. Check any official Honda service website for more service information about patches for the navigation system. Apply any prescribed patches to the new navigation unit.

   NOTE: Simply transferring the navigation DVD from the original navigation unit to the new navigation unit does not assure the correct software for the vehicle will be loaded into the new navigation unit. Doing the navigation DVD transfer without doing software patches may cause the new navigation unit to appear to be malfunctioning.
9. Enter the new navigation anti-theft code.
10. Park the vehicle outside, and do the GPS initialization (see page 23-132).
11. Give the new navigation anti-theft code to the customer.

Navigation Display Unit Removal/Installation

1. Remove the audio unit (see page 23-114), then remove the center display visor (see page 20-171).
2. Remove the screws and bolts (A), then pull out the navigation display unit (B).

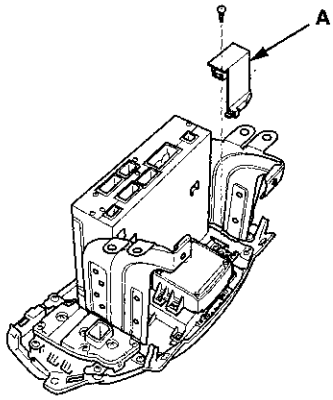


A
5 x 0.8 mm
4.4 N·m (0.45 kgf·m, 3.2 lbf·ft)

3. Install the unit in the reverse order of removal. Be careful not to drop the forward screw behind the dashboard.

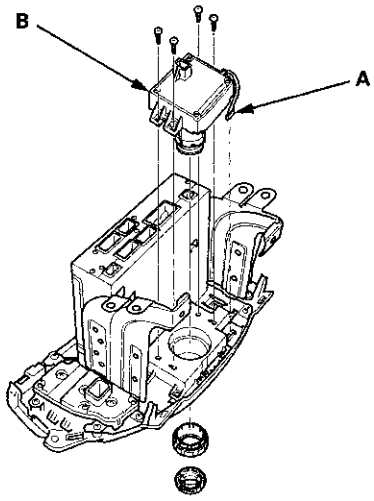
Interface Dial Removal/Installation

1. Remove the audio unit (see page 23-114).
2. Remove the screw and harness cover (A).



3. Disconnect the interface dial connector (A). Remove the screws and interface dial (B).

   NOTE: If the hard buttons do not work, but the jog dial does, recheck the interface dial connector connection.



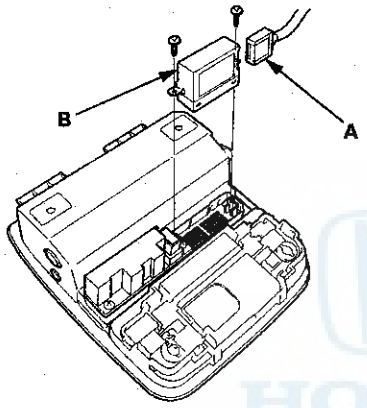
4. Install the dial in the reverse order of removal.

Front HFL-Navigation-ANC Microphone Removal/Installation

NOTE:

- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a workshop towel under the parts when working on them to protect the face panel from scratches or other damage.

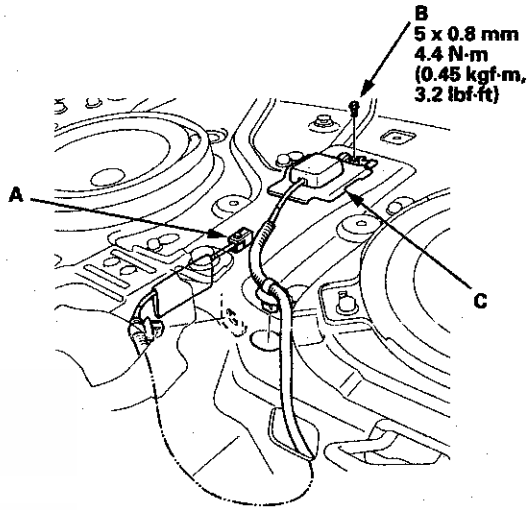
1. Remove the roof console (see page 20-140), and disconnect the connector (A) from the front HFL-navigation-ANC microphone (B).



2. Remove the screws and the front HFL-navigation-ANC microphone.
3. Install the microphone in the reverse order of removal.

GPS Antenna Removal/Installation

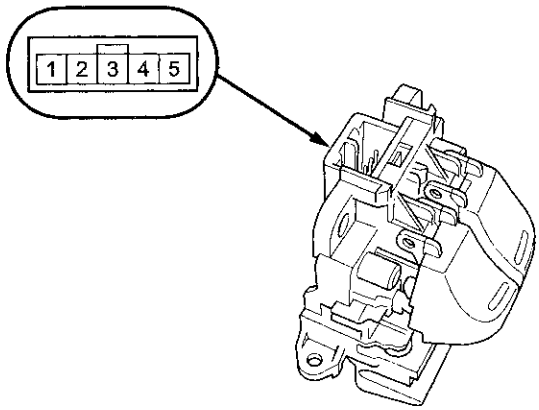
1. Remove the rear shelf (see page 20-128).
2. Disconnect the GPS antenna connector (A), and remove the bolt (B).



3. Detach the harness clips, and remove the GPS antenna (C).
4. Install the antenna in the reverse order of removal.

Voice Control Switch Test

1. Remove the voice control switch (see page 17-7).



2. Measure the resistance between terminals No. 2 and No. 4 in each switch position according to the table.

Position	Resistance
No button pressed	About 10 kΩ
Navigation TALK button pressed	About 2.2 kΩ
Navigation BACK button pressed	About 700 Ω

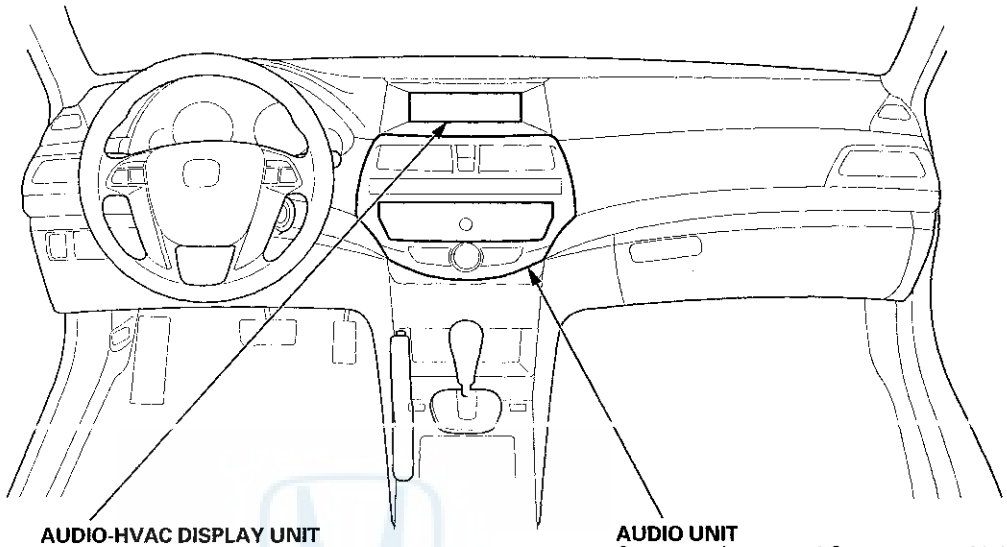
3. If the resistance is not as specified, replace the voice control switch (see page 23-241).

Voice Control Switch Replacement

1. Remove the steering wheel (see page 17-6).
2. Remove the voice control switch (see page 17-7).
3. Install the voice control switch in the reverse order of removal.

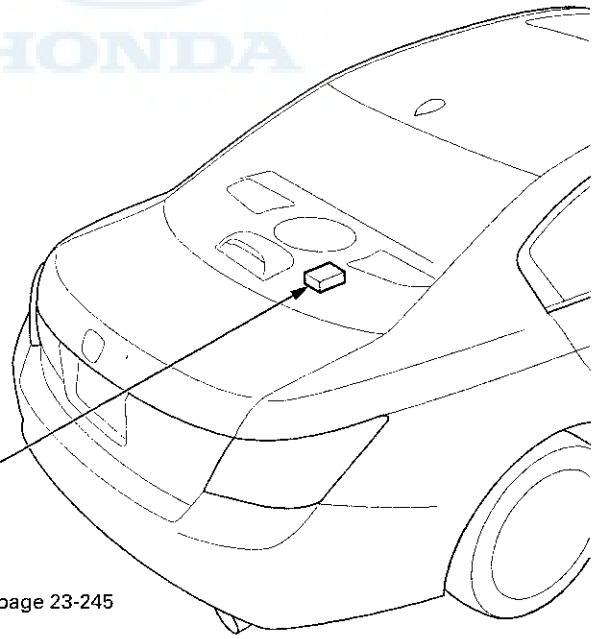
Electrical Compass

Component Location Index



AUDIO-HVAC DISPLAY UNIT
Connector Inputs and Outputs, page 23-42
Removal/Installation, page 23-119

AUDIO UNIT
Connector Inputs and Outputs, page 23-20
Removal/Installation, page 23-115



ELECTRICAL COMPASS UNIT
(Without navigation)
Connector Inputs and Outputs, page 23-245
Input Test, page 23-250

Symptom Troubleshooting Index

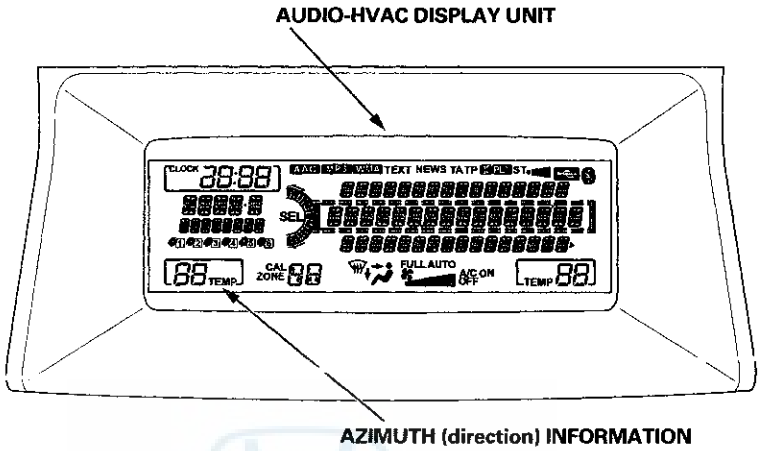
Symptom	Diagnostic procedure	Also check for
Azimuth (direction) information is not shown on the display	Do the input test (see page 23-250)	Check that the electrical compass unit is properly connected.
No picture is shown on the display	Do the audio system troubleshooting (see page 23-83)	The display brightness setting.
Compass shows wrong direction	Do the compass zone selection and calibration (see page 23-247)	Check if the zone setting is correct for the vehicle geographical location.
Compass does not calibrate	Do the input test (see page 23-250)	Check that the electrical compass unit is properly connected.

Electrical Compass

System Description

Overview

The electrical compass shows the azimuth information in 8-directions (N, NE, E, SE, S, SW, W, NW) to the audio-HVAC display unit via the audio unit.



Starting Operation

When the ignition switch is turned to ACCESSORY (I), the electrical compass unit begins to communicate with the audio unit. Then turn the ignition switch to ON (II), the self-test mode begins automatically.

The self-test function checks for the current voltage, non-volatile memory (NVM), and ROM status in the electrical compass unit. If the unit detects a malfunction while in the self-test, it indicates a malfunction by flashing compass information segments (CAL and NW) in the audio-HVAC display unit.

The electrical compass unit send the azimuth (direction) information to the audio unit. The electrical compass unit receive the VSP signal from the gauge control module via the audio unit. The azimuth information is fixed while parked.

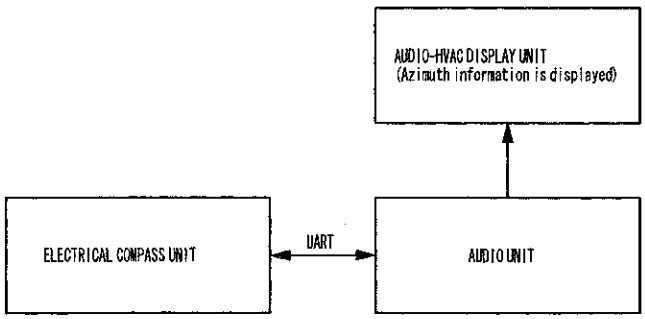
Self-Calibration

The electrical compass unit has a self-calibration function. It detects and compensates for magnetic anomalies caused by bridges, subways and large steel structures. When the vehicle leaves an area with a strong magnetic interference field (2,400 mG or more), the electrical compass unit automatically begins calibrating. If needed, you can manually calibrate the compass.

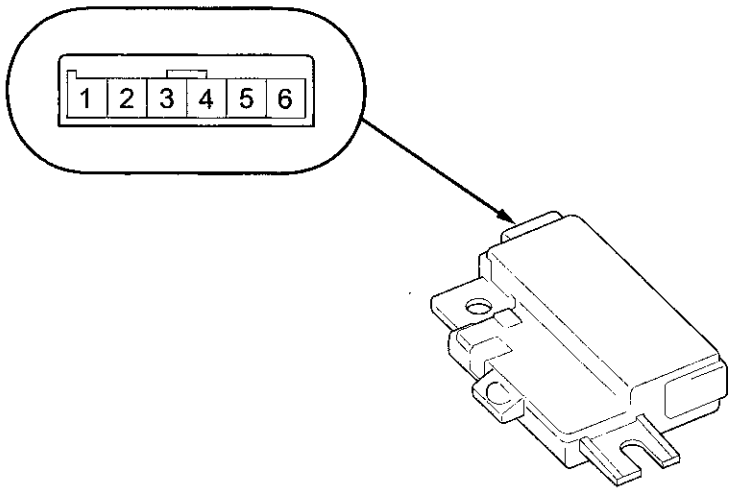
Zone Selection

Zone selection is required to compensate for the difference between magnetic North and geographic North. This deviation is referred to as declination, the compass compensates for declination when you select the zone where the vehicle is located.

System Diagram



Electrical Compass Unit Connector Inputs and Outputs



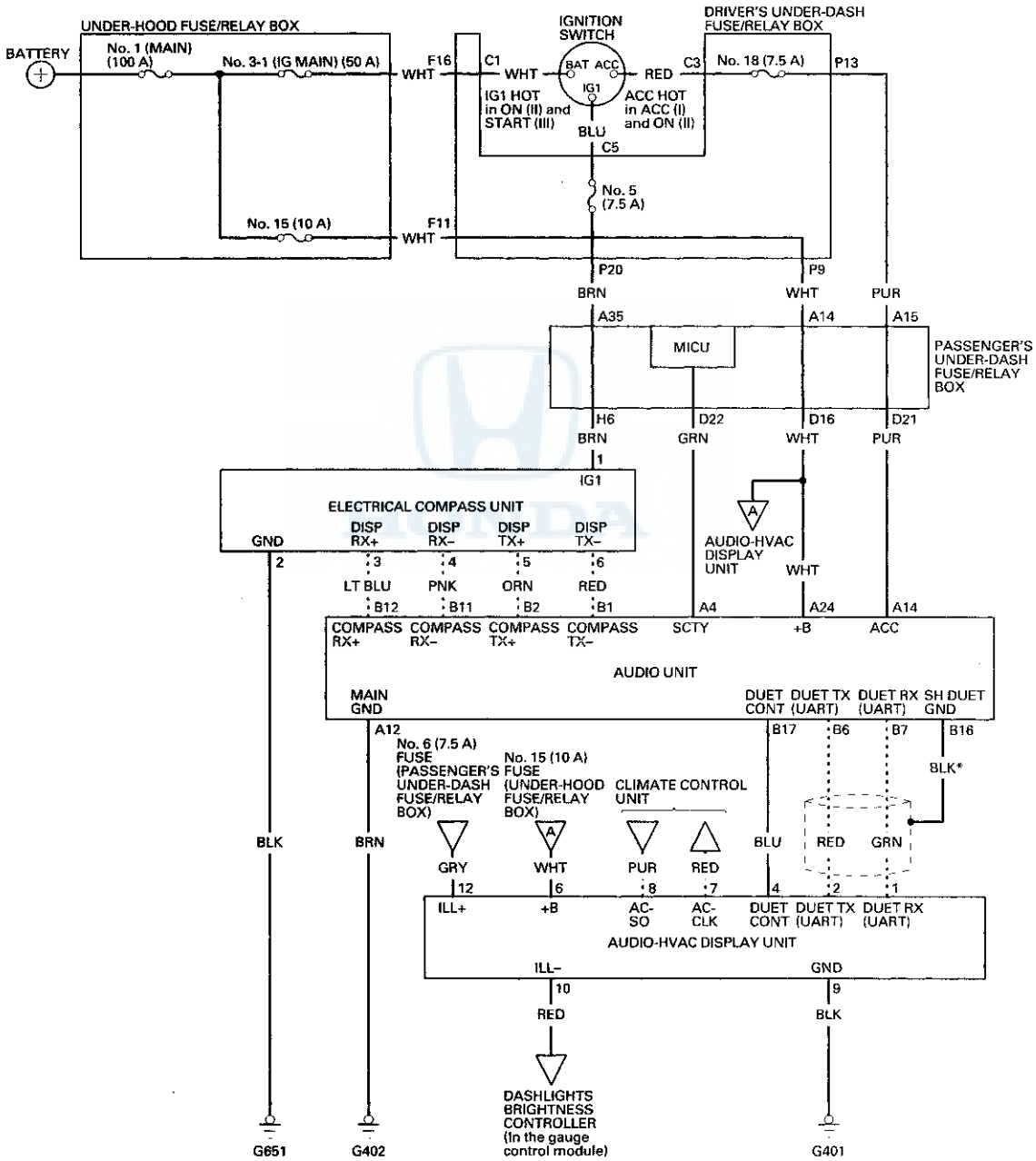
Electrical Compass Unit 6P Connector

Cavity	Wire Color	Connects to	Normal	If Circuit is Open	If Circuit is Shorted
1	BRN	No. 5 (7.5 A) fuse in the driver's under-dash fuse/relay box (IG1)	Battery voltage with ignition switch in ON (II)	0 V	0 V
2	BLK	Body ground to G651 (GND)	0.2 V or less	0.2 V or less	0.2 V or less
3	LT BLU	Audio unit (DISP RX +)	4–5 V	4–5 V	0 V
4	PNK	Audio unit (DISP RX –)	4 V	4 V	0 V
5	ORN	Audio unit (DISP TX +)	4–5 V	4–5 V	0 V
6	RED	Audio unit (DISP TX –)	4 V	4 V	0 V

Electrical Compass

Circuit Diagram

*: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
- - - - - - - - - : Other communication line
– – – – – – – : Shielding

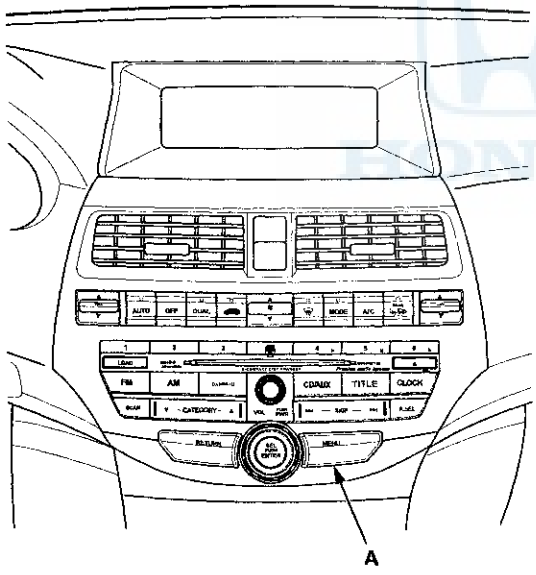


Electrical Compass Zone Selection and Calibration

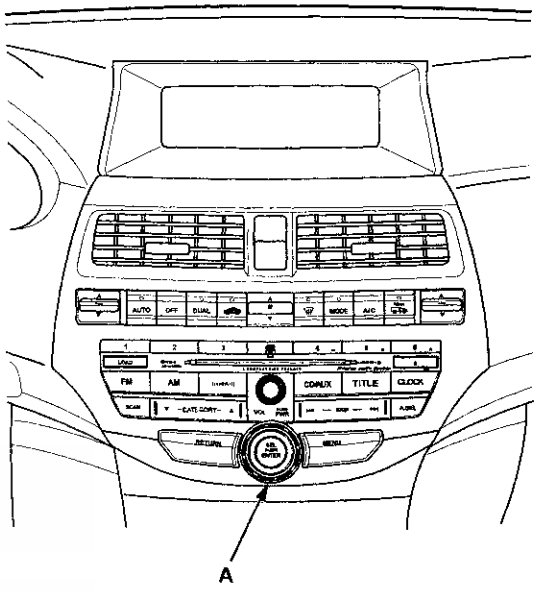
NOTE:

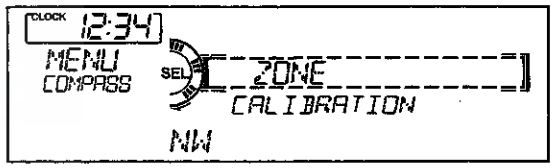
- You should do this procedure any time the electrical compass unit is replaced.
- You should do this procedure in an open area away from buildings, power lines, and other vehicles.
- If you see "— —" and the CAL indicator is shown in the audio-HVAC display, the electrical compass unit is self-calibrating.
- The electrical compass unit may need to be manually calibrated after exposure to a strong magnetic field. If the electrical compass unit seems to be continually showing the wrong direction, and is not self-calibrating, do the following.

1. Check the No. 15 (10 A) fuse in the under-hood fuse/relay box and the No. 5 (7.5 A) and the No. 18 (7.5 A) fuses in the driver's under-dash fuse/relay box.
2. Turn the ignition switch to ON (II), then press and hold the MENU button (A) until it beeps (about 2 seconds).



3. Turn the selector knob (A) to select ZONE.



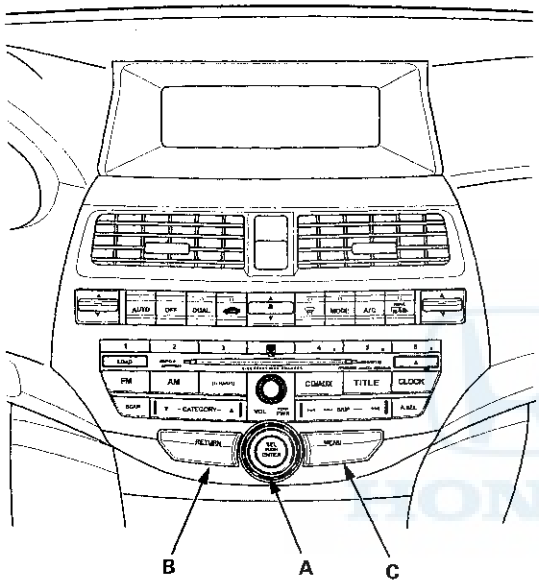


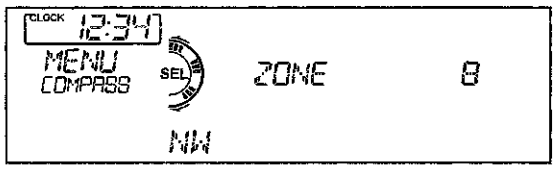
(cont'd)

Electrical Compass Zone Selection and Calibration (cont'd)

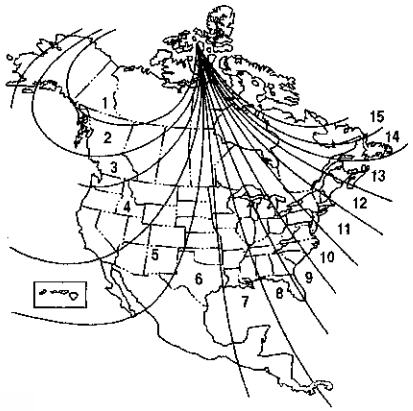
4. Press the selector knob (A) to enter your selection. The display shows the currently selected zone number.

   NOTE: If necessary, press the RETURN button (B) to return to the previous display. Pressing the MENU button (C) cancels the electrical compass setting mode.



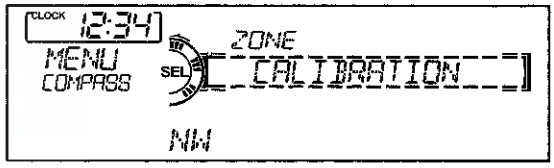


5. Find the zone for your area on the map. If the correct zone is not shown, turn the selector knob to cycle the zone list up or down.

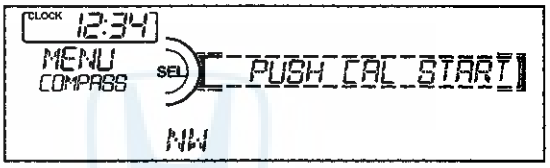


6. Once the correct zone is displayed, press the selector knob. The display then returns to normal.

7. Turn the selector knob to select CALIBRATION.



8. Press the selector knob to enter your selection. The display shows PUSH CAL START.



9. Press the selector knob, the compass display will blink and the CAL indicator is shown.
10. When the calibration is successfully completed, the CAL indicator goes off and the compass display will stop blinking and show an actual heading.

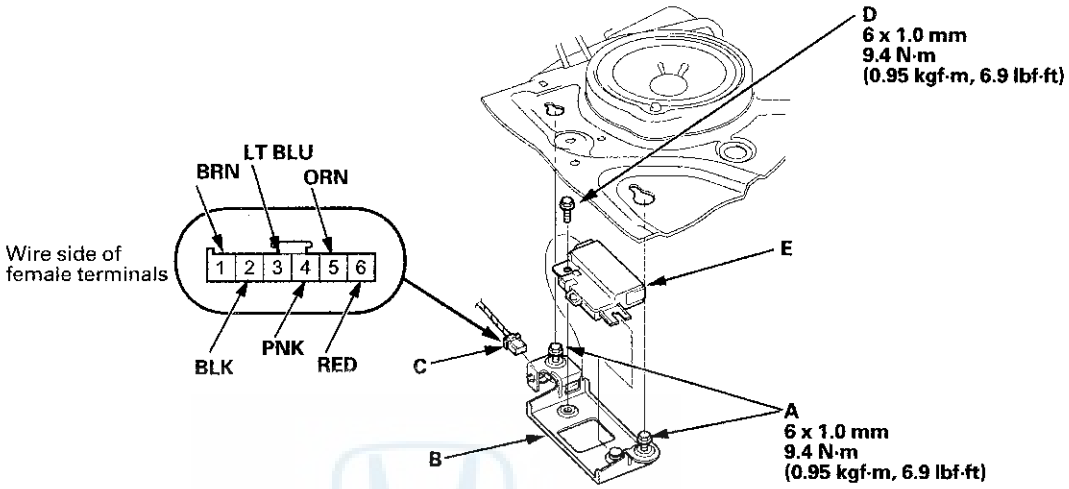
NOTE:

- While setting, pressing the RETURN button returns to the previous display. Pressing the MENU button (A) cancels the compass setting mode.
- The audio system is not related to the compass system. Even if the compass system is calibrating, the display returns to the normal display which you selected last.
- Do this procedure in an open area, away from buildings, power lines, and other vehicles.

Electrical Compass

Electrical Compass Unit Input Test

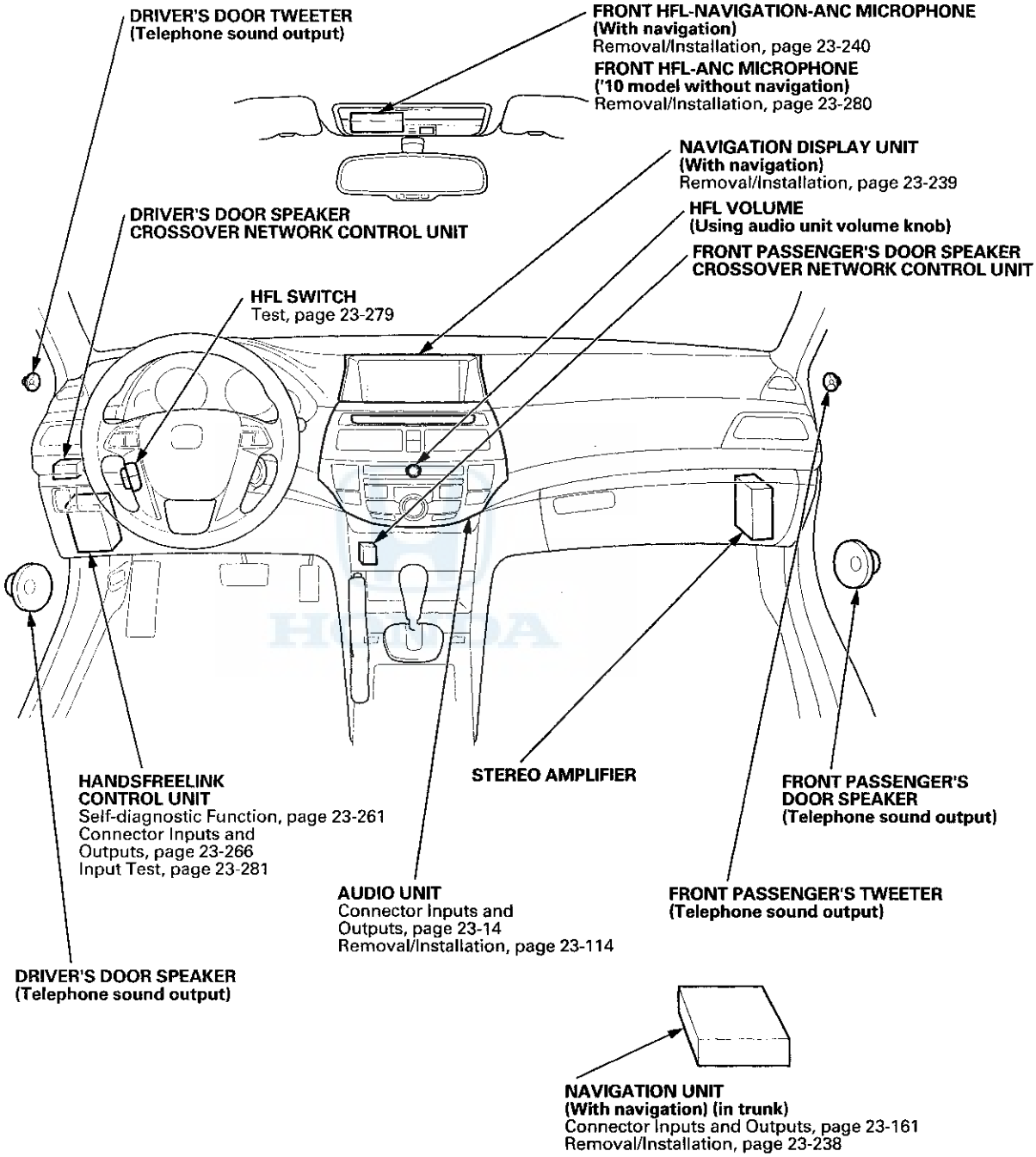
1. Remove the rear shelf (see page 20-128).
2. Loosen the bolts (A), then pull out the electrical compass unit bracket (B).



3. Disconnect the 6P connector (C) and remove the mounting bolt (D), then pull out the electrical compass unit (E).
4. Inspect the connector and socket terminals to make sure they are all making good contact.
   - If the terminals are bent, loose, or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, go to step 5.
5. Reconnect the electrical compass unit 6P connector. Turn the ignition switch to ON (II), and do the following input tests at the connectors.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all input tests prove OK, the electrical compass unit is faulty; replace it, and do the compass calibration (see page 23-247).

Cavity	Wire	Test Condition	Test: Desired result	Possible cause if result is not obtained
1	BRN	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 5 (7.5 A) fuse in the driver's under-dash fuse/relay box • An open in the wire
2	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G651) • An open in the wire
3	LT BLU	Under all conditions	Measure the voltage to ground: There should be about 4 V.	• Faulty audio unit • An open in the wire • A short to ground in the wire
4	PNK	Under all conditions	Measure the voltage to ground: There should be about 4 V.	• Faulty audio unit • An open in the wire • A short to ground in the wire
5	ORN	Under all conditions	Measure the voltage to ground: There should be about 4 V.	• Faulty audio unit • An open in the wire • A short to ground in the wire
6	RED	Under all conditions	Measure the voltage to ground: There should be about 4 V.	• Faulty audio unit • An open in the wire • A short to ground in the wire

Component Location Index



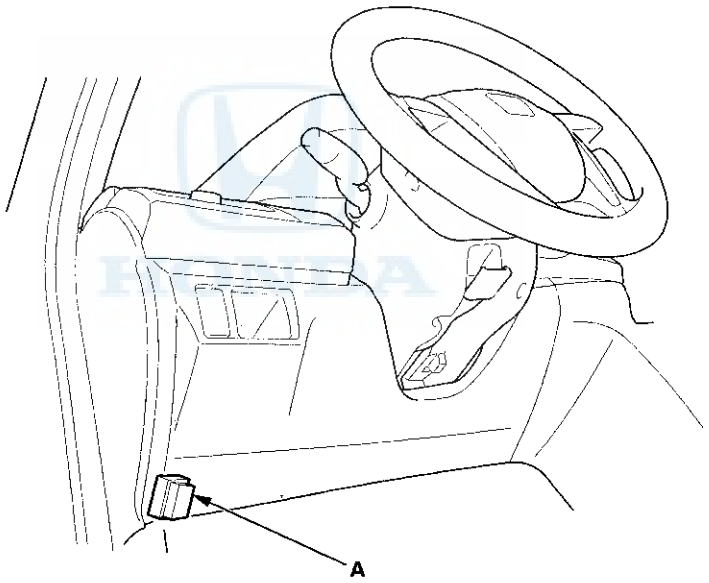
HandsFreeLink System

General Troubleshooting Information

How to Check for DTCs with the HDS

NOTE: Check the vehicle battery condition first (see page 22-90).

1. Make sure the ignition switch is turned to LOCK (0).
2. Connect the HDS to the data link connector (DLC) (A) located under the driver's side of the dashboard.



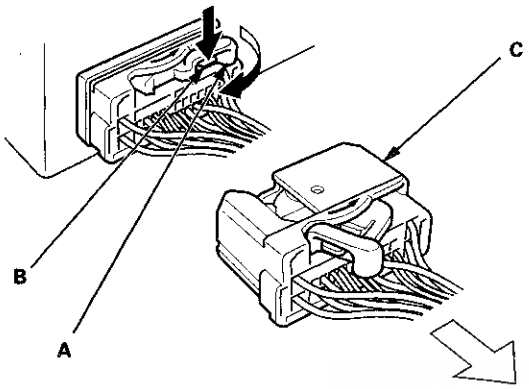
3. Turn the ignition switch to ON (II).
4. Make sure the HDS communicates with the vehicle and the HandsFreeLink control unit. If it doesn't, troubleshoot the DLC circuit (see page 11-181).
5. Select HF LINK/TEL in the BODY ELECTRICAL menu.
6. Select DTCs in the HF LINK/TEL menu.
7. Check for DTCs. If any DTCs are indicated, write down the DTCs, then go to the indicated DTC troubleshooting. If no DTCs are indicated, refer to symptom troubleshooting.

   NOTE:
   - After troubleshooting, clear the DTCs with the HDS.
   - For specific operations, refer to the HDS user's manual.

Lever-Locked Connector

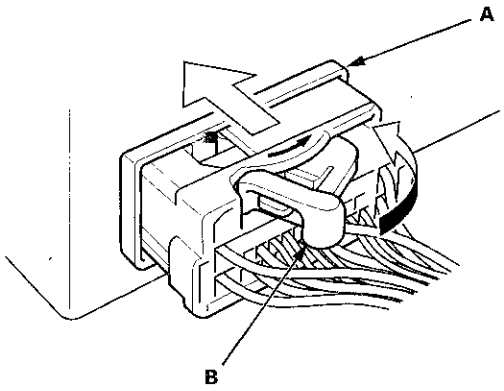
Disconnecting

To disconnect the connector, pull the lever (A) while pushing the lock tab (B) down, then pull the connector (C).



Connecting

To connect the connector, push the connector into the connector sleeve (A). As the connector is pressed in, the lever (B) moves to the locked position.



(cont'd)

General Troubleshooting Information (cont'd)

Introduction

The HFL system works only with Honda approved Bluetooth®-enabled cell phones with a hands-free profile. If you are not sure if a particular cell phone is compatible with the HFL system, Honda has a dedicated call center at 888-528-7876 and website handsfreelink.honda.com to answer your questions.

The HFL system allows you to make and receive hands-free calls. It cannot control the phone's performance (call quality and signal strength). For more information about performance and performance problems, refer to Dropped Calls.

Most HFL complaints are due to pairing, configuration, or compatibility issues. Contact the Honda call center after verifying the problem, or before replacing the HandsFreeLink control unit.

Checking Cell Phone Compatibility

The most important step in troubleshooting HFL issues is to identify the customer's phone model, software version, and the cellular carrier that experiences the HFL problem. Not all phones with the Bluetooth feature and a hands-free profile are compatible with the Honda HFL system.

Go to handsfreelink.honda.com, and check if the customer's phone is approved to work with the Honda HFL system.

NOTE:

- The lists of approved, archived, and currently testing phone model lists change, so make sure you view them frequently.
- Phones are added as they are approved.
- Phones can be removed from the approved list if a software bug is discovered that makes the phone incompatible. These phones can be added back to the approved list if the phone manufacturer corrects the bug.
- If the software bug is corrected, a new software version is created and may be listed in the Supported Features section of the phone.
- The Honda web site now includes the software versions that are tested and approved. When software versions are listed, you need to know which version is loaded on the phone to help you troubleshoot the customer's complaint. If you cannot access the Honda website, call the HFL call center at 888-528-7876 for further assistance. The call center is open Monday thru Friday from 6:00 a.m. to 6:00 p.m. CST; Saturday from 7:00 a.m. to 6:00 p.m. CST; and Sunday from 8:00 a.m. to 6:00 p.m. CST.

Voice Control Tips and Improving Voice Recognition

To give a voice command to the HFL system, press and release the HFL TALK button. Always wait for the beep, then give your command in a clear, natural voice. The HFL microphone is on the ceiling by the map lights.

'08-09 models: If the HFL system doesn't recognize your voice command, you'll hear "Pardon." If your command isn't recognized a second time, you'll hear "Please repeat." If your command isn't recognized a third time, the HFL system sends you to its Help menu.

'10 model: If the HFL system doesn't recognize your voice command, you'll hear "Pardon? Press the TALK button and say a command. For a list of commands, say handsfreehelp."' If your command isn't recognized a second time, you'll hear "Bluetooth handsfreelink main menu. Available calling options are call, dial, redial, and transfer. Available setup options are phone setup, phone book, and system setup. For more detailed help, say handsfreehelp." If your command isn't recognized a third time, the HFL system sends you to its Help menu.

To hear a list of available options at any time, press the HFL TALK button and say "Hands-free help."

The HFL system may have problems recognizing some voices. To improve voice recognition:

- Close the windows and the moonroof.
- Set the fan speed to low (1 or 2) or off.
- Adjust the airflow from the center vents down, so that it's not blowing against the microphone on the ceiling.
- Speak in a clear and natural voice. If the system cannot recognize your command, try speaking louder, in a deeper tone.
- If the background noise is too loud, you may need to speak louder.
- If you speak with something in your mouth, or your voice is too high, the system may not interpret your command correctly.
- Find out if the problem is with one person or with everyone who uses the system. If the system has a problem with only one person's voice, this is a system limitation.

Many issues result from the customer not using the system properly. Make sure the customer is using the HFL buttons and not the navigation TALK/navigation BACK buttons. When the HFL TALK button is pressed, the customer hears one audible tone. When the HFL BACK button is pressed, the customer hears two audible tones. Make sure to press the HFL BACK button to exit the HFL main menu after completing a call and before giving any navigation commands.

The HFL system may experience a number recognition issue, such as when a customer says a set of numbers in a group unrecognized by the system. The HFL system understands phone numbers in specific blocks of 1, 3, 4, 7, and 10 numbers. For example, the system understands:

1234567890
123-456-7890
1-2-3-4-5-6-7-8-9-0

The system may become confused if numbers are stated in other blocks, as the following:

1234-567-890
12-34-56-78-90
12345-67890
123-4567-890

Navigation Through Menus

To skip a voice prompt, press and release the HFL TALK button while the HFL system is speaking. The system beings listening for your next voice command.

To go back a step in a voice command sequence, press and release the HFL BACK button, or press the HFL TALK button and say "Go back." If you don't say anything while the HFL system is listening for your voice command, it times out and stops voice recognition. The next time you press and release the HFL TALK button, the HFL system begins listening from the point it timed out.

If you've finished or want to stop a voice command sequence at any time, press and release the HFL BACK button, or press and release the HFL TALK button, wait for the beep, and say "Cancel." The next time you press and release the HFL TALK button, the HFL system begins from its main menu. To avoid keeping the audio system muted, press and release the HFL BACK button when you are finished.

NOTE: You can say multiple commands in one sequence, like "Phone setup-pair" after pressing the HFL TALK button.

(cont'd)

General Troubleshooting Information (cont'd)

Pairing a Cell Phone ('08-09 models)

You must pair an approved Bluetooth-compatible phone to the HFL system before you can make and receive calls. For a current list of approved phones and specific phone pairing instructions for each phone, see Checking Cell Phone Compatibility, go to handsfreelink.honda.com, or call 888-528-7876.

The following procedure works for most phones. If you cannot pair a phone to the HFL system with this procedure, refer to the phone's operating manual, visit handsfreelink.honda.com, or call 888-528-7876.

NOTE:

- You cannot pair a phone while the vehicle is moving.
- Your phone must be in Discovery Mode.
- A maximum of six Bluetooth-compatible phones can be paired to the system.

1. With the phone on and the ignition switch in ACCESSORY (I) or ON (II), press and release the HFL TALK button. After the beep, say "Phone setup." The HFL responds, "Phone setup options are status, pair, edit, delete, and list."
2. Press and release the HFL TALK button. After the beep, say "Pair." The HFL responds, "The pairing process requires operation of your mobile phone. For safety, only perform this function while the vehicle is stopped. State a four-digit code for pairing. Note this code. It will be requested by the phone."
3. Press and release the HFL TALK button. After the beep, say the four-digit code you want to use. This can be any four-digit number you want. For example, say "1, 2, 3, 4." The HFL responds, "1, 2, 3, 4. Is this correct?"
4. Press and release the HFL TALK button. After the beep, say "Yes." The HFL responds, "HFL is now searching for a Bluetooth phone. Make sure the phone you are trying to pair is in Discovery mode." If these steps do not work on the phone you are pairing, refer to the phone's operating manual.
5. Follow the prompts on your phone to get it into its Discovery mode. The phone will search for the HFL. When it comes up, select HandsFreeLink from the list of options displayed on your phone.
6. When asked by the phone, enter the four-digit code from step 3 into your phone. The HFL responds, "A new phone has been found. What would you like to name this phone?"
7. Press and release the HFL TALK button. After the beep, say the name you want to use. For example, say "Tom's phone." The HFL responds, "Tom's phone has been successfully paired. Returning to the main menu."

Pairing a Cell Phone ('10 model)

You must pair an approved Bluetooth-compatible phone to the HFL system before you can make and receive calls. For a current list of approved phones and specific phone pairing instructions for each phone, see Checking Cell Phone Compatibility, go to handsfreelink.honda.com, or call 888-528-7876.

The following procedure works for most phones. If you cannot pair a phone to the HFL system with this procedure, refer to the phone's operating manual, visit handsfreelink.honda.com, or call 888-528-7876.

NOTE:

- You cannot pair a phone while the vehicle is moving.
- Your phone must be in Discovery Mode.
- A maximum of six Bluetooth-compatible phones can be paired to the system.

1. With the phone on and the ignition switch in ACCESSORY (I) or ON (II), press and release the HFL TALK button. After the beep, say "Phone setup." The HFL responds, "Phone setup options are pair, edit, delete, list, status, next phone, set pairing code."
2. Press and release the HFL TALK button. After the beep, say "Pair." The HFL responds, "The pairing process requires operation of your mobile phone. For safety, only perform this function while the vehicle is stopped. For proper system function a compatible bluetooth phone is required. Please visit handsfreelink.honda.com for a list of approved phones and other system information. Handsfreelink is waiting to pair with a bluetooth phone. From your phone, search for bluetooth devices, and select handsfreelink. When prompted by your mobile phone enter the pairing code 0000."
3. When prompted by your mobile phone, enter the pairing code 0000. Refer to your cell phone user guide for more information about searching for a Bluetooth device.
4. Once the phone is recognized by the HFL system, it responds, "Handsfreelink has connected to a new phone. A name is needed to identify this phone. Press the talk button and say a name. For example, John's phone."
5. Press and release the HFL TALK button. After the beep, say the name you want to use. For example, say "Tom's phone." The HFL responds, "Tom's phone has been successfully paired. Returning to the main menu."

Pairing Troubleshooting

Many pairing issues are resolved by altering the customer's phone settings.

Bluetooth feature settings must be turned on. Phone manufacturers set the default to disable Bluetooth features to conserve battery life. Cell phones may provide procedures to Temporary Power On Bluetooth, or Power On Bluetooth. Turn the Bluetooth feature on, pair the phone to the vehicle, and confirm the phone is linked. Do this by turning the phone off and back on. Make or receive a call to confirm that the cell phone is successfully paired.

When the phone's Bluetooth feature is on, other handsfree accessories such as earpieces or headsets may automatically reconnect to the phone when you turn on the accessory or move it within range of the cell phone. This results in the phone not connecting to the HFL system when the customer enters the vehicle. You must unlink the hands-free accessory from the phone before the HFL system can reconnect.

Some phones have an Auto Answer setting that functions with a headset. This setting must be turned off or the HFL system cannot accept any incoming calls. When this setting is on, it blocks the HFL system from answering the call, and the call goes to voice mail. This can cause the customer to think that the cell phone is not paired properly.

If the HFL system has six phones paired, it will not tell you that it has reached its maximum, and will not allow you to pair a new phone. To check how many phones are paired, press and release the HFL TALK button. After the beep, say "Phone setup list." The HFL system lists every assigned phone name paired with it, then finishes by saying "The entire list has been read. Returning to the main menu." Count the number of phones listed. If there are six, you must delete one phone before adding a new one.

(cont'd)

HandsFreeLink System

General Troubleshooting Information (cont'd)

Pairing Checks

For more information about pairing, refer to the cell phone owner's manual, or go to handsfreelink.honda.com.

1. Is the cell phone compatible with the HFL?
2. Is the Bluetooth feature turned on?
3. Is the customer using the HFL buttons, not the navigation TALK/navigation BACK buttons, when pairing?
4. Is the cell phone battery fully charged, and is there good signal strength when pairing?
5. Do a soft reset on the cell phone.
6. If the customer is trying to pair a Blackberry® or Palm Treo™ device, make sure the customer uses the shift key when entering the pass code. If the shift key is not pressed, the customer may be entering letters. The HFL does not recognize letters.

Dropped Calls

Customers may perceive dropped calls as being an HFL system fault, but most dropped calls are from cell phone and cell phone carrier issues. The HFL system does not directly handle the cell phone signal. It allows the cell phone to transmit the cell phone audio over the vehicle's audio system.

Before troubleshooting for dropped calls, confirm the cell phone settings:

- Disable Audio Answer. If Auto Answer is enabled, incoming calls are routed to voice mail.
- Disable Always Ask/Trust, Authorize Device, or similar setting. If these settings are enabled, each time the HFL system attempts to link to the phone, the phone will ask if you want to connect. If you do not allow the connection, the HFL will not operate. The phone must be set to Never Ask, Authorize Device, etc. (based on the phone manufacturer and carrier) for permission. Refer to the cell phone owner's manual for more information.
- Disable Flip Open to Answer. If this setting is enabled, the phone must remain open in the vehicle. If it is closed, the incoming calls are routed to voice mail.

Always confirm with the customer if the number of dropped calls is higher while using the HFL system as opposed to using the cell phone only. Customers often confuse problems with their phone or carrier as a problem with the HFL system. The HFL system cannot control or determine:

- Cellular connection quality.
- Signal strength.
- Cellular coverage.
- Ambient weather conditions that affect cellular signals.

When a customer complains about dropped calls, ask questions about when or where the calls are dropped, such as:

- Do you drive the same route on a regular basis?
- Does the call drop in the same location?
- Where do you keep your cell phone?
- Have you compared the number of dropped calls using the HFL versus making calls from the handset?
- Does your phone have an antenna that needs to be extended?

Many reasons for a dropped call are not related to the HFL system. Here are some causes for dropped calls:

- If the quantity of dropped calls is about the same when the customer uses the HFL system versus the handset, the issue is likely due to the cellular phone or carrier.
- If the phone is equipped with a retractable antenna, it needs to be extended to maximize signal strength.
- If a customer also notices that the calls tend to drop in the same areas, the HFL system may be operating normally, but something about the area diminishes cellular coverage to a point where the call drops.
- Hills or mountains can block or interfere with cellular signals.
- High-rise buildings, bridges, or other large structures may block or interfere with cellular signals.
- Placing the cell phone in a purse, in a metal briefcase, under the seat, in the glove box, or in the trunk can all affect signal reception.
- There are coverage gaps in the cellular service. When driving, a call is typically passed from one tower to another. If the customer drives through an area where there is a coverage gap between towers, the call drops.
- Electrical storms, heavy rain, or overcast conditions interfere with signal strength.
- The cell phone battery's state of change can affect signal reception. A low battery may reduce the phone's ability to boost the antenna's power and function properly, especially in low signal strength areas. Some phone manufacturers trade off signal transmission and reception strength for battery life. As the battery weakens, the signal strength may also weaken. Some cell phones may operate more effectively than others in low signal strength areas, especially with a partially charged battery, and depending on whether or not the retractable antenna is fully extended (if applicable). On these models, make sure the antenna is always extended to maximize signal strength and extend battery life.

Phone Will Not Automatically Connect the HFL

If a customer complains that their cell phone is not automatically connecting to the HFL system when they enter the vehicle, do this:

1. Make sure the Bluetooth feature is turned on in the cell phone.
2. Make sure the cell phone is properly paired to the HFL system.
3. Do a soft reset to the cell phone.
4. Check if the phone has an Authorized Connection or Trusted option.
5. Check the battery and signal strength on the cell phone. Pairing a phone requires optimal signal strength and a nearly full battery.

Incoming Calls

If a customer complains that they cannot receive incoming calls through the HFL system, see if the call is routing to the cell phone instead of the HFL system. An easy way to know if the call is routed to the cell phone is when the customer says, "I can't hear the caller, but they can hear me."

1. Make sure the Bluetooth feature is turned on in the cell phone.
2. Make sure the cell phone is paired to the HFL system and linked.
3. Make sure the answer settings in the cell phone are set to multi-key or any-key answer. If the phone is set to flip open to answer, recommend changing the setting to Any Key or leaving the phone flipped open when using the HFL system.
4. Make sure the Auto Answer feature is turned off in the cell phone.
5. Do a soft reset to the phone.
6. Make sure the battery is fully charged and there is adequate signal strength.
7. Ask the customer if they have set specific ring tones or ringer IDs to specific contacts. If they have, recommend using one standard ring tone for all calls.
8. Make sure the customer is pressing the HFL TALK button and not the HFL BACK button or the navigation TALK/navigation BACK buttons.

(cont'd)

General Troubleshooting Information (cont'd)

Outgoing Calls

If a customer says that they cannot place a call using the HFL system, ask if the call was initiated through the HFL system or the cell phone itself.

If the call is placed by the HFL system:

1. Make sure the Bluetooth feature is turned on in the cell phone.
2. Make sure the cell phone is paired to the HFL system and linked.
3. Make sure the customer is pressing the HFL TALK button before each command and going through the calling process correctly.
4. Make sure the customer is pressing the HFLTALK button and not the HFL BACK button or the navigation TALK/navigation BACK buttons.
5. Check if the cell phone has an Authorized Connections or Trusted option.
6. Do a soft reset to the cell phone.

If the call is placed by the cell phone:

The call will remain on the handset until you transfer it over to the HFL system. To continue the call on the HFL system, you must use the Transfer command by pressing and releasing the HFL TALK button during an active call and saying "Transfer." The customer can now continue the call using the HFL system.

Clearing the HFL System ('08-09 models)

NOTE:

- This operation clears the HFL system of all passcode(s), any paired phones, and all names in the HFL phonebook.
- Clearing the HFL system is recommend before selling the vehicle.
- If the system is locked and the pass code is lost or forgotten, see the symptom troubleshooting.

1. Press and release the HFL TALK button. After the beep, say "System clear" and the HFL system responds, "This process will clear all paired phones, clear all entries in the phonebook, clear the security passcode and restore all defaults in the system setup. Is this what you would like to do?"
2. Press and release the HFL TALK button. After the beep, say "Yes" and the HFL system responds, "Preparing to clear all paired phone, all phonebook entries, the passcode. This may take up to 2 minutes to complete."
3. Press and release the HFL TALK button. After the beep, say "OK" to proceed, or say "Go back" or "Cancel."
4. If you said "OK", after a short period of time, the HFL system responds, "System has been cleared. Returning to the main menu, the Clearing HFL system procedure is now complete."

Clearing the HFL System ('10 model)

NOTE:

- This operation clears the HFL system of all passcode(s), any paired phones, and all names in the HFL phonebook.
- Clearing the HFL system is recommend before selling the vehicle.
- If the system is locked and the pass code is lost or forgotten, see the symptom troubleshooting.

1. Press and release the HFL TALK button. After the beep, say "System clear" and the HFL system responds, "This process will clear all paired phones, clear all entries in the phonebook, clear the security passcode and restore all defaults in the system setup. Is this what you would like to do?"
2. Press and release the HFL TALK button. After the beep, say "Yes" and the HFL system responds, "Preparing to clear the system, which may take up to 2 minutes to complete."
3. Press and release the HFL TALK button. After the beep, say "Continue" to proceed, or say "Go back" or "Cancel."
4. If you said "continue," the HFL responds, Please wait until the system is cleared." After a short period of time (up to two minutes) the HFL responds, "The system has been cleared."

Self-diagnostic Function

NOTE: This procedure should be used only if HDS is unavailable.

To run the self-diagnostic function, do the following:

1. Turn the ignition switch to ON (II).
2. Press and hold the HFL BACK button for more than 5 seconds.
3. When the HandsFreeLink system enters the self-diagnostic function, the following will occur.
   - If the system has not completed testing for DTCs, the HandsFreeLink system says "The hands free system test is in progress".
   - If there is no DTC, the HandsFreeLink system says "The hands free system is OK".
   - If there is any DTC, the HandsFreeLink system says "The hands free system needs to be serviced".

NOTE:

- The self-diagnostic function can only be initiated while the HFL is in its idle state.
- The self-diagnostic function starts after you press and hold the HFL BACK button for 5 seconds, and ends if the HandsFreeLink control unit returns to its idle state.

(cont'd)

General Troubleshooting Information (cont'd)

Glossary of Terms

Auto Answer

This cell phone setting forces incoming calls to automatically be answered by the handset. Disable this feature on the phone when using the HFL system, as it may interfere with the HFL system answering incoming calls. Set the phone setting to:

- Send Only
- Any Key
- Multi-Key answer

Answer Options

These cell phone settings allow you to select how you would like to answer an incoming call on the handset. The answer option in the phone can affect inbound calls on the HFL system.

Authorized Connection

This cell phone setting allows the phone to connect automatically with the HFL system without prompting the customer for permission to connect. In some instances, it can affect the ability of the phone to properly route sound to the HFL system.

Bluetooth Power

This cell phone function enables or disables the Bluetooth application. When using a hands-free device such as HFL, the Bluetooth application needs to be enabled.

Discovery Mode

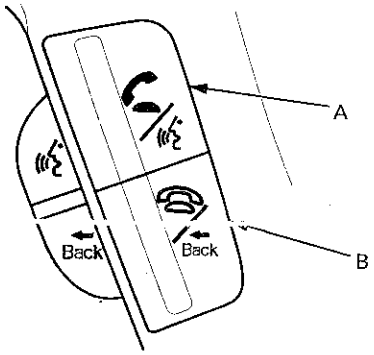
You need to have the cell phone in Discovery Mode to allow other devices with Bluetooth capabilities (such as the HFL system) to find the phone during the pairing process.

Downloaded Ringtones

A customer gets these ringtones from an outside source, such as the internet or a mobile phone store.

HFL Buttons

- HFL TALK button (A): Use this button on the steering wheel to give commands. Press the button before a voice command is given.
- HFL BACK button (B): Use this button on the steering wheel to end a call or return to a previous prompt in the HFL menu. Pressing the button twice or holding it down returns you to the HFL main menu.



Hard Reset

Hard resets clear the saved settings in the cell phone and restores it to the factory defaults. A hard reset should be done only as a last resort (see the cell phone owner's manual for more information).

Linking

This is when your paired phone is actively ready to use the HFL system. You can pair up to six phones to the HFL system, but only one phone can be linked at a time. If two paired phones are in the vehicle, only the phone that is linked can use the HFL system and functions. The second phone must be used as a normal handset.

Pairing

A description for linking two Bluetooth devices together. In this case, you are linking a cell phone with the HFL system. After the pairing process is complete, the devices are able to recognize each other and communicate wirelessly via Bluetooth.

Soft Reset (Cellular phone)

This helps to restore the basic functions of the phone. To do a soft reset, turn the phone power off, remove and reinsert the cell phone battery, then turn the phone back on.

Software Version

This refers to the software version loaded in the cell phone. The software version that was tested and determined to be compatible with the HFL system may be listed on the HFL website. Not all software versions are compatible with the HFL system.

Standard Ringtone

These ringtones come factory-installed on the cell phone.

DTC Troubleshooting Index

HandsFreeLink Control Unit

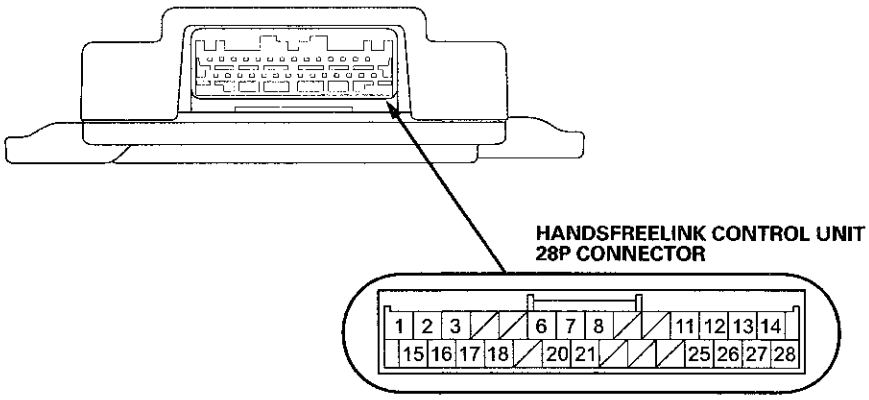
DTC	Description	DTC type	Page
B1775	Microphone input/output short to power/open	Signal error	DTC Troubleshooting (see page 23-270)
B1776	Microphone input/output short to ground/open	Signal error	DTC Troubleshooting (see page 23-271)
B1779	HFL switch (HFL TALK/HFL BACK buttons) circuit open/short to power	Signal error	DTC Troubleshooting (see page 23-272)
B1780	HFL switch (HFL TALK/HFL BACK buttons) circuit short	Signal error	DTC Troubleshooting (see page 23-274)
B1792	HandsFreeLink control unit internal error	Internal error	DTC Troubleshooting (see page 23-275)
U1280	Communication bus line error	Loss of communication	DTC Troubleshooting (see page 22-148)

Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
The HFL digits do not go away from the audio-HVAC subdisplay or the audio-HVAC display after pressing the HFL BACK button	Symptom Troubleshooting (see page 23-275)	Check and repair all CAN related DTCs
The Bluetooth icon in the audio-HVAC subdisplay is not displayed (with navigation)	There is no HFL-compatible phone paired to the vehicle. Pair an approved HFL-compatible phone to the vehicle	• The phone must be on the list of approved Bluetooth phones and configured correctly. For a current list of approved phones, go to www.handsfreelink.honda.com, or call 888-528-7876 for further assistance. • Check the Diagnostic Menu and use the Navi System Link
The Honda approved Bluetooth phone is having problems pairing to the vehicle	Self-diagnostic Function (see page 23-261) or HFL System Troubleshooting (see page 23-267)	The phone must be on the list of approved Bluetooth phones and configured correctly. For a current list of approved phones, go to www.handsfreelink.honda.com, or call 888-528-7876 for further assistance.
The Honda approved Bluetooth phone cannot use all its functions	Self-diagnostic Function (see page 23-261) or HFL System Troubleshooting (see page 23-267)	The phone must be on the list of approved Bluetooth phones and configured correctly. For a current list of approved phones, go to www.handsfreelink.honda.com, or call 888-528-7876 for further assistance.
The Honda approved Bluetooth phone does not place or receive calls using the HFL system	Self-diagnostic Function (see page 23-261) or HFL System Troubleshooting (see page 23-267)	The phone must be on the list of approved Bluetooth phones and configured correctly. For a current list of approved phones, go to www.handsfreelink.honda.com, or call 888-528-7876 for further assistance.
The customer wants the HFL system reset (all phones and address information cleared from the HFL system)	Clearing the system: • '08-09 models (see page 23-260) • '10 model (see page 23-261)	See the owner's manual for additional information.
The HFL system is locked and the pass code has been lost or forgotten	Symptom Troubleshooting (see page 23-276)	
The HFL system does not recognize all voice prompts	Symptom Troubleshooting (see page 23-276)	Also see Voice control tips (see page 23-254).
The HFL system speaks in French	See the HFL section in the owner's manual for Changing Language	
The address book does not transfer from Honda approved Bluetooth phone to HFL system	There is no HFL compatible phone paired to the vehicle or the approved phone does not support the function. Pair an approved HFL compatible phone to the vehicle.	The phone must be on the list of approved Bluetooth phones and configured correctly. For a list of approved phones, go to www.handsfreelink.honda.com, or call the HFL support desk at 888-528-7876.
The HFL messages cannot be heard or are weak	Symptom Troubleshooting (see page 23-277)	Excessive interior noise (open windows, vents blowing on microphone, etc.).

System Description

HandsFreeLink Control Unit Inputs and Outputs



HandsFreeLink Control Unit 28P Connector

Cavity	Wire	Connects to
1	BRN	Ground (G402) (GND)
2	LT BLU	HFL switch (HFL STRG SW)
3	LT GRN	Audio unit, front HFL-navigation-ANC microphone*2, front HFL-ANC microphone*3 (HFL MUTE)
6*2	WHT	Navigation unit (NAVI COMM4)
7*2	RED	Navigation unit (NAVI COMM3)
8*2	GRY*1	Navigation unit (NAVI COMM SH)
11	GRN	Audio unit (TELM SIG+)
12	GRY*1	Shielding (MIC SH)
13	YEL	Front HFL-navigation-ANC microphone*2, front HFL-ANC microphone*3 (MIC+)
14	BRN	Front HFL-navigation-ANC microphone*2, front HFL-ANC microphone*3 (MIC−)
15	WHT	Constant power (+B)
16	PUR	HFL power supply (ACC)
17	BLU	B-CAN (B-CAN L)
18	PNK	B-CAN (B-CAN H)
20*2	BLK	Navigation unit (NAVI COMM1)
21*2	GRN	Navigation unit (NAVI COMM2)
25	RED	Audio unit (TELM SIG−)
26	GRY*1	Audio unit (TELM SIG SH)
27*2	GRN	Navigation unit (HFL-NAVI MIC+)
28*2	RED	Navigation unit (HFL-NAVI MIC−)

*1: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray may not match the color of the wire shown on the circuit diagram.
*2: With navigation
*3: Without navigation

HFL System Troubleshooting

NOTE:
- Before doing this troubleshooting, refer to General Troubleshooting Information (see page 23-254) to make sure the phone is compatible and configured correctly.
- You must be able to duplicate the customer's concern to successfully diagnose the problem.
- Always use the customer's phone.
- Make sure the phone is approved and configured correctly. Online, go to www.handsfreelink.honda.com, or call the HFL support desk at 888-528-7876.

1. Connect the HDS to the DLC.
2. Turn the ignition switch to ON (II).
3. Check for DTCs.

   Are any DTCs indicated?

   YES–Repair the indicated DTCs and recheck.■

   NO–Go to step 4.

4. Try to duplicate the problem.

   Can you duplicate the problem?

   YES–Go to step 5.

   NO–The system is OK at this time.■

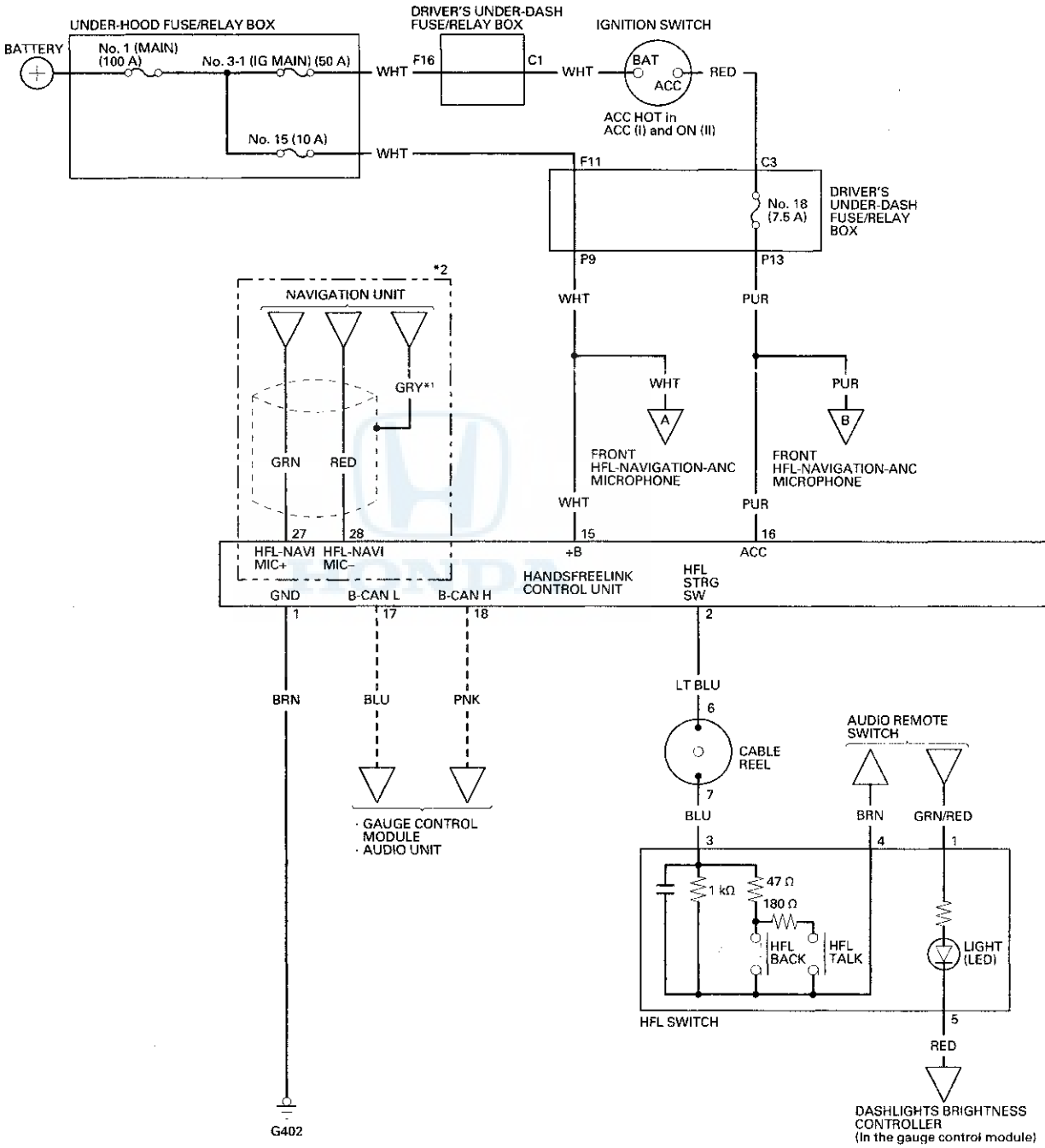
5. Pair the phone to a known-good vehicle (same model, year, and trim), and try duplicate the problem.

   Does the phone have the same problem on the known-good vehicle?

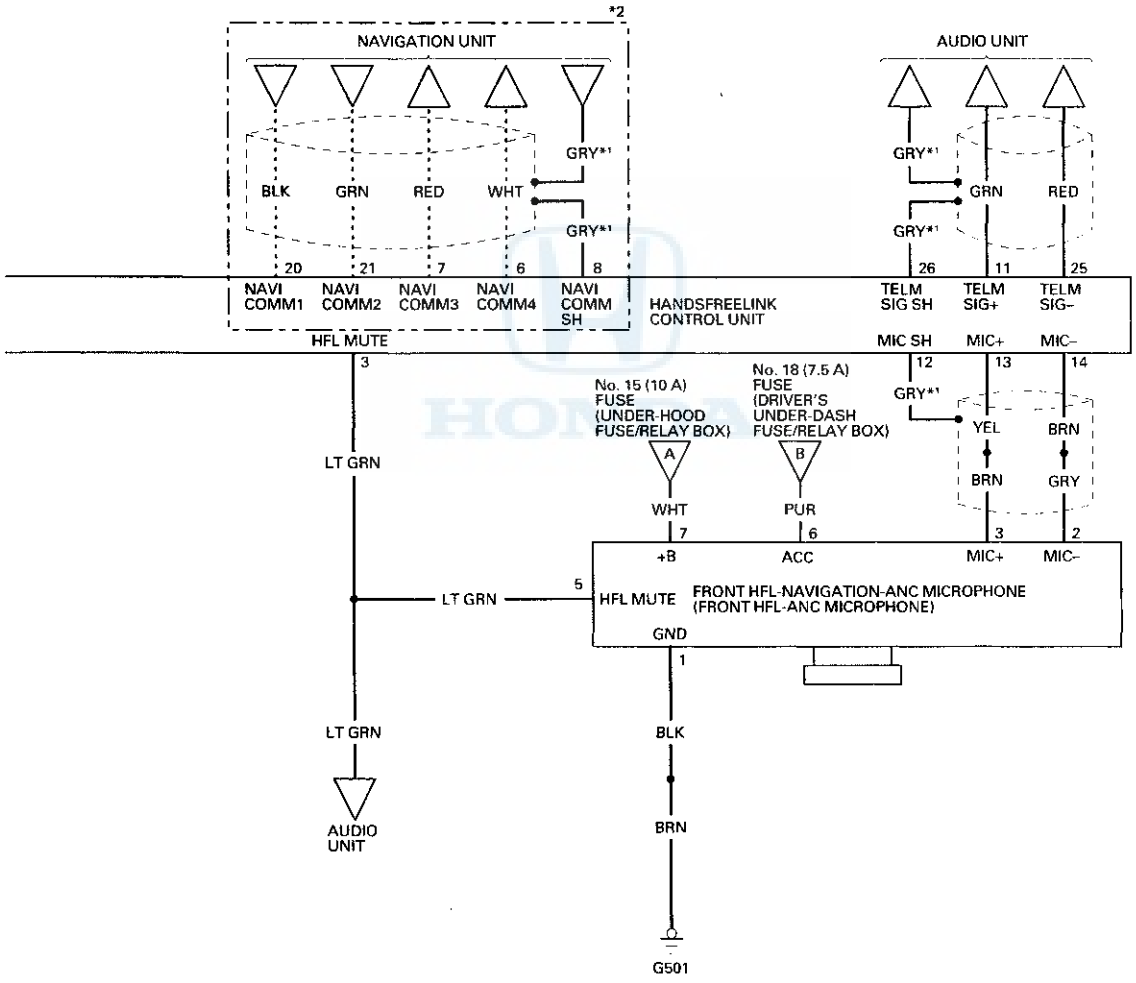
   YES–Call the HFL support desk at 888-528-7876 to make sure the phone is configured correctly and has the correct software. If the phone is configured correctly, it is either a characteristic of the HFL system, or a characteristic of the particular approved phone being used. Explain to your customer that this is a system characteristic. Another phone from the approved phone list may give more favorable results.■

   NO–Substitute a known-good HandsFreeLink control unit and recheck. If the problem goes away, replace the original HandsFreeLink control unit (see page 23-281).■

Circuit Diagram



*1: The shielded wires have a heat-shrink tube insulating the outside of the wire. The color of the insulating tube, typically black or dark gray, may not match the color of the wire shown on the circuit diagram.
*2: With navigation
– – – – – – : CAN line
. . . . . : Other communication line
– – – – – – : Shielding



DTC Troubleshooting

DTC B1775: Microphone Input/Output Short to Power/Open

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-134).

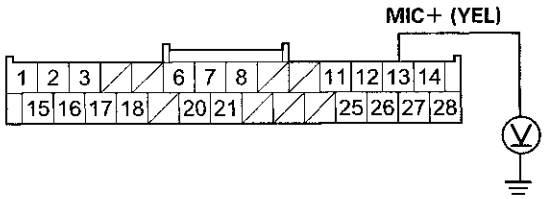
1. Connect the HDS to the DLC.
2. Clear the DTCs with the HDS.
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for DTCs with the HDS.

   Is DTC B1775 indicated?

   YES–Go to step 5.

   NO–Intermittent failure, the system is OK at this time.■
5. Turn the ignition switch to LOCK (0).
6. Disconnect the front HFL-ANC microphone 7P connector.
7. Disconnect the HandsFreeLink control unit 28P connector.
8. Turn the ignition switch to ON (II).
9. Measure the voltage between HandsFreeLink control unit 28P connector terminal No. 13 and body ground.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR



Wire side of female terminals

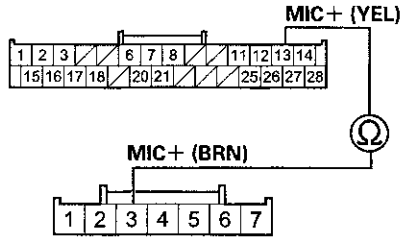
Is there voltage?

YES–There is a short to power in the wire the HandsFreeLink control unit and the front HFL-ANC microphone. Replace the affected shielded harness.■

NO–Go to step 10.

10. Turn the ignition switch to LOCK (0).
11. Check for continuity between HandsFreeLink control unit 28P connector terminal No. 13 and front HFL-ANC microphone 7P connector terminal No. 3.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR
Wire side of female terminals



FRONT HFL-ANC MICROPHONE 7P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Substitute a known-good HandsFreeLink control unit (see page 23-281), then recheck. If the symptom goes away, replace the original HandsFreeLink control unit. If the symptom still present, replace the HFL microphone (see page 23-280).■

NO–There is an open in the wire between the HandsFreeLink control unit and the front HFL-ANC microphone. Replace the affected shielded harness.■

DTC B1776: Microphone Input/Output Short to Ground/Open

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-134).

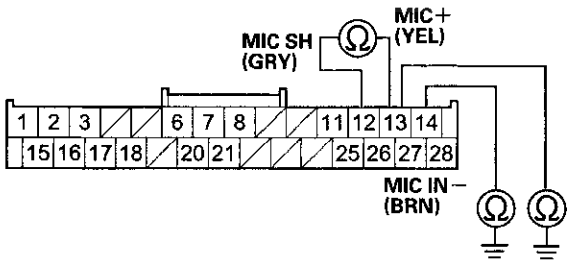
1. Connect the HDS to the DLC.
2. Clear the DTCs with the HDS.
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for DTCs with the HDS.

   Is DTC B1776 indicated?

   YES–Go to step 5.

   NO–Intermittent failure, the system is OK at this time.■
5. Turn the ignition switch to LOCK (0).
6. Disconnect the front HFL-ANC microphone 7P connector.
7. Disconnect the HandsFreeLink control unit 28P connector.
8. Check for continuity between body ground and the HandsFreeLink control unit 28P connector terminals No. 13 and No. 14 individually, then between terminals No. 12 and No. 13.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR



Wire side of female terminals

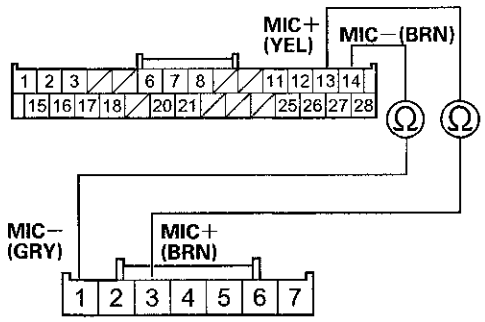
Is there continuity?

YES–There is a short in the wire(s) between the HandsFreeLink control unit and the front HFL-ANC microphone. Replace the affected shielded harness.■

NO–Go to step 9.

9. Check for continuity between the terminals shown of the HandsFreeLink control unit 28P connector and the front HFL-ANC microphone 7P connector.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR
Wire side of female terminals



FRONT HFL-ANC MICROPHONE 7P CONNECTOR
Wire side of female terminals

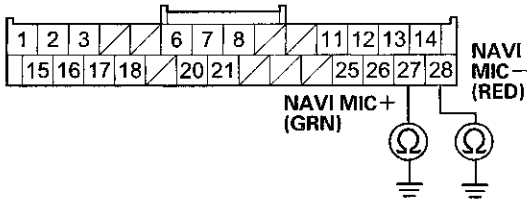
Is there continuity?

YES–Go to step 10.

NO–There is an open in the wire(s) between the HandsFreeLink control unit and the front HFL-ANC microphone. Replace the affected shielded harness.■

10. Disconnect navigation unit connector C (16P).
11. Check for continuity between body ground and HandsFreeLink control unit 28P connector terminals No. 27 and No. 28 individually.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

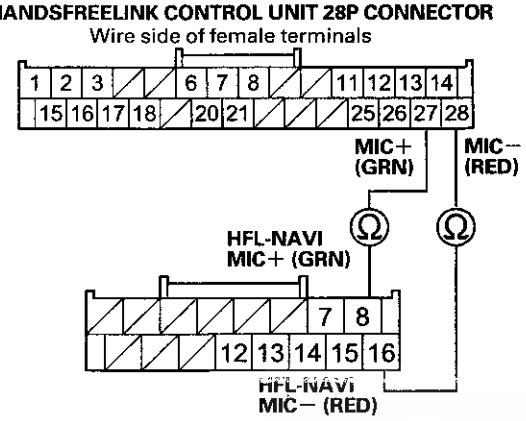
YES–There is a short to body ground in the wire(s) between the HandsFreeLink control unit and the navigation unit. Replace the affected shielded harness.■

NO–Go to step 12.

(cont'd)

DTC Troubleshooting (cont'd)

12. Check for continuity between the terminals shown of the HandsFreeLink control unit 28P connector and navigation unit connector C (16P).



Is there continuity?

YES–Substitute a known-good HandsFreeLink control unit (see page 23-281), then recheck. If the symptom goes away, replace the original HandsFreeLink control unit. If the symptom does not go away, replace the navigation unit (see page 23-238).■

NO–There is an open in the wire(s) between the HandsFreeLink control unit and the navigation unit. Replace the affected shielded harness.■

DTC B1779: HFL Switch or Voice Control Switch (HFL TALK/HFL BACK Buttons) Circuit Open/Short to power

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-134).

1. Connect the HDS to the DLC.
2. Clear the DTCs with the HDS.
3. Turn the ignition switch to LOCK (0), then start the vehicle, and turn the steering wheel back and forth several times.
4. Check for DTCs with the HDS.

   Is DTC B1779 indicated?

   YES–Go to step 5.

   NO–Intermittent failure, the system is OK at this time.■
5. Turn the ignition switch to LOCK (0).
6. Do the HFL Switch Test (see page 23-279).

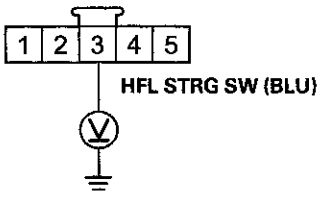
   Is the switch OK?

   YES–Go to step 7.

   NO–Replace the HFL-voice control switch (see page 17-7).■
7. Disconnect HandsFreeLink control unit 28P connector.
8. Disconnect HFL-voice control switch 5P connector.
9. Turn the ignition switch to ON (II).

10. Measure the voltage between HFL-voice control switch 5P connector terminal No. 3 and body ground.

HFL-VOICE CONTROL SWITCH 5P CONNECTOR



Wire side of female terminals

Is there voltage?

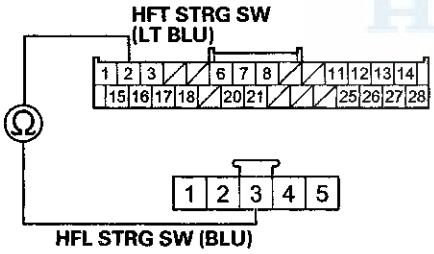
YES–Repair a short to power in the BLU wire.■

NO–Go to step 11.

11. Turn the ignition switch to LOCK (0).

12. Check for continuity between HandsFreeLink control unit 28P connector terminal No. 2 and HFL-voice control switch 5P connector terminal No. 3.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR
Wire side of female terminals



HFL-VOICE CONTROL SWITCH 5P CONNECTOR
Wire side of female terminals

Is there continuity?

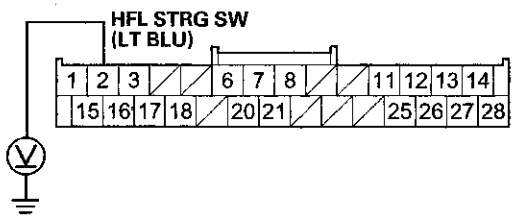
YES–Go to step 13.

NO–Repair an open in the BLU wire between the switch, the cable reel, and the HandsFreeLink control unit.■

13. Turn the ignition switch to ON (II).

14. Measure the voltage between HandsFreeLink control unit 28P connector terminal No. 2 and body ground.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR



Wire side of female terminals

Is there voltage?

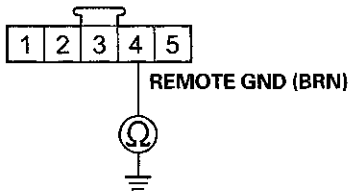
YES–Repair a short to power in the wire between the HandsFreeLink control unit and the HFL-voice control switch.■

NO–Go to step 15.

15. Turn the ignition switch to LOCK (0).

16. Check for continuity between HFL-voice control switch 5P connector terminal No. 4 and body ground.

HFL-VOICE CONTROL SWITCH 5P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Replace the HandsFreeLink control unit (see page 23-281).■

NO–Repair an open in the wire between the HFL-voice control switch, cable reel, and the audio unit.■

DTC Troubleshooting (cont'd)

DTC B1780: HFL Switch (HFL TALK/HFL BACK Buttons) Circuit Short

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-134).

1. Connect the HDS to the DLC.
2. Clear the DTCs with the HDS.
3. Turn the ignition switch to LOCK (0), then start the vehicle, and turn the steering wheel back and forth several times.
4. Check for DTCs with the HDS.

   Is DTC B1780 indicated?

   YES–Go to step 5.

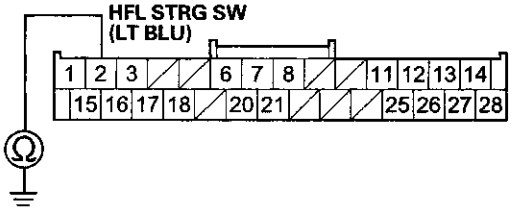
   NO–Intermittent failure, the system is OK at this time.■
5. Turn the ignition switch to LOCK (0).
6. Do the HFL Switch Test (see page 23-279).

   Is the switch OK?

   YES–Go to step 7.

   NO–Replace the cable reel subharness (see page 17-7).■
7. Disconnect the HandsFreeLink control unit 28P connector.
8. Disconnect the HFL-voice control switch 5P connector.
9. Check for continuity between HandsFreeLink control unit 28P connector terminal No. 2 and body ground.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short in the wire.■

NO–Replace the HandsFreeLink control unit (see page 23-281).■

DTC B1792: HandsFreeLink Control Unit Internal Error

1. Connect the HDS to the DLC.
2. Clear the DTCs with the HDS.
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for DTCs with the HDS.

   Is DTC B1792 indicated?

   YES–Replace the HandsFreeLink control unit (see page 23-281).■

   NO–Intermittent failure, the system is OK at this time.■

The HFL digits do not go away from the audio-HVAC subdisplay or the audio HVAC display after pressing the HFL BACK button

1. Connect the HDS to the DLC (see page 23-252).
2. Clear the DTCs with the HDS.
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for DTCs with the HDS.

   Are there any DTCs indicated?

   YES–Repair the indicated DTCs.■

   NO–Go to step 5.
5. Turn the ignition to LOCK (0).
6. Substitute a known-good HandsFreeLink control unit (see page 23-281).
7. Turn the ignition switch to ON (II), and recheck the audio-HVAC subdisplayor the audio-HVAC display.

   Are the messages cleared?

   YES–Replace the original HandsFreeLink control unit (see page 23-281).■

   NO–Replace the gauge control module (see page 22-351).■

Symptom Troubleshooting (cont'd)

The HFL system does not recognize all voice prompts

1. Connect the HDS to the DLC (see page 23-252).
2. Clear the DTCs with the HDS.
3. Turn the ignition switch to LOCK (0) and then back to ON (II).
4. Check for DTCs with the HDS.

   Are there any DTCs indicated?

   YES–Repair the indicated DTCs.■

   NO–Go to step 5.
5. Check to see if you can duplicate the customer complaint.

   Can you duplicate the complaint?

   YES–Go to step 6.

   NO–The system is OK at this time. Ask the customer to demonstrate the problem.■
6. Check if the navigation system can recognize voice prompts.

   Can the voice prompts be recognized?

   YES–Go to step 7.

   NO–Refer to the navigation system troubleshooting (see page 23-217).■
7. Pair the customer's phone to a known-good vehicle, and try to duplicate the problem.

   Can you duplicate the problem?

   YES–Call the HFL support desk at 888-528-7876, and inquire if there are any known issues for the problem. If there are no known issues, explain to the customer's this is a system characteristic and cannot be improved at this time.■

   NO–Substitute a known-good front HFL-ANC microphone (see page 23-280). If the problems still present, replace the HandsFreeLink control unit (see page 23-281). If the problem goes away, replace the original front HFL-ANC microphone.■

The HFL system is locked and the pass code has been lost or forgotten

1. Connect the HDS to the DLC.
2. Turn the ignition switch to ON (II).
3. From the Body Electrical menu, select HF LINK/TEL.
4. Select Miscellaneous Tests, then select Pass code reset.
5. Follow the HDS prompts to reset the pass code.

The HFL messages cannot be heard or are weak

1. Turn the ignition switch to ON (II).
2. Check that the audio system is operating normally and the speaker sound levels from different audio sources (AM/FM, XM, CD, navigation, etc.).

   Does the audio system work normally and is the audio output from the speaker normal when playing various audio sources?

   YES–Go to step 3.

   NO–Refer to the audio system Symptom Troubleshooting.■
3. Connect the HDS to the DLC (see page 23-252).
4. Clear the DTCs with the HDS.
5. Turn the ignition switch to LOCK (0) and then back to ON (II).
6. Check for DTCs with the HDS.

   Are there any DTCs indicated?

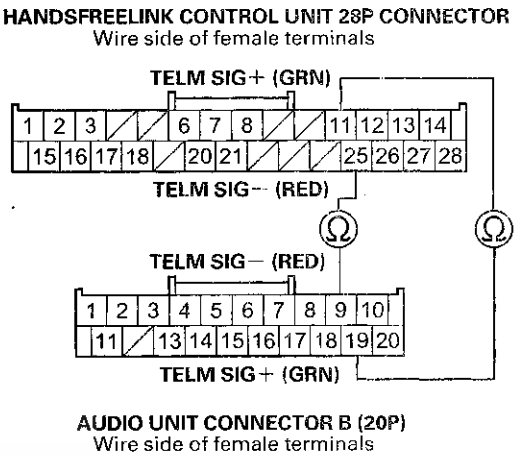
   YES–Repair the indicated DTCs.■

   NO–Go to step 7.
7. Press the HFL talk button.

   Does the audio system mute when HFL messages are being played?

   YES–Go to step 8.

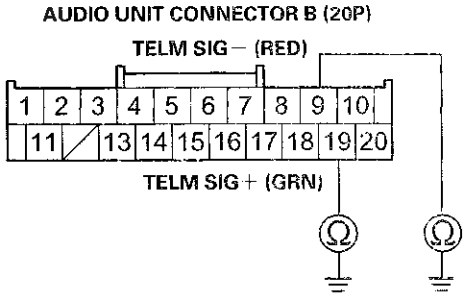
   NO–Go to step 13.
8. Turn the ignition switch to LOCK (0).
9. Disconnect audio unit connector B (20P) and the HandsFreeLink control unit 28P connector.
10. Check for continuity between HandsFreeLink control unit 28P connector terminals No. 11 and No. 25 and audio unit connector B (20P) terminals No. 19 and No. 9 respectively.



   Is there continuity?

   YES–Go to step 11.

   NO–There is an open in the wire(s) between the HandsFreeLink control unit and the audio unit. Replace the affected shielded harness.■
11. Check for continuity between body ground and audio unit connector B (20P) terminals No. 19 and No. 9 individually.



   Is there continuity?

   YES–There is a short to body ground in the wire(s) between the HandsFreeLink control unit and the audio unit. Replace the affected shielded harness.■

   NO–Go to step 12.

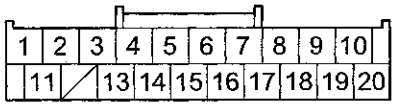
(cont'd)

Symptom Troubleshooting (cont'd)

12. Check for continuity between the terminals of audio unit connector B (20P) according to the table.

From terminal	To terminal
B19	B9, B10
B9	B10

AUDIO UNIT CONNECTOR B (20P)



Wire side of female terminals

Is there continuity?

YES–There is a short in the wire(s) between the HandsFreeLink control unit and the audio unit. Replace the affected shielded harness.■

NO–Substitute a known-good HandsFreeLink control unit (see page 23-281), and recheck. If the symptom goes away, replace the original HandsFreeLink control unit. If the symptom does not go away, replace the audio unit (see page 23-114).■

13. Press the HFL talk button.

Does the audio-HVAC subdisplay the HFL menu and the subdisplay show HandsFreeLink when pressing the HFL talk button?

YES–Go to step 14.

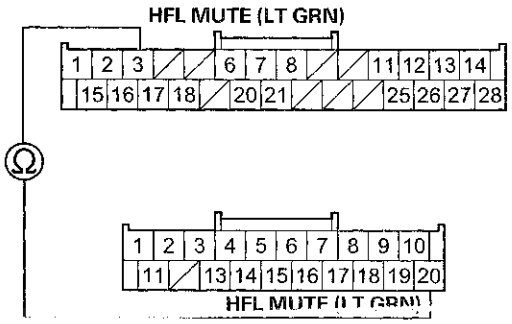
NO–Go to step 18.

14. Turn the ignition switch to LOCK (0).

15. Disconnect the HandsFreeLink control unit 28P connector and audio unit connector B (20P).

16. Check for continuity between HandsFreeLink control unit 28P connector terminal No. 3 and audio unit connector B (20P) terminal No. 20.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR
Wire side of female terminals



AUDIO UNIT CONNECTOR B (20P)
Wire side of female terminals

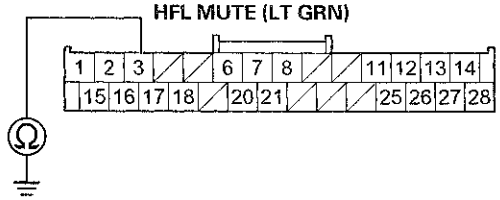
Is there continuity?

YES–Go to step 16.

NO–Repair an open in the wire between the HandsFreeLink control unit and the audio unit.■

17. Check for continuity between body ground and HandsFreeLink control unit 28P connector terminal No. 3.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR



Wire side of female terminals

Is there continuity?

YES–Repair a short to body ground in the wire between the HandsFreeLink control unit and the audio unit.■

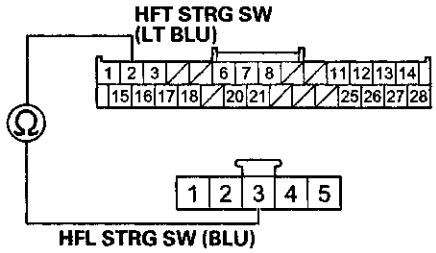
NO–Substitute a known-good HandsFreeLink control unit (see page 23-281), and recheck. If symptom goes away, replace the original HandsFreeLink control unit. If the symptom does not go away, replace the audio unit (see page 23-114).■

18. Turn the ignition switch to LOCK (0).

19. Disconnect the HandsFreeLink control unit 28P connector and the HFL-voice control switch 5P connector.

20. Check for continuity between HandsFreeLink control unit 28P connector terminal No. 2 and HFL-voice control switch 5P connector terminal No. 3.

HANDSFREELINK CONTROL UNIT 28P CONNECTOR
Wire side of female terminals



HFL-VOICE CONTROL SWITCH 5P CONNECTOR
Wire side of female terminals

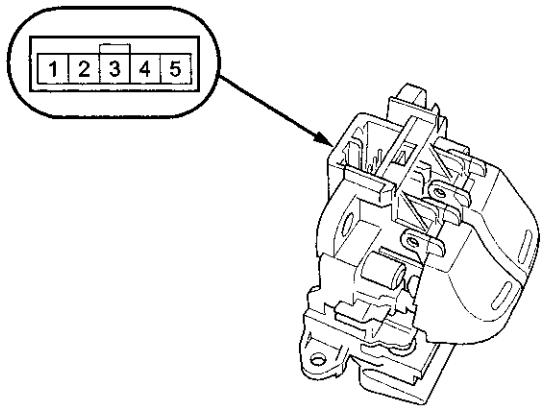
Is there continuity?

YES–Do the HFL Switch Test (see page 23-279).■

NO–Repair an open in the wire between the HandsFreeLink control unit and the HFL-voice control switch.■

HFL Switch Test

1. Remove the driver's airbag (see page 24-211).
2. Remove the steering wheel (see page 17-6).



3. Measure the resistance between terminals No. 3 and No. 4 in each switch position according to the table.

HFL-Voice Control Switch

Position	Resistance
No buttons pressed	About 1 kΩ
HFL TALK button pressed	About 185 Ω
HFL BACK button pressed	About 47 Ω

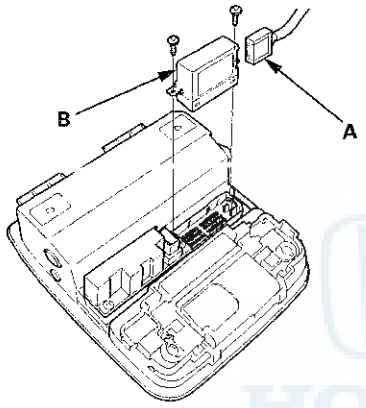
4. If the resistance is not as specified, replace the switch (see page 17-7).

Front HFL-ANC Microphone Removal/Installation

NOTE:

- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a workshop towel under the parts when working on them to protect the face panel from scratches or other damage.

1. Remove the roof console (see page 20-140), and disconnect the connector (A) from the front HFL-ANC microphone (B).



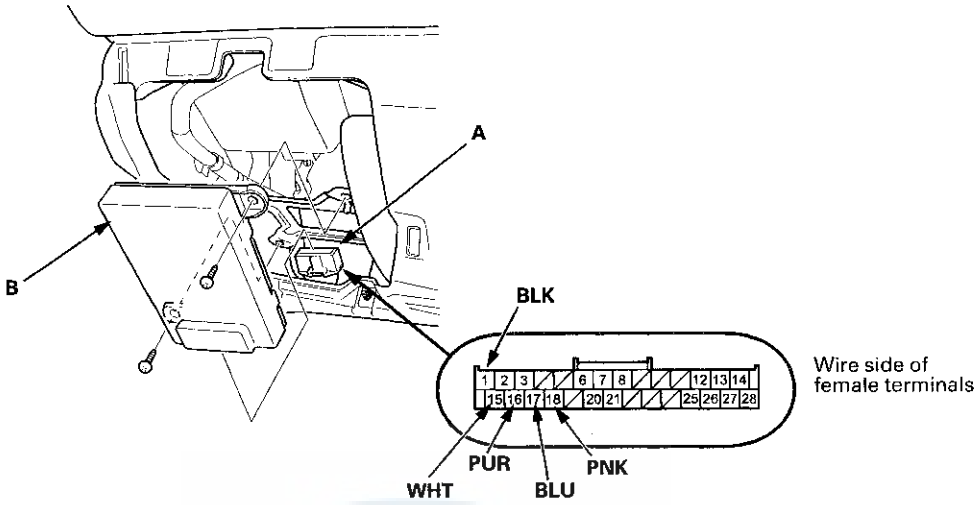
2. Remove the screws and the front HFL-ANC microphone.
3. Install the microphone in the reverse order of removal.

HFL Switch Removal/Installation

1. Remove the steering wheel (see page 17-6).
2. Remove the HFL switch (see page 17-7).
3. Install the HFL switch in the reverse order of removal.

Control Unit Input Test/Replacement

1. Remove the driver's dashboard lower cover (see page 20-166).
2. Remove the screws, then disconnect the 28P connector (A) from the HandsFreeLink control unit (B).



3. Inspect the connector and socket terminals for a good pinfit to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, go to step 4.
4. Reconnect the connector, and make these input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 5.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Measure the voltage to body ground: There should be less than 0.5 V.	• Poor ground (G401) • An open in the wire
15	WHT	Under all conditions	Measure the voltage to body ground: There should be battery voltage.	• Blown No. 15 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
16	PUR	Ignition switch in ACCESSORY (I) or ON (II)	Measure the voltage to body ground: There should be battery voltage.	• Blown No. 18 (7.5 A) fuse in the driver's under-dash fuse/relay box • An open in the wire

(cont'd)

Control Unit Input Test/Replacement (cont'd)

5. Disconnect the 28P connector again, and make this input test at the connector.
   - If the test indicates a problem, find and correct the cause, then recheck the system.
   - If the input test proves OK, the HandsFreeLink control unitis faulty, replace it.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
17	BLU	Under all conditions	Check for continuity between terminal No. 17 and the passenger's under-dash fuse/relay box connector A (38P) terminal No. 29: There should be continuity.	An open in the wire
		Passenger's under-dash fuse/relay box connector A (38P) disconnected	Check for continuity to body ground: There should be no continuity.	Short to body ground
18	PNK	Under all conditions	Check for continuity between terminal No. 18 and the passenger's under-dash fuse/relay box connector A (38P) terminal No. 11: There should be continuity.	An open in the wire
		Passenger's under-dash fuse/relay box connector A (38P) disconnected	Check for continuity to body ground: There should be no continuity.	Short to body ground