

# Audio, Navigation, and Telematics

## Audio, Navigation, and Telematics

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## AcuraLink

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## HandsFreeLink System

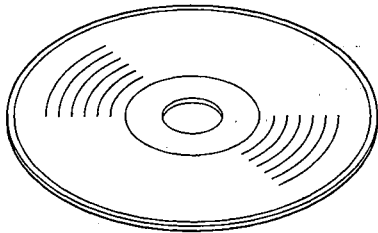
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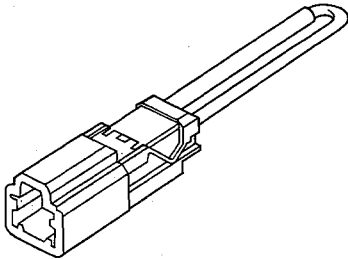
# Audio, Navigation, and Telematics

## Special Tools

| Ref. No. | Tool Number                   | Description           | Qty |
|----------|-------------------------------|-----------------------|-----|
| ①        | 07AAZ-SDBA100                 | Diagnostics CD        | 1   |
| ②        | 07AAZ-SDBA200 (ABEX-TCD-725B) | Skip Test CD          | 1   |
| ③        | 07AAZ-SDBA300 (ABEX-TCD-721)  | Skip Test CD          | 1   |
| ④        | 07PAZ-0010100                 | SCS Service Connector | 1   |



①, ②, ③



④



## DTC Troubleshooting Index

### HandsFreeLink Control Unit

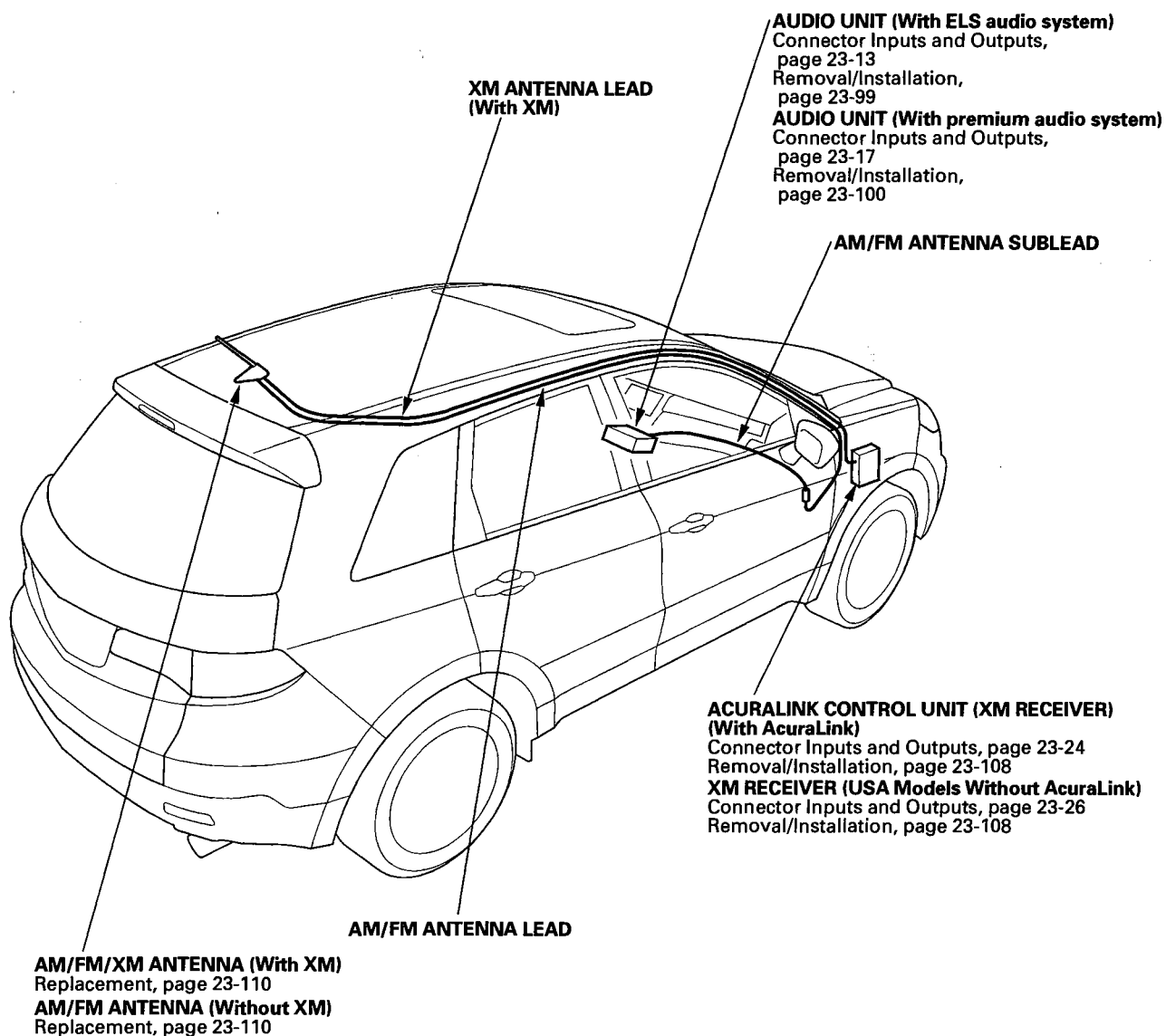
| DTC   | Description                                                                           | DTC type              | Page              |
|-------|---------------------------------------------------------------------------------------|-----------------------|-------------------|
| B1750 | Communication bus line error (Bus off)                                                | Loss of communication | (see page 22-105) |
| B1775 | Microphone input/output short to power/open                                           | Signal error          | (see page 23-231) |
| B1776 | Microphone input/output short to ground/open                                          | Signal error          | (see page 23-232) |
| B1779 | HFL switch or HFL-voice control switch (HFL TALK/HFL BACK buttons) circuit open/short | Signal error          | (see page 23-234) |
| B1780 | HFL-voice control switch (HFL TALK/HFL BACK buttons) circuit short to power           | Signal error          | (see page 23-236) |
| B1792 | HandsFreeLink control unit internal error                                             | Internal error        | (see page 23-238) |

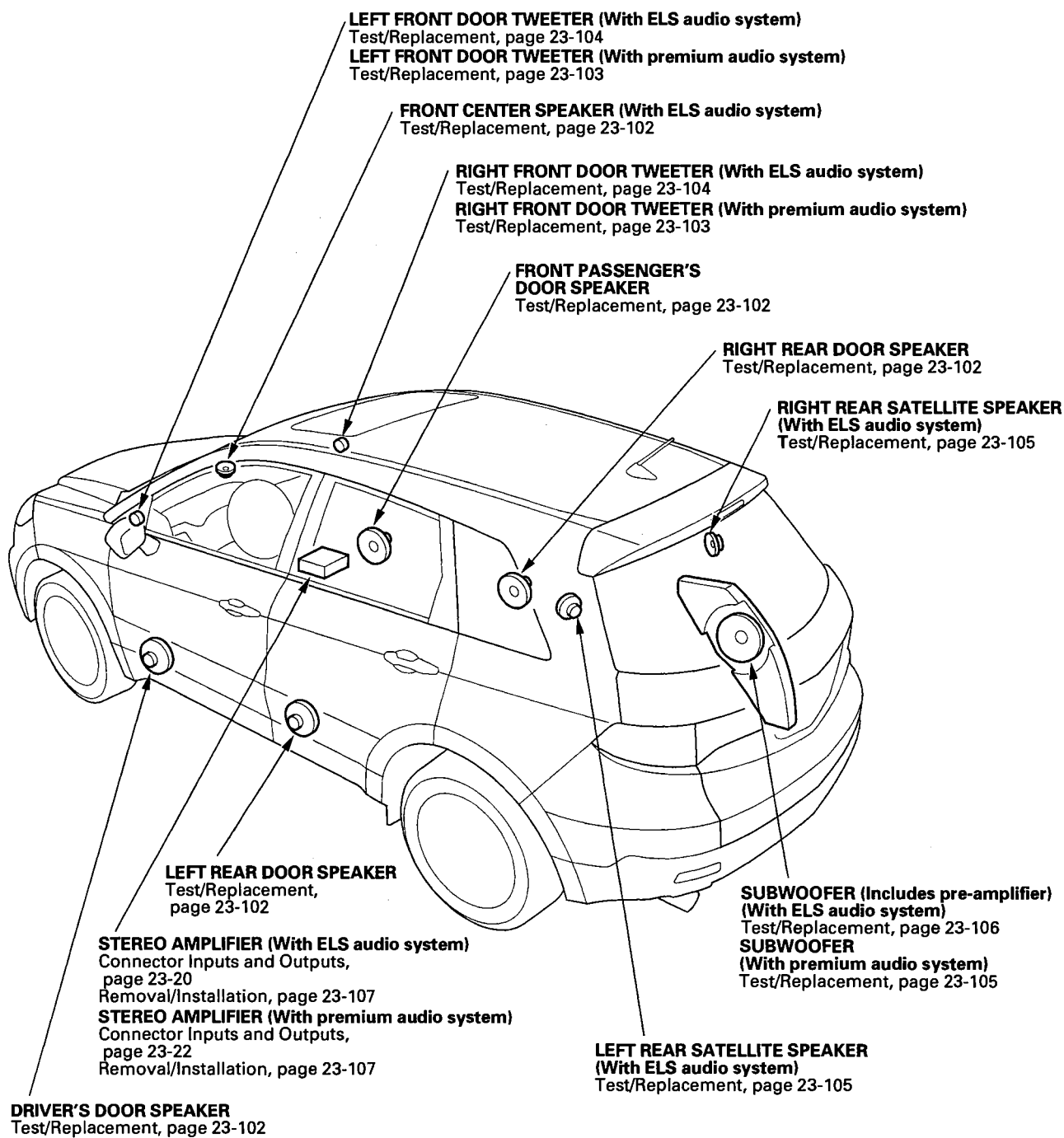
### AcuraLink Control Unit

| DTC   | Description                                                                             | DTC type              | Page              |
|-------|-----------------------------------------------------------------------------------------|-----------------------|-------------------|
| B2204 | B-CAN communication line error                                                          | Loss of communication | (see page 23-211) |
| B2205 | F-CAN communication line error                                                          | Loss of communication | (see page 23-212) |
| B2207 | Navigation unit lost communication with AcuraLink control unit (XM receiver)            | Loss of communication | (see page 23-213) |
| B2208 | HandsFreeLink control unit lost communication with AcuraLink control unit (XM receiver) | Loss of communication | (see page 23-216) |
| B2209 | AcuraLink control unit internal error                                                   | Internal error        | (see page 23-219) |
| B2240 | XM antenna error                                                                        | Internal error        | (see page 23-219) |

# Audio System

## Component Location Index

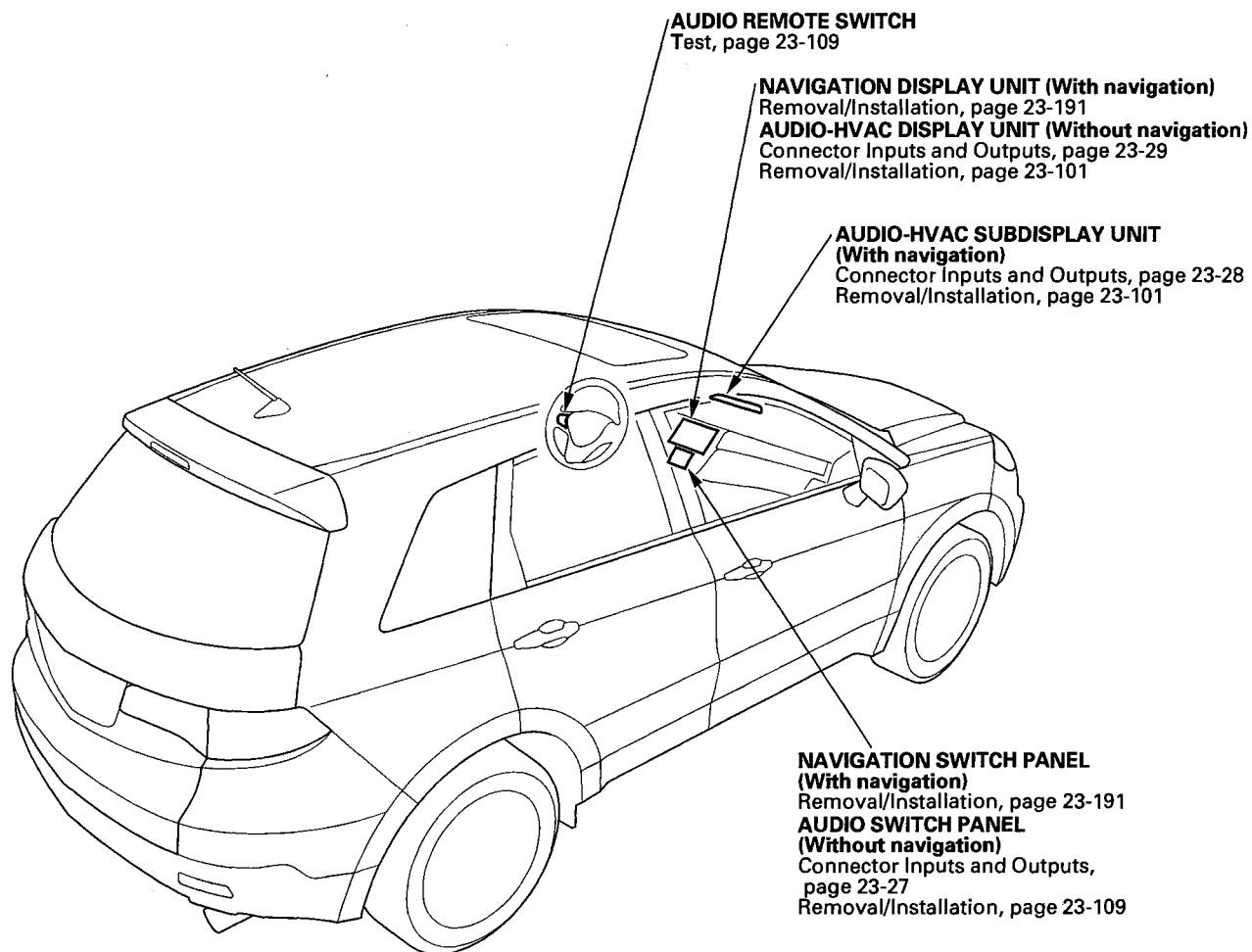




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# Audio System

## Component Location Index (cont'd)





## Symptom Troubleshooting Index

| Symptom                                                                                                    | Diagnostic procedure                     | Also check for                                                                                                                |
|------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Poor AM or FM radio reception or interference                                                              | Symptom Troubleshooting (see page 23-45) | <ul style="list-style-type: none"> <li>AM/FM antenna lead/sublead short or open in the wire</li> <li>AM/FM Antenna</li> </ul> |
| Power switch will not turn ON<br>(No information display and no sound)                                     | Symptom Troubleshooting (see page 23-48) |                                                                                                                               |
| Power will not turn OFF                                                                                    | Symptom Troubleshooting (see page 23-50) |                                                                                                                               |
| No sound is heard from speaker(s) (display is normal)<br>(with ELS audio system)                           | Symptom Troubleshooting (see page 23-51) |                                                                                                                               |
| No sound is heard from speaker(s) (display is normal)<br>(with premium audio system)                       | Symptom Troubleshooting (see page 23-56) |                                                                                                                               |
| Poor or no sound with XM radio<br>(audio unit can display XM channels)                                     | Symptom Troubleshooting (see page 23-60) |                                                                                                                               |
| XM radio display is blank and no station information<br>is displayed (with AcuraLink)                      | Symptom Troubleshooting (see page 23-63) |                                                                                                                               |
| XM radio display is blank and no station information<br>is displayed (without AcuraLink)                   | Symptom Troubleshooting (see page 23-66) |                                                                                                                               |
| Audio system sound is weak or distorted (display is<br>normal)                                             | Symptom Troubleshooting (see page 23-69) |                                                                                                                               |
| Audio unit button illumination does not work (with<br>ELS audio system)                                    | Symptom Troubleshooting (see page 23-70) |                                                                                                                               |
| Audio switch panel button illumination does not work<br>(with premium audio system)                        | Symptom Troubleshooting (see page 23-71) |                                                                                                                               |
| Radio preset memory is lost                                                                                | Symptom Troubleshooting (see page 23-72) | Internal error                                                                                                                |
| XM radio preset memory is lost                                                                             | Symptom Troubleshooting (see page 23-72) |                                                                                                                               |
| Audio disc does not eject                                                                                  | Symptom Troubleshooting (see page 23-74) |                                                                                                                               |
| Audio disc changer does not load all six discs                                                             | Symptom Troubleshooting (see page 23-75) |                                                                                                                               |
| Audio disc changer does not move between discs                                                             | Symptom Troubleshooting (see page 23-75) |                                                                                                                               |
| Volume does not change                                                                                     | Symptom Troubleshooting (see page 23-76) |                                                                                                                               |
| Volume does not increase with speed                                                                        | Symptom Troubleshooting (see page 23-79) |                                                                                                                               |
| Volume is too high, or too low when driving at<br>freeway speeds                                           | Symptom Troubleshooting (see page 23-80) |                                                                                                                               |
| Radio tuner does not change stations                                                                       | Symptom Troubleshooting (see page 23-77) |                                                                                                                               |
| Audio disc does not load                                                                                   | Symptom Troubleshooting (see page 23-81) |                                                                                                                               |
| Audio disc does not play                                                                                   | Symptom Troubleshooting (see page 23-81) |                                                                                                                               |
| Audio disc skips                                                                                           | Symptom Troubleshooting (see page 23-82) | Tire pressure (over-inflated)                                                                                                 |
| Audio system information does not display on the<br>audio-HVAC subdisplay unit (with ELS audio system)     | Symptom Troubleshooting (see page 23-83) |                                                                                                                               |
| Audio system information does not display on the<br>audio-HVAC display unit (with premium audio<br>system) | Symptom Troubleshooting (see page 23-86) |                                                                                                                               |
| Audio remote switch does not work properly                                                                 | Symptom Troubleshooting (see page 23-89) |                                                                                                                               |
| Error code: XM NO SIGNAL is displayed                                                                      | Symptom Troubleshooting (see page 23-90) |                                                                                                                               |
| Error code: XM ANTENNA is displayed                                                                        | Symptom Troubleshooting (see page 23-93) |                                                                                                                               |

# 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 steering wheel), or by using the navigation voice control system. The audio display provides the current front and rear audio status. For vehicles with the navigation option, additional audio information is available by touching the audio button. (See the owner’s manual for more details.)

Each audio component passes its audio signal to the audio unit. In addition, it communicates with the audio unit via the GA-Net bus. Any open connection in this circuit will cause audio and navigation functions to appear inoperative.

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

With the ELS and the premium audio system, an audio amplifier unit powers the speakers.

The audio systems are equipped with speed-sensitive volume compensation (SVC). The audio unit receives the vehicle speed pulse (VSP) from the PCM. The system processes the speed input and increases the navigation or audio system volume level as the vehicle speed increases to compensate for the various interior noise that occurs 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 the MID set as the default (See Owner’s Manual for more information).

The 6DVD (6CD) changer output can be directed to the audio unit.

The XM radio plays through the audio unit.

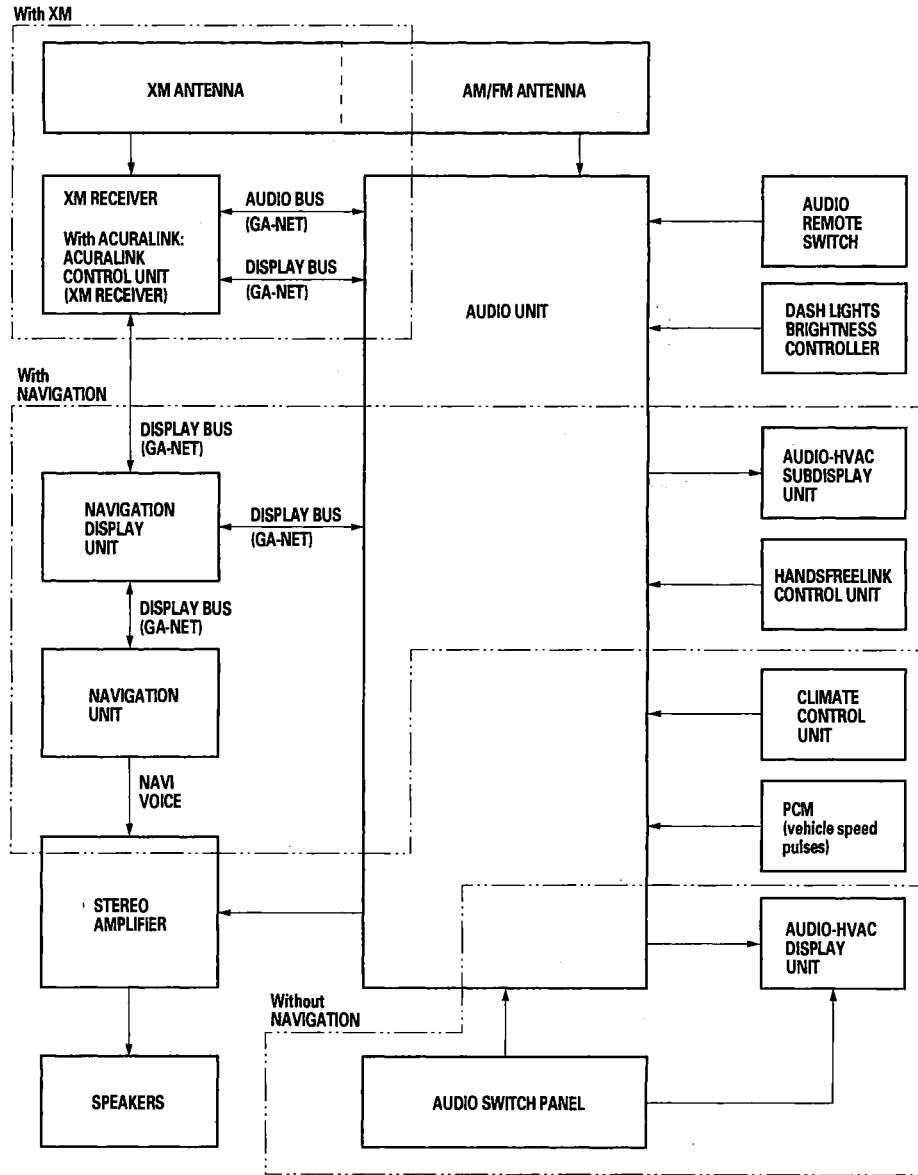
A security signal is daisy-chained between the audio and navigation components for integration into the vehicle’s security system.

The optional navigation system provides voice control for audio, XM, and CD player. Voice control commands are communicated on the GA-Net (audio unit). When using the talk back or route guidance (RG), only the center speaker is muted and the front speakers give the navigation instructions. When using HFL/AcuraLink, the center speaker, the rear speakers, and the subwoofer are muted and the front speakers give the telephone sound. When using HFL/AcuraLink and RG or talk back, the center speaker, the rear speakers, and the subwoofer are muted and the front speakers give the telephone sound and the navigation instructions. Muting commands are passed on the GA-Net bus. For more information, see the navigation section. The outline of the audio interruption function is shown in the following table.

| Contents                          | Audio output |                  |                  |               |              |              |
|-----------------------------------|--------------|------------------|------------------|---------------|--------------|--------------|
|                                   | Center CH    | Left front CH    | Right front CH   | Right rear CH | Left rear CH | Subwoofer CH |
| TALK/BACK                         | MUTE         | Navigation sound | Navigation sound | Audio         | Audio        | Audio        |
| Route guidance                    | MUTE         | Navigation sound | Navigation sound | Audio         | Audio        | Audio        |
| HFL/AcuraLink                     | MUTE         | Telephone sound  | Telephone sound  | MUTE          | MUTE         | MUTE         |
| HFL/AcuraLink and RG or TALK/BACK | MUTE         | Navigation sound | Telephone sound  | MUTE          | MUTE         | MUTE         |



## System Diagram



cardiagn.com

(cont'd)

BACK

23-9

# Audio System

## System Description (cont'd)

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

### Audio Glossary

| Item                         | Definition                                                                                                                                                                                                                                                          |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Active Noise Control         | The active noise control 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 cancelling sound from the audio speaker.                                          |
| AM (Amplitude Modulation)    | The type of transmission used in the standard radio broadcast band from 530 to 1705 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.                                                                                                                          |
| Auxiliary jack               | Allows the customer to use a portable audio device to input music 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 recording or 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 sizes 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 car, labels can curl up and jam the unit.                                                              |
| CD 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 CD's stacked in a container).                                                             |
| CD player                    | A component designed to play compact disc CD recording using a laser optical pickup. The signal from a CD player usually requires amplification.                                                                                                                    |
| Distortion                   | Inexact reproduction of an audio signal caused by playing music at levels the audio system cannot handle.                                                                                                                                                           |
| Dolby (noise reduction)      | A processing system developed by Dolby Laboratories that reduce the background noise on recording media. The result is a clearer playback from the audio system.                                                                                                    |
| 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 performed 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.                                             |
| FM (Frequency Modulation)    | The modulation used for radio and television sound transmission in most of the world. Less prone to interference than AM. The FM broadcast band covers roughly 87 to 108 MHz.                                                                                       |
| GB (Gigabyte)                | A unit of memory or disk storage equal to 1 billion bytes (1000 million bytes).                                                                                                                                                                                     |



# Audio Glossary

| Item                         | Definition                                                                                                                                                                                                                              |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                          |
| MB (Megabyte)                | A unit of memory or disc storage equal to 1 million bytes.                                                                                                                                                                              |
| Memory                       | Circuitry or devices that hold information in electrical or magnetic form, such as the AM/FM radio presets.                                                                                                                             |
| Megabyte (M byte)            | 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 systems.                                               |
| 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 navi to speak 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.                                                                                                                                                         |
| Audio Remote switch          | The switches on the steering wheel that control the audio system.                                                                                                                                                                       |
| SCF (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/and 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 such as buzzing, or popping sounds heard on the speakers.        |
| Speaker (Loudspeaker)        | A device that converts electrical energy into acoustical energy (sound).                                                                                                                                                                |
| Subwoofer                    | A loudspeaker made to reproduce the lowest audio frequencies, approx 25 Hz to 125 Hz.                                                                                                                                                   |

(cont'd)

# Audio System

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## System Description (cont'd)

### Audio Glossary

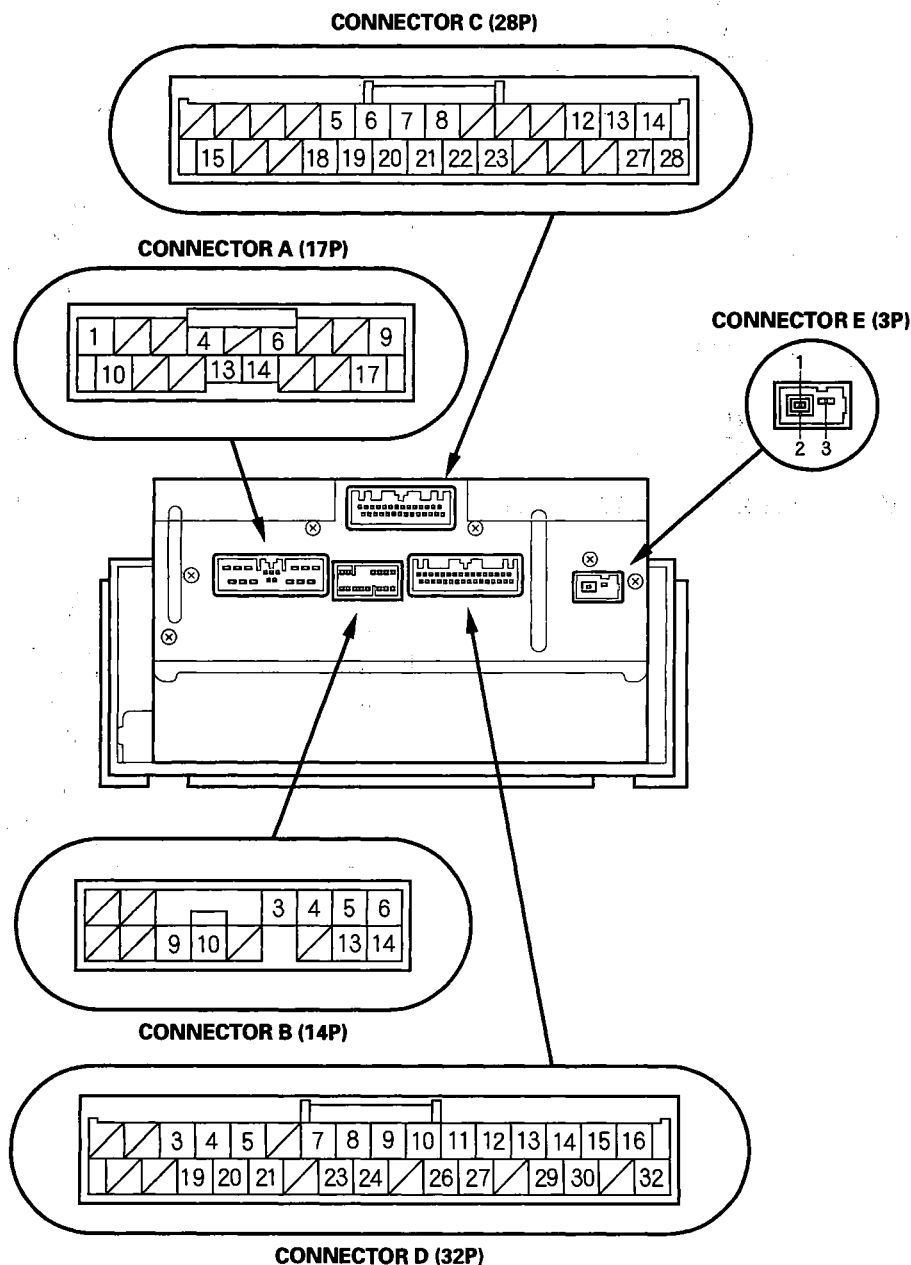
| Item           | Definition                                                                                                                                                                                                                                                                                              |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Track          | A sound recording on a CD, tape, or PC card.                                                                                                                                                                                                                                                            |
| 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.                                                                                                                                                                                                                                   |
| 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 this vibration 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 or a PC card.                                                                                                                                                                                          |
| Woofer         | A speaker that is designed to reproduce 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.                                                                                                          |



## Audio Unit Connector for Inputs and Outputs

When replacing an audio unit connector, match the wires to the cavities listed in the following table.

### With ELS Audio System



(cont'd)

# Audio System

## System Description (cont'd)

**CONNECTOR A (17P)**

| Cavity | Wire   | Connects to                                   |
|--------|--------|-----------------------------------------------|
| A1     | RED    | Dash lights brightness controller (ILL— BULB) |
| A2     | —      | Not used                                      |
| A3     | —      | Not used                                      |
| A4     | BRN    | Navigation display unit (SECURITY)            |
| A5     | —      | Not used                                      |
| A6     | LT BLU | Data link connector (K-LINE)                  |
| A7     | —      | Not used                                      |
| A8     | —      | Not used                                      |
| A9     | BLK    | Ground (G504)                                 |
| A10    | GRY    | Lights-on signal (ILL+)                       |
| A11    | —      | Not used                                      |
| A12    | —      | Not used                                      |
| A13    | BLU    | PCM (VSP)                                     |
| A14    | PUR    | ACC (audio power supply)                      |
| A15    | —      | Not used                                      |
| A16    | —      | Not used                                      |
| A17    | GRN    | Constant power (+B)                           |

**CONNECTOR B (14P)**

| Cavity | Wire   | Connects to                                                                               |
|--------|--------|-------------------------------------------------------------------------------------------|
| B1     | —      | Not used                                                                                  |
| B2     | —      | Not used                                                                                  |
| B3     | GRY    | • Navigation display unit<br>• AcuraLink control unit (XM receiver)*<br>(BUS SH (GA-NET)) |
| B4     | GRY    | AcuraLink control unit (XM receiver) (AUDIO SH (GA-NET))*                                 |
| B5     | RED    | AcuraLink control unit (XM receiver) (AUDIO R+ (GA-NET))*                                 |
| B6     | BLK    | AcuraLink control unit (XM receiver) (AUDIO L+ (GA-NET))*                                 |
| B7     | —      | Not used                                                                                  |
| B8     | —      | Not used                                                                                  |
| B9     | LT BLU | • Navigation display unit<br>• AcuraLink control unit (XM receiver)*<br>(BUS+ (GA-NET))   |
| B10    | PUR    | • Navigation display unit<br>• AcuraLink control unit (XM receiver)*<br>(BUS— (GA-NET))   |
| B11    | —      | Not used                                                                                  |
| B12    | —      | Not used                                                                                  |
| B13    | WHT    | AcuraLink control unit (XM receiver) (AUDIO R— (GA-NET))*                                 |
| B14    | GRN    | AcuraLink control unit (XM receiver) (AUDIO L— (GA-NET))*                                 |

\*: USA models



# **CONNECTOR C (28P)**

| Cavity | Wire   | Connects to                              |
|--------|--------|------------------------------------------|
| C1     | —      | Not used                                 |
| C2     | —      | Not used                                 |
| C3     | —      | Not used                                 |
| C4     | —      | Not used                                 |
| C5     | ORN    | Audio-HVAC subdisplay unit (PNL CE)      |
| C6     | GRY    | Audio-HVAC subdisplay unit (PNL SH1)     |
| C7     | BRN    | Audio-HVAC subdisplay unit (PNL 5V GND)  |
| C8     | ORN    | Audio-HVAC subdisplay unit (LCD BL—)     |
| C9     | —      | Not used                                 |
| C10    | —      | Not used                                 |
| C11    | —      | Not used                                 |
| C12    | LT BLU | HandsFreeLink control unit (HFL ICON)    |
| C13    | RED    | HandsFreeLink control unit (TELM SIG—)   |
| C14    | GRY    | HandsFreeLink control unit (TELM SIG SH) |

| Cavity | Wire   | Connects to                                     |
|--------|--------|-------------------------------------------------|
| C15    | LT GRN | Climate control unit (SO AC2)                   |
| C16    | —      | Not used                                        |
| C17    | —      | Not used                                        |
| C18    | YEL    | Audio-HVAC subdisplay unit (PNL DATA1)          |
| C19    | BLU    | Audio-HVAC subdisplay unit (PNL RST)            |
| C20    | PUR    | Audio-HVAC subdisplay unit (PNL CLK)            |
| C21    | RED    | Audio-HVAC subdisplay unit (PNL +5V)            |
| C22    | GRN    | Audio-HVAC subdisplay unit (LCD BL+)            |
| C23    | PUR    | AcuraLink control unit (XM receiver) (HIP MUTE) |
| C24    | —      | Not used                                        |
| C25    | —      | Not used                                        |
| C26    | —      | Not used                                        |
| C27    | GRN    | HandsFreeLink control unit (TELM SIG+)          |
| C28    | LT GRN | HandsFreeLink control unit (HFL MUTE)           |

\*: With AcuraLink

(cont'd)

# Audio System

## System Description (cont'd)

### CONNECTOR D (32P)

| Cavity | Wire   | Connects to                        |
|--------|--------|------------------------------------|
| D1     | —      | Not used                           |
| D2     | —      | Not used                           |
| D3     | BRN    | Audio remote switch (GND)          |
| D4     | ORN    | Stereo amplifier (AMP MUTE)        |
| D5     | GRY    | Stereo amplifier (ELS SH GND)      |
| D6     | —      | Not used                           |
| D7     | BLK    | Ground (G504)                      |
| D8     | BLK    | Stereo amplifier (FL PRE—)         |
| D9     | GRY    | Stereo amplifier (SH FR-FL GND)    |
| D10    | GRN    | Stereo amplifier (FR PRE—)         |
| D11    | PUR    | Stereo amplifier (RL PRE—)         |
| D12    | GRY    | Stereo amplifier (SH RR-RL GND)    |
| D13    | BLU    | Stereo amplifier (RR PRE—)         |
| D14    | LT BLU | Stereo amplifier (SUBW PRE—)       |
| D15    | GRY    | Stereo amplifier (SH CTR-SUBW GND) |
| D16    | BRN    | Stereo amplifier (CTR PRE—)        |
| D17    | —      | Not used                           |
| D18    | —      | Not used                           |
| D19    | PNK    | Audio remote switch (REMOTE)       |
| D20    | RED    | Stereo amplifier (ELS DATA—)       |
| D21    | GRN    | Stereo amplifier (ELS DATA+)       |
| D22    | —      | Not used                           |
| D23    | YEL    | Stereo amplifier (SWD +B)          |
| D24    | WHT    | Stereo amplifier (FL PRE+)         |
| D25    | —      | Not used                           |
| D26    | RED    | Stereo amplifier (FR PRE+)         |
| D27    | YEL    | Stereo amplifier (RL PRE+)         |

| Cavity | Wire   | Connects to                  |
|--------|--------|------------------------------|
| D28    | —      | Not used                     |
| D29    | ORN    | Stereo amplifier (RP PRE+)   |
| D30    | PNK    | Stereo amplifier (SUBW PRE+) |
| D31    | —      | Not used                     |
| D32    | LT GRN | Stereo amplifier (CTR PRE+)  |

### CONNECTOR E (3P)

| Cavity | Wire | Connects to                                                                                                      |
|--------|------|------------------------------------------------------------------------------------------------------------------|
| E1     | —    | <ul style="list-style-type: none"> <li>• AM/FM/XM antenna (RF IN)*</li> <li>• AM/FM antenna (RF IN)</li> </ul>   |
| E2     | —    | <ul style="list-style-type: none"> <li>• AM/FM/XM antenna (RF SH)*</li> <li>• AM/FM antenna (RF SH)</li> </ul>   |
| E3     | —    | <ul style="list-style-type: none"> <li>• AM/FM/XM antenna (ANT +B)*</li> <li>• AM/FM antenna (ANT +B)</li> </ul> |

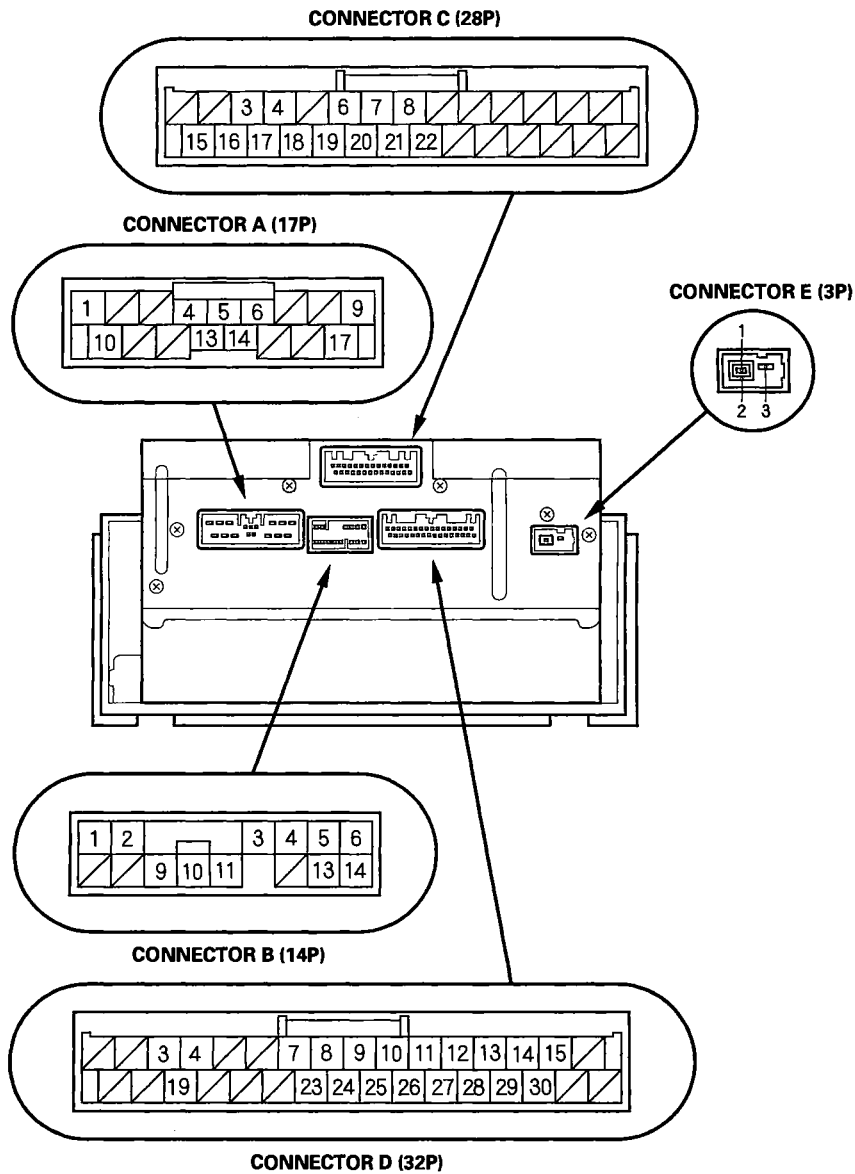
\* : With AcuraLink



## Audio Unit Connector for Inputs and Outputs

When replacing an audio unit connector, match the wires to the cavities listed in the following table.

### With Premium Audio System



(cont'd)

# Audio System

## System Description (cont'd)

**CONNECTOR A (17P)**

| Cavity | Wire   | Connects to                                         |
|--------|--------|-----------------------------------------------------|
| A1     | RED    | Dash lights brightness controller (ILL— BULB)       |
| A2     | —      | Not used                                            |
| A3     | —      | Not used                                            |
| A4     | YEL    | Multiplex integrated control unit (MICU) (SECURITY) |
| A5     | —      | Not used                                            |
| A6     | LT BLU | Data link connector (K-LINE)                        |
| A7     | —      | Not used                                            |
| A8     | —      | Not used                                            |
| A9     | BLK    | Ground (G504)                                       |
| A10    | GRY    | Lights-on signal (ILL+)                             |
| A11    | —      | Not used                                            |
| A12    | —      | Not used                                            |
| A13    | BLU    | PCM (VSP)                                           |
| A14    | PUR    | ACC (audio power supply)                            |
| A15    | —      | Not used                                            |
| A16    | —      | Not used                                            |
| A17    | GRN    | Constant power (+B)                                 |

**CONNECTOR B (14P)**

| Cavity | Wire   | Connects to                      |
|--------|--------|----------------------------------|
| B1     | RED    | XM receiver GA-NET (+B)*         |
| B2     | YEL    | XM receiver GA-NET (SYS ON)*     |
| B3     | GRY    | XM receiver (BUS SH (GA-NET))*   |
| B4     | GRY    | XM receiver (AUDIO SH (GA-NET))* |
| B5     | RED    | XM receiver (AUDIO R+ (GA-NET))* |
| B6     | BLK    | XM receiver (AUDIO L+ (GA-NET))* |
| B7     | —      | Not used                         |
| B8     | —      | Not used                         |
| B9     | LT BLU | XM receiver (BUS+ (GA-NET))*     |
| B10    | PUR    | XM receiver (BUS— (GA-NET))*     |
| B11    | BRN    | XM receiver (GA-NET GND)*        |
| B12    | —      | Not used                         |
| B13    | WHT    | XM receiver (AUDIO R— (GA-NET))* |
| B14    | GRN    | XM receiver (AUDIO R— (GA-NET))* |

\*: With XM

**CONNECTOR C (28P)**

| Cavity | Wire   | Connects to                       |
|--------|--------|-----------------------------------|
| C1     | —      | Not used                          |
| C2     | —      | Not used                          |
| C3     | PUR    | Audio switch panel (ENCORDER—)    |
| C4     | BLK    | Audio switch panel (PNL DATA2)    |
| C5     | YEL    | Audio switch panel (PNL CE)       |
| C6     | GRY    | Audio switch panel (PNL SH1)      |
| C7     | BRN    | Audio switch panel (PNL 5V GND)   |
| C8     | ORN    | Audio-HVAC display unit (LCD BL—) |
| C9     | —      | Not used                          |
| C10    | —      | Not used                          |
| C11    | —      | Not used                          |
| C12    | —      | Not used                          |
| C13    | —      | Not used                          |
| C14    | —      | Not used                          |
| C15    | LT GRN | Climate control unit (SO AC2)     |
| C16    | GRY    | Audio switch panel (PNL SH2)      |
| C17    | LT BLU | Audio switch panel (ENCORDER+)    |
| C18    | RED    | Audio switch panel (PNL DATA1)    |
| C19    | GRN    | Audio switch panel (PNL RST)      |
| C20    | WHT    | Audio switch panel (PNL CLK)      |
| C21    | RED    | Audio switch panel (PNL+5V)       |
| C22    | GRN    | Audio-HVAC display unit (LCD BL+) |
| C23    | —      | Not used                          |
| C24    | —      | Not used                          |
| C25    | —      | Not used                          |
| C26    | —      | Not used                          |
| C27    | —      | Not used                          |
| C28    | —      | Not used                          |



#### CONNECTOR D (32P)

| Cavity | Wire   | Connects to                    |
|--------|--------|--------------------------------|
| D1     | —      | Not used                       |
| D2     | —      | Not used                       |
| D3     | BRN    | Audio remote switch (GND)      |
| D4     | ORN    | Stereo amplifier (AMP MUTE)    |
| D5     | —      | Not used                       |
| D6     | —      | Not used                       |
| D7     | BLK    | Ground (G504)                  |
| D8     | PNK    | Stereo amplifier (FL PRE—)     |
| D9     | GRY    | Stereo amplifier (SH FL GND)   |
| D10    | RED    | Stereo amplifier (FR PRE—)     |
| D11    | PUR    | Stereo amplifier (RL PRE—)     |
| D12    | GRY    | Stereo amplifier (SH RL GND)   |
| D13    | YEL    | Stereo amplifier (RR PRE—)     |
| D14    | PNK    | Stereo amplifier (SUBW PRE—)   |
| D15    | GRY    | Stereo amplifier (SH SUBW GND) |
| D16    | —      | Not used                       |
| D17    | —      | Not used                       |
| D18    | —      | Not used                       |
| D19    | PNK    | Audio remote switch (REMOTE)   |
| D20    | —      | Not used                       |
| D21    | —      | Not used                       |
| D22    | —      | Not used                       |
| D23    | YEL    | Stereo amplifier (SWD +B)      |
| D24    | BLU    | Stereo amplifier (FL PRE+)     |
| D25    | GRY    | Stereo amplifier (SH RL GND)   |
| D26    | GRN    | Stereo amplifier (FR PRE+)     |
| D27    | LT BLU | Stereo amplifier (RL PRE+)     |
| D28    | GRY    | Stereo amplifier (SH RR GND)   |
| D29    | BRN    | Stereo amplifier (RR PRE+)     |
| D30    | BLU    | Stereo amplifier (SUBW PRE+)   |
| D31    | —      | Not used                       |
| D32    | —      | Not used                       |

#### CONNECTOR E (3P)

| Cavity | Wire | Connects to                                                                                                      |
|--------|------|------------------------------------------------------------------------------------------------------------------|
| E1     | —    | <ul style="list-style-type: none"> <li>• AM/FM/XM antenna (RF IN)*</li> <li>• AM/FM antenna (RF IN)</li> </ul>   |
| E2     | —    | <ul style="list-style-type: none"> <li>• AM/FM/XM antenna (RF SH)*</li> <li>• AM/FM antenna (RF SH)</li> </ul>   |
| E3     | —    | <ul style="list-style-type: none"> <li>• AM/FM/XM antenna (ANT +B)*</li> <li>• AM/FM antenna (ANT +B)</li> </ul> |

\* : With XM

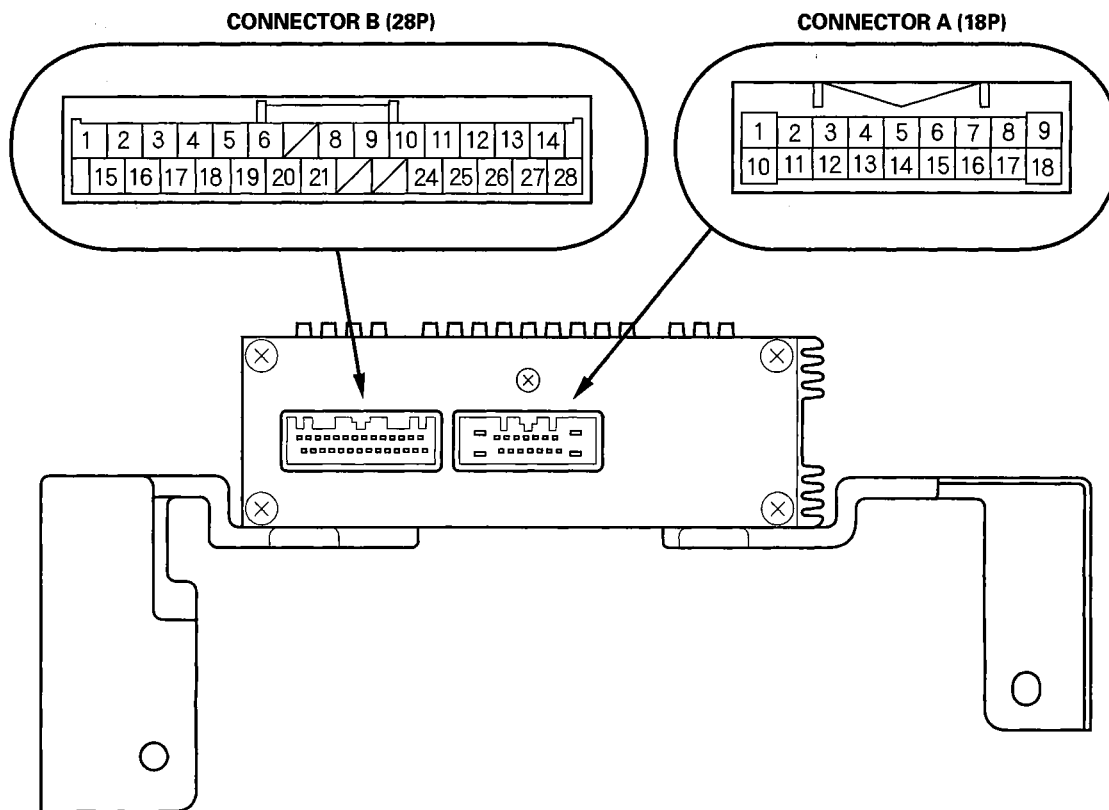
# Audio System

## System Description (cont'd)

### Stereo Amplifier Connector for Inputs and Outputs

When replacing a stereo amplifier connector, match the wires to the cavities listed in the following tables.

With ELS Audio System





#### CONNECTOR A (18P)

| Cavity | Wire   | Connects to                                                       |
|--------|--------|-------------------------------------------------------------------|
| A1     | RED    | Subwoofer (SUB WF—)                                               |
| A2     | PUR    | Front center speaker (CTR SP—)                                    |
| A3     | ORN    | Right rear door speaker (RR SP—)                                  |
| A4     | BRN    | Left rear door speaker (RL SP—)                                   |
| A5     | WHT    | Right rear satellite speaker (SAT R SP—)                          |
| A6     | BRN    | Front passenger's door speaker, Right front door tweeter (FR SP—) |
| A7     | LT BLU | Driver's door speaker, Left front door tweeter (FL SP—)           |
| A8     | GRY    | Left rear satellite speaker (SAT L SP—)                           |
| A9     | BLK    | Ground (G503)                                                     |
| A10    | GRN    | Subwoofer (SUB WF+)                                               |
| A11    | PNK    | Front center speaker (CTR SP+)                                    |
| A12    | BLU    | Right rear door speaker (RR SP+)                                  |
| A13    | YEL    | Left rear door speaker (RL SP+)                                   |
| A14    | YEL    | Right rear satellite speaker (SAT R SP+)                          |
| A15    | GRY    | Front passenger's door speaker, Right front door tweeter (FR SP+) |
| A16    | LT GRN | Driver's door speaker, Left front door tweeter (FL SP+)           |
| A17    | ORN    | Left rear satellite speaker (SAT L SP+)                           |
| A18    | BLU    | Subwoofer (+B)                                                    |

#### CONNECTOR B (28P)

| Cavity | Wire   | Connects to                   |
|--------|--------|-------------------------------|
| B1     | RED    | Audio unit (ELS DATA—)        |
| B2     | BLK    | Ground (G504)                 |
| B3     | YEL    | Audio unit (SWD +B)           |
| B4     | LT GRN | Audio unit (CTR PRE+)         |
| B5     | GRY    | Audio unit (SH CTR SUBW GND)  |
| B6     | PNK    | Audio unit (SUBW PRE+)        |
| B7     | —      | Not used                      |
| B8     | GRY    | Navigation unit (NAVI SH GND) |
| B9     | RED    | Navigation unit (NAVI GND)    |
| B10    | WHT    | Audio unit (FL PRE+)          |
| B11    | RED    | Audio unit (FR PRE+)          |
| B12    | GRY    | Audio unit (SH FR-FL GND)     |
| B13    | YEL    | Audio unit (RL PRE+)          |
| B14    | ORN    | Audio unit (RR PRE+)          |
| B15    | GRN    | Audio unit (ELS DATA+)        |
| B16    | GRY    | Audio unit (ELS SH GND)       |
| B17    | ORN    | Audio unit (AMP MUTE)         |
| B18    | BRN    | Audio unit (CTR PRE—)         |
| B19    | LT BLU | Audio unit (SUBW PRE—)        |
| B20    | LT GRN | Subwoofer (SUB WF CONT)       |
| B21    | GRN    | Navigation unit (NAVI Lch)    |
| B22    | —      | Not used                      |
| B23    | —      | Not used                      |
| B24    | BLK    | Audio unit (FL PRE—)          |
| B25    | GRN    | Audio unit (FR PRE—)          |
| B26    | GRY    | Audio unit (SH RR-RL GND)     |
| B27    | PUR    | Audio unit (RL PRE—)          |
| B28    | BLU    | Audio unit (RR PRE—)          |

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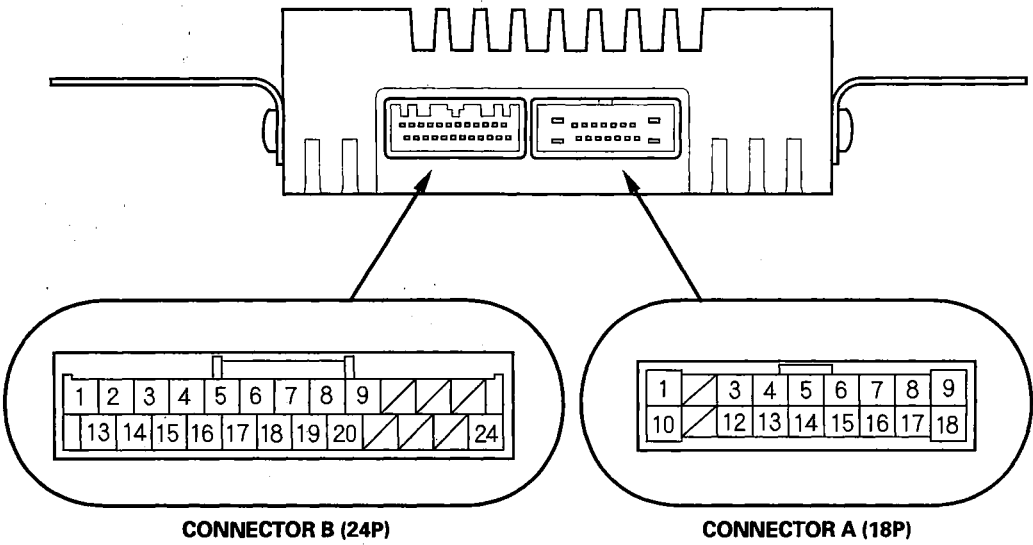
# Audio System

## System Description (cont'd)

### Stereo Amplifier Connector for Inputs and Outputs

When replacing a stereo amplifier connector, match the wires to the cavities listed in the following tables.

#### With Premium Audio System





#### CONNECTOR A (18P)

| Cavity | Wire   | Connects to                                              |
|--------|--------|----------------------------------------------------------|
| A1     | RED    | Subwoofer (SUBW SP—)                                     |
| A2     | —      | Not used                                                 |
| A3     | ORN    | Right rear door speaker (RR SP—)                         |
| A4     | BRN    | Left rear door speaker (RL SP—)                          |
| A5     | WHT    | Right front door tweeter (FR TW SP—)                     |
| A6     | BRN    | Front passenger's door speaker (FR SP—)                  |
| A7     | LT BLU | Driver's door speaker (FL SP—)                           |
| A8     | WHT    | Left front door tweeter (FT TW SP—)                      |
| A9     | BLK    | Ground (G503)                                            |
| A10    | GRN    | Subwoofer (SUBW SP+)                                     |
| A11    | —      | Not used                                                 |
| A12    | BLU    | Right rear door speaker (RR SP+)                         |
| A13    | YEL    | Left rear door speaker (RL SP+)                          |
| A14    | RED    | Right front door tweeter (FR TW SP+)                     |
| A15    | GRY    | Front passenger's door speaker (FR SP+)                  |
| A16    | LT GRN | Driver's door speaker (FL SP+)                           |
| A17    | RED    | Left front door tweeter (FL TW SP+)                      |
| A18    | BLU    | No. 31 (20 A) fuse in the under-dash fuse/relay box (+B) |

#### CONNECTOR B (24P)

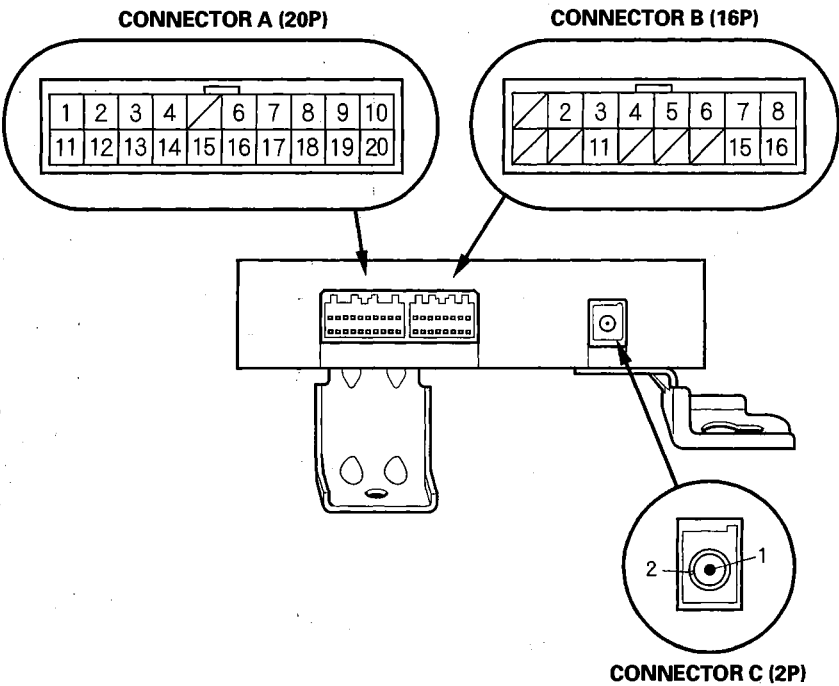
| Cavity | Wire   | Connects to              |
|--------|--------|--------------------------|
| B1     | BLK    | Ground (G504)            |
| B2     | PNK    | Audio unit (FL PRE—)     |
| B3     | GRY    | Audio unit (SH FL GND)   |
| B4     | PUR    | Audio unit (RL PRE—)     |
| B5     | RED    | Audio unit (FR PRE—)     |
| B6     | GRY    | Audio unit (SH FR GND)   |
| B7     | YEL    | Audio unit (RR PRE—)     |
| B8     | PNK    | Audio unit (SUBW PRE—)   |
| B9     | GRY    | Audio unit (SH SUBW GND) |
| B10    | —      | Not used                 |
| B11    | —      | Not used                 |
| B12    | —      | Not used                 |
| B13    | ORN    | Audio unit (AMP MUTE)    |
| B14    | BLU    | Audio unit (FL PRE+)     |
| B15    | GRY    | Audio unit (SH RL GND)   |
| B16    | LT BLU | Audio unit (RL PRE+)     |
| B17    | GRN    | Audio unit (FR PRE+)     |
| B18    | GRY    | Audio unit (RR PRE+)     |
| B19    | BRN    | Audio unit (SH RR GND)   |
| B20    | BLU    | Audio unit (SUBW PRE+)   |
| B21    | —      | Not used                 |
| B22    | —      | Not used                 |
| B23    | —      | Not used                 |
| B24    | YEL    | Audio unit (SWD +B)      |

# Audio System

## System Description (cont'd)

### AcuraLink Control Unit (XM Receiver) Connector for Inputs and Outputs (With AcuraLink)

When replacing an AcuraLink control unit (XM receiver) connector, match the wires to the cavities listed in the following tables.





#### CONNECTOR A (20P)

| Cavity | Wire   | Connects to                                                |
|--------|--------|------------------------------------------------------------|
| A1     | GRN    | No. 23 (10 A) fuse in the under-hood fuse/relay box (+B)   |
| A2     | PUR    | No. 35 (7.5 A) fuse in the under-dash fuse/relay box (ACC) |
| A3     | GRN    | Navigation unit (NAVI COMM 3)                              |
| A4     | RED    | Navigation unit (NAVI COMM 1)                              |
| A5     | —      | Not used                                                   |
| A6     | WHT    | Communication bus line (CAN-HI)                            |
| A7     | LT BLU | Audio unit, Navigation display unit (BUS+ (GA-NET))        |
| A8     | GRY    | Audio unit (AUDIO SH (GA-NET))                             |
| A9     | BLK    | Audio unit (AUDIO L+ (GA-NET))                             |
| A10    | RED    | Audio unit (AUDIO R+ (GA-NET))                             |
| A11    | BLK    | Ground (G505)                                              |
| A12    | BRN    | No. 10 (7.5 A) fuse in the under-dash fuse/relay box (IG1) |
| A13    | BLK    | Navigation unit (NAVI COMM 4)                              |
| A14    | WHT    | Navigation unit (NAVI COMM 2)                              |
| A15    | GRY    | Navigation unit (NAVI COMM SH)                             |
| A16    | RED    | Communication bus line (CAN LO)                            |
| A17    | PUR    | Audio unit, Navigation display unit (BUS— (GA-NET))        |
| A18    | GRY    | Audio unit, Navigation display unit (BUS SH (GA-NET))      |
| A19    | GRN    | Audio unit (AUDIO L— (GA-NET))                             |
| A20    | WHT    | Audio unit (AUDIO R— (GA-NET))                             |

#### CONNECTOR B (16P)

| Cavity | Wire | Connects to                                          |
|--------|------|------------------------------------------------------|
| B1     | —    | Not used                                             |
| B2     | GRY  | Audio unit, HandsFreeLink control unit (TELM SIG SH) |
| B3     | GRN  | Audio unit, HandsFreeLink control unit (TELM SIG+)   |
| B4     | PUR  | Audio unit (HIP MUTE)                                |
| B5     | PNK  | Communication bus line (B-CAN)                       |
| B6     | GRY  | HandsFreeLink control unit (HFL COMM SH)             |
| B7     | WHT  | HandsFreeLink control unit (HFL COMM 3)              |
| B8     | GRN  | HandsFreeLink control unit (HFL COMM 1)              |
| B9     | —    | Not used                                             |
| B10    | —    | Not used                                             |
| B11    | RED  | Audio unit, HandsFreeLink control unit (TELM SIG—)   |
| B12    | —    | Not used                                             |
| B13    | —    | Not used                                             |
| B14    | —    | Not used                                             |
| B15    | RED  | HandsFreeLink control unit (HFL COMM 4)              |
| B16    | BLK  | HandsFreeLink control unit (HFL COMM 2)              |

#### CONNECTOR C (2P)

| Cavity | Wire | Connects to                   |
|--------|------|-------------------------------|
| C1     | —    | AM/FM/XM antenna (SAT/TER)    |
| C2     | —    | AM/FM/XM antenna (SAT/TER SH) |

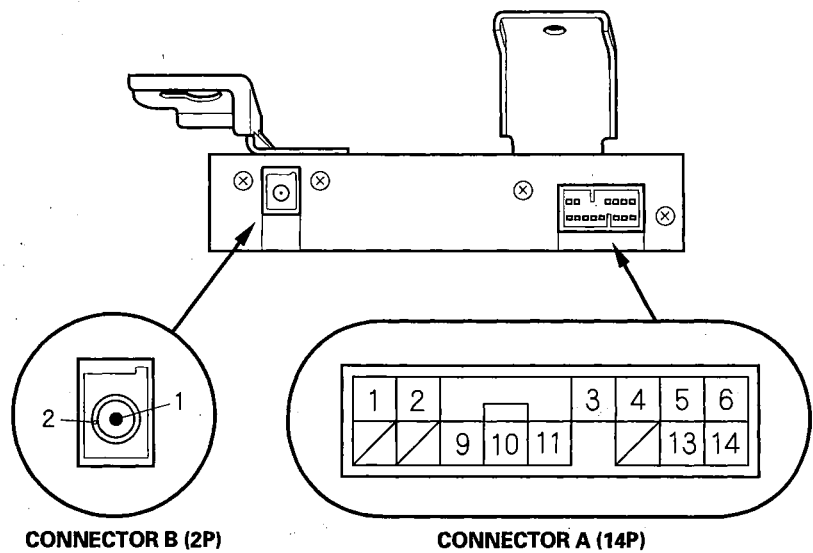
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# Audio System

## System Description (cont'd)

### XM Receiver Connector for Inputs and Outputs (USA models without AcuraLink)

When replacing an XM receiver connector, match the wires to the cavities listed in the following tables.



CONNECTOR A (14P)

| Cavity | Wire   | Connects to                    |
|--------|--------|--------------------------------|
| A1     | RED    | Audio unit (+B)                |
| A2     | YEL    | Audio unit (SYS ON)            |
| A3     | GRY    | Audio unit (BUS SH (GA-NET))   |
| A4     | GRY    | Audio unit (AUDIO SH (GA-NET)) |
| A5     | RED    | Audio unit (AUDIO R+ (GA-NET)) |
| A6     | BLK    | Audio unit (AUDIO L+ (GA-NET)) |
| A7     | —      | Not used                       |
| A8     | —      | Not used                       |
| A9     | LT BLU | Audio unit (BUS+ (GA-NET))     |
| A10    | PUR    | Audio unit (BUS— (GA-NET))     |
| A11    | BRN    | Audio unit (GND)               |
| A12    | —      | Not used                       |
| A13    | WHT    | Audio unit (AUDIO R— (GA-NET)) |
| A14    | GRN    | Audio unit (AUDIO L— (GA-NET)) |

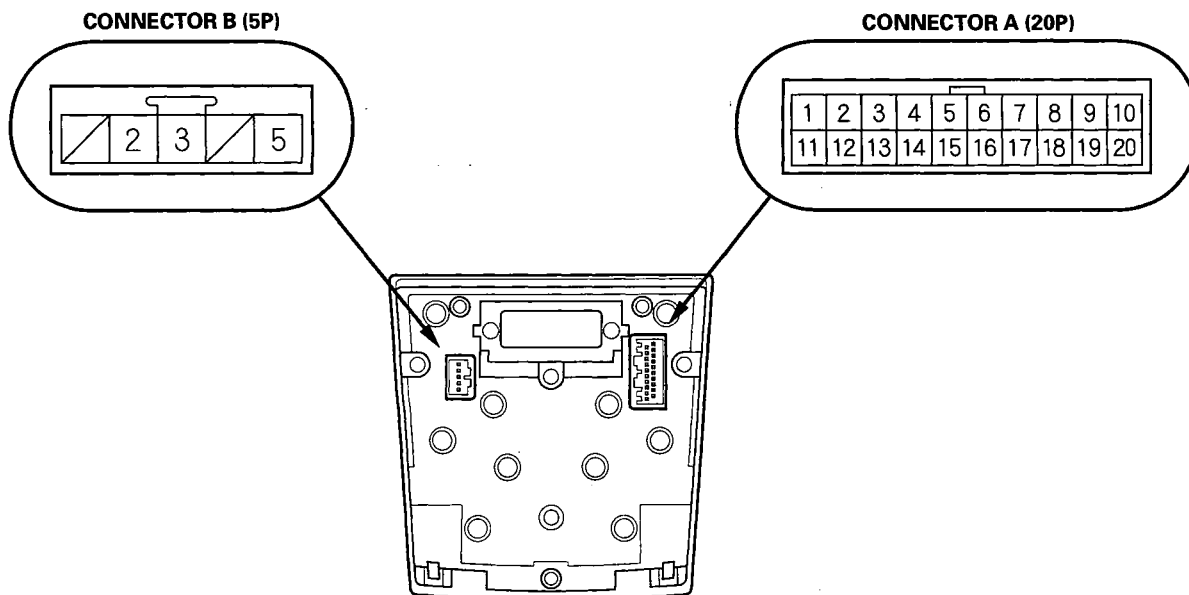
CONNECTOR B (2P)

| Cavity | Wire | Connects to                   |
|--------|------|-------------------------------|
| B1     | —    | AM/FM/XM antenna (SAT/TER)    |
| B2     | —    | AM/FM/XM antenna (SAT/TER SH) |



## Audio Switch Panel Connector for Inputs and Outputs (Without navigation)

When replacing an audio switch panel connector, match the wires to the cavities listed in the following tables.



### CONNECTOR A (20P)

| Cavity | Wire   | Connects to                              |
|--------|--------|------------------------------------------|
| A1     | BRN    | Audio unit (PNL 5V GND)                  |
| A2     | PNK    | Audio-HVAC display unit (LCD 5V GND)     |
| A3     | GRY    | Audio-HVAC display unit (LCD SH)         |
| A4     | WHT    | Audio unit (PNL CLK)                     |
| A5     | BLK    | Audio unit (PNL DATA 2)                  |
| A6     | RED    | Audio unit (PNL DATA 1)                  |
| A7     | YEL    | Audio unit (PNL CE)                      |
| A8     | GRN    | Audio unit (PNL RST)                     |
| A9     | GRY    | Audio unit (PNL SH1)                     |
| A10    | BLK    | Ground (G502)                            |
| A11    | RED    | Audio unit (PNL +5V)                     |
| A12    | LT GRN | Audio-HVAC display unit (LCD +5V)        |
| A13    | BLK    | Audio-HVAC display unit (LCD RST)        |
| A14    | RED    | Audio-HVAC display unit (LCD CE)         |
| A15    | WHT    | Audio-HVAC display unit (LCD DATA 1)     |
| A16    | GRN    | Audio-HVAC display unit (LCD CLK)        |
| A17    | BLU    | From passenger's cut off indicator (PTT) |

| Cavity | Wire | Connects to                                                 |
|--------|------|-------------------------------------------------------------|
| A18    | RED  | Dash lights brightness controller (ILL— BULB)               |
| A19    | WHT  | From passenger's cut off indicator (IG1)                    |
| A20    | GRY  | No. 10 (7.5 A) fuse in the under-dash fuse/relay box (ILL+) |

### CONNECTOR B (5P)

| Cavity | Wire   | Connects to            |
|--------|--------|------------------------|
| B1     | —      | Not used               |
| B2     | GRY    | Audio unit (PNL SH2)   |
| B3     | PUR    | Audio unit (ENCORDER—) |
| B4     | —      | Not used               |
| B5     | LT BLU | Audio unit (ENCORDER+) |

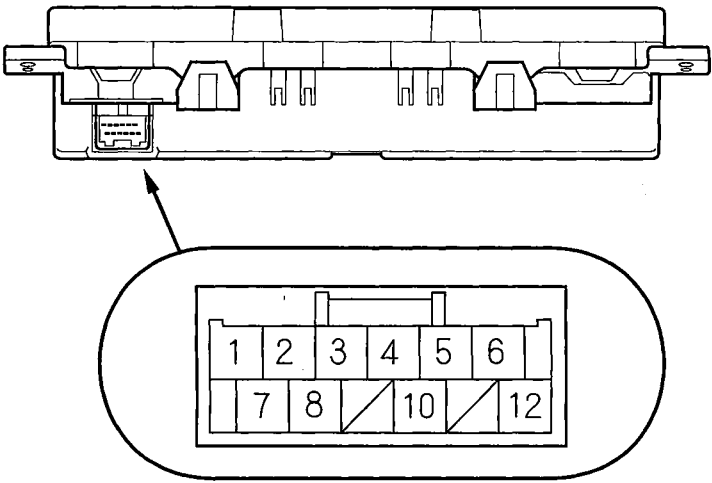
(cont'd)

# Audio System

## System Description (cont'd)

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

When replacing an audio-HVAC subdisplay unit connector, match the wires to the cavities listed in the following table.

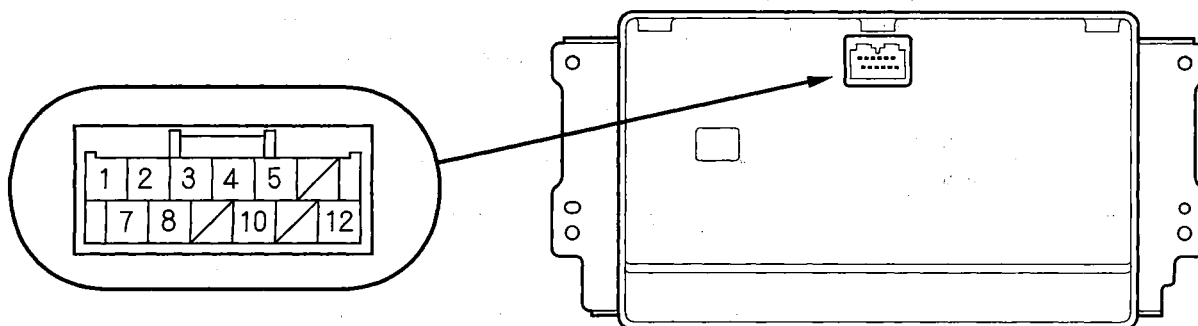


| Cavity | Wire | Connects to             |
|--------|------|-------------------------|
| 1      | GRY  | Audio unit (PNL SH1)    |
| 2      | YEL  | Audio unit (PNL DATA1)  |
| 3      | BLU  | Audio unit (PNL RST)    |
| 4      | ORN  | Audio unit (PNL CE)     |
| 5      | PUR  | Audio unit (PNL CLK)    |
| 6      | BLK  | Ground (G502)           |
| 7      | ORN  | Audio unit (LCD BL-)    |
| 8      | GRN  | Audio unit (LCD BL+)    |
| 9      | ---  | Not used                |
| 10     | RED  | Audio unit (PNL +5V)    |
| 11     | ---  | Not used                |
| 12     | BRN  | Audio unit (PNL 5V GND) |



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

When replacing an audio-HVAC display unit connector, match the wires to the cavities listed in the following tables.

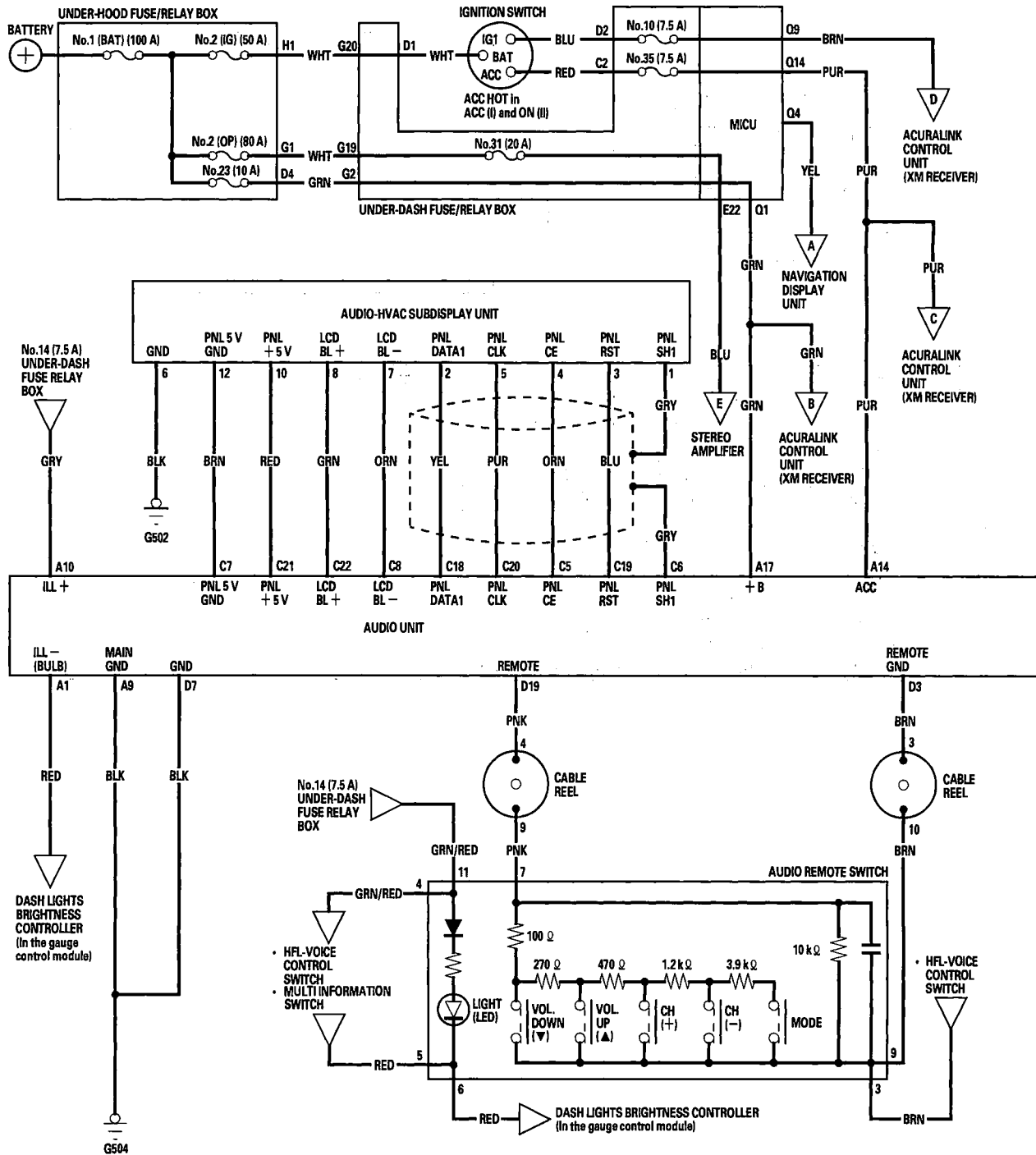


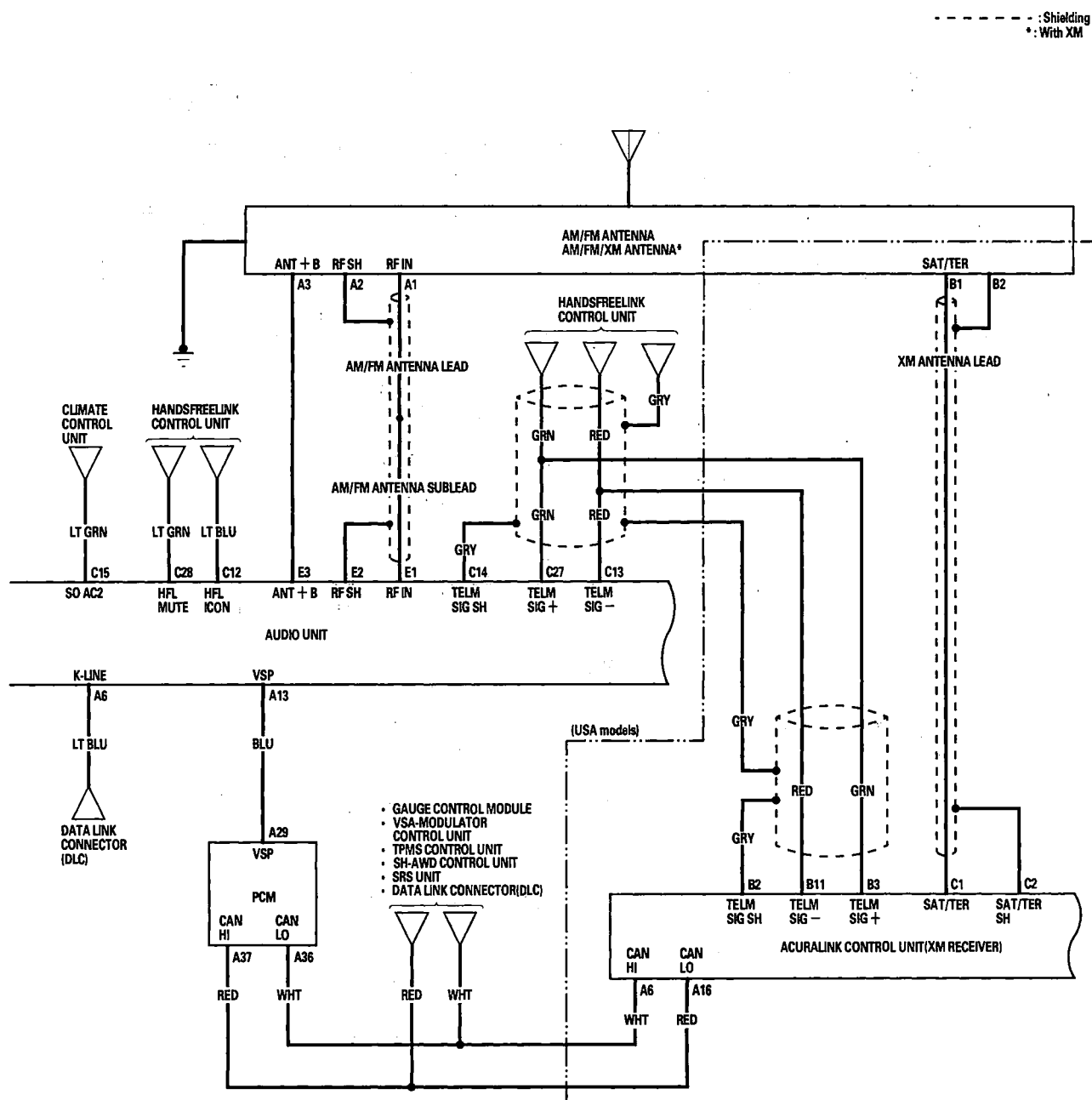
| Cavity | Wire   | Connects to                     |
|--------|--------|---------------------------------|
| 1      | GRY    | Audio switch panel (LCD SH)     |
| 2      | WHT    | Audio switch panel (LCD DATA 1) |
| 3      | BLK    | Audio switch panel (LCD RST)    |
| 4      | RED    | Audio switch panel (LCD CE)     |
| 5      | GRN    | Audio switch panel (LCD CLK)    |
| 6      | —      | Not used                        |
| 7      | ORN    | Audio unit (LCD BL—)            |
| 8      | GRN    | Audio unit (LCD BL+)            |
| 9      | —      | Not used                        |
| 10     | LT GRN | Audio switch panel (LCD +5V)    |
| 11     | —      | Not used                        |
| 12     | PNK    | Audio switch panel (LCD 5V GND) |

# Audio System

## Circuit Diagram

With ELS Audio System



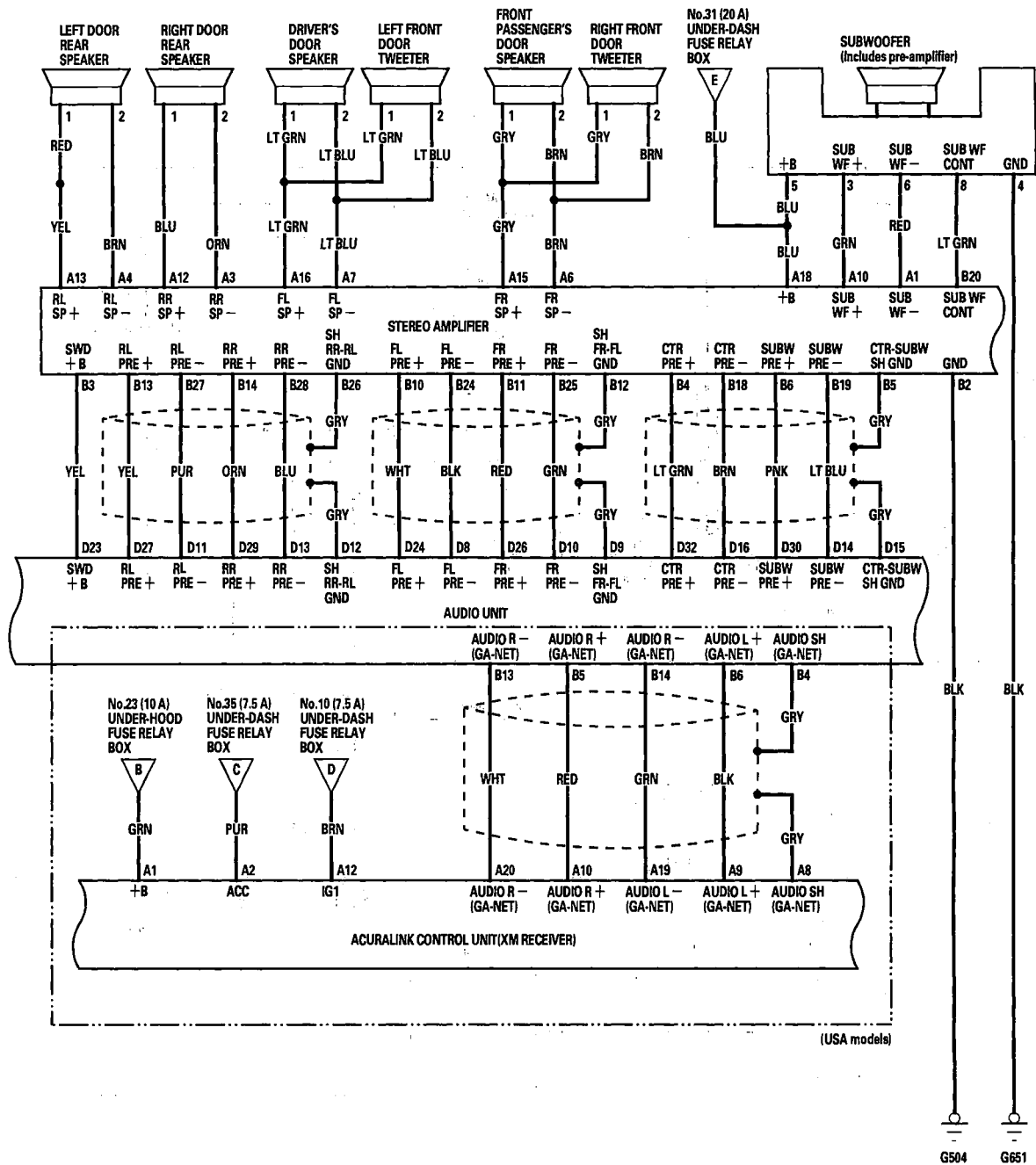


(cont'd)

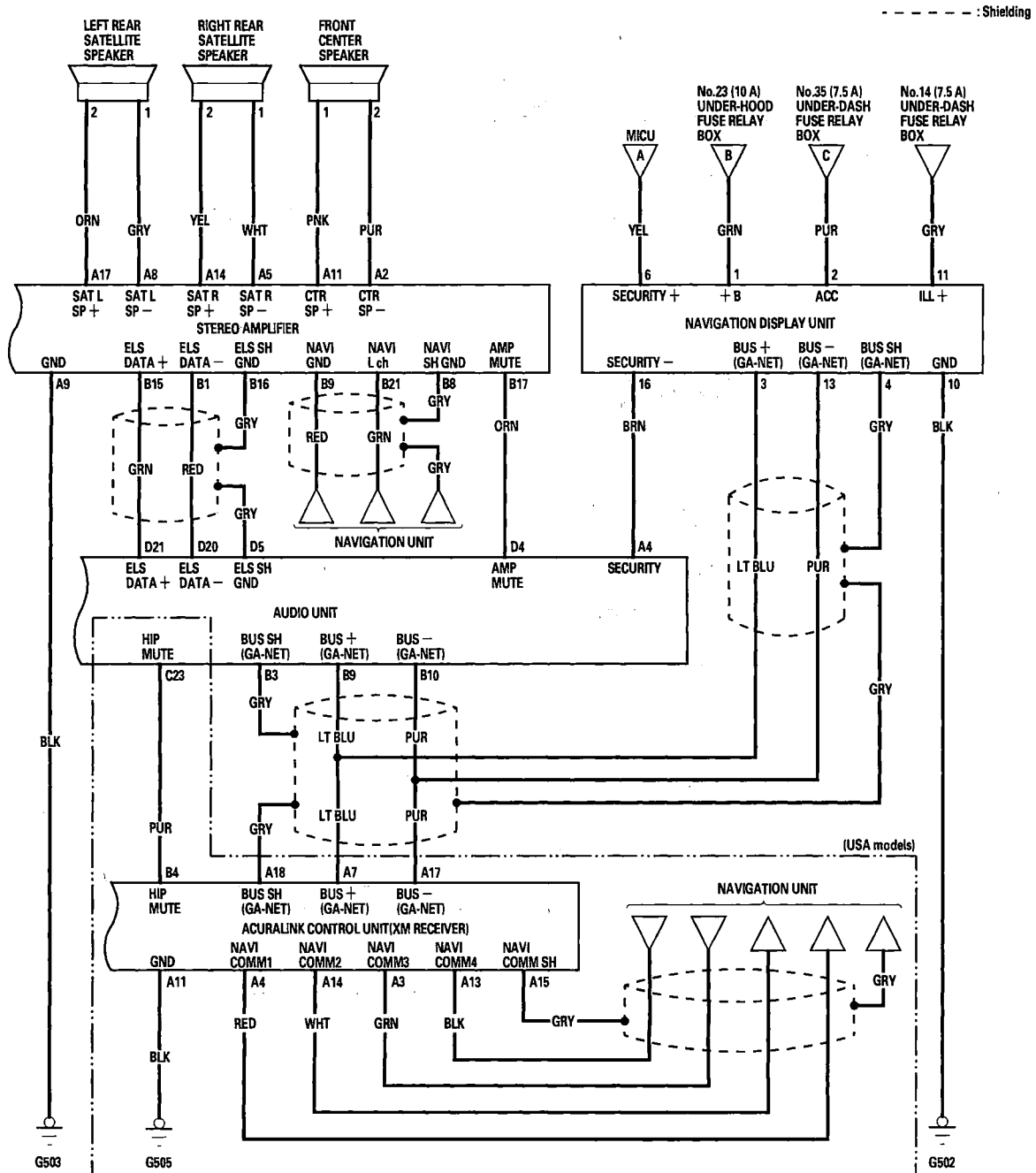
# Audio System

## Circuit Diagram (cont'd)

With ELS Audio System



cardiagn.com

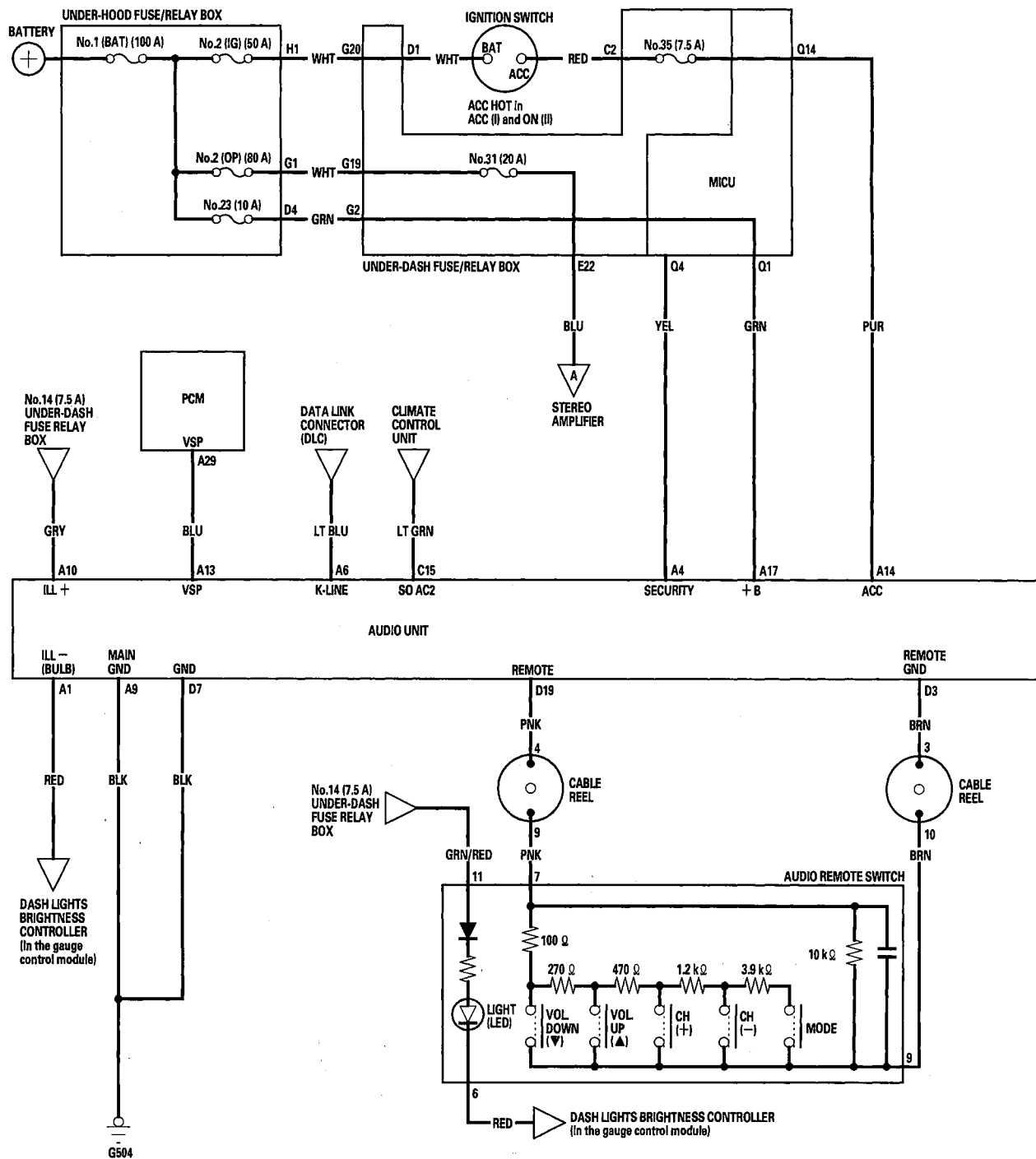


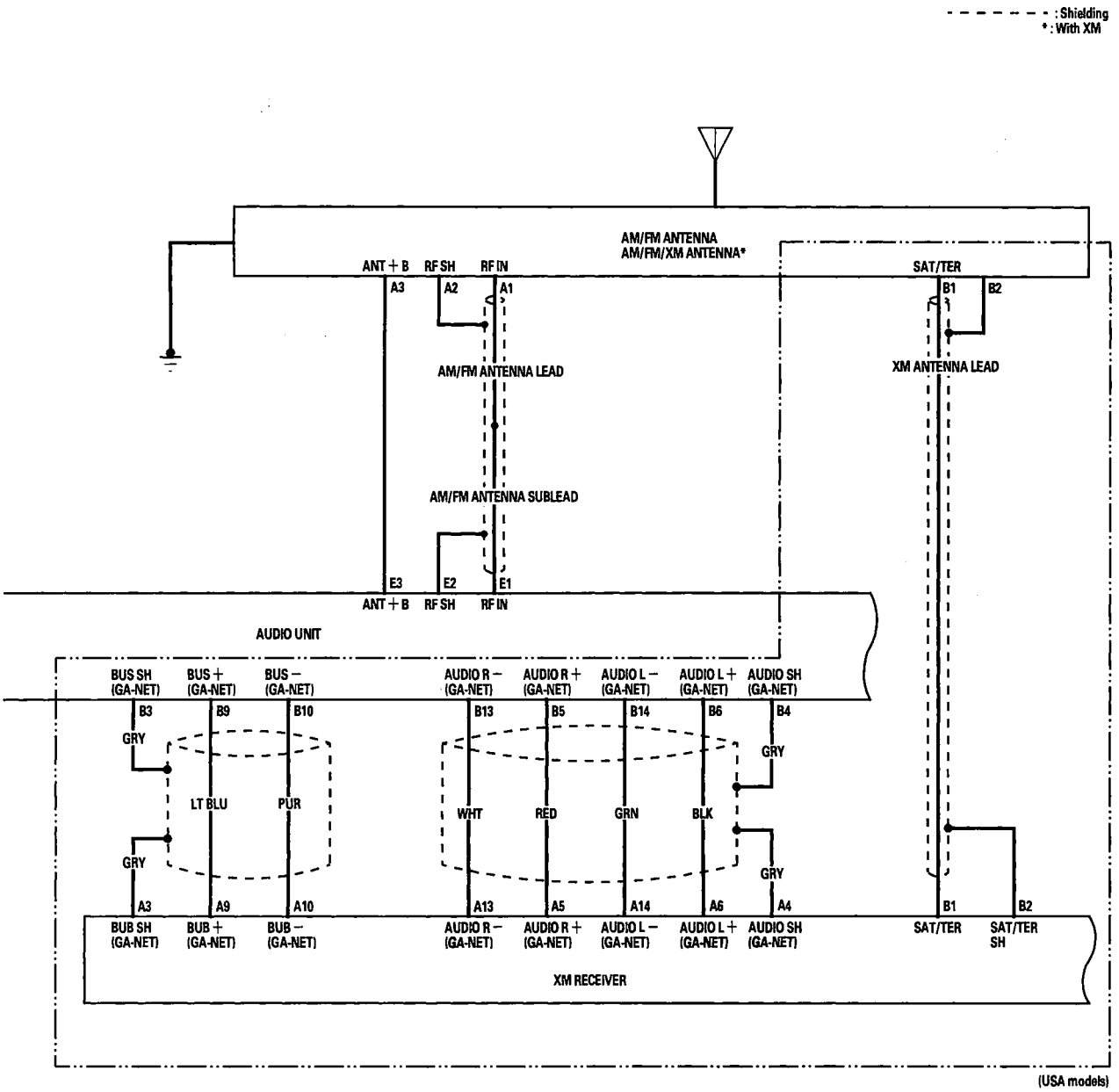
(cont'd)

# Audio System

## Circuit Diagram (cont'd)

With Premium Audio System



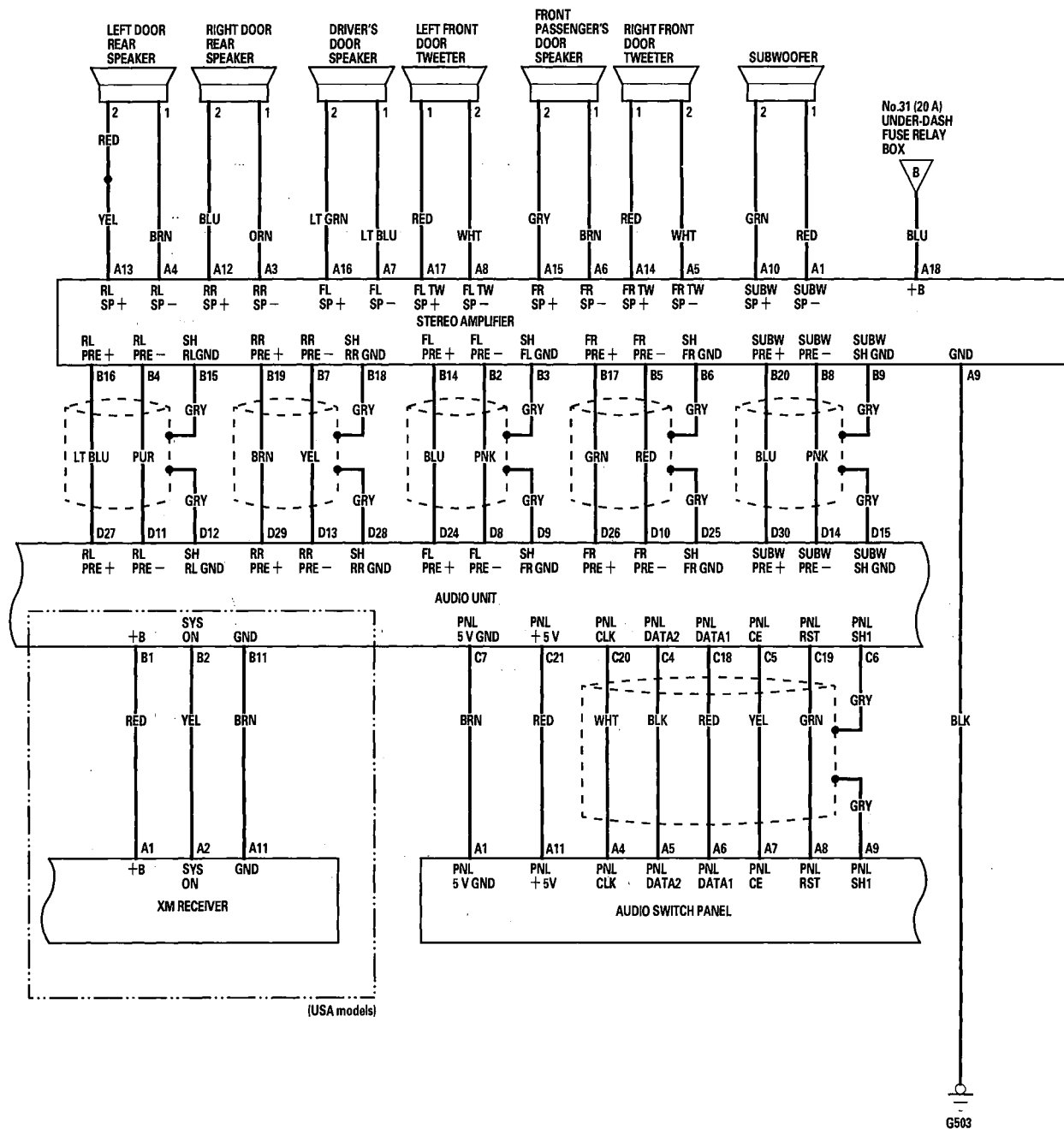


(cont'd)

**23-36**

**BACK**

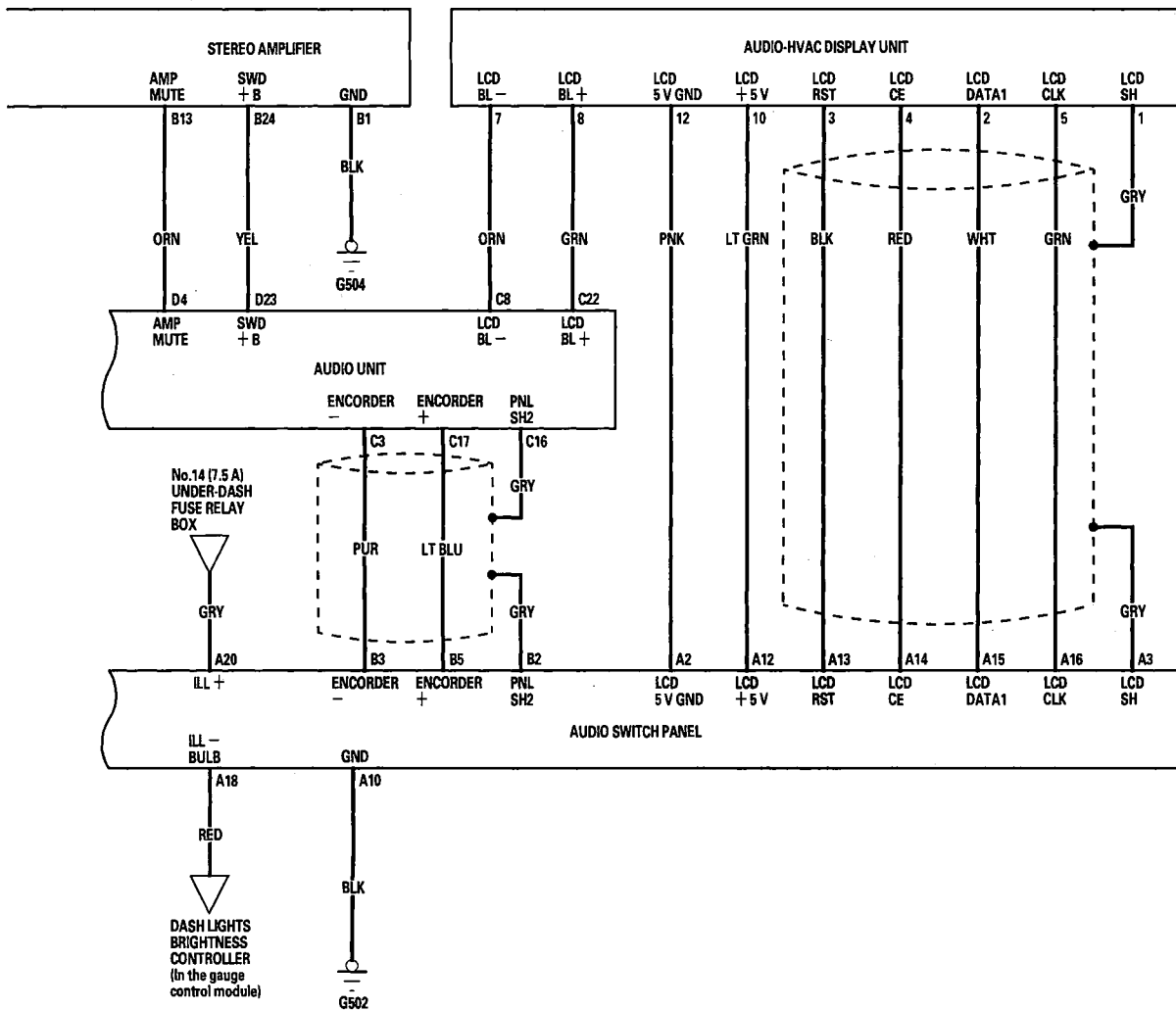
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----- : Shielding

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# Audio System

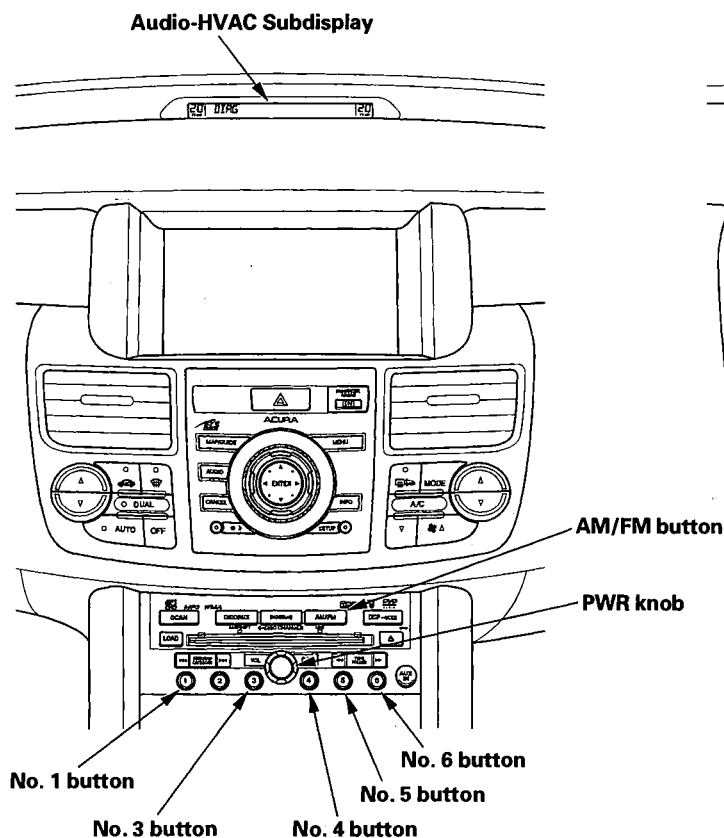
## Self-diagnostic Function

The audio system has a self-diagnostic function.

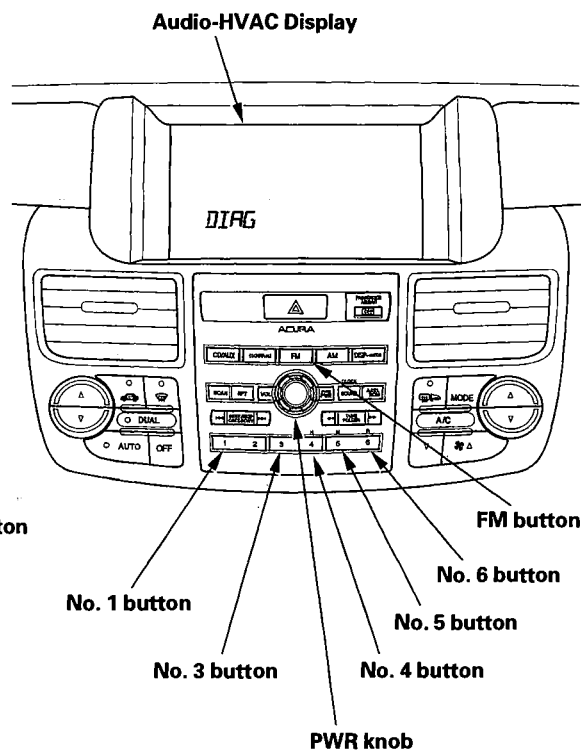
### How to check for audio system condition

1. Turn the ignition switch to the ACC (I) or ON (II).
2. Push and hold the "No. 1" and "No. 6" buttons. While holding the buttons, push the "PWR" knob to ON. Release the buttons and the self-diagnostic function will begin.

With ELS audio system



With premium audio system



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

#### "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

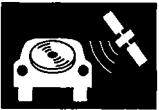
Duty (for the Illumination dim) indication mode: Indicates the duty for the Illumination dim.

#### "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.



4. The self-diagnostic function will end when you turn the audio unit off, or turn the ignition switch off.

NOTE: Any other diagnostic screens shown are for the audio manufactures purpose only.

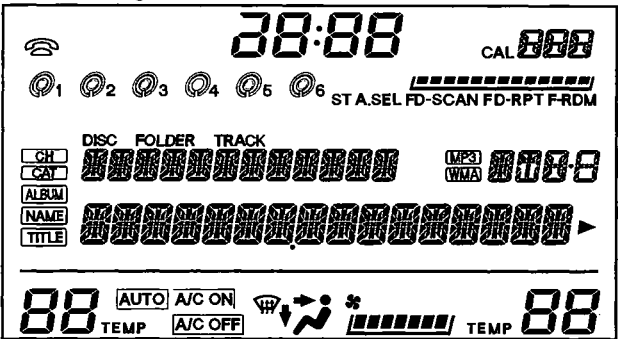
Display Specifications

Entry LCD lighting (No. 3 button)

With navigation

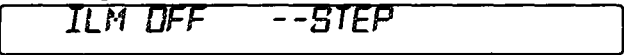


Without navigation

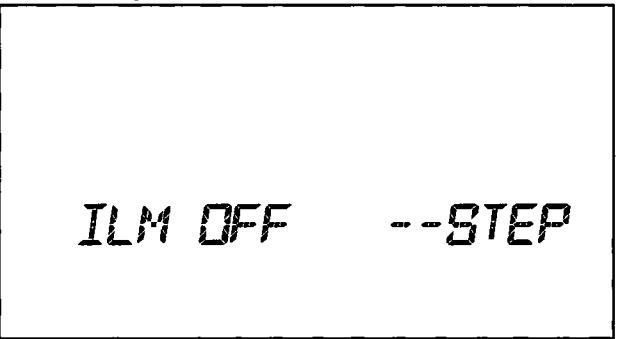


Duty (for the illumination) indication (No. 4 button)

With navigation



Without navigation

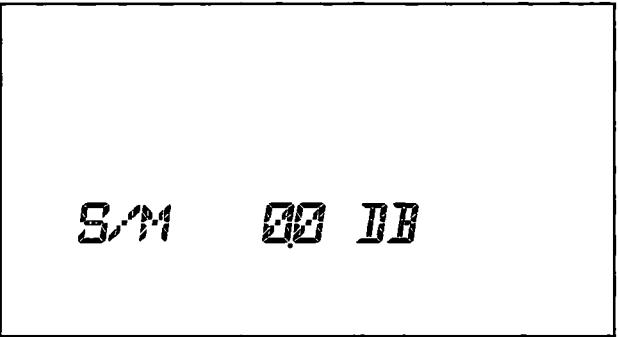


Reception level indication (AM/FM or FM button)

With navigation



Without navigation



(cont'd)

# Audio System

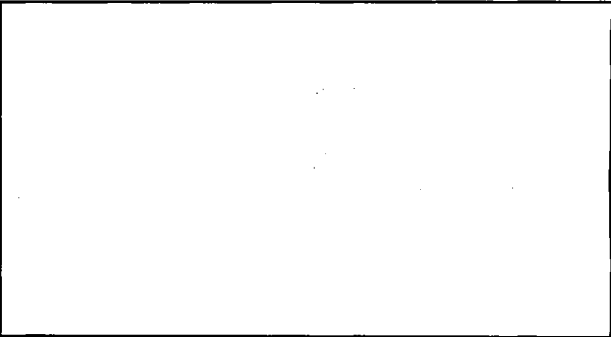
## Self-diagnostic Function (cont'd)

Entry LCD lights-outs (No. 3 button)

With navigation



Without navigation

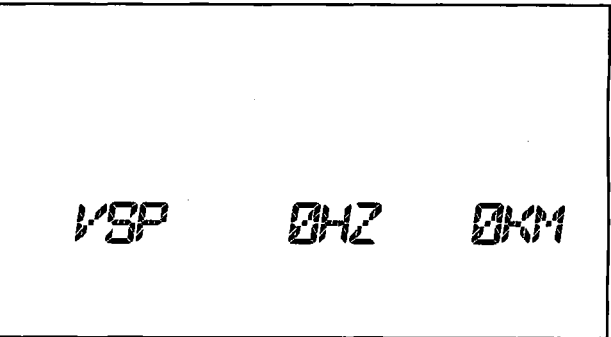


Vehicle speed pulse indication (No. 5 button)

With navigation



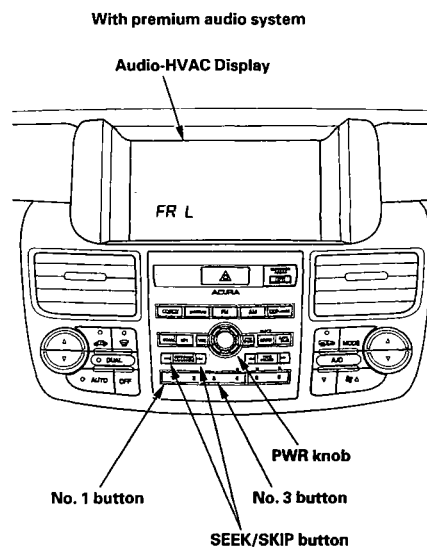
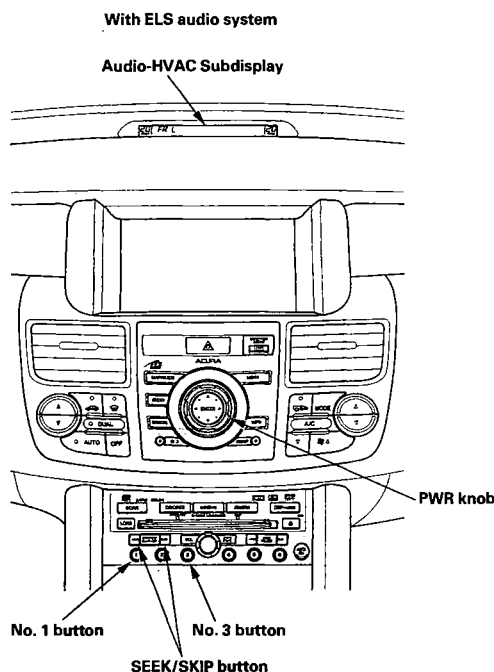
Without navigation





## Speaker Check Mode

1. Turn the ignition switch to the ACC (I) or ON (II).
2. Push and hold the "No. 1" and "No. 3" buttons. While holding the buttons, push the "PWR" knob to ON. Release the buttons and the speaker check mode will begin. Low-Frequency hum should sound for one speaker.
3. Each time you press the "SEEK/SKIP" button, the speaker outputs a beep sound in the following order.



### Display Specifications

(◀◀) is pressed: ①→②→③→④→⑤→⑥→⑦  
 (▶▶) is pressed: ①→⑦→⑥→⑤→④→③→②

|   | Speaker                                       | Displayed Segments | Remarks                                                            |
|---|-----------------------------------------------|--------------------|--------------------------------------------------------------------|
| ① | Driver's Door Speaker and Tweeter             | FR L               |                                                                    |
| ② | Front Center Speaker                          | FR CNT             | Applicable to the ELS audio system                                 |
| ③ | Front Passenger's Door Speaker and Tweeter    | FR R               |                                                                    |
| ④ | Right Rear Door Speaker and Satellite Speaker | RR R               | Rear right satellite speaker is applicable to the ELS audio system |
| ⑤ | Subwoofer                                     | SW                 |                                                                    |
| ⑥ | Left Rear Door Speaker and Satellite Speaker  | RR L               | Rear left satellite speaker is applicable to the ELS audio system  |
| ⑦ | All Speakers                                  | ALL                |                                                                    |

NOTE: Any other diagnostic screens shown are for the audio manufactures purpose only.

4. The speaker check mode will end when you turn the audio unit off, or turn the ignition switch off.

(cont'd)

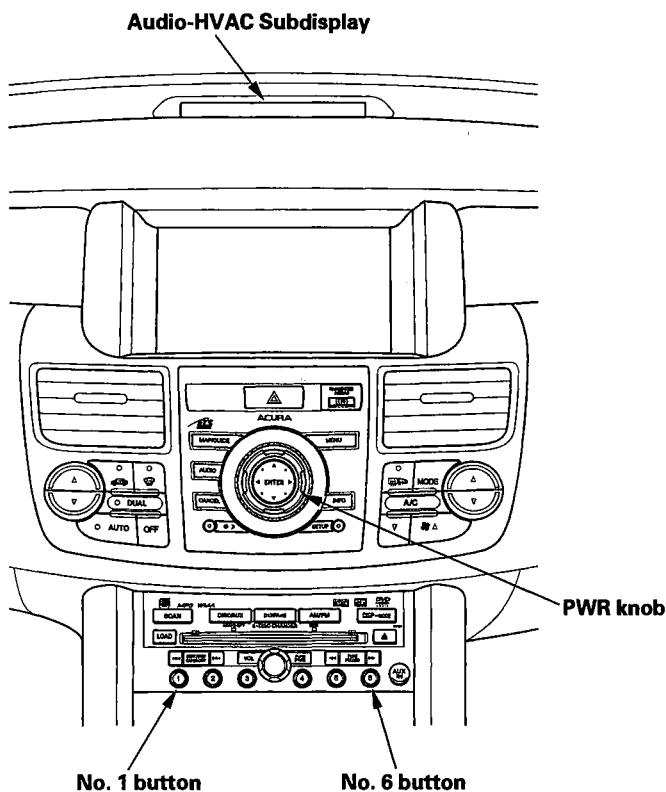
# Audio System

## Self-diagnostic Function (cont'd)

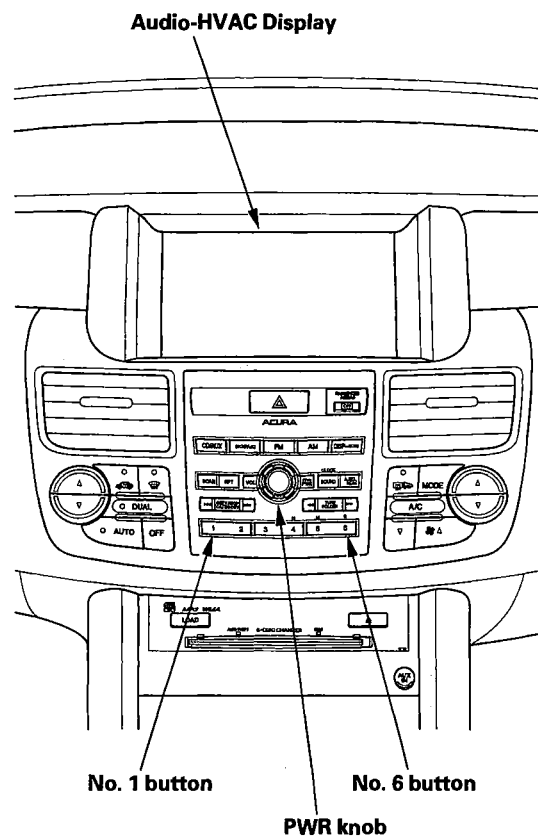
### Communication Connection Check Mode

1. Turn the ignition switch to the ACC (I) or ON (II).
2. Push and hold the "No. 1" and "No. 6" buttons. While holding the buttons, push the "PWR" knob to ON. Release the buttons.
3. Pressing the "No. 6" button, and the Communication connection check mode begins.

With ELS audio system



With premium audio system





4. Each time you press the "No. 6" key, the communication connection state is displays in the following order.

**Display Specifications**

| 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 ELS audio system |
| AMP OK 04          | The stereo amplifier is connected (Error has occurred four times in the past).  | Applicable to the ELS audio system |
| AMP NG             | The stereo amplifier is not connected.                                          | Applicable to the ELS audio system |

NOTE: Any other diagnostic screens shown are for the manufactures purpose only.

5. The self-diagnostic function ends when you turn the audio unit, or the ignition switch off.

# Audio System

## Error Codes

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

| Error Code Displayed | Possible Cause                                                                                                    | Solution                                                                                                                                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHECK DISC LOAD      | Cannot load disc.                                                                                                 | Eject the disc and try another one.                                                                                                                                                                                      |
| MECH ERROR           | There is a problem with the disc player. A common problem is disc labels coming off the disc while in the player. | Try to eject the disc and try another one. If there is still a problem, replace the audio unit.                                                                                                                          |
| FORMAT               | A disc was inserted that has a format that is not recognized.                                                     | Eject the disc, and try another one.                                                                                                                                                                                     |
| HOT                  | 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.                          |
| XM LOADING           | XM radio is acquiring audio or program information.                                                               | Wait until the radio receives the information.                                                                                                                                                                           |
| XM NO SIGNAL         | Lost 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 will disappear once the update finishes.                                                                                                                                                                    |
| XM ANTENNA           | XM antenna error.                                                                                                 | Repair the open or short in the terrestrial or satellite antenna. Substitute the XM antenna 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 at (800) 852-9696.                                                                                                 |
| CODE ERROR 1         | Anti-theft code mismatch (1 <sup>st</sup> try).                                                                   | Enter the correct anti-theft code.                                                                                                                                                                                       |
| CODE ERROR E         | Anti-theft code mismatch (10 <sup>th</sup> try).                                                                  | Remove fuse No. 23 (10 A) 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 radio reception in an open area. Poor reception/interference can be caused by the following:

- The radio station is far away.
- A tall building, a mountain, or high-voltage power line is nearby.

1. Do the seek stop test (see page 23-98).

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

**YES**—Multipath interference or weak station. Operation is normal. ■

**NO**—Go to step 2.

2. Check if the radio reception/interference is the same in several locations.

*Is the reception/interference the same?*

**YES**—Go to step 3.

**NO**—Multipath interference or weak station. Operation is normal. ■

3. Check the reception/interference while the engine is running.

*Is there noise 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 4.

4. Check the AM/FM antenna mast for cracks, or other damage. Verify that the AM/FM antenna mast is tight.

NOTE: Do not use any tools to tighten the AM/FM antenna mast.

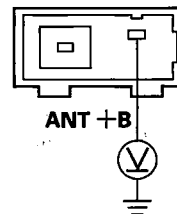
*Is there any damage?*

**YES**—Replace the AM/FM antenna mast (see page 23-110). ■

**NO**—Go to step 5.

5. Disconnect the AM/FM antenna connector A (3P).
6. With the radio turned ON, measure the voltage between AM/FM antenna connector A (3P) terminal No. 3 and body ground.

#### AM/FM ANTENNA CONNECTOR A (3P)



Terminal side of male terminals

*Is there battery voltage?*

**YES**—Go to step 11.

**NO**—Go to step 7.

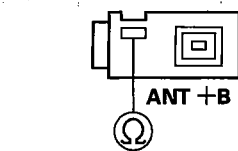
(cont'd)

# Audio System

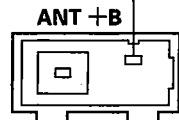
## Symptom Troubleshooting (cont'd)

7. Remove the audio unit (see page 23-99).
8. Disconnect audio unit connector E (3P).
9. Check for continuity between audio unit connector E (3P) No. 3 terminal and the AM/FM antenna connector A (3P) terminal No. 3.

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



**AM/FM ANTENNA CONNECTOR A (3P)**  
Terminal side of male terminals



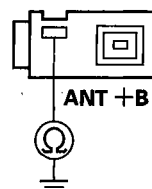
*Is there continuity?*

**YES**—Go to step 10.

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

10. Check for continuity between the audio unit connector E (3P) terminal No. 3 and body ground.

**AUDIO UNIT CONNECTOR E (3P)**



Terminal side of female terminals

*Is there continuity?*

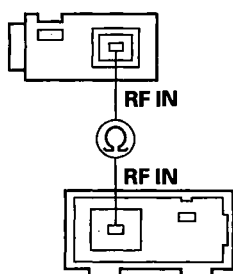
**YES**—Repair short to body ground in the wire between the audio unit and AM/FM antenna. ■

**NO**—Replace the audio unit. ■



11. Remove the audio unit (see page 23-99).
12. Disconnect audio unit connector E (3P).
13. Check for continuity between audio unit connector E (3P) No. 1 terminal and the AM/FM antenna connector A (3P) terminal No. 1.

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



**AM/FM ANTENNA CONNECTOR A (3P)**  
Terminal side of male terminals

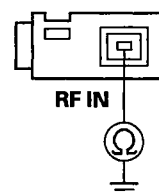
*Is there continuity?*

**YES**—Go to step 14.

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

14. Check for continuity between the audio unit connector E (3P) terminal No. 1 and body ground.

**AUDIO UNIT CONNECTOR E (3P)**



Terminal side of female terminals

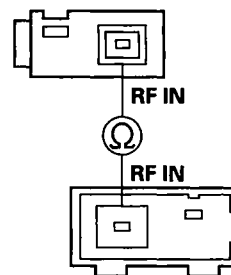
*Is there continuity?*

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

**NO**—Go to step 15.

15. Check for continuity between the audio unit connector E (3P) terminal No. 2 and the AM/FM antenna connector A (3P) terminal No. 2.

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



**AM/FM ANTENNA CONNECTOR A (3P)**  
Terminal side of male terminals

*Is there continuity?*

**YES**—Go to step 16.

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

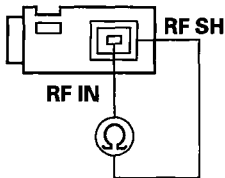
(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

16. Check for continuity between the audio unit connector E (3P) terminal No. 1 and No. 2.

AUDIO UNIT CONNECTOR E (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 and recheck. If the reception is still poor, replace the audio unit. ■

### Power switch will not turn ON (No information display and no sound)

NOTE: Always check the connectors for poor connections or loose terminals.

1. With the ignition switch ON (II), push the power switch ON to see if audio unit turns ON.

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

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

**NO**—Go to step 2.

2. Turn the ignition switch OFF.

3. Check the No. 23 (10 A) fuse in the under-hood fuse/relay box and the No. 35 (7.5 A) fuse in the under-dash fuse/relay box.

*Are the fuses OK?*

**YES**—Go to step 4.

**NO**—Replace the fuse, and recheck. ■

4. Remove the audio unit (see page 23-99). Check that the audio unit connectors are properly connected.

*Is it connected properly?*

**YES**—Go to step 5.

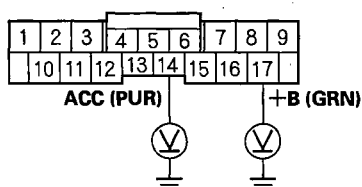
**NO**—Repair poor connections and reconnect the connector, and recheck the function. ■

5. Disconnect audio unit connector A (17P).
6. Turn the ignition switch ON (II).



7. Measure the voltage between the No. 14 and No. 17 terminals of audio unit connector A (17P) and body ground.

AUDIO UNIT CONNECTOR A (17P)



Wire side of female terminals

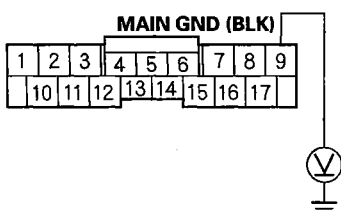
*Is there battery voltage?*

**YES**—Go to step 8.

**NO**—Repair open in the wire(s) between the No. 23 (10 A) fuse in the under-hood fuse/relay box, the No. 35 (7.5 A) fuse in the under-dash fuse/relay box and the audio unit. ■

8. Reconnect audio unit connector A (17P).
9. Measure the voltage between audio unit connector A (17P) terminal No. 9 and body ground.

AUDIO UNIT CONNECTOR A (17P)



Wire side of female terminals

*Is there less than 0.1 V?*

**YES**—

- With ELS audio system: Replace the audio unit. ■
- With premium audio system: Go to step 10.

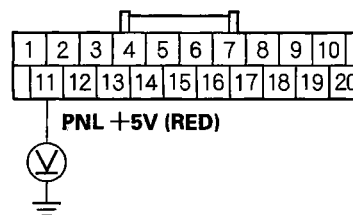
**NO**—Repair open in the wire between the audio unit connector A (17P) terminal No. 9 and body ground (G504) (see page 22-60). ■

10. Disconnect audio switch panel connector A (20P).

11. Turn the ignition switch ON (II).

12. Measure the voltage between the audio switch panel connector A (20P) terminal No. 11 and body ground.

AUDIO SWITCH PANEL CONNECTOR A (20P)



Wire side of female terminals

*Is there about 5 V?*

**YES**—Go to step 13.

**NO**—Repair open in the wire between the audio switch panel and body ground. ■

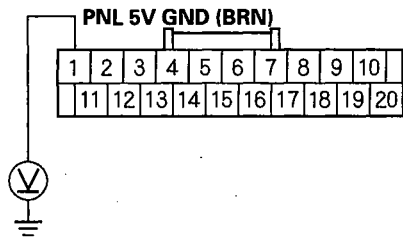
(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

13. Measure the voltage between audio switch panel connector A (20P) terminal No. 1 and body ground.

**AUDIO SWITCH PANEL CONNECTOR A (20P)**



Wire side of female terminals

*Is there less than 0.5 V?*

**YES**—Substitute a known-good audio switch panel, then reconnect all connectors and recheck. If the symptom/indication goes away, replace the original audio switch panel. If symptom/indication is still present, replace the audio unit. ■

**NO**—Repair open in the wire between audio switch panel connector A (20P) terminal No. 1 and audio unit connector C (28P) terminal No. 7 or check for a short to power. If there is no short to power, substitute a known-good audio unit and retest. If the symptom goes away, replace the original audio unit. ■

### Power will not turn OFF

1. With the ignition switch ON (II), push the power switch OFF or turn the ignition switch OFF to see if the audio unit turns OFF.

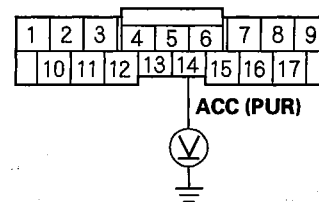
*Does the audio unit turn OFF?*

**YES**—Operation is normal. ■

**NO**—Go to step 2.

2. Turn the ignition switch OFF.
3. Remove the audio unit (see page 23-99). Disconnect audio unit connector A (17P).
4. Measure the voltage between the No. 14 terminal of audio unit connector A (17P) and body ground.

**AUDIO UNIT CONNECTOR A (17P)**



Wire side of female terminals

*Is there voltage?*

**YES**—Check for short to power on the PUR wire. ■

**NO**—Replace the audio unit. ■



## No sound is heard from speaker(s) (display is normal) (with ELS audio system)

### NOTE:

- Set the fader and balance positions to the center.
- Before doing the troubleshooting, do the power switch will not turn ON troubleshooting (see page 23-48).
- On vehicles equipped with the ELS audio system, verify the navigation and HandsFreeLink voice system are not activated. Press each system's back button to return the audio unit to the normal operating mode.

1. Check that the volume button is not set to the min level.

*Is it at MIN level?*

**YES**—Raise the volume level, and recheck the function. ■

**NO**—Go to step 2.

2. Do the speaker check mode with the self-diagnostic function (see page 23-38).

*Is there a speaker(s) detected that has no sound?*

**YES**—Go to step 3.

**NO**—System is OK at this time. Check for poor connections at the audio unit, speakers and stereo amplifier. ■

3. Turn the ignition switch OFF.

4. Check the faulty speaker(s) for damage.

*Is there any damage?*

**YES**—Replace the speaker and recheck. ■

**NO**—Go to step 5.

5. Remove the faulty speaker(s) (see page 23-102), and disconnect its connector.

6. Check the speaker 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. ■

7. Test the speaker(s) (see page 23-102).

*Is the speaker OK?*

**YES**—Go to step 8.

**NO**—Replace the speaker(s). ■

8. Disconnect stereo amplifier connectors A (18P) and speaker connector.
9. Check for continuity between body ground and stereo amplifier connector A (18P) according to the table. Then check for continuity between both pairs of speaker wires (+) and (−) at the stereo amplifier connector A (18P).

| Speaker                                       | Stereo amplifier terminal | Wire color |
|-----------------------------------------------|---------------------------|------------|
| Driver's door speaker, Left tweeter           | A16 (+)                   | LT GRN     |
|                                               | A7 (−)                    | LT BLU     |
| Front passenger's door speaker, Right tweeter | A15 (+)                   | GRY        |
|                                               | A6 (−)                    | BRN        |
| Front center speaker                          | A11 (+)                   | PNK        |
|                                               | A2 (−)                    | PUR        |
| Right rear door speaker                       | A12 (+)                   | BLU        |
|                                               | A3 (−)                    | ORN        |
| Right rear satellite speaker                  | A14 (+)                   | YEL        |
|                                               | A5 (−)                    | WHT        |
| Subwoofer                                     | A10 (+)                   | GRN        |
|                                               | A1 (−)                    | RED        |
| Left rear satellite speaker                   | A17 (+)                   | ORN        |
|                                               | A8 (−)                    | GRY        |
| Left rear door speaker                        | A13 (+)                   | YEL        |
|                                               | A4 (−)                    | BRN        |

*Is there continuity?*

**YES**—Repair short in the wire(s) between the stereo amplifier and the speaker(s) or short between the (+) and (−) speaker wires. ■

**NO**—Go to step 10.

(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

10. Connect the speaker connector terminal (+) and (−) with a jumper wire.
11. Check for continuity between stereo amplifier connector A (18P) according to the table.

| Speaker                                 | Stereo amplifier terminal | Wire color |
|-----------------------------------------|---------------------------|------------|
| Driver's door speaker, Left tweeter     | A16 (+)                   | LT GRN     |
|                                         | A7 (−)                    | LT BLU     |
| Passenger's door speaker, Right tweeter | A15 (+)                   | GRY        |
|                                         | A6 (−)                    | BRN        |
| Front center speaker                    | A11 (+)                   | PNK        |
|                                         | A2 (−)                    | PUR        |
| Right rear door speaker                 | A12 (+)                   | BLU        |
|                                         | A3 (−)                    | ORN        |
| Right rear tweeter                      | A14 (+)                   | YEL        |
|                                         | A5 (−)                    | WHT        |
| Subwoofer                               | A10 (+)                   | GRN        |
|                                         | A1 (−)                    | RED        |
| Left rear tweeter                       | A17 (+)                   | ORN        |
|                                         | A8 (−)                    | GRY        |
| Left rear door speaker                  | A13 (+)                   | YEL        |
|                                         | A4 (−)                    | BRN        |

*Is there continuity?*

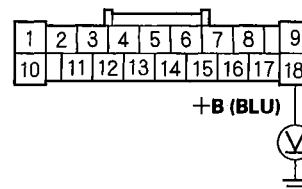
**YES**—Go to step 12.

**NO**—Repair open in the wire between the stereo amplifier and the speaker. ■

12. Disconnect the jumper wire.

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

**STEREO AMPLIFIER CONNECTOR A (18P)**



Wire side of female terminals

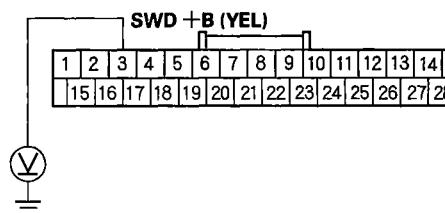
*Is there battery voltage?*

**YES**—Go to step 14.

**NO**—Repair open in the wire between No. 31 (20 A) fuse in the under-dash fuse/relay box and stereo amplifier connector A (18P) terminal No. 18. ■

14. Disconnect the stereo amplifier connector B (28P).
15. Turn the ignition switch ON (II).
16. Measure the voltage between stereo amplifier connector B (28P) terminal No. 3 and body ground.

**STEREO AMPLIFIER CONNECTOR B (28P)**



Wire side of female terminals

*Is there battery voltage?*

**YES**—Go to step 17.

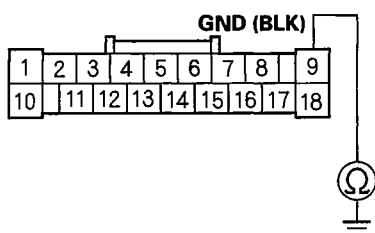
**NO**—Repair open in the wire between the stereo amplifier connector B (28P) terminal No. 3 and audio unit connector D (32P) terminal No. 23. ■

17. Turn the ignition switch OFF.



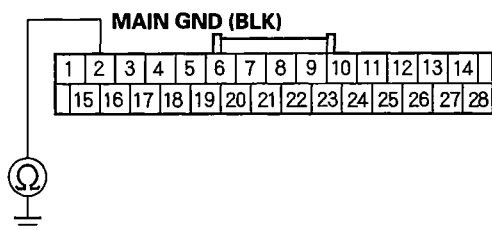
18. Check for continuity between stereo amplifier connector A (18P) terminal No. 9, connector B (28P) terminal No. 2 and body ground.

#### STEREO AMPLIFIER CONNECTOR A (18P)



Wire side of female terminals

#### STEREO AMPLIFIER CONNECTOR B (28P)



Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 19.

**NO**—Repair open to the body ground in the wire between the stereo amplifier connector A (18P) terminal No. 9, connector B (28P) terminal No. 2 and body ground (G503, G504) (see page 22-60). ■

19. Reconnect the stereo amplifier connector A (18P) and B (28P).

20. Do the communication connection check mode with the self-diagnostic function (see page 23-38).

*Is the stereo amplifier connection OK?*

**YES**—Go to step 25.

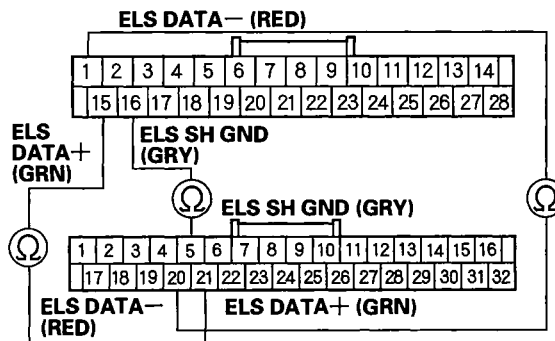
**NO**—Go to step 21.

21. Disconnect the stereo amplifier connector B (28P) and audio unit connector D (32P)

22. Check for continuity between stereo amplifier connector B (28P) and audio unit connector D (32P) as shown.

#### STEREO AMPLIFIER CONNECTOR B (28P)

Wire side of female terminals



#### AUDIO UNIT CONNECTOR D (32P)

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 23.

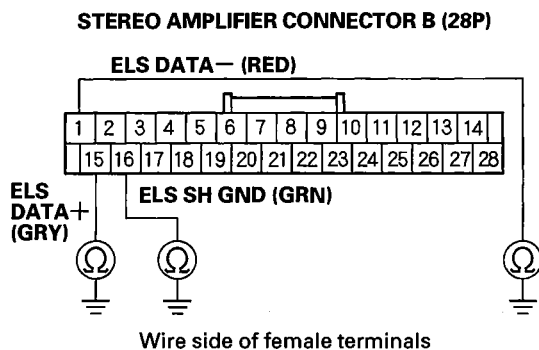
**NO**—Repair open in the wire(s) between the stereo amplifier and audio unit. ■

(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

23. Check for continuity between stereo amplifier connector B (28P) and body ground as shown.



*Is there continuity?*

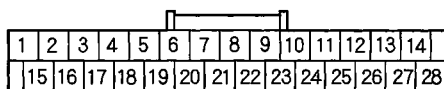
**YES**—Repair short to ground in the wire(s) between stereo amplifier and audio unit. ■

**NO**—Go to step 24.

24. Check for continuity between the terminal of stereo amplifier connector B (28P) according to the table.

| From terminal | To terminals        |
|---------------|---------------------|
| B16 (GRY)     | B15 (GRN), B1 (RED) |
| B15 (GRN)     | B1 (RED)            |

**STEREO AMPLIFIER CONNECTOR B (28P)**



Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between audio unit and stereo amplifier (replace the appropriate shield harness). ■

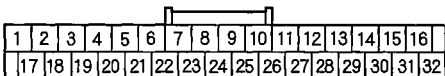
**NO**—Replace the stereo amplifier. ■

25. Disconnect the stereo amplifier connector B (28P) and audio connector D (32P).

26. Check the continuity between audio unit connector D (32P) and stereo amplifier connector B (28P) according to the table.

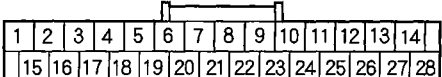
| Audio unit connector | Stereo amplifier connector | Wire color |
|----------------------|----------------------------|------------|
| D27                  | B13                        | YEL        |
| D11                  | B27                        | PUR        |
| D12                  | B26                        | GRY        |
| D29                  | B14                        | ORN        |
| D13                  | B28                        | BLU        |
| D16                  | B18                        | BRN        |
| D24                  | B10                        | WHT        |
| D8                   | B24                        | BLK        |
| D9                   | B12                        | GRY        |
| D26                  | B11                        | RED        |
| D10                  | B25                        | GRN        |
| D32                  | B4                         | LT GRN     |
| D30                  | B6                         | PNK        |
| D14                  | B19                        | LT BLU     |
| D15                  | B5                         | GRY        |

**AUDIO UNIT CONNECTOR D (32P)**



Wire side of female terminals

**STEREO AMPLIFIER CONNECTOR B (28P)**



Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 27.

**NO**—Repair open in the appropriate wire(s) between the audio unit and stereo amplifier. ■



27. Check the continuity between stereo amplifier connector B (28P) and body ground according to the table.

| Stereo amplifier connector | Wire color |
|----------------------------|------------|
| B13                        | YEL        |
| B27                        | PUR        |
| B14                        | ORN        |
| B28                        | BLU        |
| B10                        | WHT        |
| B24                        | BLK        |
| B11                        | RED        |
| B25                        | GRN        |
| B4                         | LT GRN     |
| B18                        | BRN        |
| B6                         | PNK        |
| B19                        | LT BLU     |

STEREO AMPLIFIER CONNECTOR B (28P)

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |

Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to body ground in the wire(s) between the audio unit and stereo amplifier. ■

**NO**—Go to step 28.

28. Check for continuity between the terminals of stereo amplifier connector B (28P) according to the table.

| From terminal | To terminals                                     |
|---------------|--------------------------------------------------|
| B26 (GRY)     | B13 (YEL), B27 (PUR)<br>B14 (ORN), B28 (BLU)     |
| B13 (YEL)     | B27 (PUR), B14 (ORN),<br>B28 (BLU)               |
| B27 (PUR)     | B14 (ORN), B28 (BLU)                             |
| B14 (ORN)     | B28 (BLU)                                        |
| B12 (GRY)     | B10 (WHT), B24 (BLK)<br>B11 (RED), B25 (GRN)     |
| B10 (WHT)     | B24 (BLK), B11 (RED),<br>B25 (GRN)               |
| B24 (BLK)     | B11 (RED), B25 (GRN)                             |
| B11 (RED)     | B25 (GRN)                                        |
| B5 (GRY)      | B4 (LT GRN), B18 (BRN)<br>B6 (PNK), B19 (LT BLU) |
| B4 (LT GRN)   | B18 (BRN), B6 (PNK),<br>B19 (LT BLU)             |
| B18 (BRN)     | B6 (PNK), B19 (LT BLU)                           |
| B6 (PNK)      | B19 (LT BLU)                                     |

STEREO AMPLIFIER CONNECTOR B (28P)

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |

Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio unit and stereo amplifier (replace the appropriate shielded harness). ■

**NO**—Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good stereo amplifier and recheck. If the symptom/indication goes away, replace the original stereo amplifier. ■

# Audio System

## Symptom Troubleshooting (cont'd)

### No sound is heard from speakers (display is normal) (with premium audio system)

#### NOTE:

- Set the fader and balance positions to the center.
- Before performing symptom troubleshooting, do the power switch will not turn ON troubleshooting (see page 23-48).
- Always check the connectors for poor connections or loose terminals.

1. Check that the volume button is not set to the min level.

*Is it at MIN level?*

**YES**—Raise the volume level, and recheck the function. ■

**NO**—Go to step 2.

2. Do the speaker check mode with the self-diagnostic function (see page 23-38).

*Is there a speaker(s) detected that has no sound?*

**YES**—Go to step 3.

**NO**—System is OK at this time. Check for poor connections at the audio unit, speakers and stereo amplifier. ■

3. Turn the ignition switch OFF.

4. Check the faulty speaker(s) for damage.

*Is there any damage?*

**YES**—Replace the speaker and recheck. ■

**NO**—Go to step 5.

5. Remove the faulty speaker(s) (see page 23-102), and disconnect its connector.

6. Check the speaker 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. ■

7. Test the speaker(s) (see page 23-102).

*Is the speaker OK?*

**YES**—Go to step 8.

**NO**—Replace the speaker(s). ■

8. Disconnect stereo amplifier connector A (18P) and speaker connector.

9. Check the continuity between body ground and stereo amplifier connector A (18P) according to the table. Then check for continuity between both pairs of speaker wires (+) and (−) at the stereo amplifier connector A (18P).

| Speaker                        | Stereo amplifier terminal | Wire color |
|--------------------------------|---------------------------|------------|
| Driver's door speaker          | A16 (+)                   | LT GRN     |
|                                | A7 (−)                    | LT BLU     |
| Front Passenger's door speaker | A15 (+)                   | GRY        |
|                                | A6 (−)                    | BRN        |
| Right rear door speaker        | A12 (+)                   | BLU        |
|                                | A3 (−)                    | ORN        |
| Right front door tweeter       | A14 (+)                   | RED        |
|                                | A5 (−)                    | WHT        |
| Subwoofer                      | A10 (+)                   | GRN        |
|                                | A1 (−)                    | RED        |
| Left front door tweeter        | A17 (+)                   | RED        |
|                                | A8 (−)                    | WHT        |
| Left rear door speaker         | A13 (+)                   | YEL        |
|                                | A4 (−)                    | BRN        |

*Is there continuity?*

**YES**—Repair short in the wire(s) between the stereo amplifier and the speaker(s) or short between the (+) and (−) speaker wires. ■

**NO**—Go to step 10.



10. Connect the speaker connector terminal (+) and (−) with a jumper wire.
11. Check for continuity between stereo amplifier connector A (18P) according to the table.

| Speaker                        | Stereo amplifier terminal | Wire color |
|--------------------------------|---------------------------|------------|
| Driver's door speaker          | A16 (+)                   | LT GRN     |
|                                | A7 (−)                    | LT BLU     |
| Front Passenger's door speaker | A15 (+)                   | GRY        |
|                                | A6 (−)                    | BRN        |
| Right rear door speaker        | A12 (+)                   | BLU        |
|                                | A3 (−)                    | ORN        |
| Right front door tweeter       | A14 (+)                   | RED        |
|                                | A5 (−)                    | WHT        |
| Subwoofer                      | A10 (+)                   | GRN        |
|                                | A1 (−)                    | RED        |
| Left front door tweeter        | A17 (+)                   | RED        |
|                                | A8 (−)                    | WHT        |
| Left rear door speaker         | A13 (+)                   | YEL        |
|                                | A4 (−)                    | BRN        |

*Is there continuity?*

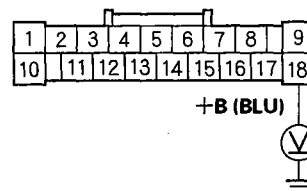
**YES**—Go to step 12.

**NO**—Repair open in the wire between the stereo amplifier and the speaker. ■

12. Disconnect the jumper wire.

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

#### STEREO AMPLIFIER CONNECTOR A (18P)



Wire side of female terminals

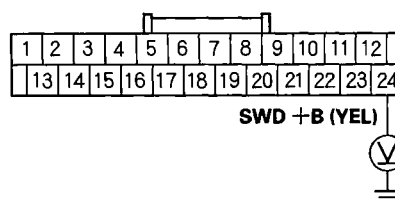
*Is there battery voltage?*

**YES**—Go to step 14.

**NO**—Repair open in the wire between No. 31 (20 A) fuse in the under-dash fuse/relay box and stereo amplifier connector A (18P) terminal No. 18. ■

14. Disconnect the stereo amplifier connectors B (24P).
15. Turn the ignition switch ON (II).
16. Measure the voltage between stereo amplifier connector B (24P) terminal No. 24 and body ground.

#### STEREO AMPLIFIER CONNECTOR B (24P)



Wire side of female terminals

*Is there battery voltage?*

**YES**—Go to step 17.

**NO**—Repair open in the wire between the stereo amplifier connector B (24P) terminal No. 24 and audio unit connector D (32P) terminal No. 23. ■

17. Turn the ignition switch OFF.

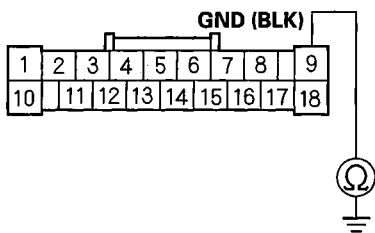
(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

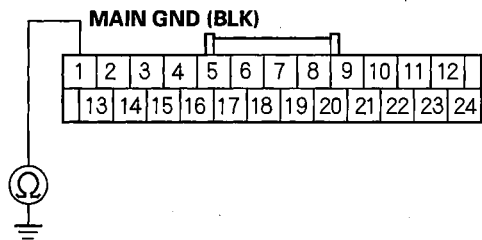
18. Check for continuity between stereo amplifier connector A (18P) terminal No. 9, connector B (24P) terminal No. 1 and body ground.

STEREO AMPLIFIER CONNECTOR A (18P)



Wire side of female terminals

STEREO AMPLIFIER CONNECTOR B (24P)



Wire side of female terminals

Is there continuity?

**YES**—Go to step 19.

**NO**—Repair open to the body ground in the wire(s) between the stereo amplifier connector A (18P) terminal No. 9, connector B (24P) terminal No. 1 and body ground (G503, G504) (see page 22-60). ■

19. Disconnect the audio unit connector D (32P).

20. Check for continuity between audio unit connectors D (32P) and stereo amplifier connector B (24P) according to the table.

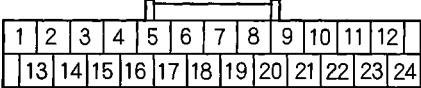
| Audio unit connector | Stereo amplifier connector | Wire color |
|----------------------|----------------------------|------------|
| D27                  | B16                        | LT BLU     |
| D11                  | B4                         | PUR        |
| D12                  | B15                        | GRY        |
| D29                  | B19                        | BRN        |
| D13                  | B7                         | YEL        |
| D28                  | B18                        | GRY        |
| D24                  | B14                        | BLU        |
| D8                   | B2                         | PNK        |
| D9                   | B3                         | GRY        |
| D26                  | B17                        | GRN        |
| D10                  | B5                         | RED        |
| D25                  | B6                         | GRY        |
| D30                  | B20                        | BLU        |
| D14                  | B8                         | PNK        |
| D15                  | B9                         | GRY        |

AUDIO UNIT CONNECTOR D (32P)



Wire side of female terminals

STEREO AMPLIFIER CONNECTOR B (24P)



Wire side of female terminals

Is there continuity?

**YES**—Go to step 21.

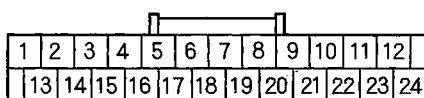
**NO**—Repair open in the wire(s) between the audio unit and stereo amplifier. ■



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

| Stereo amplifier connector | Wire color |
|----------------------------|------------|
| B4                         | PUR        |
| B16                        | LT BLU     |
| B7                         | YEL        |
| B19                        | BRN        |
| B2                         | PNK        |
| B14                        | BLU        |
| B5                         | RED        |
| B17                        | GRN        |
| B8                         | PNK        |
| B20                        | BLU        |

**STEREO AMPLIFIER CONNECTOR B (24P)**



Wire side of female terminals

*Is there continuity?*

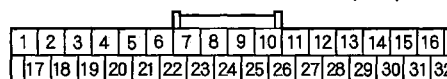
**YES**—Repair short to body ground in the wire(s) between the audio unit and stereo amplifier. ■

**NO**—Go to step 22.

22. Check for continuity between the terminals of stereo amplifier connector B (24P) according to the table.

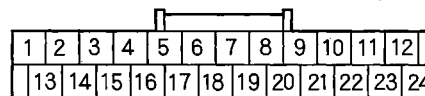
| From terminal | To terminals           |
|---------------|------------------------|
| B15 (GRY)     | B4 (PUR), B16 (LT BLU) |
| B4 (PUR)      | B16 (LT BLU)           |
| B18 (GRY)     | B7 (YEL), B19 (BRN)    |
| B7 (YEL)      | B19 (BRN)              |
| B3 (GRY)      | B2 (PNK), B14 (BLU)    |
| B2 (PNK)      | B14 (BLU)              |
| B6 (GRY)      | B5 (RED), B17 (GRN)    |
| B5 (RED)      | B17 (GRN)              |
| B9 (GRY)      | B8 (PNK), B20 (BLU)    |
| B8 (PNK)      | B20 (BLU)              |

**AUDIO UNIT CONNECTOR D (32P)**



Wire side of female terminals

**STEREO AMPLIFIER CONNECTOR B (24P)**



Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio unit and stereo amplifier (replace the appropriate shielded harness). ■

**NO**—Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good stereo amplifier and recheck. If the symptom/indication goes away, replace the original stereo amplifier. ■

# Audio System

## Symptom Troubleshooting (cont'd)

### Poor or no sound with XM radio (audio unit can display XM channels)

**NOTE:**

- Check the XM radio reception in an open area. Poor reception/interference can be caused by nearby tall buildings, mountains, or high-voltage power lines.
- Always check the connector for poor connections or loose terminals.

1. Turn the ignition switch to ACC (I).
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 the error code list (see page 23-44). ■

**NO**—

- With AcuraLink: Go to step 4.
  - Without AcuraLink: Go to step 8.
4. Disconnect audio unit connector B (14P) and AcuraLink control unit (XM receiver) connector A (20P).

5. Check for continuity between audio unit connector B (14P) and AcuraLink control unit (XM receiver) connector A (20P) according to the table.

| Audio unit connector | AcuraLink control unit (XM receiver) connector | Wire color |
|----------------------|------------------------------------------------|------------|
| B13                  | A20                                            | WHT        |
| B5                   | A10                                            | RED        |
| B14                  | A19                                            | GRN        |
| B6                   | A9                                             | BLK        |
| B4                   | A8                                             | GRY        |

**AUDIO UNIT CONNECTOR B (14P)**

|   |   |   |    |    |   |    |    |    |
|---|---|---|----|----|---|----|----|----|
| 1 | 2 |   |    |    | 3 | 4  | 5  | 6  |
| 7 | 8 | 9 | 10 | 11 |   | 12 | 13 | 14 |

Wire side of female terminals

**ACURALINK CONTROL UNIT (XM RECEIVER) CONNECTOR A (20P)**

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 6.

**NO**—Repair open in the wire(s) between the audio unit and AcuraLink control unit (XM receiver). ■



6. Check for continuity between AcuraLink control unit (XM receiver) connector A (20P) and body ground according to the table.

| AcuraLink control unit (XM receiver) connector | Wire color |
|------------------------------------------------|------------|
| A20                                            | WHT        |
| A10                                            | RED        |
| A19                                            | GRN        |
| A9                                             | BLK        |

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to body ground in the wire(s) between the audio unit and AcuraLink control unit (XM receiver). ■

**NO**—Go to step 7.

7. Check for continuity between the terminals of AcuraLink control unit (XM receiver) connector A (20P) according to the table.

| From terminal | To terminals                              |
|---------------|-------------------------------------------|
| A8 (GRY)      | A20 (WHT), A10 (RED), A19 (GRN), A9 (BLK) |
| A20 (WHT)     | A10 (RED), A19 (GRN), A9 (BLK)            |
| A10 (RED)     | A19 (GRN), A9 (BLK)                       |
| A19 (GRN)     | A9 (BLK)                                  |

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio unit and AcuraLink control unit (XM receiver) (replace the appropriate shielded harness). ■

**NO**—Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good AcuraLink control unit (XM receiver) and recheck. If the symptom/indication goes away, replace the original AcuraLink control unit (XM receiver). ■

(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

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

| Audio unit connector | XM receiver connector | Wire color |
|----------------------|-----------------------|------------|
| B13                  | A13                   | WHT        |
| B5                   | A5                    | RED        |
| B14                  | A14                   | GRN        |
| B6                   | A6                    | BLK        |
| B4                   | A4                    | GRY        |

AUDIO UNIT CONNECTOR B (14P)

|   |   |   |    |    |    |       |
|---|---|---|----|----|----|-------|
| 1 | 2 |   | 3  | 4  | 5  | 6     |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 14 |

Wire side of female terminals

XM RECEIVER CONNECTOR A (14P)

|   |   |   |    |    |    |       |
|---|---|---|----|----|----|-------|
| 1 | 2 |   | 3  | 4  | 5  | 6     |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 14 |

Wire side of female terminals

Is there continuity?

**YES**—Go to step 9.

**NO**—Repair open in the wire(s) between the audio unit and XM receiver. ■

9. Check for continuity between XM receiver connector A (14P) and body ground according to the table.

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

XM RECEIVER CONNECTOR A (14P)

|   |   |   |    |    |    |       |
|---|---|---|----|----|----|-------|
| 1 | 2 |   | 3  | 4  | 5  | 6     |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 14 |

Wire side of female terminals

Is there continuity?

**YES**—Repair short to body ground in the wire(s) between the audio unit and XM receiver. ■

**NO**—Go to step 10.



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

| From terminal | To terminals                                |
|---------------|---------------------------------------------|
| A4 (GRY)      | A13 (WHT), A5 (RED),<br>A14 (GRN), A6 (BLK) |
| A13 (WHT)     | A5 (RED), A14 (GRN),<br>A6 (BLK)            |
| A5 (RED)      | A14 (GRN), A6 (BLK)                         |
| A14 (GRN)     | A6 (BLK)                                    |

**XM RECEIVER CONNECTOR A (14P)**

|   |   |   |                                                                                   |    |   |    |    |    |
|---|---|---|-----------------------------------------------------------------------------------|----|---|----|----|----|
| 1 | 2 |   |  |    | 3 | 4  | 5  | 6  |
| 7 | 8 | 9 | 10                                                                                | 11 |   | 12 | 13 | 14 |

Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio unit and XM receiver. (replace the appropriate shielded harness). ■

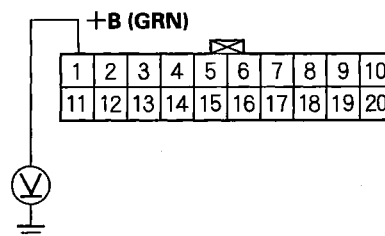
**NO**—Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good XM receiver and recheck. If the symptom/indication goes away, replace the original XM receiver. ■

**XM radio display is blank and no station information is displayed (With AcuraLink)**

NOTE: Always check the connectors for poor connections or loose terminals.

1. Turn the ignition switch to LOCK (0).
2. Disconnect AcuraLink control unit (XM receiver) connector A (20P).
3. Measure the voltage between AcuraLink Control unit (XM receiver) connector A (20P) terminal No. 1 and body ground.

**ACURALINK CONTROL UNIT (XM RECEIVER) CONNECTOR A (20P)**



Wire side of female terminals

*Is there battery voltage?*

**YES**—Go to step 4.

**NO**—Repair open in the wire between No. 23 (10 A) fuse in the under-hood fuse/relay box and AcuraLink control unit (XM receiver) connector A (20P) terminal No. 1. ■

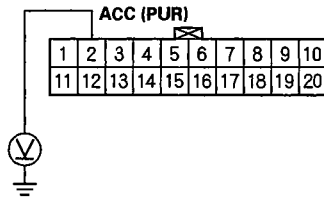
(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

- Turn the ignition switch ON (II).
- Measure the voltage between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 2 and body ground.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

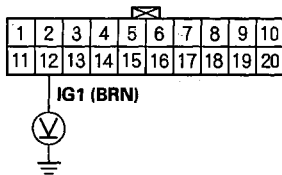
*Is there battery voltage?*

**YES**—Go to step 6.

**NO**—Repair open in the wire between No. 35 (7.5 A) fuse in the under-dash fuse/relay box and AcuraLink control unit (XM receiver) connector A (20P) terminal No. 2. ■

- Measure the voltage between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 12 and body ground.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

*Is there battery voltage?*

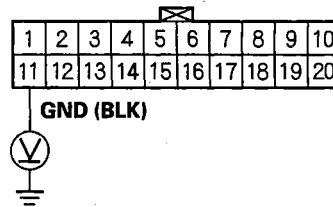
**YES**—Go to step 7.

**NO**—Repair open in the wire between No. 10 (7.5 A) fuse in the under-dash fuse/relay box and AcuraLink control unit (XM receiver) connector A (20P) terminal No. 12. ■

- Reconnect the AcuraLink control unit (XM receiver) connector A (20P).

- Measure the voltage between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 11 and body ground.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

*Is there less than 0.5 V?*

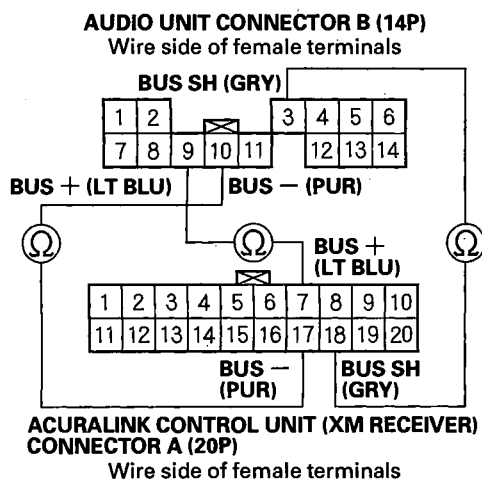
**YES**—Go to step 9.

**NO**—Repair open in the wire between AcuraLink control unit (XM receiver) connector A (20P), terminal No. 11 and body ground (G505). ■

- Disconnect audio unit connector B (14P), AcuraLink control unit (XM receiver) connector A (20P), and navigation display unit 20P connector.



10. Check for continuity between audio unit connector B (14P) and AcuraLink control unit (XM receiver) connector A (20P) as shown.

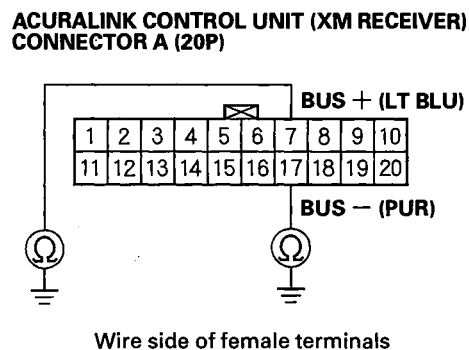


*Is there continuity?*

**YES**—Go to step 11.

**NO**—Repair open in the wire(s) between the audio unit and AcuraLink control unit (XM receiver). ■

11. Check for continuity between AcuraLink control unit (XM receiver) connector A (20P) and body ground as shown.



*Is there continuity?*

**YES**—Repair short to body ground in the wire(s) between the audio unit and AcuraLink control unit (XM receiver). ■

**NO**—Go to step 12.

(cont'd)

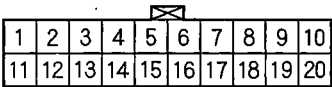
# Audio System

## Symptom Troubleshooting (cont'd)

12. Check for continuity between the terminals of AcuraLink control unit (XM receiver) connector A (20P) according to the table.

| From terminal | To terminals           |
|---------------|------------------------|
| A18 (GRY)     | A7 (LT BLU), A17 (PUR) |
| A7 (LT BLU)   | A17 (PUR)              |

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

Is there continuity between any of the terminals?

**YES**—Repair short in the wire(s) between the audio unit and AcuraLink control unit (XM receiver) (replace the appropriate shielded harness). ■

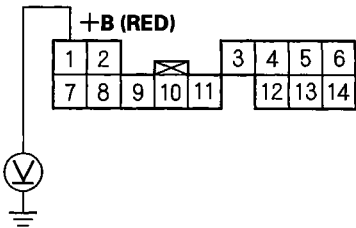
**NO**—Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good AcuraLink control unit (XM receiver) and recheck. If the symptom/indication goes away, replace the original AcuraLink control unit (XM receiver). ■

## XM radio display is blank and no station information is displayed (Without AcuraLink)

NOTE: If you can only tune to channels 000, 001, 174, and 247, make sure the audio unit is set to the channel mode (see owner's manual), if it is set to channel mode, call XM satellite radio customer support and check the account activation status.

1. Turn the ignition switch to ACC (I).
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?

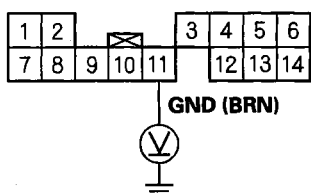
**YES**—Go to step 3.

**NO**—Repair open in the wire between the XM receiver connector A (14P) terminal No. 1 and audio unit connector B (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 0.5 V?*

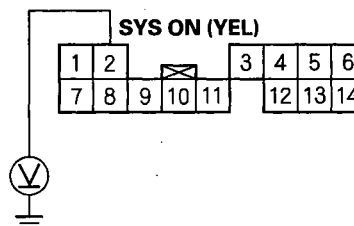
**YES**—Go to step 4.

**NO**—Repair open in the wire between the XM receiver connector A (14P) terminal No. 11 and audio unit connector B (14P) terminal No. 11. ■

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

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

**AUDIO UNIT CONNECTOR B (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 and recheck. If 10 V or more are present, replace the original XM receiver (see page 23-108). ■

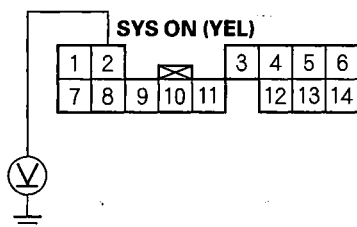
(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

6. Turn the ignition switch ON (II).
7. Measure the voltage between the audio unit connector B (14P) terminal No. 2 and body ground.

AUDIO UNIT CONNECTOR B (14P)



Wire side of female terminals

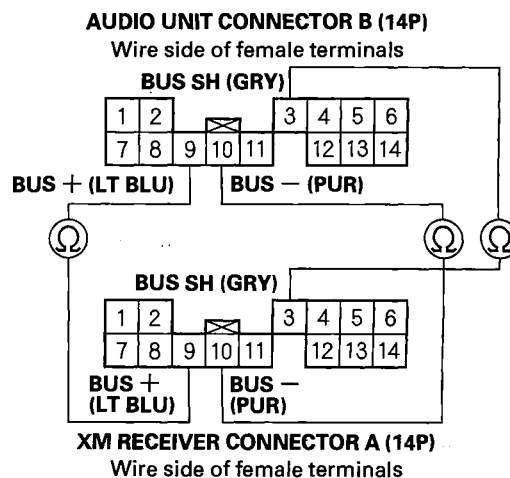
*Is there less than 0.5V?*

**YES**—Go to step 8.

**NO**—Substitute a known-good audio unit and recheck. If 0.5 V or less are present, replace the original audio unit. ■

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

9. Disconnect audio unit connector B (14P) and XM receiver connector A (14P).
10. Check for continuity between audio unit connector B (14P) and XM receiver connector A (14P) as shown.



*Is there continuity?*

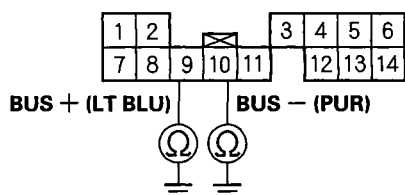
**YES**—Go to step 11.

**NO**—Repair open in the wire(s) between the audio unit and XM receiver. ■



11. Check for continuity between XM receiver connector A (14P) and body ground as shown.

**XM RECEIVER CONNECTOR A (14P)**



Wire side of female terminals

*Is there continuity?*

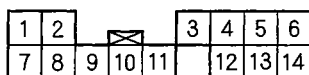
**YES**—Repair short to body ground in the wire(s) between the audio unit and XM receiver. ■

**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 (LT BLU), A10 (PUR) |
| A9 (LT BLU)   | A10 (PUR)              |

**XM RECEIVER CONNECTOR A (14P)**



Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio unit and XM receiver (replace the appropriate shielded harness). ■

**NO**—Substitute a known-good audio unit 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 and recheck. If the symptom/indication goes away, replace the original XM receiver. ■

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

1. Check for sound in each mode (AM, FM, XM, and disc).

*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 is poor only with XM radio, or the XM radio does not function, go to poor or no sound with XM radio (see page 23-60).
- If the sound is poor only with AM or FM, go to poor AM or FM radio reception or interference (see page 23-45).
- If the sound is poor in all modes, go to sound quality diagnosis (see page 23-93).

# Audio System

## Symptom Troubleshooting (cont'd)

### Audio unit button illumination does not work (With ELS audio system)

NOTE: Always 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 (17P). ■

**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.

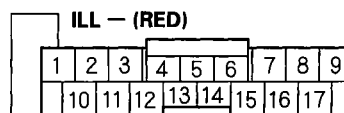
**NO**—Troubleshoot the interior lights. Start by checking the No. 14 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is OK, check for an open in the wire between the under-dash fuse/relay box and the audio unit. ■

5. Turn the ignition switch to LOCK (0).
6. Disconnect audio unit connector A (17P).
7. Disconnect gauge control module 36P connector.

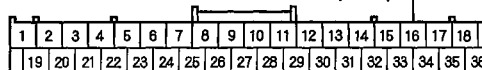
8. Check for continuity between audio unit connector A (17P) terminal No. 1 and gauge control module 36P connector terminal No. 16.

#### AUDIO UNIT CONNECTOR A (17P)

Wire side of female terminals



ILL - (RED)



#### GAUGE CONTROL MODULE CONNECTOR (36P)

Wire side of female terminals

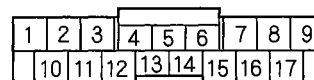
*Is there continuity?*

**YES**—Go to step 9.

**NO**—Repair 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 (17P) terminal No. 10 and body ground.

#### AUDIO UNIT CONNECTOR A (17P)



ILL + (GRY)



Wire side of female terminals

*Is there battery voltage?*

**YES**—Check the connections at the audio unit connector A (17P). If all connections are OK, replace the audio unit. ■

**NO**—Repair open in the wire between the under-dash fuse/relay box and the audio unit. ■



### Audio switch panel button illumination does not work (With premium audio system)

NOTE: Always 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 switch panel buttons.

*Are the buttons illuminated?*

**YES**—Intermittent problem: The audio switch panel is OK at this time. Check for loose or poor connections at audio switch panel connector A (20P). ■

**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.

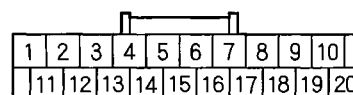
**NO**—Troubleshoot the interior lights. Start by checking the No. 14 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is OK, check for an open in the wire between the under-dash fuse/relay box and the audio switch panel. ■

5. Turn the ignition switch to LOCK (0).
  6. Remove the audio switch panel, then check the bulbs (see page 23-109).
- Are the bulbs OK?*
- YES**—Go to step 7.
- NO**—Replace the failed audio switch panel bulbs. ■
7. Disconnect audio switch panel connector A (20P) and gauge control module 36P connector (see page 22-284).

8. Check for continuity between audio switch panel connector A (20P) terminal No. 18 and gauge control module 36P connector terminal No. 16.

#### AUDIO SWITCH PANEL CONNECTOR A (20P)

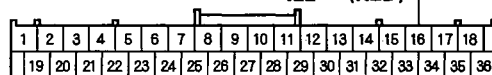
Wire side of female terminals



ILL - (RED)



ILL - (RED)



#### GAUGE CONTROL MODULE CONNECTOR (36P)

Wire side of female terminals

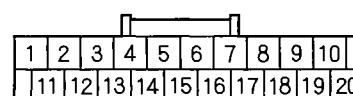
*Is there continuity?*

**YES**—Go to step 9.

**NO**—Repair open in the wire between the gauge control module and the audio switch panel. ■

9. Turn the ignition switch ON (II).
10. With the headlight switch still on, measure the voltage between audio switch panel connector A (20P) terminal No. 20 and body ground.

#### AUDIO SWITCH PANEL CONNECTOR A (20P)



ILL + (GRY)



Wire side of female terminals

*Is there battery voltage?*

**YES**—Check the connections at the audio switch panel connector A (20P). If all connections are OK, replace the audio switch panel. ■

**NO**—Repair open in the wire between the under-dash fuse/relay box and the audio switch panel. ■

# Audio System

## Symptom Troubleshooting (cont'd)

### Radio preset memory is lost

NOTE: If only XM stations are lost, go to XM radio preset memory is lost (see page 23-72).

1. Set each of the radio station preset buttons.

*Do each of the buttons set properly?*

**YES**—Go to step 2.

**NO**—Replace the audio unit. ■

2. Turn the ignition switch OFF for 1 minute, then turn it back to ON (II).

3. 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**—Replace the audio unit. ■

### XM radio preset memory is lost

NOTE: Always check the connectors for poor connections or loose terminals.

1. Set each of the XM radio channel preset buttons.

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

**YES**—Go to step 2.

**NO**—Go to step 6.

2. Turn the ignition switch off for 1 minute, then turn it back to ON (II).

3. 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**—

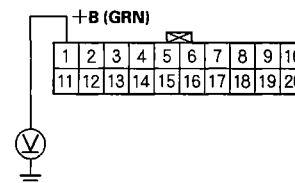
- With AcuraLink: Go to step 4.
- Without AcuraLink: Go to step 11.

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

5. Disconnect AcuraLink control unit (XM receiver) connector A (20P).

6. Measure the voltage between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 1 and body ground.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

*Is there battery voltage?*

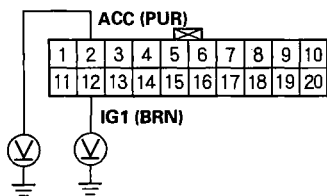
**YES**—Go to step 7.

**NO**—Repair open in the wire between the underhood fuse/relay box and AcuraLink control unit (XM receiver) connector A (20P) terminal No. 1. ■



7. Turn the ignition switch ON (II).
8. Measure the voltage between AcuraLink control unit (XM receiver) connector A (20P) terminals No. 2, and No. 12 and body ground individually.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

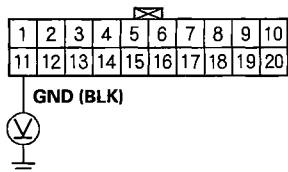
*Is there battery voltage?*

**YES**—Go to step 9.

**NO**—Repair open in the wire(s) between the under-hood fuse/relay box and AcuraLink control unit (XM receiver) connector A (20P) terminals No. 2 and/or No. 12. ■

9. Reconnect AcuraLink control unit (XM receiver) connector A (20P).
10. Measure the voltage between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 11 and body ground.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

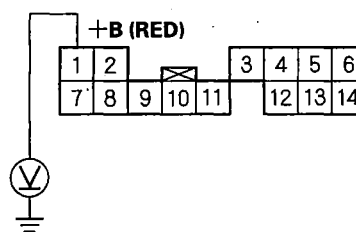
*Is there less than 0.5 V?*

**YES**—Replace the AcuraLink control unit (XM receiver). ■

**NO**—Repair open in the wire between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 11 and body ground (G505) (see page 22-60). ■

11. Turn the ignition switch to LOCK (0).
12. Disconnect the XM receiver connector A (14P).
13. 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 14.

**NO**—Repair open in the wire between audio unit connector B (14P) terminal No. 1 and XM receiver connector A (14P) terminal No. 1. ■

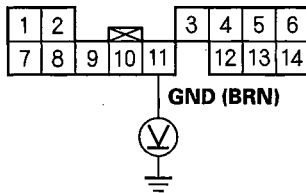
(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

14. Reconnect XM receiver connector A (14P).
15. 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 0.5 V?*

**YES**—Replace the XM receiver. ■

**NO**—Repair open in the wire between audio unit connector B (14P) terminal No. 11 and XM receiver connector A (14P) terminal No. 11. ■

### Audio disc does not eject

NOTE: Disc labels should not be used in the audio unit. They may damage the player mechanism.

1. Turn on the audio system.

*Does the system turn on?*

**YES**—Go to step 2.

**NO**—Go to power switch will not turn ON (see page 23-48).

2. Check to see if the disc ejects correctly with no binding when you push the EJECT button.

*Does it eject properly?*

**YES**—Operation is normal. ■

**NO**—Replace the audio unit. ■



### Audio disc changer does not load all six discs

NOTE: Disc labels should not be used in the audio unit. They may damage the player mechanism.

1. Try loading six discs into the audio unit.

*Does the audio unit accept all six disks?*

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

**NO**—Go to step 2.

2. Try loading the disc player with six known-good discs.

*Does the audio unit accept all six disks?*

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

**NO**—Replace the audio unit. ■

### Audio disc changer does not move between discs

NOTE: Disc labels should not be used in the audio unit. They may damage the player mechanism.

1. Insert six discs into the audio unit 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 2.

2. Insert six known-good disks into the audio unit.

*Does the changer operate normally?*

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

**NO**—Replace the audio unit. ■

# Audio System

## Symptom Troubleshooting (cont'd)

### Volume does not change

NOTE: Set the fader and balance positions to the center.

1. Listen for sound from the speakers.

*Is the sound normal?*

**YES**—Go to step 2.

**NO**—Go to audio system sound is weak or distorted, or no sound is heard from speakers with ELS audio system (see page 23-51), with premium audio system (see page 23-56). ■

2. Operate the volume knob to see if the volume changes.

*Does the volume change?*

**YES**—Operation is normal. ■

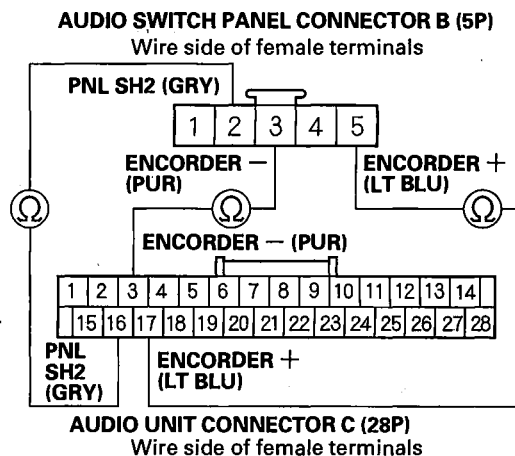
**NO**—

- With ELS audio system: Replace the audio unit. ■
- With premium audio system: Go to step 3.

3. Turn the ignition switch OFF.

4. Disconnect audio switch panel connector B (5P) and audio unit connector C (28P).

5. Check for continuity between audio switch panel connector B (5P) and audio unit connector C (28P) as shown.



*Is there continuity?*

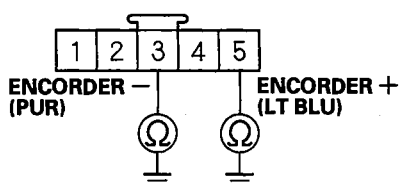
**YES**—Go to step 6.

**NO**—Repair open in the wire(s) between the audio unit and audio switch panel. ■



6. Check for continuity between audio switch panel connector B (5P) and body ground as shown.

**AUDIO SWITCH PANEL CONNECTOR B (5P)**



Wire side of female terminals

*Is there continuity?*

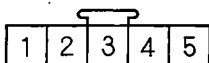
**YES**—Repair short to body ground in the wire(s) between the audio unit and audio switch panel. ■

**NO**—Go to step 7.

7. Check for continuity between the terminals of audio switch panel connector B (5P) according to the table.

| From terminal | To terminals          |
|---------------|-----------------------|
| B2 (GRY)      | B3 (PUR), B5 (LT BLU) |
| B3 (PUR)      | B5 (LT BLU)           |

**AUDIO SWITCH PANEL CONNECTOR B (5P)**



Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio unit and audio switch panel (replace the appropriate shielded harness).

**NO**—Substitute a known-good audio unit 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 and recheck. If the symptom/indication goes away, replace the original audio switch panel. ■

**Radio tuner does not change stations**

1. Check the audio information on the display panel.

*Does the audio information display properly?*

**YES**—Go to step 2.

**NO**—Go to power switch will not turn ON (see page 23-48). ■

2. 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**—

- With ELS audio system: Replace the audio unit. ■
- With premium audio system: Go to step 3.

3. Turn the ignition switch OFF.

4. Disconnect audio switch panel connector A (20P) and audio unit connector C (28P).

(cont'd)

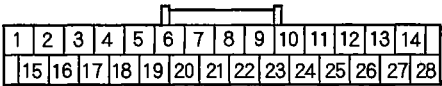
# Audio System

## Symptom Troubleshooting (cont'd)

5. Check for continuity between audio unit connector C (28P) and audio switch panel connector A (20P) according to the table.

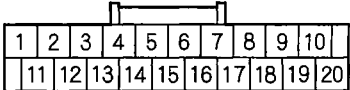
| Audio unit connector | Audio switch panel connector | Wire color |
|----------------------|------------------------------|------------|
| C20                  | A4                           | WHT        |
| C4                   | A5                           | BLK        |
| C18                  | A6                           | RED        |
| C5                   | A7                           | YEL        |
| C19                  | A8                           | GRN        |
| C6                   | A9                           | GRY        |

AUDIO UNIT CONNECTOR C (28P)



Wire side of female terminals

AUDIO SWITCH PANEL CONNECTOR A (20P)



Wire side of female terminals

Is there continuity?

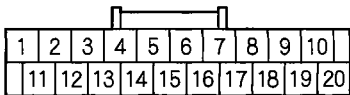
**YES**—Go to step 6.

**NO**—Repair open in the wire(s) between the audio unit and audio switch panel. ■

6. Check for continuity between audio switch panel connector A (20P) and body ground according to the table.

| Audio switch panel connector | Wire color |
|------------------------------|------------|
| A4                           | WHT        |
| A5                           | BLK        |
| A6                           | RED        |
| A7                           | YEL        |
| A8                           | GRN        |

AUDIO SWITCH PANEL CONNECTOR A (20P)



Wire side of female terminals

Is there continuity?

**YES**—Repair short to body ground in the wire(s) between the audio unit and audio switch panel. ■

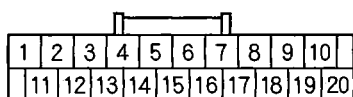
**NO**—Go to step 7.



7. Check for continuity between the terminals of audio switch panel connector A (20P) according to the table.

| From terminal | To terminals                                     |
|---------------|--------------------------------------------------|
| A9 (GRY)      | A4 (WHT), A5 (BLK), A6 (RED), A7 (YEL), A8 (GRN) |
| A4 (WHT)      | A5 (BLK), A6 (RED), A7 (YEL), A8 (GRN)           |
| A5 (BLK)      | A6 (RED), A7 (YEL), A8 (GRN)                     |
| A6 (RED)      | A7 (YEL), A8 (GRN)                               |
| A7 (YEL)      | A8 (GRN)                                         |

**AUDIO SWITCH PANEL CONNECTOR A (20P)**



Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio unit and audio switch panel (replace the appropriate shielded harness).

**NO**—Substitute a known-good audio unit 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 and recheck. If the symptom/indication goes away, replace the original audio switch panel. ■

## **Volume does not increase with speed**

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 if SVC mode setting in audio unit sound set-up.

*Is the SVC set to off?*

**YES**—Change setting to “Mid” and retest. ■

**NO**—Go to step 3.

3. Perform self-diagnostic function for vehicle speed pulse indication (see page 23-38).

*Does self-diagnostic function indicate a VSP signal?*

**YES**—Substitute a known-good audio unit and retest. If the symptom/indication goes away, replace the original audio unit. ■

**NO**—Go to step 4.

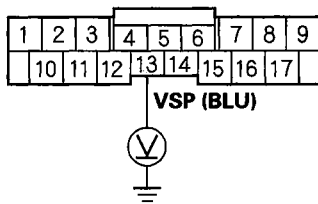
(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

4. Remove the audio unit (see page 23-99), and disconnect the audio unit connector A (17P).
5. Drive the vehicle and have an assistant measure the voltage at the audio unit connector A (17P) terminal No. 13.

AUDIO UNIT CONNECTOR A (17P)



Wire side of female terminals

*Is there 0–5 V pulse?*

**YES**—Replace the audio unit (see page 23-99). ■

**NO**—Repair open or shorts in the wire between the audio unit connector A (17P) No. 13 terminal and the PCM connector A (44P) No. 29 terminal. If no opens or shorts are found, substitute a known-good PCM and recheck. If the symptom/indicated goes away, replace the original PCM (see page 11-252). ■

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

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 set-up to “Mid” and retest.

*Is the volume level still too high, or too low?*

**YES**—Replace the audio unit (see page 23-99). ■

**NO**—Improper SVC setting for client’s sound taste. ■



## Audio disc does not load

### NOTE:

- Disc labels should not be used in the audio unit. They may damage the player mechanism.
- Make sure the CD disc is compatible with the system (see the owner's manual for more information).

1. 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 23-81). ■

**NO**—Go to step 2.

2. Insert another disc.

*Does the disc load?*

**YES**—The original disc is faulty. ■

**NO**—Replace the audio unit. ■

### Special tools required

Diagnostics CD 07AAZ-SDBA100

## Audio disc does not play

1. Try loading a disc.

*Does the disc load?*

**YES**—Go to step 2.

**NO**—Go to audio disc does not load (see page 23-81). ■

2. Insert another disc to see if the symptom can be duplicated.

*Does the disc play?*

**YES**—Operation is normal. ■

**NO**—Go to step 3.

3. 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**—Replace the audio unit. ■

# Audio System

## Symptom Troubleshooting (cont'd)

### Special tools required

- Diagnostics CD 07AAZ-SDBA100
- Skip test CD 07AAZ-SDBA200
- Skip test CD 07AAZ-SDBA300

### Audio disc skips

1. Confirm the vehicle's tires are properly inflated.
2. Check the client's CD for scratches and fingerprints.

**NOTE:** The following test should be done with the audio unit bass and treble set to the client's listening settings. When comparing to known-good vehicles, do the comparison on the same model and trim level.

3. Test-drive to identify when the client's CD skips. The audio diagnostic CD (T/N 07AAZ-SDBA100) can be used if the client's CD is not available; use tracks 10–12.

*Does the CD skip?*

**YES**—Go to step 4.

**NO**—Operation is normal. ■

4. Compare the client's skipping CD to a known-good vehicle under the same conditions.

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

**YES**—The CD player operation is normal, the problem is with the client's CD. ■

**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 number track(s) the CD starts skipping. Do the same test on a known-good vehicle.

*Does the CD skip on 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 number track(s) the CD starts skipping. Do the same test on a known-good vehicle.

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

**YES**—Operation is normal. ■

**NO**—Replace the audio unit. ■



### Audio system information does not display on the audio-HVAC subdisplay unit (with ELS audio system)

1. Remove the audio-HVAC subdisplay unit (see page 23-101).
2. Check the connections at audio-HVAC subdisplay unit 12P connector and audio unit connector C (28P).

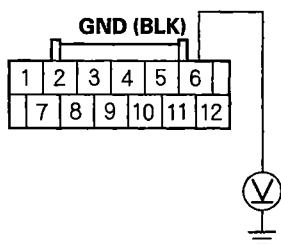
*Are the connectors and terminals connected properly?*

**YES**—Go to step 3.

**NO**—Repair the connection and recheck. ■

3. Turn the ignition switch ON (II).
4. Measure the voltage between audio-HVAC subdisplay unit 12P connector terminal No. 6 and the body ground.

#### AUDIO-HVAC SUBDISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

*Is there less than 0.5 V?*

**YES**—Go to step 5.

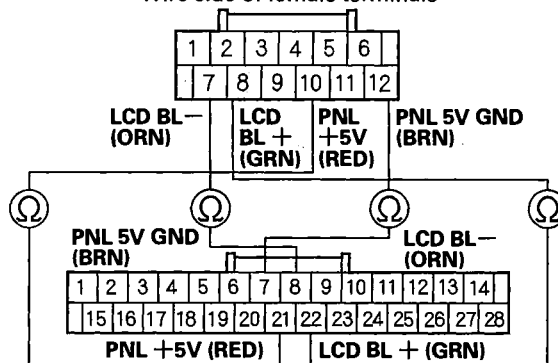
**NO**—Repair open in the wire between audio-HVAC subdisplay unit 12P connector terminal No. 6 and body ground (G502) (see page 22-60). ■

5. Turn the ignition switch OFF.
6. Disconnect the audio unit connector C (28P) and audio-HVAC subdisplay unit 12P connector.

7. Check for continuity between audio unit connector C (28P) and audio-HVAC subdisplay unit 12P connector as shown.

#### AUDIO-HVAC SUBDISPLAY UNIT 12P CONNECTOR

Wire side of female terminals



#### AUDIO UNIT CONNECTOR C (28P)

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 8.

**NO**—Repair open in the wire(s) between the audio unit and audio-HVAC subdisplay unit. ■

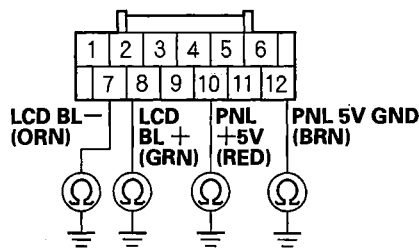
(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

8. Check for continuity between audio-HVAC subdisplay unit 12P connector and body ground as shown.

AUDIO-HVAC SUBDISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

Is there continuity?

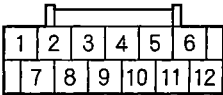
**YES**—Repair short to body ground in the wire(s) between the audio unit and audio-HVAC subdisplay unit. ■

**NO**—Go to step 9.

9. Check for continuity between audio unit connector C (28P) and audio-HVAC subdisplay unit 12P connector according to the table.

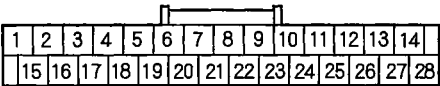
| Audio unit connector | Audio-HVAC subdisplay unit connector | Wire color |
|----------------------|--------------------------------------|------------|
| C5                   | 4                                    | ORN        |
| C18                  | 2                                    | YEL        |
| C19                  | 3                                    | BLU        |
| C20                  | 5                                    | PUR        |
| C6                   | 1                                    | GRY        |

AUDIO-HVAC SUBDISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

AUDIO UNIT CONNECTOR C (28P)



Wire side of female terminals

Is there continuity?

**YES**—Go to step 10.

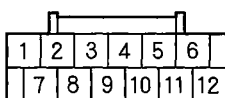
**NO**—Repair open in the wire(s) between the audio unit and audio-HVAC subdisplay unit. ■



10. Check for continuity between audio-HVAC subdisplay unit 12P connector and body ground according to the table.

| Audio-HVAC subdisplay unit connector | Wire color |
|--------------------------------------|------------|
| 4                                    | ORN        |
| 2                                    | YEL        |
| 3                                    | BLU        |
| 5                                    | PUR        |

**AUDIO-HVAC SUBDISPLAY UNIT 12P CONNECTOR**



Wire side of female terminals

*Is there continuity?*

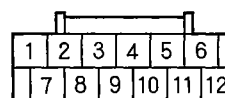
**YES**—Repair short to body ground in the wire(s) between the audio unit and audio-HVAC subdisplay unit. ■

**NO**—Go to step 11.

11. Check for continuity between the terminals of audio-HVAC subdisplay unit 12P connector according to the table.

| From terminal | To terminals                         |
|---------------|--------------------------------------|
| 1 (GRY)       | 2 (YEL), 3 (BLU)<br>4 (ORN), 5 (PUR) |
| 2 (YEL)       | 3 (BLU), 4 (ORN), 5 (PUR)            |
| 3 (BLU)       | 4 (ORN), 5 (PUR)                     |
| 4 (ORN)       | 5 (PUR)                              |

**AUDIO-HVAC SUBDISPLAY UNIT 12P CONNECTOR**



Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio unit and audio-HVAC subdisplay unit (replace the appropriate shielded harness). ■

**NO**—Substitute a known-good audio unit and recheck. If the symptom/indication goes away, replace the original audio unit. If the symptom is still present, substitute a known-good audio-HVAC subdisplay unit and recheck. If the symptom/indication goes away, replace the original audio-HVAC subdisplay unit. ■

# Audio System

## Symptom Troubleshooting (cont'd)

### Audio system information does not display on the audio-HVAC display unit (with premium audio system)

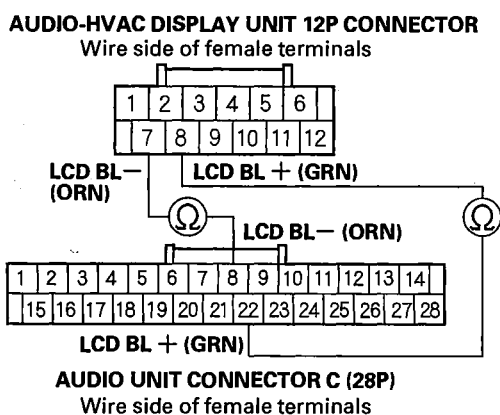
1. Remove the audio-HVAC display unit (see page 23-101).
2. Check the connections at audio-HVAC display unit 12P connector, audio unit connector C (28P) and audio switch panel connector A (20P).

*Are the connectors and terminals connected properly?*

**YES**—Go to step 3.

**NO**—Repair the connection and recheck. ■

3. Disconnect the audio-HVAC display unit 12P connector and audio unit connector C (28P).
4. Check for continuity between audio unit connector C (28P) and audio-HVAC display unit 12P connector as shown.



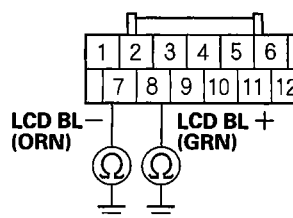
*Is there continuity?*

**YES**—Go to step 5.

**NO**—Repair open in the wire(s) between the audio unit and audio-HVAC display unit. ■

5. Check for continuity between body ground and audio-HVAC display unit 12P connector No. 7, No. 8 terminal individually.

### AUDIO-HVAC DISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

*Is there continuity?*

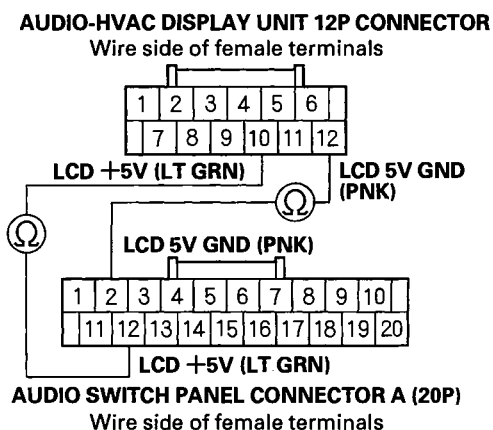
**YES**—Repair short to body ground in the wire between the audio unit and the audio-HVAC display unit. ■

**NO**—Go to step 6.

6. Disconnect the audio switch panel connector A (20P).



7. Check for continuity between audio switch panel connector A (20P) and audio-HVAC display unit 12P connector as shown.



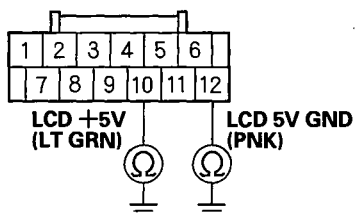
*Is there continuity?*

**YES**—Go to step 8.

**NO**—Repair open in the wire(s) between the audio switch panel and audio-HVAC display unit. ■

8. Check for continuity between body ground and audio-HVAC display unit 12P connector No. 10, No. 12 terminal individually.

**AUDIO-HVAC DISPLAY UNIT 12P CONNECTOR**



Wire side of female terminals

*Is there continuity?*

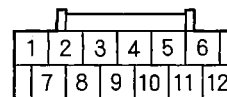
**YES**—Repair short to body ground in the wire between the audio unit and audio-HVAC display unit. ■

**NO**—Go to step 9.

9. Check for continuity between audio switch panel connector A (20P) and audio-HVAC display unit 12P connector according to the table.

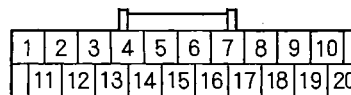
| Audio switch panel connector | Audio-HVAC display unit connector | Wire color |
|------------------------------|-----------------------------------|------------|
| A13                          | 3                                 | BLK        |
| A14                          | 4                                 | RED        |
| A15                          | 2                                 | WHT        |
| A16                          | 5                                 | GRN        |
| A8                           | 1                                 | GRY        |

**AUDIO-HVAC DISPLAY UNIT 12P CONNECTOR**



Wire side of female terminals

**AUDIO SWITCH PANEL CONNECTOR A (20P)**



Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 10.

**NO**—Repair open in the wire(s) between the audio switch panel and audio-HVAC display unit. ■

(cont'd)

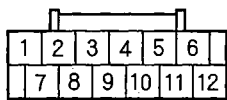
# Audio System

## Symptom Troubleshooting (cont'd)

10. Check for continuity between audio-HVAC display unit 12P connector and body ground according to the table.

| Audio-HVAC display unit connector | Wire color |
|-----------------------------------|------------|
| 2                                 | WHT        |
| 3                                 | BLK        |
| 4                                 | RED        |
| 5                                 | GRN        |

AUDIO-HVAC DISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

*Is there continuity?*

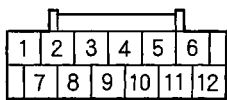
**YES**—Repair short to body ground in the wire(s) between the audio-HVAC display unit and audio switch panel. ■

**NO**—Go to step 11.

11. Check for continuity between the terminals of audio-HVAC display unit 12P connector according to the table.

| From terminal | To terminals                         |
|---------------|--------------------------------------|
| 1 (GRY)       | 2 (WHT), 3 (BLK)<br>4 (RED), 5 (GRN) |
| 2 (WHT)       | 3 (BLK), 4 (RED), 5 (GRN)            |
| 3 (BLK)       | 4 (RED), 5 (GRN)                     |
| 4 (RED)       | 5 (GRN)                              |

AUDIO-HVAC DISPLAY UNIT 12P CONNECTOR



Wire side of female terminals

*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the audio switch panel and audio-HVAC display unit (replace the appropriate shielded harness). ■

**NO**—Substitute a known-good audio switch panel and recheck. If the symptom/indication goes away, replace the original audio switch panel. If the symptom is still present, substitute a known-good audio-HVAC display unit and recheck. If the symptom/indication goes away, replace the original audio-HVAC display unit. ■



## Audio remote switch does not work properly

NOTE: Always check the connectors for poor connections or loose terminals.

1. Test the audio remote switch (see page 23-109).

*Is the audio remote switch OK?*

**YES**—Go to step 2.

**NO**—Replace the audio remote switch. ■

2. Check the audio unit operation (volume up, volume down, CH (–), CH (+), MODE).

*Is the audio unit operation OK?*

**YES**—Operation is normal. ■

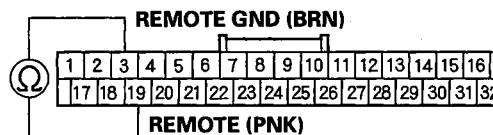
**NO**—Go to step 3.

3. Remove the audio unit (see page 23-99).

4. Disconnect the audio unit connector D (32P).

5. Reconnect the audio remote switch, and measure the resistance between the audio unit connector D (32P) No. 3 and No. 19 terminals as specified in the table.

### AUDIO UNIT CONNECTOR D (32P)



Wire side of female terminals

### AUDIO REMOTE SWITCH TABLE

| Button held down | VOL DOWN    | VOL UP      | CH (–)      | CH (+)     | MODE (NONE) |       |
|------------------|-------------|-------------|-------------|------------|-------------|-------|
| Resistance       | about 100 Ω | about 370 Ω | about 840 Ω | about 2 kΩ | about 4 kΩ  | 10 kΩ |

*Is the resistance OK?*

**YES**—Go to step 6.

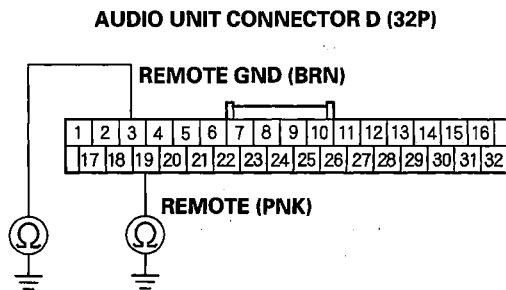
**NO**—Repair short or high resistance in the circuit between the audio unit and the audio remote switch. If the wires are OK, replace the cable reel (see page 24-158). ■

(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

6. Check for continuity between body ground and the No. 3 and No. 19 terminals of audio unit connector D (32P) individually.



*Is there continuity?*

**YES**—Repair 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 24-158). ■

**NO**—Replace the audio unit (see page 23-99). ■

### Error code: XM NO SIGNAL is displayed

**NOTE:** Check XM radio reception in an open area with good exposure to the southern horizon. Poor reception/interference can be caused by tall buildings, mountains, or high-voltage power lines.

1. Park vehicle outside with a clear view of the southern horizon.

*Does the XM radio receive a signal?*

**YES**—Reception interference operation is normal. ■

**NO**—

- With AcuraLink: Go to step 2.
- Without AcuraLink: Go to step 9.

2. Check AM/FM/XM antenna 2P connector and AcuraLink control unit (XM receiver) connector C (2P).

*Are the connectors connected?*

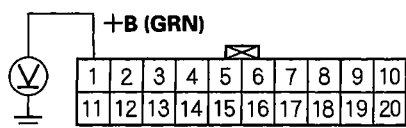
**YES**—Go to step 3.

**NO**—Reconnect the AM/FM/XM antenna 2P connector and AcuraLink control unit connector C (2P) connector and recheck XM radio operation. If the signal is restored, the system is OK. If the signal is not restored go to step 3.



3. Turn the ignition switch OFF.
4. Disconnect AcuraLink control unit (XM receiver) connector A (20P).
5. Measure the voltage between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 1 and body ground.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)**



Wire side of female terminals

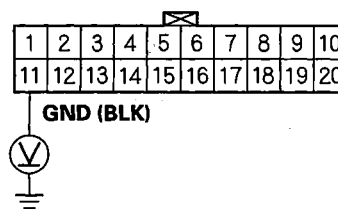
*Is there battery voltage?*

**YES**—Go to step 6.

**NO**—Repair open in the wire between No. 23 (10 A) fuse in the under-hood fuse/relay box and AcuraLink control unit (XM receiver) connector A (20P) terminal No. 1. ■

6. Reconnect the AcuraLink control unit (XM receiver) connector A (20P).
7. Measure the voltage between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 11 and body ground.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)**



Wire side of female terminals

*Is there less than 0.5 V?*

**YES**—Go to step 8.

**NO**—Repair open in the wire between AcuraLink control unit (XM receiver) connector A (20P) terminal No. 11 and body ground (G505) (see page 22-60). ■

8. Substitute known-good AM/FM/XM antenna.

*Does the XM radio receive a signal?*

**YES**—Replace AM/FM/XM antenna (see page 23-110). ■

**NO**—Substitute known-good XM antenna lead. If AcuraLink control unit (XM receiver) receives signal, replace original XM antenna lead. If the AcuraLink control unit (XM receiver) does not receive signal, substitute a known-good AcuraLink control unit (XM receiver). ■

(cont'd)

# Audio System

## Symptom Troubleshooting (cont'd)

9. Check the connection at AM/FM/XM antenna connector B (2P) and XM receiver connector B (2P).

*Is the connectors connected?*

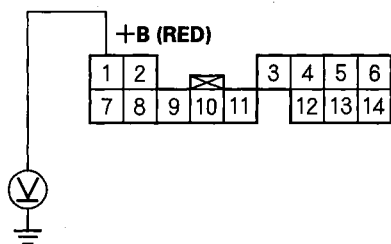
**YES**—Go to step 10.

**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 10.

10. Turn the ignition switch to ACC (I).

11. 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

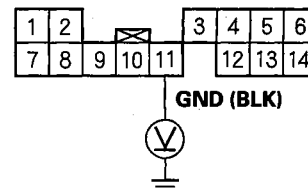
*Is there battery voltage?*

**YES**—Go to step 12.

**NO**—Repair open in the wire between audio unit connector B (14P) terminal No. 1 and XM receiver connector A (14P) terminal No. 1. ■

12. 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 0.5 V?*

**YES**—Go to step 13.

**NO**—Repair open in the wire between audio unit connector B (14P) terminal No. 11 and XM receiver connector A (14P) terminal No. 11. ■

13. Substitute known-good AM/FM/XM antenna.

*Does the XM radio receives signal?*

**YES**—Replace AM/FM/XM antenna (see page 23-110). ■

**NO**—Substitute known-good XM antenna lead. If XM receiver receives signal, replace original XM antenna lead. If the XM receiver does not receives signal, substitute a known-good XM receiver. ■



## Sound Quality Diagnosis

### Error code: XM ANTENNA is displayed

1. Check the connector at the XM receiver (without AcuraLink) or the AcuraLink control unit (XM receiver) (with AcuraLink).

*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 AM/FM/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 (without AcuraLink) or the AcuraLink control unit (XM receiver) connector (with AcuraLink) and the AM/FM/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 AM/FM/XM antenna.

*Is the error message gone?*

**YES**—Replace the AM/FM/XM antenna. ■

**NO**—Go to step 5.

5. Substitute a known-good XM receiver (without AcuraLink) or the AcuraLink control unit (XM receiver) (with AcuraLink).

*Is the error message gone?*

**YES**—Replace the XM receiver (without AcuraLink) or the AcuraLink control unit (XM receiver) (with AcuraLink). ■

**NO**—Replace the XM antenna lead. ■

### Special tools required

Diagnostics CD 07AAZ-SDBA100

Use the following tests to check sound quality.

**NOTE:** Before beginning the following tests, write down the 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 (see page 23-94).
  - If the channel ID is not correct, check for
    - Shorted speaker wire
    - Faulty amplifier
    - Faulty audio unit

# Audio System

## Sound Quality Diagnosis (cont'd)

### Special tools required

Diagnostics CD 07AAZ-SDBA100

Use the following tests to check sound quality.

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

### 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 base" 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 (see page 23-94).
  - If the voice always sounds out of phase, phasing is not correct. Check for
    - Crossed speaker wire
    - Faulty amplifier
    - Faulty audio unit

### Special tools required

Diagnostics CD 07AAZ-SDBA100

### 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 (see page 23-95).
- 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 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.

#### **Special tools required**

Diagnostics CD 07AAZ-SDBA100

#### **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 (see page 23-96).
  - If the sound quality is OK, go to the sound balance test (see page 23-96).

# Audio System

## Sound Quality Diagnosis (cont'd)

### Special tools required

Diagnostics CD 07AAZ-SDBA100

### Sound Balance Test

Perform 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.

### Special Tools Required

Diagnostics CD 07AAZ-SDBA100

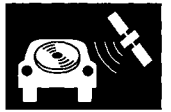
### Frequency Sweep

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 (see page 23-97).
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.



### **Special tools required**

Diagnostics CD 07AAZ-SDBA100

### **Sound Judging**

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

1. In the client's vehicle, set the bass, treble, fader, and balance settings to the client'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 client'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 client's vehicle's sound quality results the known-good vehicle's results.

- If the sound quality in the client's vehicle is comparable to the sound quality in the known-good vehicle, then the client'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 amplifier
  - Faulty audio unit

# Audio System

## 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 speakers (display is normal) with ELS audio system (see page 23-51), with premium audio system (see page 23-56) 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 client'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 client's vehicle, facing the same direction.
  3. Start the engine in the client'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 perform step 4 thru 10 on the known-good vehicle.
  12. Compare the number of stations received in steps 6 and 9 in the client'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 client's vehicle receives fewer stations by at least 10 %, go to step 2 of poor AM/FM radio reception or interference (see page 23-45).



## Audio Unit Removal/Installation

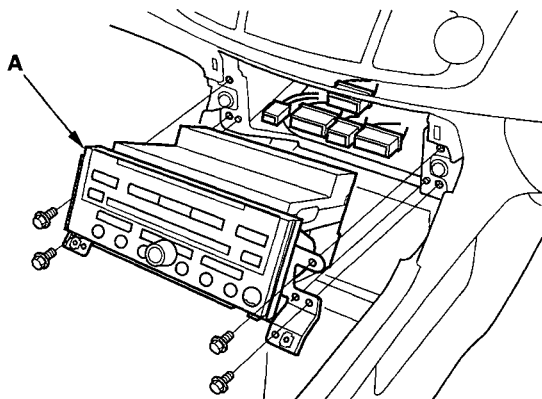
### With ELS audio system

SRS components are located in this area. Review the SRS component locations (see page 24-12), and the precautions and procedures (see page 24-14) before performing repairs or service.

#### NOTE:

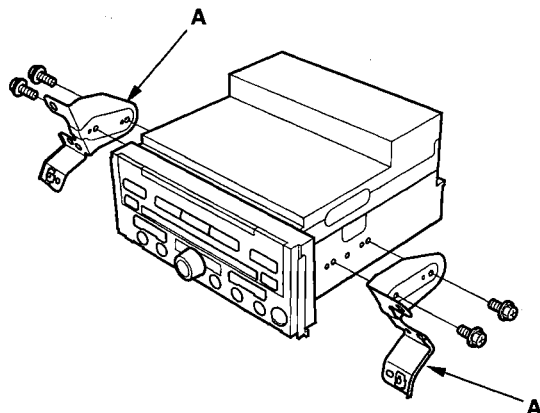
- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a workshop towel under the parts when working on them to protect the face panel from scratches or other damage.

1. Make sure you have the anti-theft codes for the audio system and navigation system (if equipped), then write down the audio presets.
2. Remove the center console panel (see step 3 on page 20-92) and the audio pocket (see step 10 on page 20-97).
3. Remove the bolts, then pull out the audio unit (A).



4. Disconnect the connectors, then remove the audio unit.

5. Remove the bolts and the brackets (A).



6. Install the audio unit in the reverse order of removal, and note these items:

- Make sure all the connectors are secure.
- Enter the anti-theft codes for the audio system, set the clock, then enter the audio presets.
- If necessary, enter the navigation system code.

# Audio System

## Audio Unit Removal/Installation (cont'd)

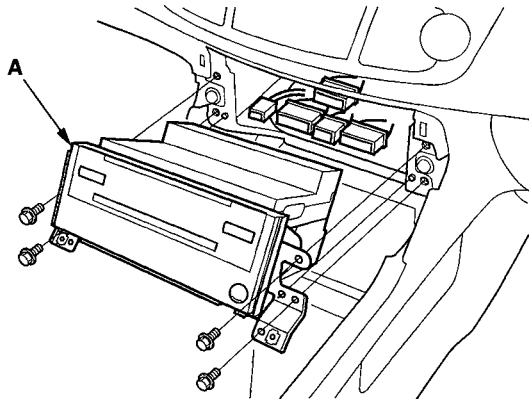
### With premium audio system

SRS components are located in this area. Review the SRS component locations (see page 24-12), and the precautions and procedures (see page 24-14) before performing repairs or service.

#### NOTE:

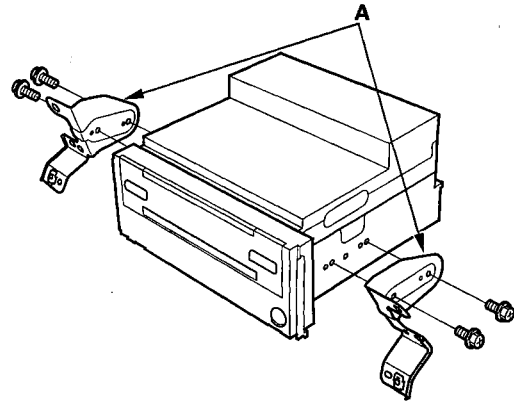
- Put on gloves to protect your hands.
- Take care not to scratch the dashboard and related parts.
- Lay a workshop towel under the parts when working on them to protect the face panel from scratches or other damage.

1. Make sure you have the anti-theft codes for the audio system, then write down the audio presets.
2. Remove the center console panel (see step 3 on page 20-92) and the audio pocket (see step 10 on page 20-97).
3. Remove the bolts, then pull out the audio unit (A).



4. Disconnect the connectors, then remove the audio unit.

5. Remove the bolts and the brackets (A).



6. Install the audio unit in the reverse order of removal, and note these items:

- Make sure all the connectors are secure.
- Enter the anti-theft codes for the audio system, set the clock, then enter the audio presets.



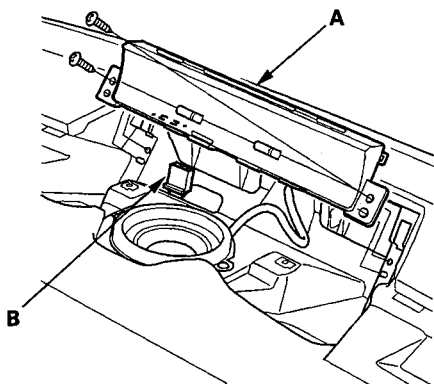
## Audio-HVAC Subdisplay Unit Removal/Installation

(with navigation)

NOTE:

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

1. Remove the dashboard center upper panel (see page 20-105).
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.

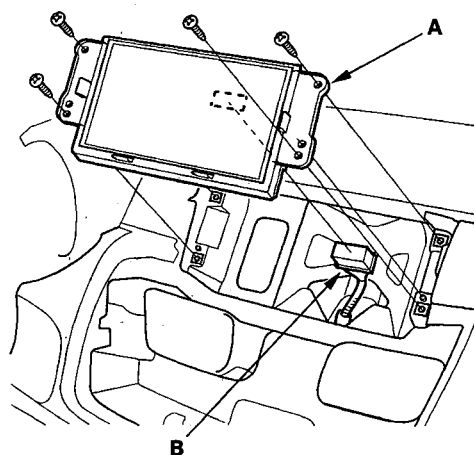
## Audio-HVAC Display Unit Removal/Installation

(without navigation)

NOTE:

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

1. Remove the center panel (see page 20-101).
2. Remove the screws, then pull out the audio-HVAC display unit (A).



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

# Audio System

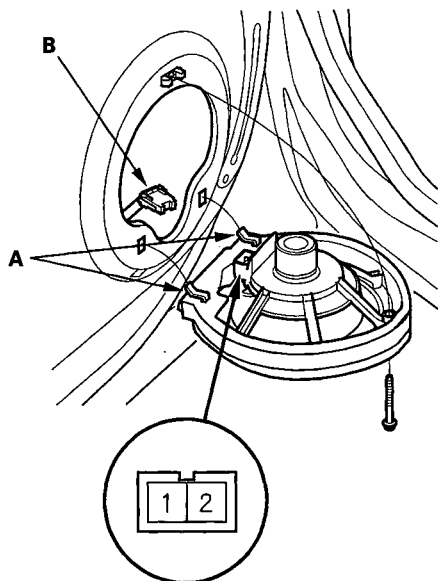
## Speaker Test/Replacement

### Door Speaker

1. Remove the door panel (see page 20-6).
2. Remove the bolt. Then lift the speaker straight up to release the lower clips (A).

#### **NOTICE**

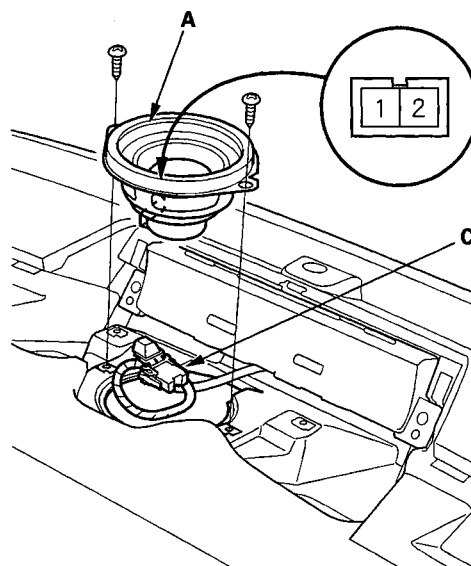
If you pull the speaker out too far from the door, you will damage the lower clips.



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

### Front Center Speaker (with ELS audio system)

1. Remove the dashboard center upper panel (see page 20-105).
2. Remove the screws, then pull out the speaker (A).

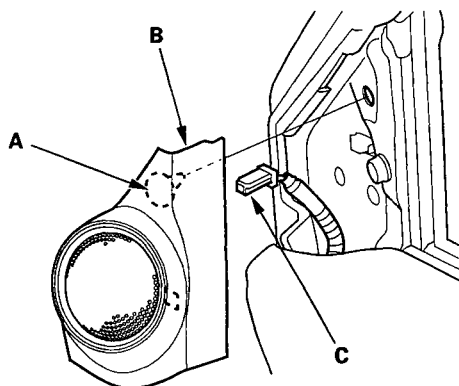


3. Disconnect the 2P connector (C), and remove the speaker.
4. Measure the resistance between the No. 1 and No. 2 terminals. There should be about 4  $\Omega$ .
5. If the resistance is not as specified, replace the front center speaker.

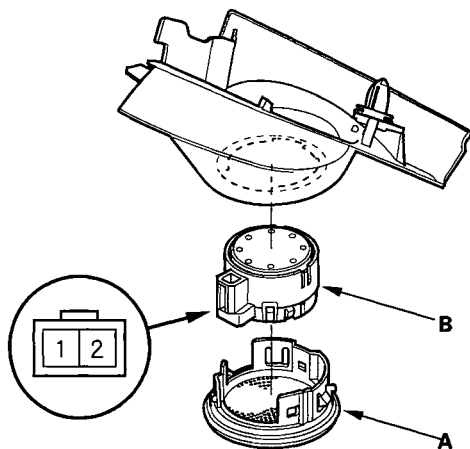


### Front Door Tweeter (with premium audio system)

1. Detach the clip (A) and remove the door mirror garnish (B). Then disconnect the connector (C).



2. Carefully pry the tweeter grille (A) out of the door mirror garnish. Be careful not to damage the tweeter grille and the door mirror garnish.



3. Remove the front door tweeter (B) from the speaker grille.

4. Measure the resistance between the front door tweeter 2P connector No. 1 and No. 2. There should be about  $3.3 \Omega$ .
5. If the resistance is not as specified, replace the front door tweeter.

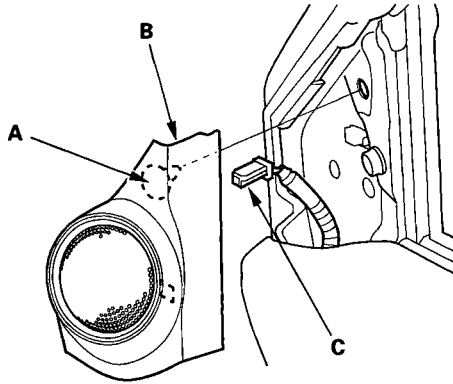
(cont'd)

# Audio System

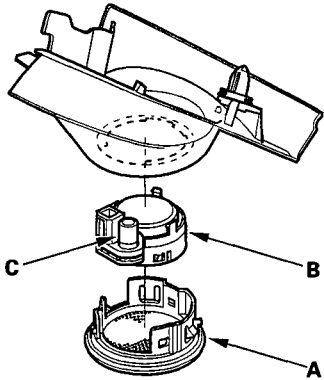
## Speaker Test/Replacement (cont'd)

### Front Door Tweeter (with ELS audio system)

1. Detach the clip (A) and remove the door mirror garnish (B). Then disconnect the connector (C).

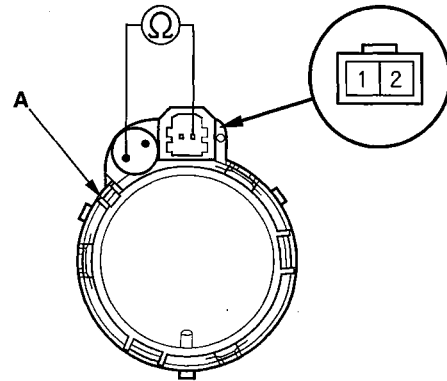


2. Carefully pry the tweeter grille (A) out of the door mirror garnish. Be careful not to damage the tweeter grille and the door mirror garnish.



3. Remove the front door tweeter (B) from the speaker grille.
4. Check the capacitor (C) condition. If any malfunction is found, replace the front door tweeter.

5. Measure the resistance between the front door tweeter (A) terminal No. 2 and the outside terminal of the capacitor. There should be about 6  $\Omega$ .

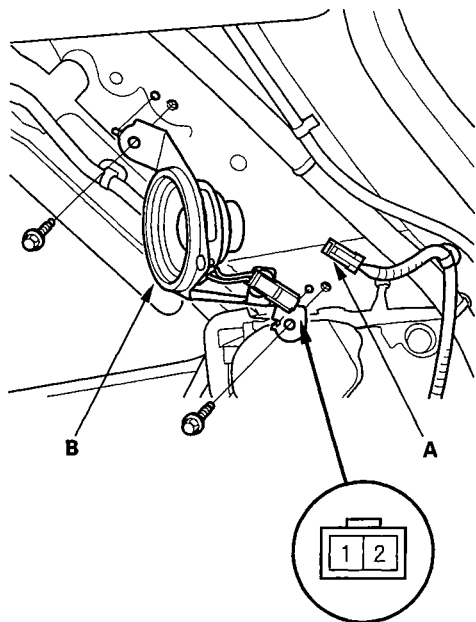


6. If the resistance is not as specified, replace the front door tweeter.



### Rear Satellite Speaker (with ELS audio system)

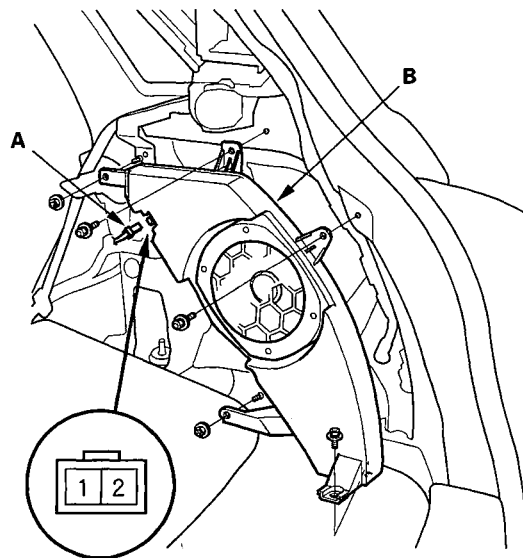
1. Remove the quarter-pillar panel (see page 20-76).
2. Disconnect 2P connector (A), then remove the bolts and pull out the speaker (B).



3. Measure the resistance between the No. 1 and No. 2 terminals. There should be about 4  $\Omega$ .
4. If the resistance is not as specified, replace the rear tweeter.

### Subwoofer (with premium audio system)

1. Remove the right rear side trim panel (see page 20-76).
2. Disconnect the 2P connector (A), then remove the bolts and pull out the subwoofer (B).



3. Measure the resistance between the No. 1 and No. 2 terminals. There should be about 2.3  $\Omega$ .
4. If the resistance is not as specified, replace the subwoofer.

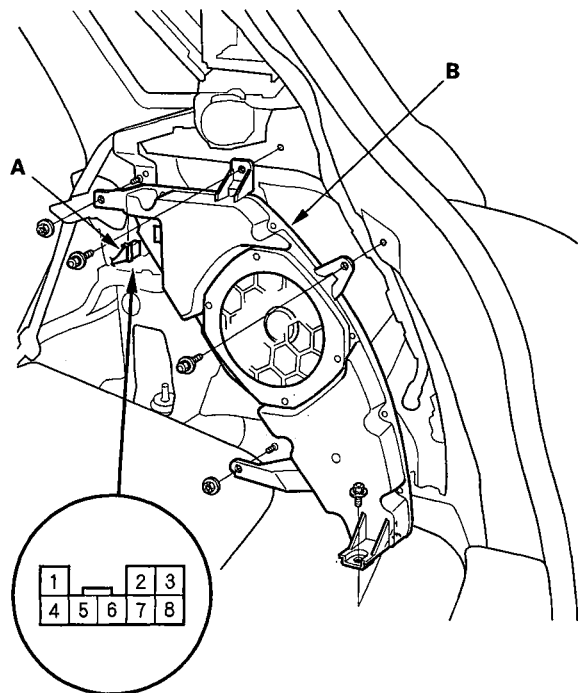
(cont'd)

# Audio System

## Speaker Test/Replacement (cont'd)

### Subwoofer (with ELS audio system)

- 1. Remove the right rear side trim panel (see page 20-76).
- 2. Disconnect 8P connector (A), then remove the bolts and pull out the subwoofer (B).



Wire side of female terminals

### Input Test

- 3. With the connector still disconnected, make the input tests at the connector according to the table.

| Terminal | Test                                                                                          |
|----------|-----------------------------------------------------------------------------------------------|
| 5        | Measure the voltage to ground with all conditions:<br>There should be battery voltage.        |
| 6        | Measure the voltage to ground with audio power switch ON:<br>There should be battery voltage. |

- 4. Reconnect the connector to the subwoofer, and make the input test at the connector according to the table.

| Terminal | Test                                                                                 |
|----------|--------------------------------------------------------------------------------------|
| 4        | Measure the voltage to ground with all conditions:<br>There should be less than 1 V. |

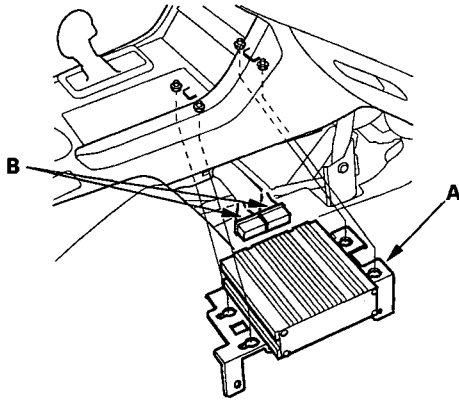
- 5. If the result of the input test is OK and the subwoofer has no sound, replace the subwoofer.



## Stereo Amplifier Removal/Installation

### With ELS audio system

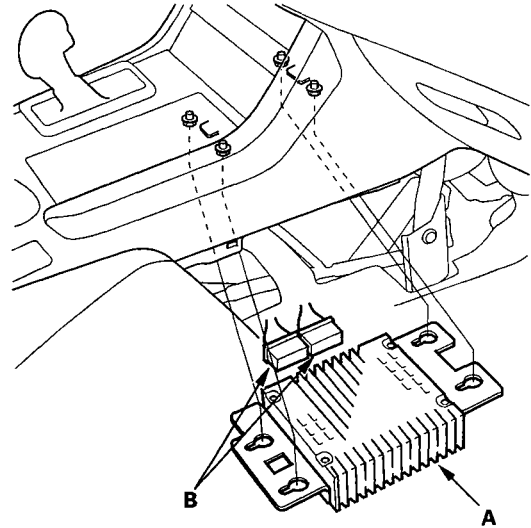
1. Remove the navigation unit (see page 23-190).
2. Loosen the mounting bolts, then pull out the stereo amplifier (A).



3. Disconnect the connectors (B) and remove the stereo amplifier.
4. Install the stereo amplifier in the reverse order of removal.

### With premium audio system

1. Remove the passenger's console trim (see page 20-92).
2. Loosen the mounting bolts, then pull out the stereo amplifier (A).



3. Disconnect the connectors (B) and remove the stereo amplifier.
4. Install the stereo amplifier in the reverse order of removal.

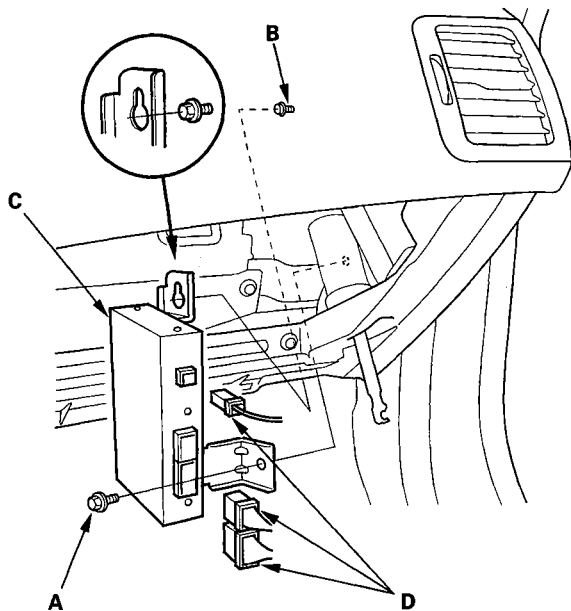
# Audio System

## AcuraLink Control Unit (XM Receiver) Removal/Installation

NOTE: The AcuraLink must be reactivated by Acura Client Services when:

- The AcuraLink control unit (XM receiver) is replaced.
- DATA RESET was selected while in the self-diagnostic function.
- Vehicle ownership changes.

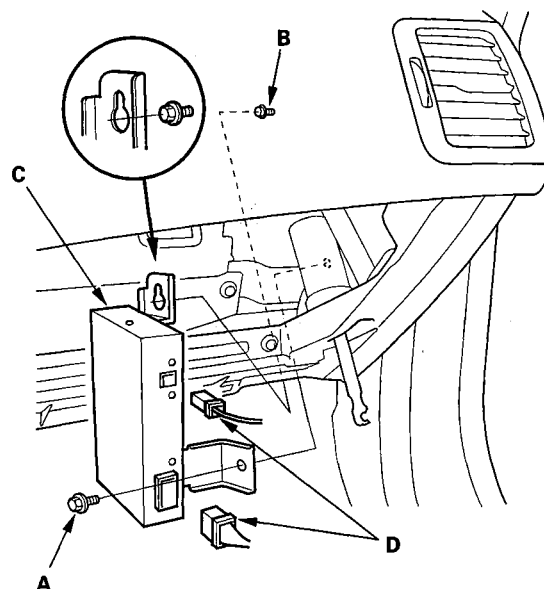
1. Remove the door sill and the right kick panel (see page 20-66).
2. Remove the glove box (see page 20-104).
3. Remove the passenger's dashboard undercover (see page 20-103).
4. Remove the bolt (A) and Loosen the bolt (B) from the AcuraLink control unit (XM receiver) (C).



5. Disconnect the connectors (D).
6. Release the AM/FM antenna lead from its holder.
7. Lower the AcuraLink control unit (XM receiver) through the footwell area.
8. Install the AcuraLink control unit (XM receiver) in the reverse order of removal.

## XM Receiver Removal/Installation

1. Remove the door sill and the right kick panel (see page 20-66).
2. Remove the glove box (see page 20-104).
3. Remove the passenger's dashboard undercover (see page 20-103).
4. Remove the bolt (A) and loosen the bolt (B) from the XM receiver (C).

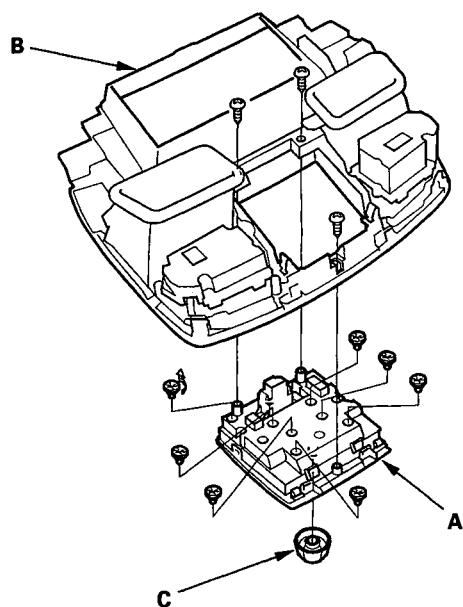


5. Disconnect the connectors (D) and pull out the XM receiver.
6. Lower the XM receiver through the footwell area.
7. Install the XM receiver in the reverse order of removal.



## Audio Switch Panel Removal/Installation

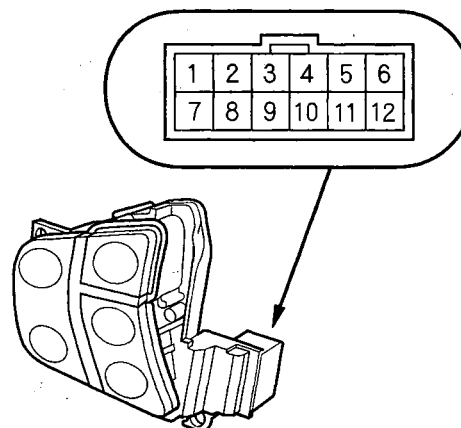
1. Remove the center panel (see page 20-101).
2. Remove the screws, then pull out the audio switch panel (A) from the center panel (B).



3. If necessary, remove the dial knob (C) and bulbs.
4. Install the audio switch panel in the reverse order of removal.

## Audio Remote Switch Test

1. Remove the steering wheel (see page 17-22).
2. Remove the audio remote switch (see page 17-23).



3. Measure the resistance between the No. 7 and No. 9 terminals in each switch position according to the table.

| Position        | Resistance          |
|-----------------|---------------------|
| OFF             | About 10 k $\Omega$ |
| MODE            | About 4 k $\Omega$  |
| CH (+)          | About 2 k $\Omega$  |
| CH (-)          | About 840 $\Omega$  |
| ▲<br>(VOL.UP)   | About 370 $\Omega$  |
| ▼<br>(VOL.DOWN) | About 100 $\Omega$  |

4. If the resistance is not as specified, replace the audio remote switch.
5. Use a diode tester between the terminals in each switch position according to the table.

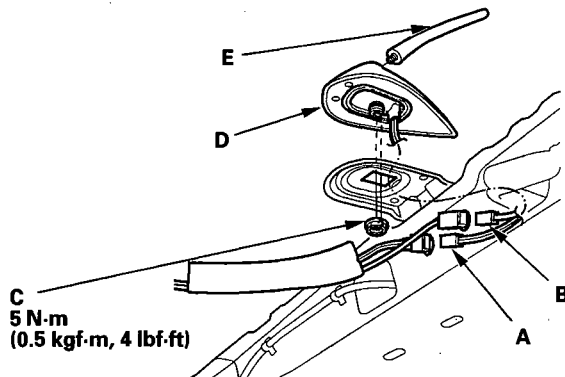
| Terminal | 6 |   | 11 |
|----------|---|---|----|
|          | ○ | ⊕ | ○  |

6. If the diode test is not as specified, replace the audio remote switch (see page 17-23).

# Audio System

## AM/FM/XM Antenna Replacement

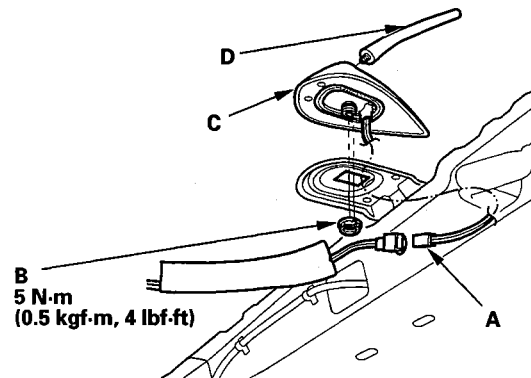
1. Pull down the rear portion of the headliner (see page 20-85). Take care not to bend the headliner excessively.
2. Disconnect the AM/FM antenna lead connector (A) and the XM antenna lead connector (B), then remove the nut (C) from the AM/FM/XM antenna (D).



3. Remove the AM/FM/XM antenna and the antenna mast (E).
4. Install the antenna in the reverse order of removal.

## AM/FM Antenna Replacement

1. Pull down the rear portion of the headliner (see page 20-85). Take care not to bend the headliner excessively.
2. Disconnect the AM/FM antenna lead connector (A), then remove the nut (B) from the AM/FM antenna (C).

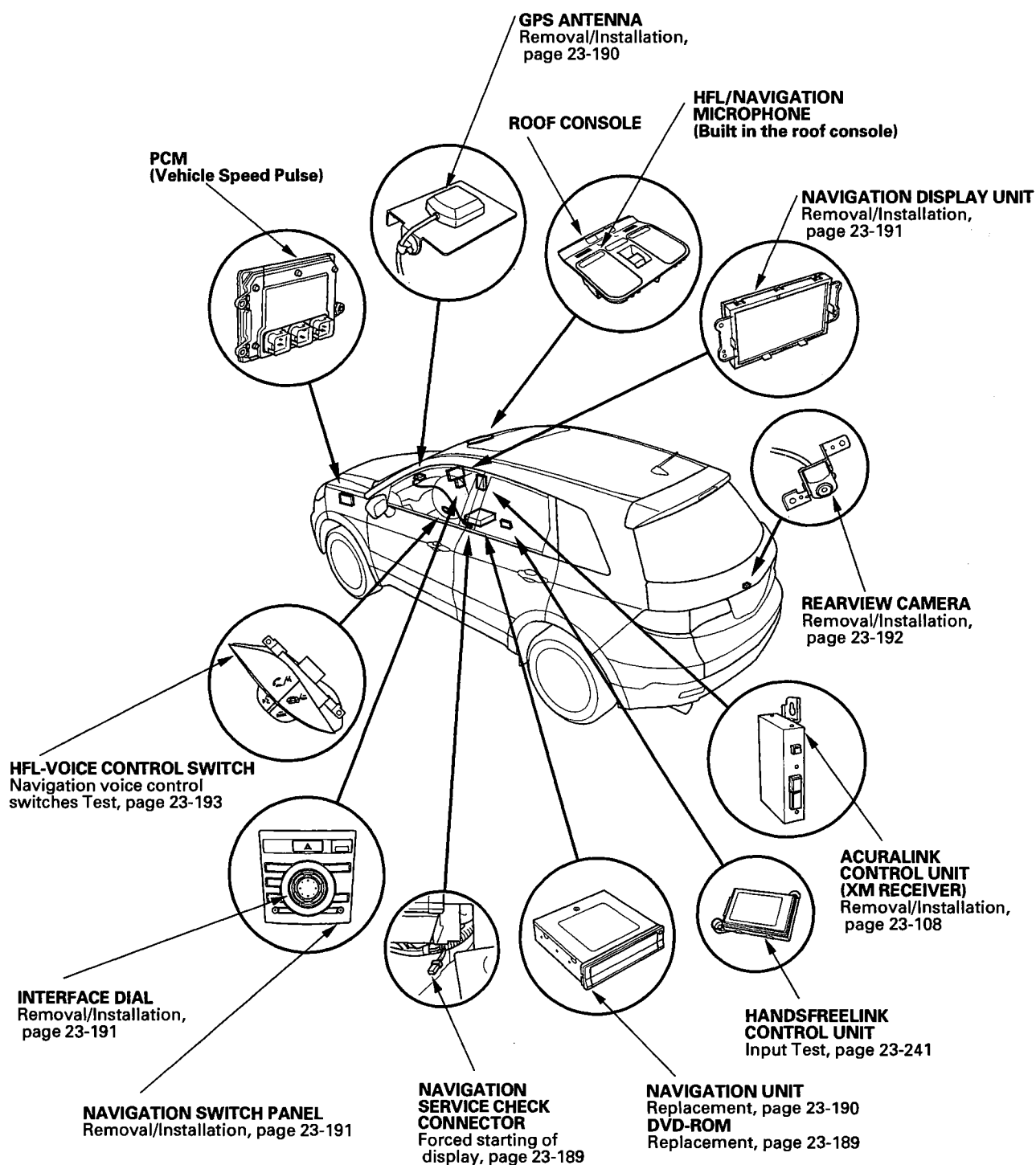


3. Remove the AM/FM antenna and the antenna mast (D).
4. Install the antenna in the reverse order of removal.



# Navigation System

## Component Location Index



# Navigation System

## 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. Be sure to get the client's anti-theft security code numbers before;

- Disconnecting the battery.
- Disconnecting the navigation unit 8P connector.
- Removing the No. 23 (10 A) fuse from the under-hood fuse/relay box.

After service, reconnect power to the navigation unit, and turn the ignition switch 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 the Navi ECU diagnostic screen (see step 1 on page 23-169). Select Unit Check from the diagnostic screen, then select Navi ECU. Also, you can find the serial number on the navigation unit that is stored in the center console. The serial number is on a label on the bottom of the unit.

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

### Symptom Diagnosis

Certain circumstances and system limitations will result in occasional vehicle positioning errors. Some clients 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 clients 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 some discrepancies between the vehicle's actual position and the indicated vehicle 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 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 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 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 GPS is reduced during these instances:

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

### Muting Logic

Whenever the navigation system is giving guidance, all of the speakers are muted. When the voice control system is being used, all of the speakers are muted. If the HandsFreeLink is in use, the voice control system is unavailable to the navigation system.

### 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 sometimes be noticeable because of the panel's low-reflection coating. Clean the screen with a soft, damp cloth. You may use a mild cleaner intended for eye glasses or computer screens.

### Symptom Duplication

- When the symptom can be duplicated, verify that it is not a characteristic of the system. Review the navigation 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 client about the conditions when the symptom occurred.
  - Always ask the client 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 duplicate the symptom under the same conditions the client 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.

### Service Precautions

- If the navigation unit needs to be replaced, inform the client that personal information in the navigation system will be lost. If possible, have the client record their personal information before the unit is replaced.
- Before disconnecting the battery, make sure you have the anti-theft codes for the audio and the navigation system, write down the audio presets. Also obtain any PGM-FI or transmission DTCs and freeze frame data (which will be lost when the PCM loses power).
- When the battery is disconnected, the internal GPS clock is reset to "0:00". The clock will reset to the correct time after the system finishes GPS initialization.
- After reconnecting the battery, you have to wait to get the initial signal from the satellite. It will take from 10 to 45 minutes.
- Verify map matching.
- Before returning the vehicle, enter the audio and navigation anti-theft security code, then enter the audio presets.
- Adjust the time zone and daylight savings in the set up clock settings found in the navigation system.

(cont'd)

# Navigation System

## General Troubleshooting Information (cont'd)

### System Initialization

If for any reason, you lose power to the navigation system (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 Security Code

The navigation system and audio unit have a coded theft protection circuit. Be sure to get the client's anti-theft security codes number before;

- Disconnecting the battery
- Disconnecting the navigation unit 8P connector
- Removing the No. 23 (10 A) fuse from the under-hood fuse/relay box

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

Enter the 5-digit audio anti-theft security code.

When replacing the navigation unit or audio unit, be sure to give the client the new anti-theft security code(s).

### 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:

**\*\*\*Wait\*\*\***  
The system is acquiring its GPS signal.  
This could take up to 10 minutes.  
• Engine must be running  
• Vehicle must be parked outside,  
away from buildings  
• Do not move the vehicle at this time

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, park the vehicle out in the open with a clear view of the southern 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.

**Navigation system is unable acquire a proper GPS signal.**

- Move vehicle to another location
- Turn the ignition switch off
- Disconnect the battery for 30 minutes to clear the GPS receiver's memory
- Reconnect the battery and follow the screen prompts

If this is displayed, turn off the engine, then restart the vehicle and move it to a different location. If you now see the Disclaimer screen, 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 23-156).



## Map Matching

This part of the initialization matches the GPS coordinates with a road on the map screen. To perform this part of the procedure, ensure that the navigation system is displaying a map. Check the "GPS" icon in the upper left corner of the screen, it should be "Green" when the vehicle is parked outside, and with the correct color labeled DVD installed in the navigation unit. 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 DVD, you have two ways to purchase one. You can either call (888) 549-3798, or order on-line at [www.acura.com](http://www.acura.com) "ORDER NAVIGATION DVD" link.

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 or orange 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:

- Updating is optional, and there is no program to provide free DVDs containing yearly mapping updates.
- Map matching must be done any time the DVD is removed or replaced.

# Navigation System

## Symptom Troubleshooting Index

| Symptom                                                                                                          | Diagnostic procedure                                                                                                                      | Also check for                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Navigation system stays on the GPS initialization screen                                                         | <ul style="list-style-type: none"> <li>• System Initialization (see page 23-114)</li> <li>• GPS initializing (see page 23-114)</li> </ul> | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• GPS antenna/cable is disconnected or damaged</li> <li>• Harness/fuses/switches</li> </ul>                                                                 |
| Vehicle position icon constantly leaves road, moves erratically, or is very far from actual position             | Symptom Troubleshooting (see page 23-151)                                                                                                 | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• GPS antenna/cable</li> <li>• PCM (speed and fuel pulses)</li> <li>• Harness/fuses/switches</li> </ul>                                                     |
| System always comes up in in-line diagnostic mode                                                                | Symptom Troubleshooting (see page 23-169)                                                                                                 |                                                                                                                                                                                                                               |
| Navigation system will not accept security code                                                                  | Symptom Troubleshooting (see page 23-162)                                                                                                 | Wrong color DVD                                                                                                                                                                                                               |
| Navigation frequently asks for anti-theft code and needs GPS initialization                                      | Symptom Troubleshooting (see page 23-166)                                                                                                 | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Low battery voltage</li> <li>• Harness/fuses/switches</li> </ul>                                                                                          |
| GPS icon is white or not shown                                                                                   | Symptom Troubleshooting (see page 23-156)                                                                                                 | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Aftermarket accessories connected to the system</li> <li>• GPS antenna/cable</li> <li>• Harness/fuses/switches</li> </ul>                                 |
| Vehicle icon wanders across the map when driving (does not follow a displayed road) or map or vehicle ICON spins | Symptom Troubleshooting (see page 23-161)                                                                                                 | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• GPS antenna/cable</li> <li>• PCM (Speed signal)</li> </ul>                                                                                                |
| No picture is displayed                                                                                          | Symptom Troubleshooting (see page 23-150)                                                                                                 | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Display unit</li> <li>• Harness/fuses/switches</li> </ul>                                                                                                 |
| Picture has lines/rolls/other issues or is an odd color                                                          | Symptom Troubleshooting (see page 23-153)                                                                                                 | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Aftermarket accessories connected to the system</li> <li>• Display unit</li> <li>• Harness/fuses/switches</li> </ul>                                      |
| Picture is missing a color or tone or is an odd color                                                            | Symptom Troubleshooting (see page 23-152)                                                                                                 | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Wrong color DVD installed</li> <li>• Display unit</li> <li>• Aftermarket accessories connected to the system</li> <li>• Harness/fuses/switches</li> </ul> |
| Traffic information is not being shown on map screen                                                             | Symptom Troubleshooting (see page 23-167)                                                                                                 | <ul style="list-style-type: none"> <li>• AcuraLink (XM)</li> <li>• Navigation unit</li> <li>• Harness</li> <li>• Customer account status</li> <li>• Area outage</li> <li>• Area not covered</li> </ul>                        |



| Symptom                                                                                               | Diagnostic procedure                                                                                                                                          | Also check for                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display day/night mode does not work                                                                  | Symptom Troubleshooting (see page 23-160)                                                                                                                     | <ul style="list-style-type: none"> <li>• Display unit</li> <li>• Gauge control module (CAN)</li> <li>• Display brightness set to "High"</li> <li>• Harness/fuses/switches</li> </ul>                              |
| System locks up or freezes constantly                                                                 | Symptom Troubleshooting (see page 23-161)                                                                                                                     | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Wrong color DVD installed</li> <li>• Harness/fuses/switches</li> <li>• Damaged DVD</li> </ul>                                                 |
| Voice guidance cannot be heard, is broken up, or there is too much static                             | Symptom Troubleshooting (see page 23-156)                                                                                                                     | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Volume or voice feedback setting (see Owner's Manual)</li> <li>• Audio unit/amplifier</li> <li>• Harness/fuses/switches</li> </ul>            |
| Voice control does not work/respond                                                                   | Symptom Troubleshooting (see page 23-158)                                                                                                                     | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Microphone/voice control switch</li> <li>• Volume or voice feedback setting (see Owner's Manual)</li> <li>• Harness/fuses/switches</li> </ul> |
| Navigation cannot control A/C by voice                                                                | Symptom Troubleshooting (see page 23-160)                                                                                                                     | <ul style="list-style-type: none"> <li>• Display unit</li> <li>• Wrong color DVD installed</li> <li>• Harness/fuses/switches</li> <li>• Wrong navigation unit (model code)</li> </ul>                             |
| Navigation cannot control XM radio                                                                    | Symptom Troubleshooting (see page 23-166)                                                                                                                     |                                                                                                                                                                                                                   |
| Navigation cannot control audio/disc                                                                  | Symptom Troubleshooting (see page 23-163)                                                                                                                     | Wrong color DVD                                                                                                                                                                                                   |
| Interface dial buttons do not work                                                                    | Symptom Troubleshooting (see page 23-154)                                                                                                                     | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Display unit</li> <li>• Interface dial</li> <li>• Harness/fuses/switches</li> </ul>                                                           |
| Today's Destinations button is dim and not selectable in the Enter destination by screen (grayed-out) | The client has not entered a group of locations for Today's Destinations. This is normal. The button is only selectable if the client is using this function. | See Owner's Manual                                                                                                                                                                                                |
| Some set-up and information functions of the navigation system are grayed-out and do not work         |                                                                                                                                                               | Client did not select "OK" from Disclaimer screen. Refer to System Function Diagram (see page 23-131).                                                                                                            |

(cont'd)

# Navigation System

## 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 may be new, or the client deleted the 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 owner's manual                                                                                                                       | <ul style="list-style-type: none"> <li>• Database limitations (address not in database)</li> <li>• Wrong color DVD installed</li> </ul>                                |
| Rearview camera does not come on or work properly                                                      | Symptom Troubleshooting (see page 23-164).                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Software for the latest up-dates</li> <li>• No backup signal</li> <li>• Wrong disc installed in navigation unit</li> </ul>    |
| 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 (see page 23-186) for details on coverage differences.                                      | See Owner's Manual                                                                                                                                                     |
| Navigation stays on with ignition switch off                                                           | Symptom Troubleshooting (see page 23-163)                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Harnnes/fuses/switchs</li> <li>• Aftermarket accessories connected to the system</li> </ul>                                   |
| DVD screen error messages                                                                              | Symptom Troubleshooting (see page 23-159)                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Navigation unit</li> <li>• Wrong color DVD installed</li> <li>• Display unit</li> <li>• Damaged DVD</li> </ul>                |
| Navigation system will not go beyond the disclaimer screen and displays the OK button                  |                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Wrong color DVD installed</li> <li>• Scratched or damaged DVD</li> <li>• Navigation unit</li> </ul>                           |
| The navigation anti-theft code card is lost or missing                                                 | See anti-theft feature (see page 23-112)                                                                                                                                                      |                                                                                                                                                                        |
| The vehicle icon lags behind when the vehicle turns                                                    | See self-inertial navigation limitations (see page 23-112)                                                                                                                                    | <ul style="list-style-type: none"> <li>• Aftermarket accessories connected to the system</li> <li>• GPS antenna/cable</li> </ul>                                       |
| Navigation screen is darker than normal or takes time to start up when it is cold                      | See LCD display unit limitations (see page 23-113)                                                                                                                                            |                                                                                                                                                                        |
| The navigation clock is off by 1 to 3 hours after replacing the navigation unit                        | See service precautions (see page 23-113)                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Perform map matching (see page 23-115)</li> <li>• GPS antenna/cable</li> <li>• Check and adjust the clock settings</li> </ul> |
| A new navigation DVD is needed                                                                         | See obtaining a navigation DVD (see page 23-115)                                                                                                                                              |                                                                                                                                                                        |



## 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 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 illumination signal (headlights ON) is used by the navigation unit to automatically switch the display between "Night" and "Day" brightness modes when display is set to Auto. When the instrument panel brightness control is set to full brightness (hold both "+" and "-" key at the same time), 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 display panel control unit, the navigation unit and the audio system. The information passed on this bus are audio and climate control settings directed by the navigation unit.

The "Comm. Bus" connects the HFL, XM (HIP) (AcuraLink), and navigation units. This bus supports these functions:

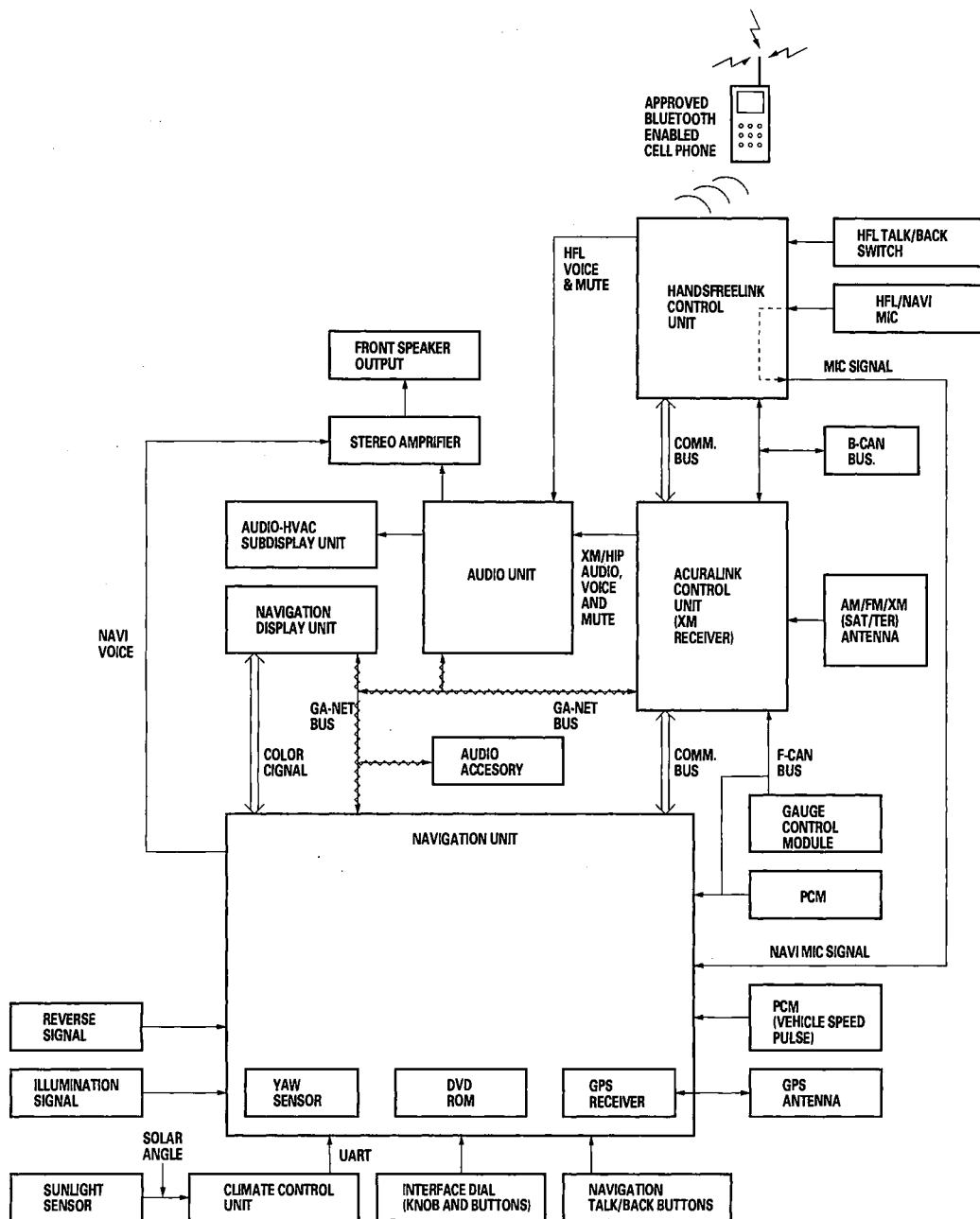
- The navigation control unit receives traffic and AcuraLink message information from the AcuraLink Control unit.
- The navigation control unit sends a POI phone number (on the "Calculate route to" screen) to the HandsFreeLink control unit for dialing.
- If vehicle problems are detected, and the client's cellular contract includes data service, then the AcuraLink control unit can send vehicle data to the HandsFreeLink control unit for transmitting back to the AcuraLink servers.
- The AcuraLink server can pass additional problem details back through the HandsFreeLink control unit, to the AcuraLink Control unit, and finally to the navigation unit for display.

(cont'd)

# Navigation System

## System Description (cont'd)

### System Diagram

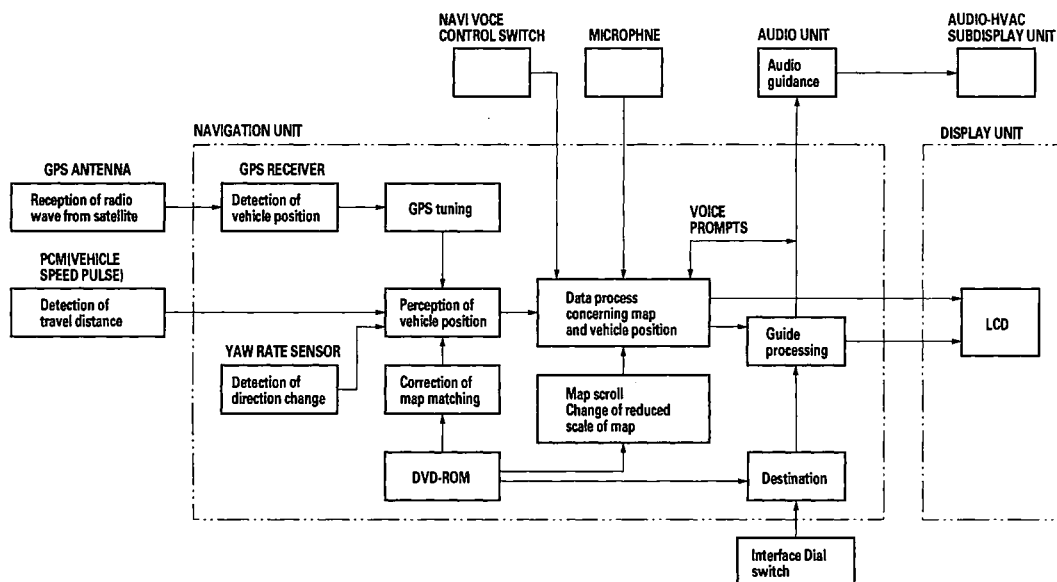




## Navigation Function

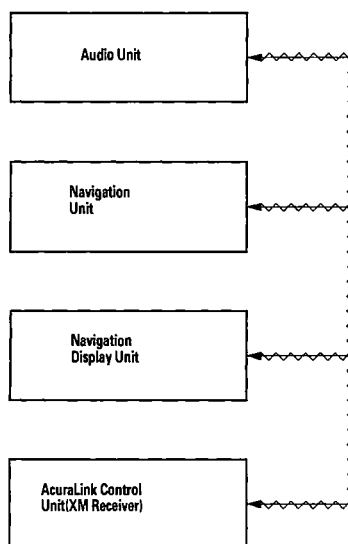
The navigation system is composed of the navigation unit, the PCM (vehicle speed signal), the GPS antenna, the microphone, the voice control switch, the audio unit, the display unit, and the interface dial.

### 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.



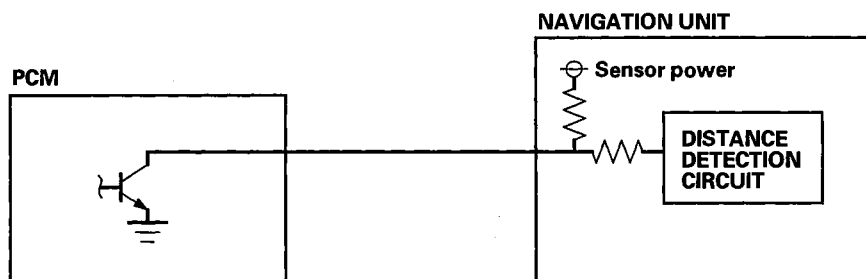
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# Navigation System

## System Description (cont'd)

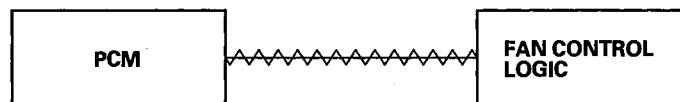
### Vehicle Speed Pulse

The vehicle speed pulse is sent by the PCM. The PCM receives a signal from the countershaft speed sensor, then processes the signal and transmits it to the speedometer and other systems.



### Charge Signal and Navigation Unit Cooling Fan Operation

The PCM sends a charge signal to the navigation unit via F-CAN. A thermister inside the navigation unit monitors the units internal temperature. This information combined with a charge signal determines the control units internal cooling fan operation.





### 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

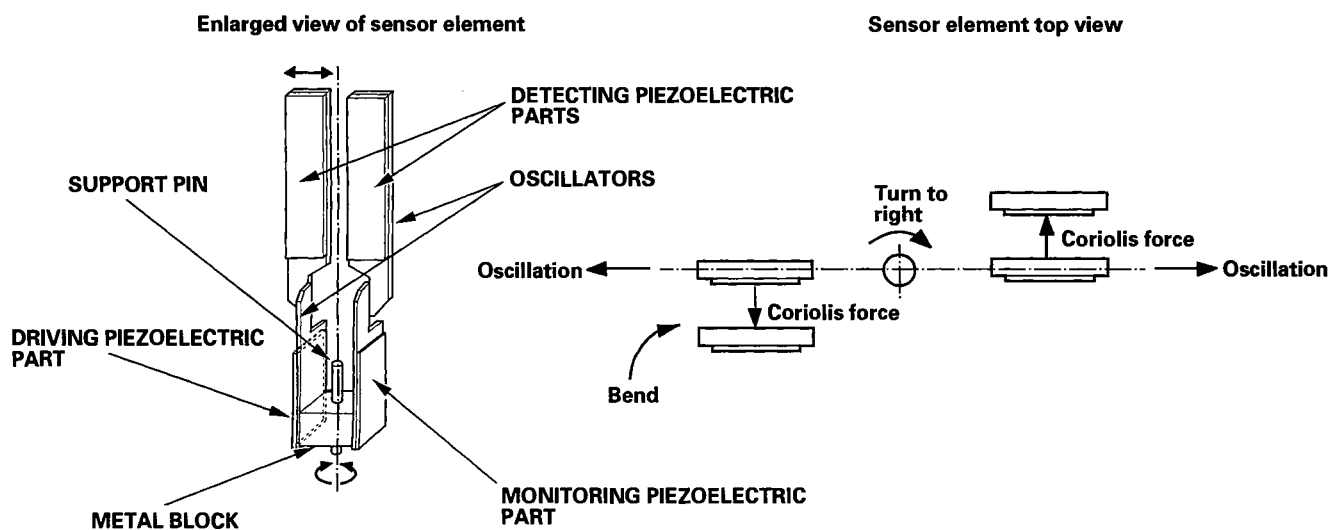
The sensor element is shaped like a tuning fork, and it consists of the piezoelectric parts, the metal block, and the support pin. There are four piezoelectric parts: one to drive the oscillators, one to monitor and maintain the oscillation at a regular frequency, and two to detect angular velocity. 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.

### 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.



(cont'd)

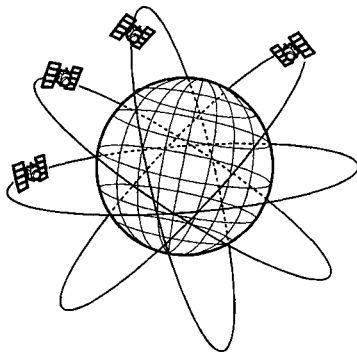
# Navigation System

## System Description (cont'd)

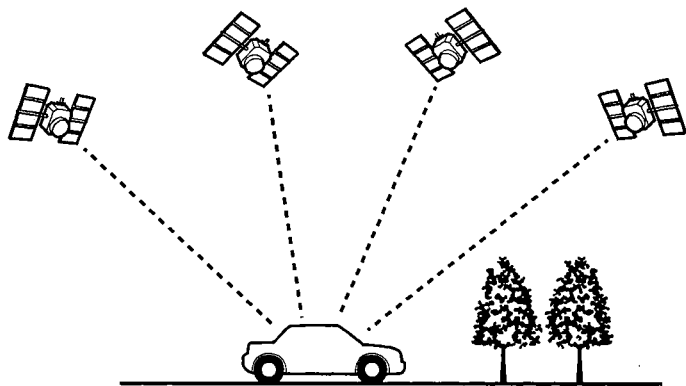
### Global Positioning System (GPS)

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 precision is indicated by the color and shape of the GPS icon shown on the display.

| GPS ICON                               | NUMBER OF SATELLITES | CONDITION                                   | DESCRIPTION                                                                                                                       |
|----------------------------------------|----------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| No GPS icon shown                      | 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.                     |
| Square GPS icon shown with white "GPS" | 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)             |
| Cube GPS icon shown with green "GPS"   | 4 or more            | Vehicle position detectable in 3 dimensions | The longitude, latitude and the altitude of the vehicle position can be detected. (More precise than detection in two dimensions) |

### GPS Antenna and clock

The GPS antenna amplifies and transmits the signals received from the satellites to the GPS receiver.

### GPS Receiver

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 control 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 display panel control unit and audio driving instructions to the audio unit.

### **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 PCM.

### **Map Matching Tuning**

The map matching occurs when you drive the vehicle along a mapped road until the road name appears at the bottom of the screen. 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.
- Minimize Toll Roads-Calculate a route that avoids, or minimizes travel on toll roads.
- 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.

### **Solar Angle**

The navigation system uses the sun's angle, along with the sunlight sensor to control the driver/passenger A/C air flow.

### **Off Road Tracking (breadcrumbs)**

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.

(cont'd)

# Navigation System

## System Description (cont'd)

### 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 AcuraLink, navigation, and finally the radio/CD-DVD player. The priority is passed by HFL, and AcuraLink 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 center 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.

### DVD-ROM

The DVD includes:

- Map Data
- Point of interest (POI)
- Navigation software

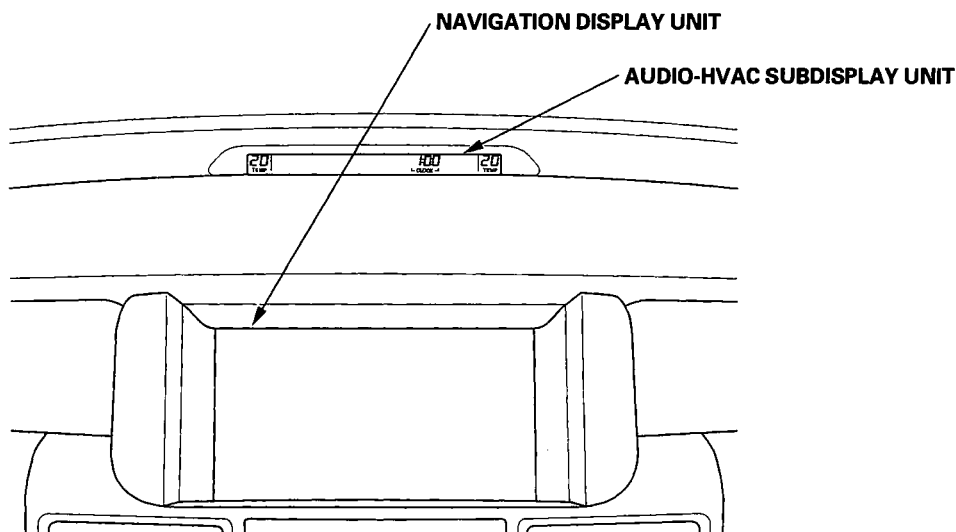
### Audio Unit

The audio unit receives the voice guidance instructions from the navigation unit, and transmits the instructions through the front speakers even when the audio system is in use.

NOTE: If the navigation volume is turned OFF, this feature is disabled.

### Display Unit

The display unit uses a liquid crystal display (LCD). The LCD is a 8-inch-diagonal, thin film transistor (TFT), stripe 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)**

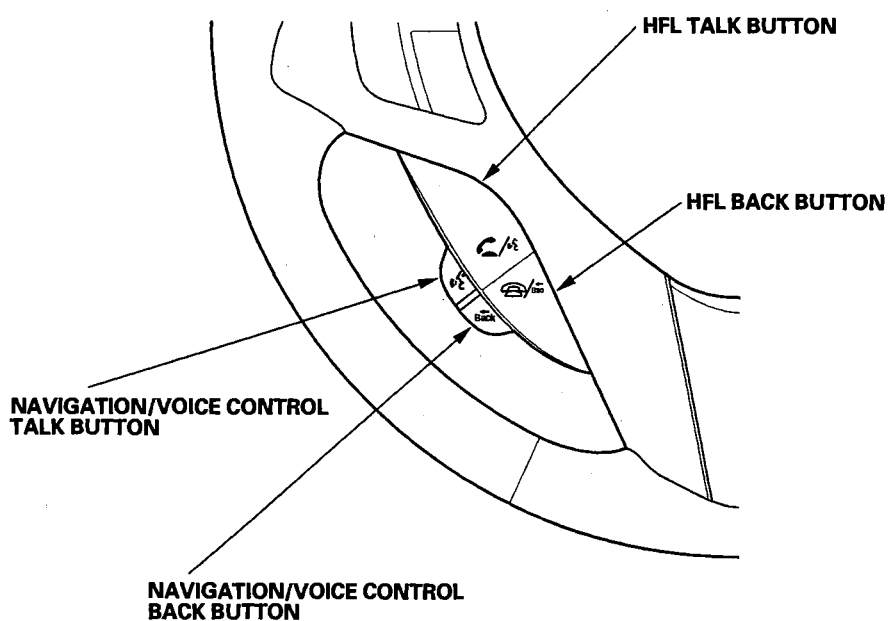
Receives voice commands and transmits them to the navigation unit or HandsFreeLink control unit for interpretation. Both system share the same microphone.

**TALK Button**

Activates the voice control system in the navigation unit to accept voice commands.

**BACK Button**

Returns the display to the previous screen (similar function as the CANCEL button).



(cont'd)

# Navigation System

## System Description (cont'd)

### Glossary

The following is a glossary of terms pertaining to the Voice Recognition Navigation System.

| Item                     | Definition                                                                                                                                                                                                                                                     |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AcuraLink                | 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.                                                                                    |
| 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 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                      | Countershaft (Output) Speed Sensor. This sensor reads the output shaft speed at the transmission and provides a speed pulse to the 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 Owner's manual for a list of these areas.                                                                                      |
| DTC                      | Diagnostic Trouble Codes. Use the PGM Tester, or 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 will display "Not on a digitized road", and after 1/2 mile, the "breadcrumbs" will 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 disk. See the Navigation Owner's Manual for information on how to order a replacement or an update DVD.                                                                            |
| ECM                      | Engine Control Module. Typically referred to as the ECM.                                                                                                                                                                                                       |
| FAQ                      | Frequency Asked Questions. See the Navigation Owner's Manual for a list of the customer FAQs, and troubleshooting information.                                                                                                                                 |
| F-CAN                    | Fast CAN Bus (see CAN)                                                                                                                                                                                                                                         |
| 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.                                                                         |
| HIP<br>(AcuraLink) | Honda Information Platform (see AcuraLink)                                                                                                                                                                                                                               |
| 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.                                                                                    |
| Interface Dial     | This control device consists of a rotating knob and the buttons surrounding it. This device allows control of the navigation, audio, and climate functions displayed on the screen.                                                                                      |
| 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 is displaying 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.                                                                                                                                                      |
| MID                | Multi-Information Display                                                                                                                                                                                                                                                |
| 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 will say "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 referred to as ECM.                                                                                                                      |
| PCMCIA             | A computer industry defined term referring to the PC Card slot standard.                                                                                                                                                                                                 |

(cont'd)

# Navigation System

## System Description (cont'd)

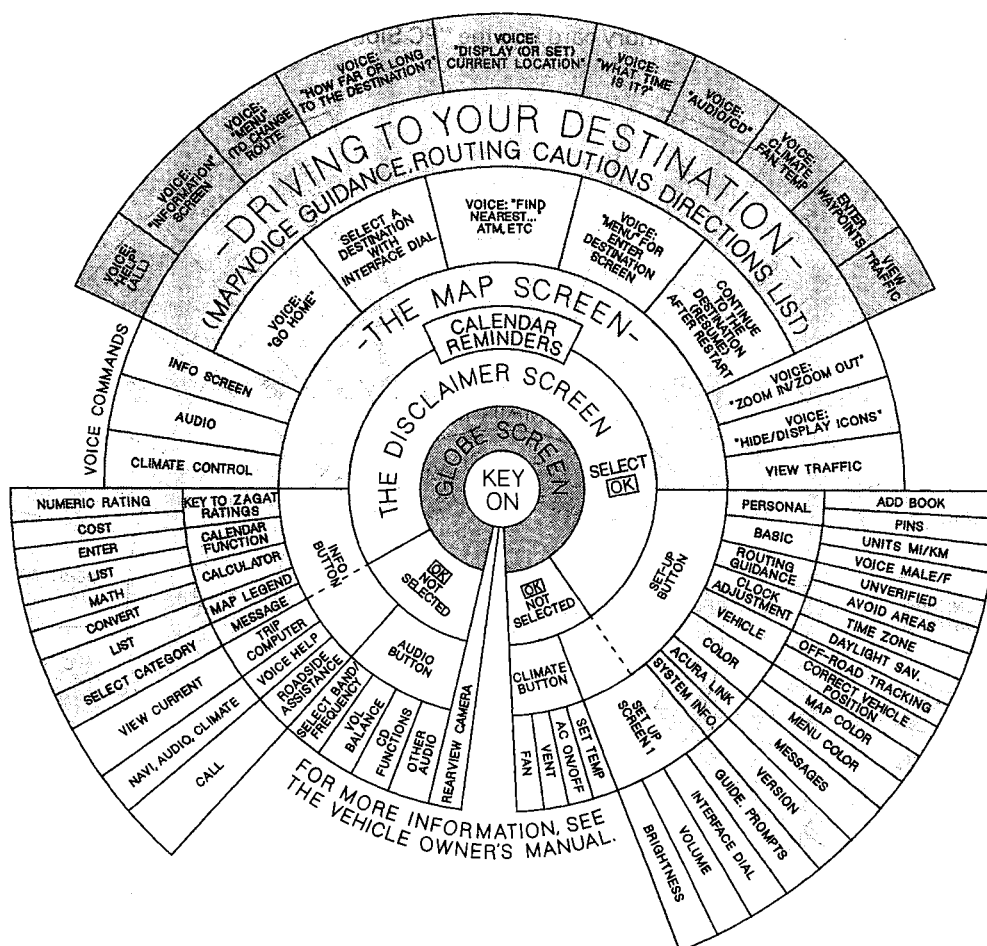
| Item               | Definition                                                                                                                                                                                                                                                                                                         |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 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 "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.                                              |
| Tuning             | A continual update of internal navigation system scaling factors. See the individual sensor tuning discussions under either "System Description", or "System Diagnosis Mode" (see page 23-169) in this manual.                                                                                                     |
| Unverified Streets | These streets have not been verified for turn restrictions, one-way, etc. They are shown in 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. |
| 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 (Talk/Back buttons), and the front speakers. See the overview for more information.                                                                                |
| VSP                | Vehicle Speed Pulse. This pulse signal coming from the 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 system control unit and senses the side-to-side twisting force generated when the vehicle turns. See a detailed description of how this sensor works in this manual.                                                                                                      |



### System Function Diagram

This diagram shows the features of the navigation system starting at the center and working outward in layers. The navigation program starts at "Key ON", and then displays the globe screen. Once the disclaimer screen is acknowledged, the next shaded portions of the diagram become active. However, some functions of the INFO and SET UP buttons, and all functions of the AUDIO and A/C buttons can be accessed immediately after the globe screen (white).

The items above the map screen show various ways to set a destination, such as "Go Home." Once you begin driving to your destination, you are provided with map/voice guidance, routing cautions (in unverified areas), and a directions list. While driving to your destination, use the voice control system as much as possible to interact with the navigation, audio, and climate control systems.



- ☐ Functions accessible at any time
- ☐ Disclaimer screen
- ☐ Map screen/voice commands to enter a destination
- ☐ Driving to your destination
- ☐ Voice commands while driving to your destination
- ☒ Globe screen

(cont'd)

# Navigation System

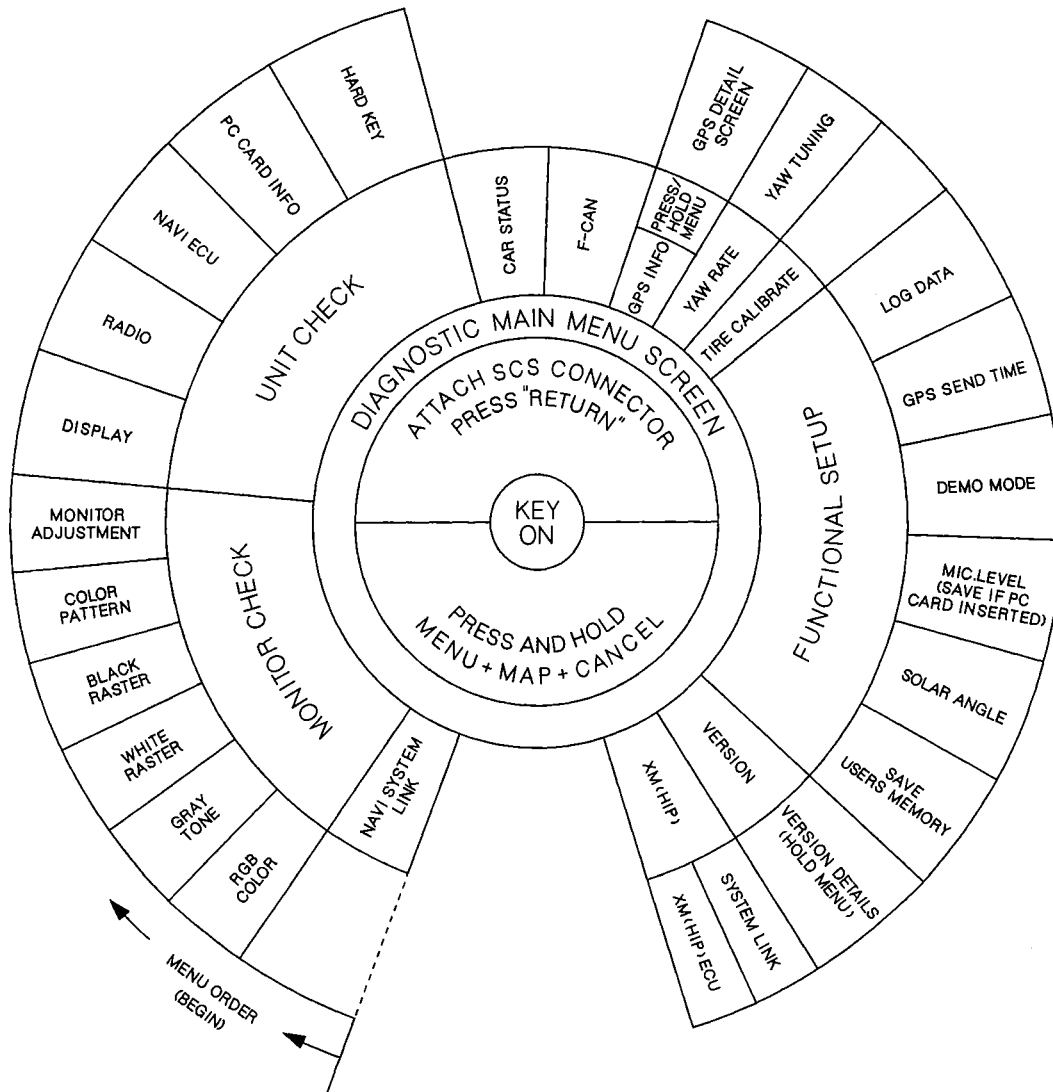
## System Description (cont'd)

### Diagnostic System Diagram

This diagram represents the diagnostic "slice" in the Navigation Functional diagram. The diagram shows an overview of the navigation diagnostic features starting at the center and working outward in layers. The diagram starts with "Key on". The diagram shows two ways to get to the diagnostic main menu:

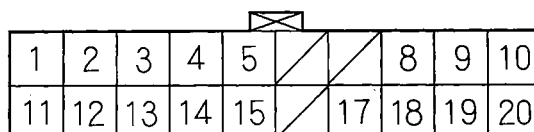
- By starting the vehicle with the SCS service connector plugged in, you will enter the diagnostic "System Links" screen. select "Return" to get to the main diagnostic menu.
- From any of the navigation Map or Menu screens, press and simultaneously hold the keys Menu + Map + Cancel. The diagram shows the available diagnostic menu choices, starting at the bottom left, and moving clockwise. In most cases, do not clear or change settings in any diagnostic screen unless instructed to do so in the explanation, or by the factory.

If the factory asks you to insert a PCMCIA memory card into the "PC Slot," then the features specified on the diagram as "(Card)" are available.





## Navigation Unit Inputs and Outputs for Connector A (20P)



Wire side of female terminals

| Terminal Number | Wire Color | Terminal Name                                  | Description                                   | Voltage (about)                                         | Symptom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|------------|------------------------------------------------|-----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1               | WHT        | R SIG<br>(Red signal)                          | Red color signal                              | 0–1 V                                                   | If open: Red color missing (see "RGB Color" diagnostic).<br>If short to ground: Red color missing (see "RGB Color" diagnostic).                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2               | RED        | G SIG<br>(Green signal)                        | Green color signal                            | 0–1 V                                                   | If open: Green color missing (see "RGB Color" diagnostic).<br>If short to ground: Green color missing (see "RGB Color" diagnostic).                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3               | GRY        | SH SIG<br>(Shield signal)                      | Shield for terminal No. 1, 2, 11, 12, 13      | 0 V                                                     | If open: No change to display.<br>If short to ground: No change to display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 4               | YEL        | A/C-SI<br>(Air conditioner serial in)          | Communication signal for climate control unit | —                                                       | HVAC will not respond to navigation commands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5               | GRY        | ILL (+)<br>(Illumination positive)             | Parking light on signal                       | Lights on: battery voltage,<br>Lights off: 0 V          | If open: When brightness = "Auto," night mode for the display is inoperative when lights on.<br>If short to ground: Blows No. 14 (7.5 A) fuse in under-dash fuse/relay box.                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8               | WHT        | CAN-H<br>(CAN high)                            | F-CAN bus communication                       | Pulses 2.5–6 V<br>average 3 V                           | If open:<br>1) System Links FI-ECU, and Meter both show "NG."<br>2) F-CAN diagnostic = "NG."<br>3) B-CAN diagnostic = "NG."<br>4) Car status CHG (CAN) = 0.<br>5) Functional Setup, Trip info, FUP & Sampled FL = 0.<br>If short to ground: Same diagnostic conditions as when open, and also sets the following DTCs.<br>• B1168 Gauge Control Module loss of Comm. (Engine)<br>• B1169 Gauge Control Module loss of Comm. (A/T)<br>• B1178 F-CAN communication Circuit error.<br>• U0073 (F-CAN bus off)<br>• U0155 (F-CAN Gauge control module)<br>• U0121 (F-CAN VSA control) |
| 9               | GRY        | SH ECU BUS<br>(GA-NET) (Shield display bus)    | Shield for display bus terminal No. 10, 20    | 0 V                                                     | If open: No change to display.<br>If short to ground: No change to display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 10              | GRN        | ECU BUS (+)<br>(GA-NET) (Display bus positive) | Data bus (+)<br>GA-Net                        | 0–5 V pulses<br>average 2.5 V<br>depends on bus traffic | If open: Navigation buttons do not work.<br>If short to ground: Navigation buttons do not work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

(cont'd)

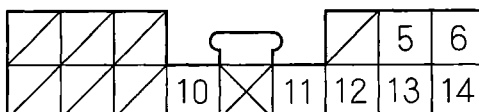
# Navigation System

## System Description (cont'd)

| Terminal Number | Wire Color | Terminal Name                                     | Description                                                | Voltage (about)              | Symptom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|------------|---------------------------------------------------|------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11              | YEL        | B SIG<br>(Blue signal)                            | Blue color signal                                          | 0—1 V AC                     | If open: Blue color missing (see "RGB Color" diagnostic).<br>If short to ground: Blue color missing (see "RGB Color" diagnostic).                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 12              | BRN        | C SIG<br>(Composite signal)                       | Composite video (vertical/horizontal) Synchronizing signal | 0.3 V AC                     | If open: Picture rolls horizontally, colors still visible.<br>If short to ground: Picture rolls horizontally, colors still visible.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 13              | BLU        | GND SIG<br>(Ground signal)                        | Ground for color signal                                    | 0 V                          | If open: No change to display.<br>If short to ground: No change to display.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 14              | RED        | A/C-SO<br>(Air conditioner serial out)            | Communication signal for climate control unit              | —                            | HVAC will not respond to navigation commands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 15              | BLU        | A/C-CLK<br>(Air conditioner clock)                | Check signal for climate control unit                      | —                            | HVAC will not respond to navigation commands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 17              | BLU        | JOG<br>(Interface dial operation signal)          | Interface dial operation signal                            | 0—5 V pulses                 | If open: You cannot operate navigation system<br>If short to ground: You cannot operate navigation system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 18              | RED        | CAN-L<br>(CAN low)                                | F-CAN bus communication                                    | Pulses 2.5—6 V average 3 V   | If open:<br>1) System Links PCM, and Gauge Control Module both show "NG."<br>2) F-CAN diagnostic = "NG."<br>3) B-CAN diagnostic = "NG."<br>4) Car status CHG (CAN) = 0.<br>5) Functional Setup, Trip info, FUP & Sampled FL = 0.<br>If short to ground: Same diagnostic conditions as when open, and also sets the following DTCs.<br>• B1168 Gauge Control Module loss of Comm. (Engine)<br>• B1169 Gauge Control Module loss of Comm. (A/T)<br>• B1178 F-CAN communication Circuit error.<br>• U0073 (F-CAN bus off)<br>• U0155 (F-CAN Gauge control module)<br>• U0121 (F-CAN VSA control) |
| 19              | GRY        | SH JOG<br>(Interface dial Shield jog)             | Shield for interface dial signal                           | —                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 20              | RED        | ECU BUS (—)<br>(GA-NET)<br>(Display bus negative) | Data bus (—)<br>GA-Net                                     | 0—5 V pulses nominally 2.5 V | If open: Navigation buttons do not work.<br>If short to ground: Hard buttons work OK.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



## Navigation Unit Inputs and Outputs for Connector B (14P)



Wire side of female terminals

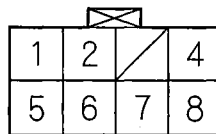
| Terminal Number | Wire Color | Terminal Name                                    | Description                                                             | Voltage (about)                                              | Symptom                                                                                                                                                                                                                                       |
|-----------------|------------|--------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5               | GRN        | RG L (+)<br>(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.<br>If short to ground: If voice activated, radio speakers buzz; if voice off, no effect.                                                                           |
| 6               | BLU        | MIC SIG (+)<br>(Mic signal positive)             | Microphone output signal positive                                       | 4—5 V (TALK button pressed)                                  | If open: No microphone signal shown in diagnostic screens: "Navi System Link" and Functional Setup "Mic Level."<br>If short to ground: No microphone signal shown in diagnostic screens: "Navi System Link" and Functional Setup "Mic Level." |
| 10              | GRN        | STRG SW<br>(Steering switches)                   | Steering switch output                                                  | 4—5 V (TALK button pressed)<br>2.5—3 V (BACK button pressed) | If open: Steering wheel Talk and BACK buttons do not work.<br>If short to ground: Steering wheel Talk, and BACK buttons do not work.                                                                                                          |
| 11              | GRY        | SH RG<br>(Shield route guidance)                 | Shield for terminal No. 5, 12                                           | 0 V                                                          | If open: No effect on voice output.<br>If short to ground: No effect on voice output.                                                                                                                                                         |
| 12              | RED        | GND RG<br>(Ground route guidance)                | Ground for voice guidance, and Voice Recognition (VR) prompts           | 0 V                                                          | If open: No effect on voice output.<br>If short to ground: No effect on voice output.                                                                                                                                                         |
| 13              | GRY        | SH MIC<br>(Shield mic)                           | Shield for terminal No. 6, 14                                           | 0 V                                                          | If open: No effect on voice control.<br>If short to ground: No effect on voice control.                                                                                                                                                       |
| 14              | PNK        | GND MIC<br>(Ground mic)                          | Ground for microphone signal                                            | 0 V                                                          | If open: No microphone signal shown in diagnostics: "Navi System Link" and Functional Setup "Mic Level."<br>If short to ground: No effect on voice recognition.                                                                               |

(cont'd)

# Navigation System

## System Description (cont'd)

### Navigation Unit Inputs and Outputs for Connector C (8P)

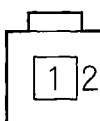


Wire side of female terminals

| Terminal Number | Wire Color | Terminal Name                             | Description                                                                   | Voltage (about)                               | Symptom                                                                                                                                                                                                |
|-----------------|------------|-------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1               | GRN        | +B<br>(+B Power source)                   | Continuous power source                                                       | Battery voltage                               | If open: Display picture goes out (display back light still on).<br>NOTE: System will reboot to "enter code" screen.<br>If short to ground: Blows fuse No. 23 (10 A) in the under-hood fuse/relay box. |
| 2               | PUR        | ACC<br>(Accessory)                        | Power source for accessories                                                  | Battery voltage at ACC (I)                    | If open: Display picture goes out (display back light still on).<br>If short to ground: Blows fuse No. 35 (7.5 A) in the under-dash fuse/relay box.                                                    |
| 4               | BLK        | GND<br>(Ground)                           | Ground for navigation unit                                                    | 0 V                                           | If open: No effect on system.<br>If short to ground: No effect on system.                                                                                                                              |
| 5               | LT BLU     | BACK LT<br>(Back light or reverse signal) | Reverse signal of select lever from "Multiplex Integrated Control Unit" (A/T) | In reverse, battery voltage:<br>Otherwise 0 V | If open: Navigation never sees reverse.<br>Diagnostic screen "Car Status," "Back" = 0.<br>If short to ground: Blows fuse No. 14 (7.5 A) in the under-dash fuse/relay box.                              |
| 6               | BLU        | VSP<br>(Vehicle speed pulse)              | Vehicle speed pulse signal from PCM                                           | Pulses 0—5 V:<br>Average 2.5 V, when moving   | If open: No vehicle speed pulses.<br>Diagnostic screen "Car Status," VSP Navi = 0.<br>If short to ground: No vehicle speed pulses.<br>Diagnostic screen "Car Status," VSP Navi = 0.                    |
| 7               | RED        | DIAG+<br>(Diagnostic positive)            | Service check signal for navigation system                                    | 5—6 V                                         | If open: No effect on system.<br>If short to ground: System goes into diagnostic mode any time the ignition switch is turned ON (I and II). See factory "In Line Diag" (see page 23-169).              |
| 8               | YEL        | DIAG-<br>(Diagnostic negative)            | Ground for service check signal                                               | 0 V                                           | If open: No effect on system.<br>If short to ground: No effect on system.                                                                                                                              |



## Navigation Unit Inputs and Outputs for Connector E (2P)



Wire side of female terminals

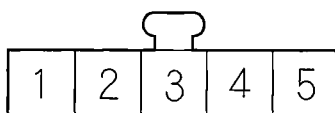
| Terminal Number | Wire Color | Terminal Name | Description           | Voltage (about) | Symptom                                                                                                                    |
|-----------------|------------|---------------|-----------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------|
| 1               | —          | SIG           | GPS signal            | 5 V             | If open: GPS icon on screen is white, system links screen ANT shows "NG."<br>If short to body ground: Same as open.        |
| 2               | —          | SH GPS        | Ground for GPS signal | 0 V             | If open: GPS icon on screen is white, system links screen ANT shows "NG."<br>If short to body ground: No effect on system. |

(cont'd)

# Navigation System

## System Description (cont'd)

### Navigation Unit Inputs and Outputs for Connector F (5P)



Wire side of female terminals

#### USA models

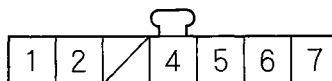
| Terminal Number | Wire Color | Terminal Name                       | Description                        | Voltage (about) | Symptom                                                                                                    |
|-----------------|------------|-------------------------------------|------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------|
| 1               | GRN        | HIP/HFL COMM3 (HFL communication 3) | Communication signal for HFL       | —               | Solid red HFL icon in Navi System Link. Phone icon in "route to" screen is grayed out.                     |
| 2               | BLK        | HIP/HFL COMM4 (HFL communication 4) | Communication signal for HFL       | —               | Solid red HFL icon in Navi System Link. Phone icon in "route to" screen is grayed out.                     |
| 3               | RED        | HIP/HFL COMM1 (HFL communication 1) | Communication signal for HFL       | —               | HFL icon in Navi System Link changes between red and green. Phone icon in "route to" screen is grayed out. |
| 4               | WHT        | HIP/HFL COMM2 (HFL communication 2) | Communication signal for HFL       | —               | HFL icon in Navi System Link changes between red and green. Phone icon in "route to" screen is grayed out. |
| 5               | GRY        | SH HIP/HFL (Shield HFL)             | Shield for terminal No. 1, 2, 3, 4 | —               |                                                                                                            |

#### Canada models

| Terminal Number | Wire Color | Terminal Name                   | Description                        | Voltage (about) | Symptom                                                                                                    |
|-----------------|------------|---------------------------------|------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------|
| 1               | GRN        | HFL COMM3 (HFL communication 3) | Communication signal for HFL       | —               | Solid red HFL icon in Navi System Link. Phone icon in "route to" screen is grayed out.                     |
| 2               | BLK        | HFL COMM4 (HFL communication 4) | Communication signal for HFL       | —               | Solid red HFL icon in Navi System Link. Phone icon in "route to" screen is grayed out.                     |
| 3               | RED        | HFL COMM1 (HFL communication 1) | Communication signal for HFL       | —               | HFL icon in Navi System Link changes between red and green. Phone icon in "route to" screen is grayed out. |
| 4               | WHT        | HFL COMM2 (HFL communication 2) | Communication signal for HFL       | —               | HFL icon in Navi System Link changes between red and green. Phone icon in "route to" screen is grayed out. |
| 5               | GRY        | HFL COMM SH (Shield HFL)        | Shield for terminal No. 1, 2, 3, 4 | —               |                                                                                                            |



## Display Unit Inputs and Outputs for Connector G(7P)



Wire side of female terminals

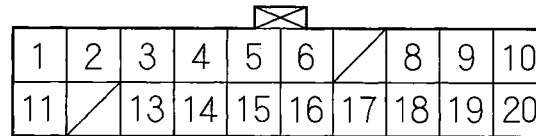
| Terminal Number | Wire Color | Terminal Name                 | Description                        | Voltage (about) | Symptom                                                                                                                                        |
|-----------------|------------|-------------------------------|------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| G1              | WHT        | VCC (VCC supply)              | Power source for rearview camera   | 7 V             | If open: No rearview camera image.<br>If short to ground: When put into reverse, the navigation screen goes black (backlight still operative). |
| G2              | RED        | GND (Ground)                  | Ground for rearview camera         | 0 V             | If open: No change to rearview camera image.<br>If short to ground: No change to rearview camera image.                                        |
| G4              | YEL        | CAMERA GND (Ground camera)    | Ground for rearview camera signal  | 0 V             | If open: No change to rearview camera image.<br>If short to ground: No change to rearview camera image.                                        |
| G5              | BLK        | CAMERA V (Video camera)       | Video signal for rearview camera   | 0.3 V           | If open: No rearview camera image.<br>If short to ground: When put into reverse, the navigation screen goes black (backlight still operative). |
| G6              | GRY        | CAMERA SH (Shield camera)     | Shield for terminal No. 1 to No. 7 | 0 V             | If open: No change to rearview camera image.<br>If short to ground: No change to rearview camera image.                                        |
| G7              | GRN        | CAMERA ADPT (Adaptive camera) | Control signal for rearview camera | 0 V             | If open: No change to rearview camera image.<br>If short to ground: No change to rearview camera image.                                        |

(cont'd)

# Navigation System

## System Description (cont'd)

### Navigation display Unit Inputs and Outputs for 20P Connector



Wire side of female terminals

| Terminal Number | Wire Color | Terminal Name                                      | Description                    | Voltage (about)                                         | Symptom                                                                                                                                                                         |
|-----------------|------------|----------------------------------------------------|--------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1               | GRN        | +B<br>(+B power source)                            | Continuous power source        | Battery voltage                                         | If open: Screen completely off (no backlight visible).<br>If short to ground: Blows fuse No. 23 (10 A) in the under-hood fuse/relay box.                                        |
| 2               | PUR        | ACC<br>(Accessory)                                 | Power source for accessory     | Battery voltage at ACC (I)                              | If open: Display and buttons do not work.<br>If short to ground: Blows fuse No. 35 (7.5 A) in the under-dash fuse/relay box.                                                    |
| 3               | LT BLU     | BUS (—)<br>(GA-NET)                                | Data bus (+)<br>GA-Net         | 0—5 V pulses<br>average 2.5 V<br>depends on bus traffic | If open: Navigation buttons and touch screen do not work.<br>If short to ground: Navigation buttons do not work.                                                                |
| 4               | GRY        | BUS SH<br>(GA-NET)                                 | Shield for terminal No. 3, 13  | 0 V                                                     | If open: No change to display.<br>If short to ground: No change to display.                                                                                                     |
| 5               | GRN        | DISP BUS (+)<br>(GA-NET)<br>(Display bus positive) | Data bus (+)<br>GA-Net         | 0—5 V pulses<br>average 2.5 V<br>depends on bus traffic | If open: Navigation buttons do not work.<br>If short to ground: Navigation buttons do not work.                                                                                 |
| 6               | YEL        | SECURITY (+)                                       | Security signal to rear screen | 0 V                                                     | If open: The security system will set, and will not trip when screen is removed.<br>If short to ground: The security system will set, and will not trip when screen is removed. |
| 8               | WHT        | R SIG<br>(Red signal)                              | Red color signal               | 0—1 V AC                                                | If open: Red color missing (see "RGB Color" diagnostic).<br>If short to ground: Red color missing (see "RGB Color" diagnostic).                                                 |
| 9               | RED        | G SIG<br>(Green signal)                            | Green color signal             | 0—1 V AC                                                | If open: Green color missing (see "RGB Color" diagnostic).<br>If short to ground: Green color missing (see "RGB Color" diagnostic).                                             |
| 10              | BLK        | GND<br>(Ground)                                    | Ground for display unit        | 0 V                                                     | If open: No change to display.<br>If short to ground: No change to display.                                                                                                     |

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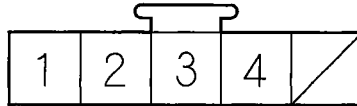
| Terminal Number | Wire Color | Terminal Name                                     | Description                                                | Voltage (about)                                   | Symptom                                                                                                                                                                         |
|-----------------|------------|---------------------------------------------------|------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11              | GRY        | ILL (+)<br>(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.<br>If short to ground: Blows fuse No. 14 (7.5 A) in the under-dash fuse/relay box.   |
| 13              | PUR        | BUS (+)<br>(GA-NET)                               | Data bus (-)<br>GA-Net                                     | 0–5 V pulses average 2.5 V depends on bus traffic | If open: Navigation buttons do not work.<br>If short to ground: Hard buttons work OK.                                                                                           |
| 14              | GRY        | SH DISP BUS<br>(GA-NET)<br>(Shield display bus)   | Shield for display bus terminal<br>No. 5, 15               | 0 V                                               | If open: No change to display.<br>If short to ground: No change to display.                                                                                                     |
| 15              | RED        | ECU BUS (-)<br>(GA-NET)<br>(Display bus negative) | Data bus (-)<br>GA-Net                                     | 0–5 V pulses average 2.5 V depends on bus traffic | If open: Navigation buttons and touch screen do not work.<br>If short to ground: Hard and touch buttons work OK.                                                                |
| 16              | BRN        | SECURITY (-)                                      | Security signal from CD changer                            | 0 V                                               | If open: The security system will set, and will not trip when screen is removed.<br>If short to ground: The security system will set, and will not trip when screen is removed. |
| 17              | BLU        | GND SIG<br>(Ground signal)                        | Ground for color signal                                    | 0 V                                               | If open: No change to display.<br>If short to ground: No change to display.                                                                                                     |
| 18              | YEL        | B SIG<br>(Blue signal)                            | Blue color signal                                          | 0–1 V AC                                          | If open: Blue color missing (see "RGB Color" diagnostic).<br>If short to ground: Blue color missing (see "RGB Color" diagnostic).                                               |
| 19              | BRN        | C SIG<br>(Composite signal)                       | Composite video (vertical/horizontal) synchronizing signal | 0.3 V AC                                          | If open: Picture rolls horizontally, colors still visible.<br>If short to ground: Picture rolls horizontally, colors still visible.                                             |
| 20              | GRY        | SH SIG<br>(Shield signal)                         | Shield for terminal<br>No. 8, 9, 17, 18, 19                | 0 V                                               | If open: No change to display.<br>If short to ground: No change to display.                                                                                                     |

(cont'd)

# Navigation System

## System Description (cont'd)

### Interface Dial Inputs and Outputs for 5P Connector



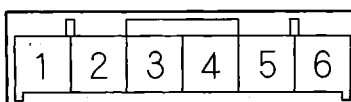
Wire side of female terminals

| Terminal Number | Wire Color | Terminal Name       | Description                      | Voltage (about)            | Symptom                                                                                                                            |
|-----------------|------------|---------------------|----------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 1               | BLU        | JOG (jog)           | Interface dial operation signal  | 0—5 V pulses               | If open: You can not operate navigation system.<br>If short to ground: You can not operate navigation system.                      |
| 2               | GRY        | SH JOG (Shield jog) | Shield for interface dial signal | —                          | —                                                                                                                                  |
| 3               | BLK        | GND (Ground)        | Ground for interface dial        | 0 V                        | If open: You can not operate navigation system.<br>If short to ground: You can not operate navigation system.                      |
| 4               | PUR        | ACC (Accessory)     | Power source for interface dial  | Battery voltage at ACC (I) | If open: You can not operate navigation system.<br>If short to ground: Blows fuse No. 35 (7.5 A) in the under-dash fuse/relay box. |

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## Rearview Camera Inputs and Outputs for 6P Connector

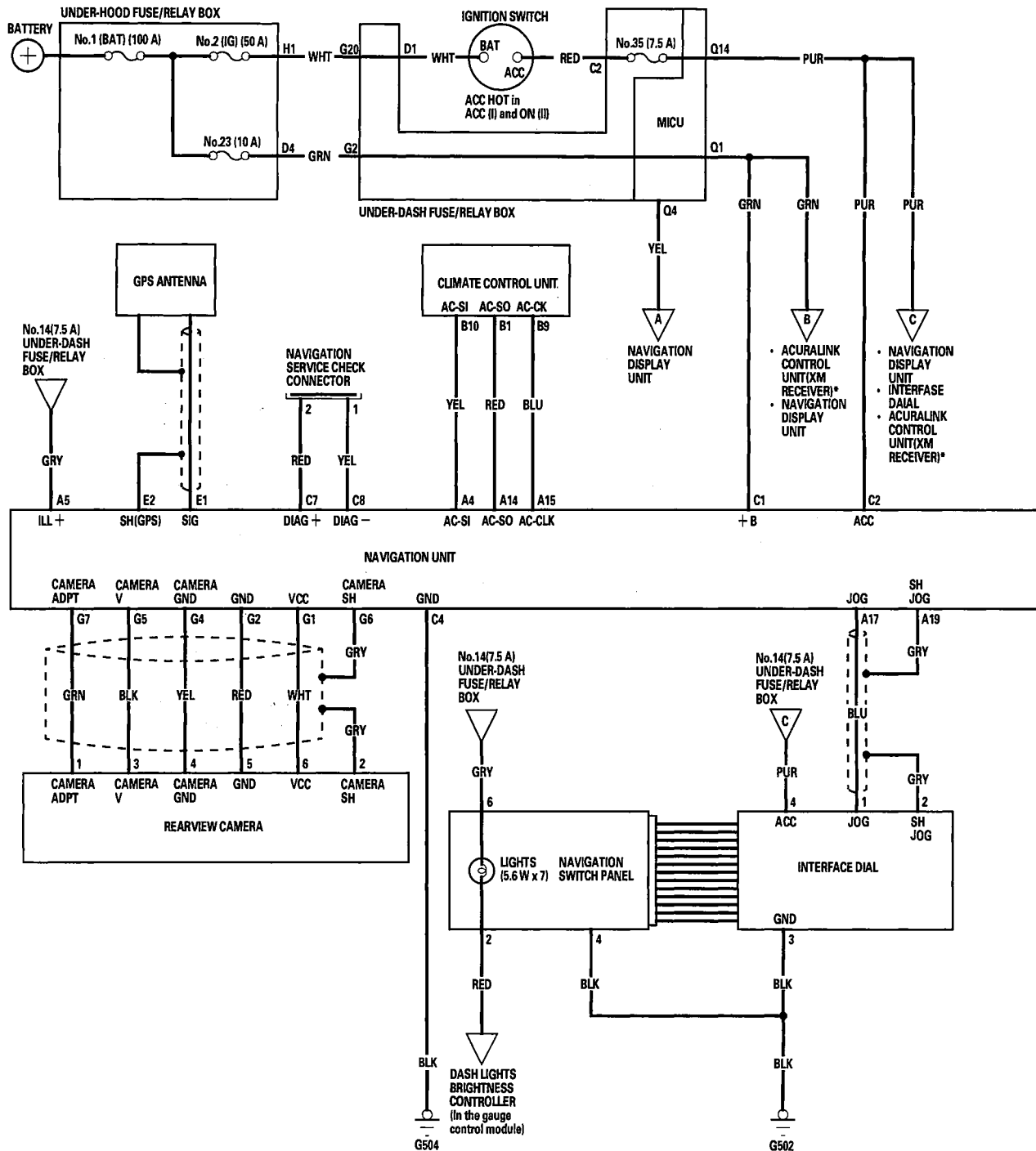


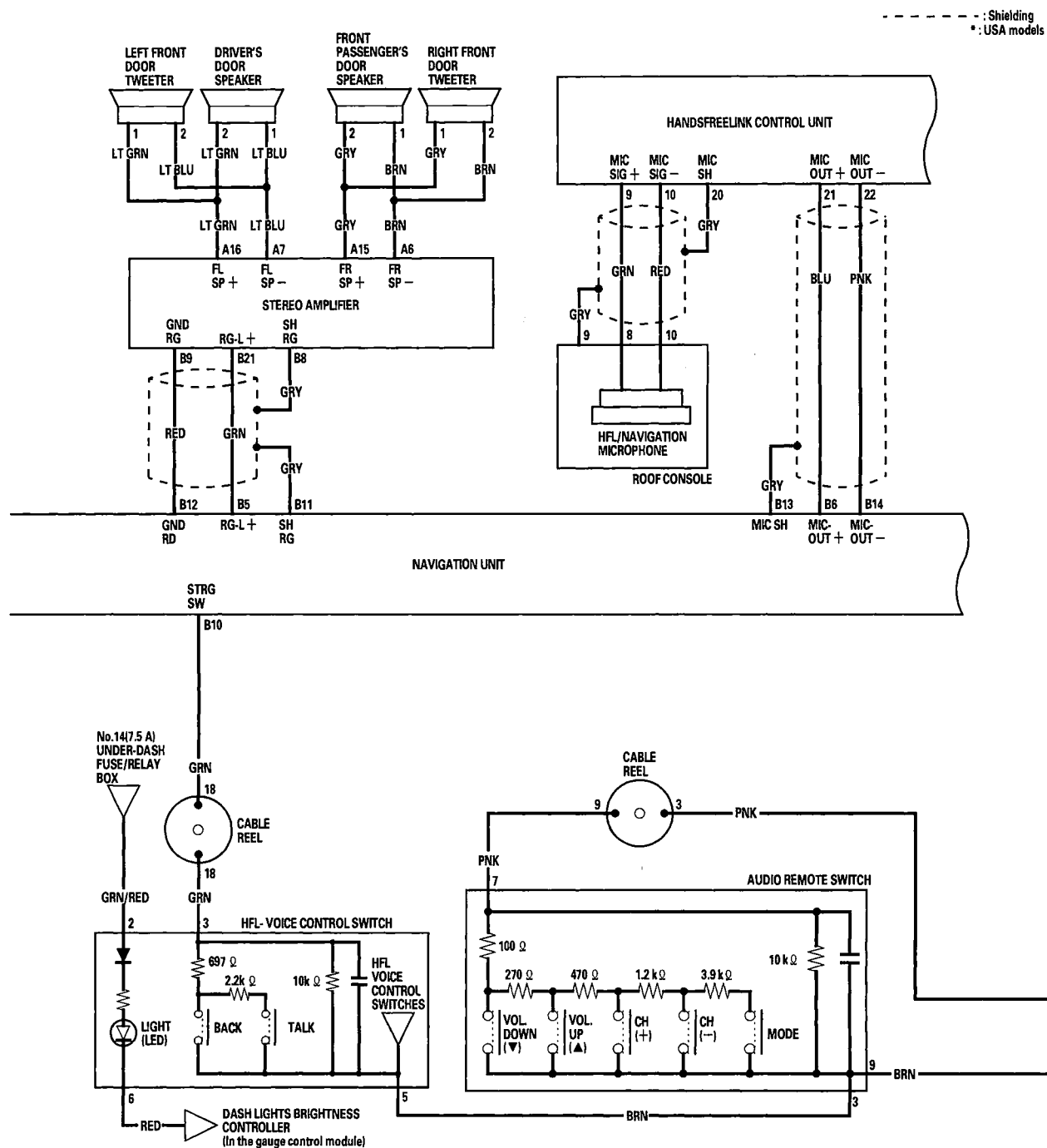
Terminal side of male terminals

| Terminal Number | Wire Color | Terminal Name                 | Description                        | Voltage (about) | Symptom                                                                                                                                            |
|-----------------|------------|-------------------------------|------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1               | GRN        | CAMERA ADPT (Adaptive camera) | Control signal for rearview camera | 0 V             | If open: No change to rearview camera image.<br>If short to ground: No change to rearview camera image.                                            |
| 2               | GRY        | CAMERA SH (Shield camera)     | Shield for terminal No. 5          | 0 V             | If open: No change to rearview camera image.<br>If short to ground: No change to rearview camera image.                                            |
| 3               | BLK        | VIDEO (Video camera)          | Video signal for rearview camera   | 0.3 V           | If open: No rearview camera image.<br>If short to ground: When put into reverse, navigation screen goes black (display backlight still operative). |
| 4               | YEL        | VIDEO GND (Ground camera)     | Ground for rearview camera signal  | 0 V             | If open: No change to rearview camera image.<br>If short to ground: No change to rearview camera image.                                            |
| 5               | RED        | CAMERA GND (Ground)           | Ground for rearview camera         | 0 V             | If open: No change to rearview camera image.<br>If short to ground: No change to rearview camera image.                                            |
| 6               | WHT        | CAMERA VCC (VCC supply)       | Power source for rearview camera   | 8 V             | If open: No rearview camera image.<br>If short to ground: When put into reverse, navigation screen goes black (display backlight still operative). |

# Navigation System

## Circuit Diagram





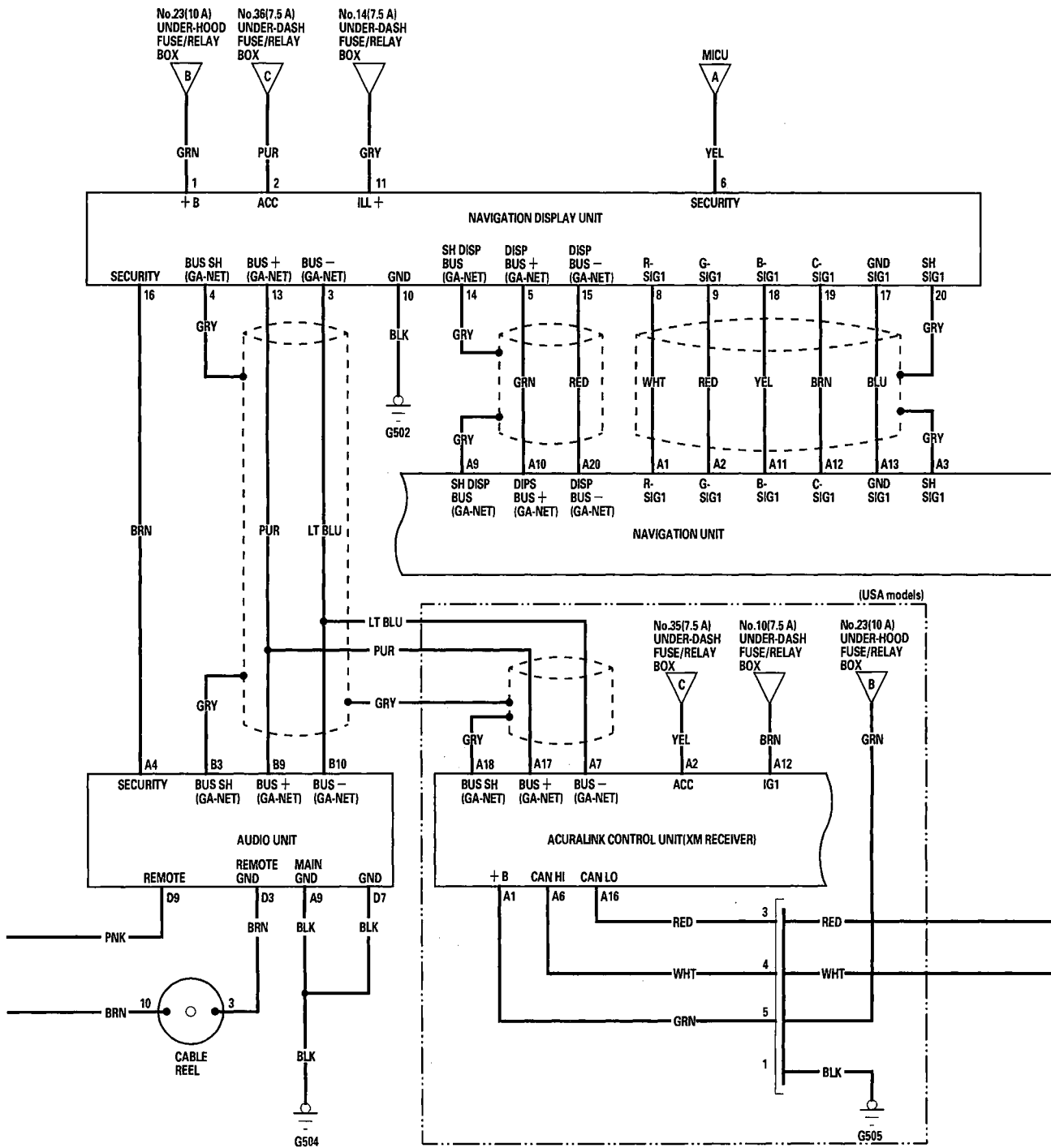
(cont'd)

BACK

23-145

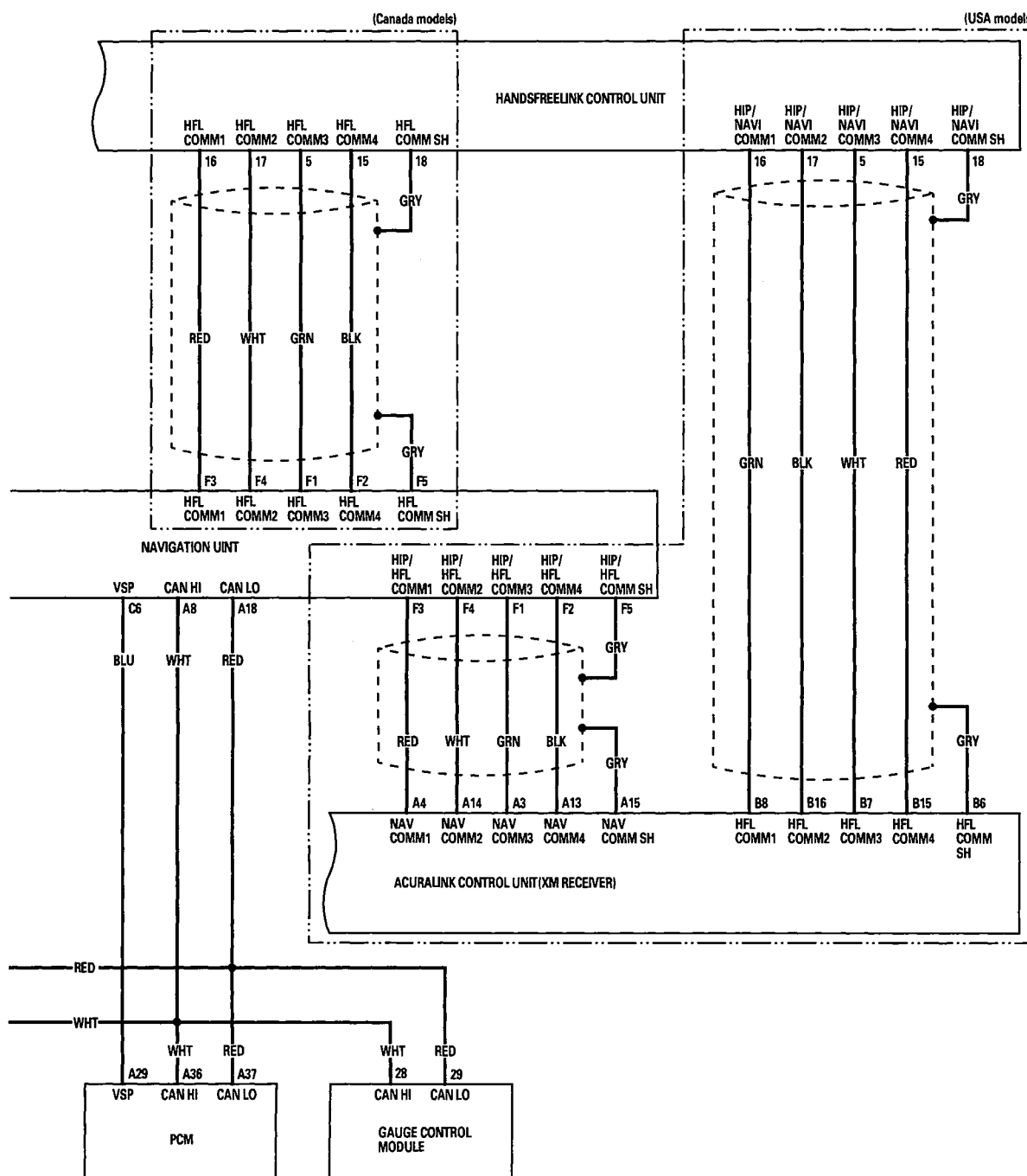
# Navigation System

## Circuit Diagram (cont'd)





--- : Shielding



(cont'd)

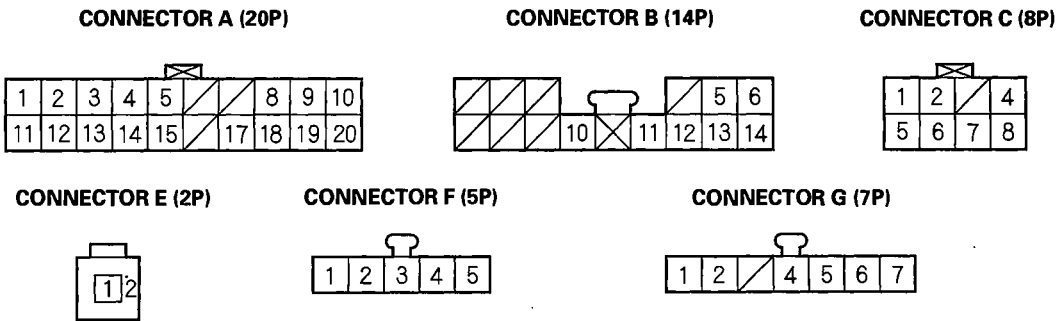
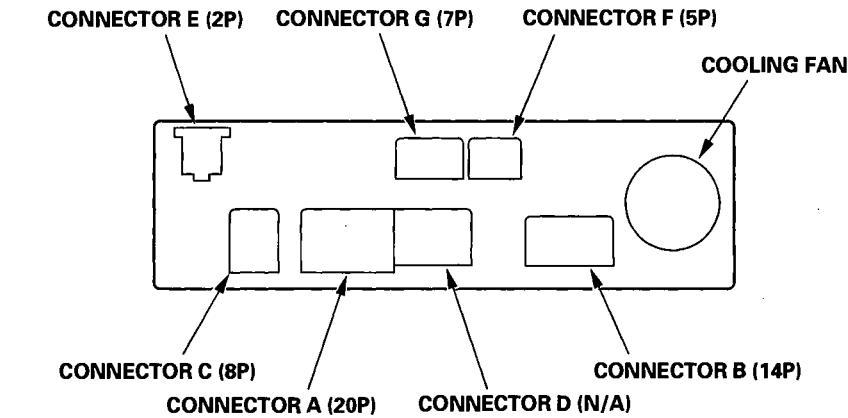
**BACK**

**23-147**

# Navigation System

## Circuit Diagram (cont'd)

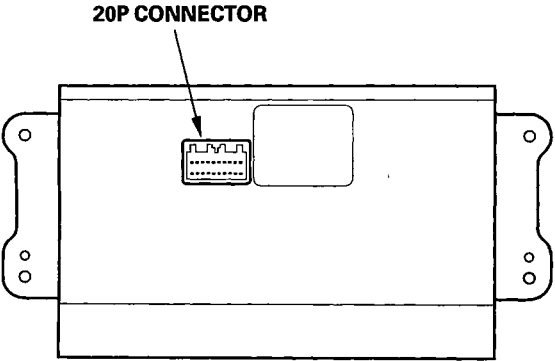
### Navigation unit connectors



Wire side of female terminals



Navigation display unit 20P connector

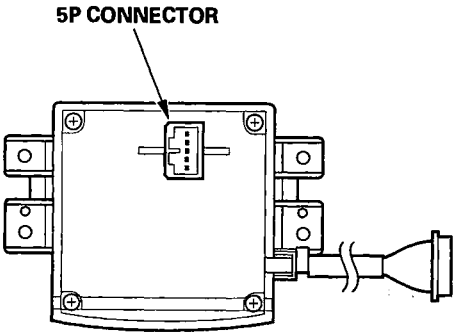


20P CONNECTOR

|    |   |    |    |    |    |    |    |    |    |
|----|---|----|----|----|----|----|----|----|----|
| 1  | 2 | 3  | 4  | 5  | 6  | /  | 8  | 9  | 10 |
| 11 | / | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Wire side of female terminals

Interface dial 5P connector



5P CONNECTOR

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | / |
|---|---|---|---|---|

Wire side of female terminals

# Navigation System

## Symptom Troubleshooting

### No picture is displayed

#### Diagnostic Test: Navi System Link

##### NOTE:

- Check the navigation volume level (see owner's manual for more information).
- Always check the connectors for poor connections or loose terminals.
- Before troubleshooting, make sure you have the navigation system anti-theft code.
- Confirm the correct DVD color and version disc is installed in the navigation unit (see page 23-189).

1. Check the No. 23 (10 A) fuse in the under-hood fuse /relay box and No. 35 (7.5 A) fuse in the 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 and recheck. ■

2. Turn the ignition switch to ACC (I).
3. Operate the radio and listen to the audio.

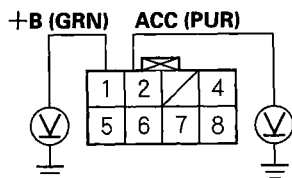
*Can you hear the audio?*

**YES**—Go to step 4.

**NO**—Check the ACC circuit or refer to the audio system troubleshooting. ■

4. Turn the ignition switch ON (II).
5. Measure the voltage between body ground and navigation unit connector C (8P) terminals No. 1 and No. 2 individually.

#### NAVIGATION UNIT CONNECTOR C (8P)



Wire side of female terminals

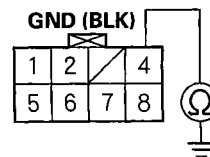
*Is there battery voltage?*

**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 open in the wire between the under-dash fuse/relay box and the navigation unit. ■

6. Turn the ignition switch OFF.
7. Disconnect navigation unit connector C (8P).
8. Check for continuity between navigation unit connector C (8P) terminal No. 4 and body ground.

#### NAVIGATION UNIT CONNECTOR C (8P)



Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 9.

**NO**—Repair open in the wire between the navigation unit and body ground (G504) (see page 22-60). ■

9. Reconnect navigation unit connector C (8P).
10. Perform the forced starting of the display (see page 23-189).

*Is the diagnosis menu of the picture diagnosis displayed?*

**YES**—Go into the Diagnostic mode and use the "Navi System Link" diagnostic (see page 23-170) to check the links. ■

**NO**—Go to step 11.



11. Shield the display unit from the sun with your hand, and check that the display is back lit (only back light is ON.)

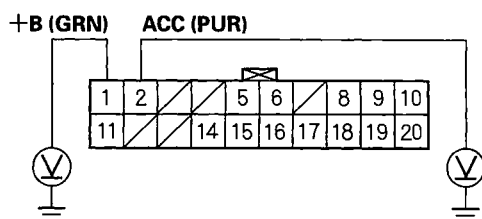
*Can you see the back light?*

**YES**—Replace the navigation unit (see page 23-190) and retest. If the problem is still present, replace the navigation display unit (see page 23-191). ■

**NO**—Go to step 12.

12. Turn the ignition switch ON (II).
13. Measure the voltage between body ground and navigation display unit 14P connector terminal No. 1 and No. 2 individually.

NAVIGATION DISPLAY UNIT 20P CONNECTOR



Wire side of female terminals

*Is there battery voltage?*

**YES**—Replace the navigation display unit. ■

**NO**—If the +B wire does not have voltage, repair open in the wire between the under-hood fuse relay box and the navigation display unit 20P connector. If the ACC wire does not have voltage, repair open in the wire between the under-dash fuse/relay box and the navigation display unit 20P connector. ■

### Vehicle position icon constantly leaves road, moves erratically, or is very far from actual position

NOTE:

- Check for aftermarket accessories that could interfere with the GPS signal.
- Check that the GPS antenna is plugged in.

1. Check the GPS icon on the navigation picture.

*Is the GPS icon white?*

**YES**—Do the troubleshooting for GPS icon is white or not shown (see page 23-156). ■

**NO**—Go to step 2.

2. Go into the Diagnostic Menu, and use the “Yaw Rate” test (see page 23-178) to check the yaw rate sensor.
3. Go into the Diagnostic Menu, and use the “Car Status” test (see page 23-175) to check the vehicle speed pulse.

*Are the yaw rate sensor and vehicle speed pulse OK?*

**YES**—The problem may be normal. Check to see if the problem occurs in the same place. 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 23-190). If the problem is the vehicle speed pulse, check for an open in the wire between the navigation unit and the PCM. If the wire is OK, troubleshoot the vehicle speed signal circuit. ■

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 23-190). ■

# Navigation System

## Symptom Troubleshooting (cont'd)

### Picture is missing a color or tone or is an odd color

#### NOTE:

- Confirm the correct DVD color and version disc is installed in the navigation unit (see page 23-189).
- Always check the connectors for poor connections or loose terminals.
- Before troubleshooting, get the navigation system anti-theft codes.
- After troubleshooting, enter the navigation system anti-theft codes.
- Check for aftermarket accessories that may interfere with the navigation system

1. Go into the Diagnostic Menu, and use "RGB Color" test under Monitor Check (see page 23-171).

*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 OFF.
3. Disconnect navigation unit connector A (20P) and the navigation display unit 20P connector.
4. Check for loose terminals at navigation unit connector A (20P) and the navigation display unit 20P connector.

*Are there loose terminals?*

**YES**—Repair the terminal. ■

**NO**—Go to step 5.

5. Check for continuity between the appropriate terminals of navigation unit connector A (20P) and the navigation display unit 20P connector based on the missing color(s).

| Missing color | Navigation unit connector A (20P) | Navigation display unit 20P connector | Wire color |
|---------------|-----------------------------------|---------------------------------------|------------|
| Blue          | A11                               | 18                                    | YEL        |
| Green         | A2                                | 9                                     | RED        |
| Red           | A1                                | 8                                     | WHT        |

#### NAVIGATION UNIT CONNECTOR A (20P)

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Wire side of female terminals

#### NAVIGATION DISPLAY UNIT 20P CONNECTOR

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 6.

**NO**—There is an open in the circuit between the navigation display unit and the navigation unit. Check for poor connections or loose terminals at the navigation display unit and navigation units. If a poor connection or loose terminal is found, replace the affected shielded harness. ■



6. Check for continuity between the appropriate terminals of navigation unit connector A (20P) and the navigation display unit 20P connector based on the missing color(s).

| Missing color | Navigation unit connector A (12P) | Display unit 20P connector |
|---------------|-----------------------------------|----------------------------|
| Blue          | A11                               | 10, 20                     |
| Green         | A2                                | 10, 20                     |
| Red           | A1                                | 10, 20                     |

#### NAVIGATION UNIT CONNECTOR A (20P)

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

Wire side of female terminals

#### NAVIGATION DISPLAY UNIT 20P CONNECTOR

|    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

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. If the problem is still unresolved, replace the navigation display unit. ■

### Picture has lines/rolls/other issues or is an odd color

#### Diagnostic Test: Monitor Check

##### NOTE:

- Always compare the screen image to a known-good vehicle. If the screen looks the same, inform the client that it is characteristic.
- Always check the connectors for poor connections or loose terminals.
- Before troubleshooting, make sure you have the navigation system anti-theft code.

1. Check for electronic aftermarket accessories (possibly hidden) mounted near the display unit or the navigation unit.

*Are there any electronic accessories?*

**YES**—Disable the accessories, and recheck. ■

**NO**—Go to step 2.

2. Start up the navigation picture.

*Is the picture scrolling horizontally (left to right or right to left)?*

**YES**—Check for an open or short to ground in the C SIG wire from navigation unit connector A (20P) terminal No. 12 to navigation display unit 20P connector terminal No. 19. Also check for a short to ground between navigation display unit 20P connector terminal No. 19 and terminal No. 20. ■

**NO**—Go to step 3.

3. Go into the Diagnostic mode, and use "RGB Color" diagnostic under Monitor Check (see page 23-171).

*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 23-152). ■

**NO**—Go to step 4.

(cont'd)

# Navigation System

## Symptom Troubleshooting (cont'd)

4. Turn the ignition switch OFF.
5. Substitute a known-good navigation display unit (see page 23-191), and recheck.

*Is the picture OK?*

**YES**—Check for loose connections, then replace the original navigation display unit (see page 23-191). ■

**NO**—Check for loose connections and recheck. If a poor connection or loose terminal is found, replace the shielded harness. If no poor or loose terminals are found, substitute a known-good navigation unit (see page 23-190) and recheck. If the problem is gone, replace the original navigation unit (see page 23-190). ■

### Interface dial buttons do not work

#### NOTE:

- Confirm the correct DVD color and version disc is installed in the navigation unit (see page 23-189).
- Always check the connectors for poor connections or loose terminals.
- Before troubleshooting, get the navigation system anti-theft codes.
- After troubleshooting, enter the navigation system anti-theft codes.

1. Turn the ignition switch to ACC (I).
2. Go into the Diagnostic mode, and use "Hard Key" test under Unit Check (see page 23-172).

*Do the buttons work properly?*

**YES**—The system is OK at this time. ■

**NO**—Go to step 3.

3. Try all the buttons on the navigation system.

*Is there a specific row or columns of buttons, set of buttons, or a certain button that does not respond properly (i.e. pressing a button in the lower left corner causes a button in the right lower corner to respond.)?*

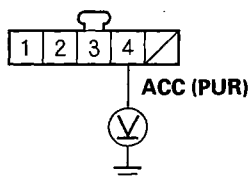
**YES**—Replace the interface dial (see page 23-191). ■

**NO**—Go to step 4.



4. Turn the ignition switch ON (II).
5. Measure the voltage between the interface dial 5P connector terminal No. 4 and body ground.

#### INTERFACE DIAL 5P CONNECTOR



Wire side of female terminals

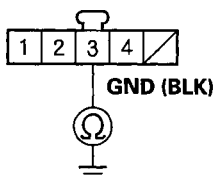
*Is there battery voltage?*

**YES**—Go to step 6.

**NO**—Repair open in the wire between the under-dash fuse/relay box and the interface dial. ■

6. Turn the ignition switch OFF.
7. Disconnect the interface dial 5P connector.
8. Check for continuity between interface dial 5P connector terminal No. 3 and body ground.

#### INTERFACE DIAL 5P CONNECTOR



Wire side of female terminals

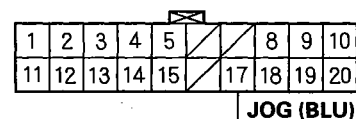
*Is there continuity?*

**YES**—Go to step 9.

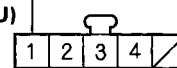
**NO**—Repair an open in the wire between the interface dial and body ground (G502) (see page 22-60). ■

9. Check for continuity between navigation unit connector A (20P) terminal No. 17 and interface dial 5P connector terminal No. 1.

#### NAVIGATION UNIT CONNECTOR A (20P)



#### INTERFACE DIAL 5P CONNECTOR



Wire side of female terminals

*Is there continuity?*

**YES**—Check for an open in the wire between the navigation unit connector A (20P) terminal No. 19 and the interface dial 5P connector terminal No. 2. If the wire is OK, go to step 10. If the wire is open, repair the wire.

**NO**—There is an open in the circuit between the interface dial and the navigation unit. Check for poor connections or loose terminals at the interface dial and navigation unit. If a poor connection or loose terminals is found, replace the affected shielded harness. ■

10. Substitute a known-good interface dial (see page 23-191), and recheck.

*Is the system OK?*

**YES**—Replace the original interface dial (see page 23-191). ■

**NO**—Replace the navigation unit (see page 23-190). ■

# Navigation System

## Symptom Troubleshooting (cont'd)

### GPS icon is white or not shown

#### Diagnostic Test: Navi System Link

##### NOTE:

- With proper reception, the icon normally appears green.
- Make sure the GPS antenna is plugged in.
- Check for any aftermarket accessories that may be interfering with the GPS signal.
- Make sure the vehicle is parked outside and away from buildings.
- Refer to GPS Information (see page 23-177) for realtime satellite reception display.

1. Check for metallic window tint on the windshield and electronic aftermarket accessories (possibly hidden) mounted near the GPS antenna or the navigation unit.

*Is there metallic window tint or electronic accessories?*

**YES**—Remove tint or the accessories and recheck. ■

**NO**—Go to step 2.

2. Go into the Diagnostic mode, and use the "Navi System Link" diagnostic (see page 23-170) to check the GPS antenna.

*Is "GPS Ant" icon red?*

**YES**—Check for a kinked, crushed, or disconnected GPS antenna wire. If icon is still red, replace the GPS antenna. ■

**NO**—Check that nothing is blocking the GPS antenna located under the dashboard upper panel and recheck. Substitute a known-good GPS antenna, and recheck. ■

- If the symptom is gone, replace the GPS antenna.
- If the symptom is still present, substitute a known-good navigation unit and recheck. If the symptom is gone, replace the original navigation unit (see page 23-190).

### Voice guidance cannot be heard, is broken up, or there is too much static

#### Diagnostic Test: Navi System Link

##### NOTE:

- Check the navigation volume level (see Owner's Manual).
- Always check the connectors for poor connections or loose terminals.
- Before troubleshooting, make sure you have the audio and navigation system anti-theft codes, then write down the audio presets.
- After troubleshooting, enter the audio and navigation system anti-theft codes, then enter the audio presets.

1. Press the display unit SET-UP button.
2. 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 3.

3. Check the radio operation.

*Can you hear the radio?*

**YES**—Go to step 4.

**NO**—Troubleshoot audio system. ■

4. Go into the Diagnostic mode, and use the "Navi System Link" diagnostic (see page 23-170) to check the radio.

*Is "Radio" icon red?*

**YES**—Troubleshoot the audio system (see page 23-197). ■

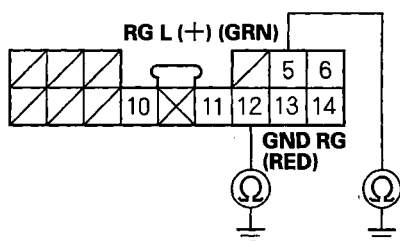
**NO**—Go to step 5.

5. Turn the ignition switch OFF.
6. Disconnect navigation unit connector B (14P) and the stereo amplifier connector B (28P).



7. Check for continuity between body ground and navigation unit connector B (14P) terminals No. 5 and No. 12 individually.

**NAVIGATION UNIT CONNECTOR B (14P)**



Wire side of female terminals

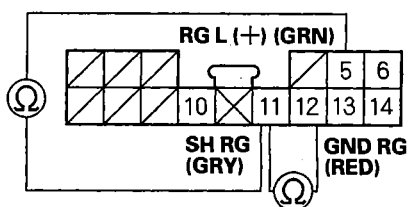
*Is there continuity?*

**YES**—Replace the affected shielded harness. ■

**NO**—Go to step 8.

8. Check for continuity between navigation unit connector B (14P) terminal No. 11 and terminals No. 5 and No. 12 individually.

**NAVIGATION UNIT CONNECTOR B (14P)**



Wire side of female terminals

*Is there continuity?*

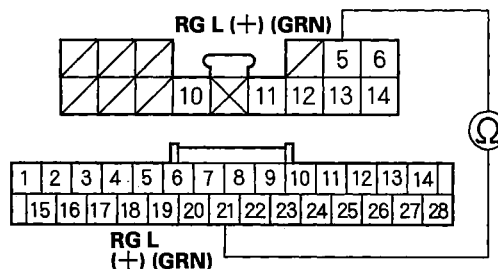
**YES**—Replace the affected shielded harness. ■

**NO**—Go to step 9.

9. Check for continuity between navigation unit connector B (14P) terminal No. 5 and the stereo amplifier connector B (28P) terminal No. 21.

**NAVIGATION UNIT CONNECTOR B (14P)**

Wire side of female terminals



**STEREO AMPLIFIER CONNECTOR B (28P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 10.

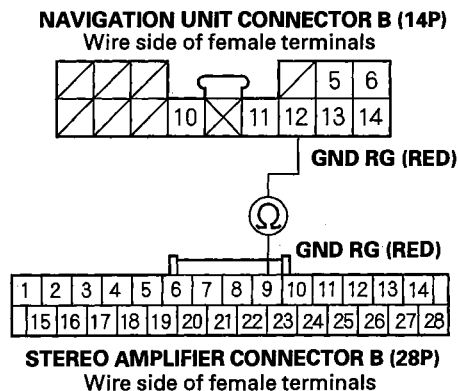
**NO**—There is an open in the wire between the navigation unit and stereo amplifier. Check for poor connections or loose terminals at the stereo amplifier and navigation units. If a poor connection or loose terminal is found, replace the affected shielded harness. ■

(cont'd)

# Navigation System

## Symptom Troubleshooting (cont'd)

10. Check for continuity between navigation unit connector B (14P) terminal No. 12 and the stereo amplifier connector B (28P) terminal No. 9.



*Is there continuity?*

**YES**—Go to step 11.

**NO**—There is an open in the wire between the navigation unit and the stereo amplifier. Check for poor connections or loose terminals at the stereo amplifier and navigation units. If a poor connection or loose terminal is found, replace the affected shielded harness. ■

11. Substitute a known-good stereo amplifier, and recheck.

*Is the system OK?*

**YES**—Replace the stereo amplifier. ■

**NO**—Replace the navigation unit (see page 23-190). ■

## Voice control does not work/respond

### Diagnostic Test: Mic Level

#### NOTE:

- 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. Pay particular attention to the passenger's side air vent adjustment. The microphone will pick up noise if the passenger's side vent is pointed directly at it, potentially rendering the Navi and HFL Voice Recognition inoperative.
  - Pause after pressing the TALK button then give a voice command clearly in a natural speaking voice. If the system cannot recognize your command, speak louder.
  - If the microphone picks up voices other than yours, the system may not interpret your voice commands correctly.
  - If you speak a command with something in your mouth, or your voice is too husky, the system may misunderstand your command.
- Always check the connectors for poor connections or loose terminals.
- Check for a loose roof console microphone; if it's loose, tighten it.
- Before troubleshooting, make sure you have the audio and navigation system anti-theft codes, then write down the audio presets.
- After troubleshooting, enter the audio and navigation system anti-theft codes, then enter the audio presets.



1. Go into the Diagnostic Menu, and use the "Mic Level" test under Functional Setup (see page 23-180) to check the operation of the TALK and BACK buttons.

*Are the TALK and BACK buttons operational?*

**YES**—Go to step 2.

**NO**—Check for an open or short to ground on navigation unit connector B (14P) terminal No. 10. ■

2. Use the "Mic Level" diagnostic under Functional Setup (see page 23-180) 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**—Check for a loose front map light (microphone) assembly. If OK, check for an open or short to ground navigation unit connector B (14P) terminals No. 6 and No. 14 or a short to ground between the navigation unit B (17P) terminal No. 6 and HandsfreeLink control unit terminal No. 21, and between navigation unit connector B (14P) terminal No. 14 and HandsfreeLink control unit terminal No. 22. ■

## DVD screen error messages

### Diagnostic Test: Car Status

#### NOTE:

- Confirm the correct DVD color and version disc is installed in the navigation unit (see page 23-189).
- Refer to General Troubleshooting for a list of common DVD screen error messages and the probable causes (see page 23-188).
- Go into the Diagnostic mode and use the "Car Status" diagnostic (see page 23-175) to check the status of the DVD lid.
- Inspect the navigation DVD for scratches or damage.
- The following troubleshooting is for the error message shown on the error messages table (see page 23-188).

1. Check the DVD-ROM 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 23-189). ■

**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 23-190). ■

# Navigation System

## Symptom Troubleshooting (cont'd)

### Navigation cannot control A/C by voice

#### NOTE:

- Always check and repair all CAN DTCs before troubleshooting the navigation system.
- Always check the connectors for poor connections or loose terminals.
- Before troubleshooting, get the navigation system anti-theft codes.
- After troubleshooting, enter the navigation system anti-theft codes.
- Verify that the correct navigation unit is installed for this model. Go into the Diagnostic mode and use "Version" (see page 23-186).

1. Go into the Diagnostic Mode, and use the "Navi System Link" check (see page 23-170).

*Is "Air-con" icon red?*

**YES**—Do the climate control system self check troubleshooting. ■

**NO**—Check for an open or short to ground between navigation unit connector A (20P) terminals No. 4, No. 14, and No. 15, and climate control unit connector B (16P) terminals No. 10, No. 1, and No. 9. If OK, check the climate control system for normal operation. If the climate control system works properly, substitute a known-good navigation unit and recheck. If no problems are found, check the connection at the air conditioning control unit. If the connections are OK, replace the climate control unit. ■

### Display day/night mode does not work

#### NOTE:

- Check that the dash brightness setting is not set to high.
- Always check the connectors for poor connections or loose terminals.
- Before troubleshooting, get the navigation system anti-theft codes.
- After troubleshooting, enter the navigation system anti-theft codes.

1. Turn the headlights on, and adjust the dash brightness 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. Go into the Diagnostic Mode, and use the "Car Status" diagnostic to check for an ILL signal (see page 23-175).

*Is the "ILL" signal OK?*

**YES**—The system is OK. ■

**NO**—Check the ILL+ circuit for an open or short to ground between the navigation unit and small light relay. If OK, substitute a known-good navigation unit and recheck. ■



### System locks up or freezes constantly

NOTE: Check the GPS and VSP signals in the GPS information check (see page 23-177) and car status (see page 23-175).

1. Start the engine, turn the ignition switch OFF, then turn the ignition switch ON (II).

*Does the system reboot?*

**YES**—The system is OK at this time. ■

**NO**—Check the DVD for the correct color, software version, scratches or damage and the navigation unit for water damage. If OK, go into the Diagnostic mode and do all of the “Unit Check” diagnostics (see page 23-172). ■

### Vehicle icon wanders across the map when driving (does not follow a displayed road) or map vehicle ICON spins

NOTE:

- 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 23-115) before proceeding with the troubleshooting.

1. Go into the Diagnostic mode, and do the Navi System Link diagnostic (see page 23-170), the Navi ECU diagnostic under “Unit Check” (see page 23-172), the Car Status check (see page 23-175), the GPS Information check (see page 23-177), the GPS Detail check (see page 23-177), and the Yaw Rate check (see page 23-178).

*Are all the tests OK?*

**YES**—The system is OK at this time. ■

**NO**—Repair the affected system. If the problem persists, swap a known-good navigation unit, and monitor the condition. ■

# Navigation System

## Symptom Troubleshooting (cont'd)

### Navigation system will not accept security code

#### NOTE:

- 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.

1. Go into the "System diagnosis menu" (see page 23-169), select "Unit check," and then "Navi ECU." A brief diagnostic will run for 20 seconds, and the serial number is then displayed.

*Is the serial number displayed?*

**YES**—Go to step 2.

**NO**—Replace the navigation unit (see page 23-190). ■

2. Obtain the Serial Number (3 letters followed by 8 numbers) from the label on the underside of the navigation unit (not the display unit). Using the Serial Number, look up the navigation security code in the Interactive Network. (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?*

**YES**—Go to step 3.

**NO**—Call the Warranty Department, the telephone number is listed in the PDI/TQI bulletin, to obtain the code. Then go to step 4.

3. Enter the navigation code.

*Does the code work?*

**YES**—The system is OK at this time. ■

**NO**—Go to step 4.

4. Try entering four zeros (0000) in place for the code.

*Do the four zeros work to bypass the code screen?*

**YES**—Replace the control unit, and enter in the "problem description field" of the core return form: "Security code is 0000." ■

**NO**—Replace the control unit, and enter in the "problem description field" of the core return form: "Won't take security code" (as proof, enclose the sticker that contains the Serial number and the Code). ■



## Navigation stays on with ignition switch off

### NOTE:

- Check for aftermarket accessories that may interfere with the navigation system.
- Always check the connectors for poor connections or loose terminals.
- Before troubleshooting, get the navigation system anti-theft codes.
- After troubleshooting, re-enter the anti-theft code, and re-initialize 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 "C" connector. If a jumper harness is present, remove it and return it to Tech Line.

1. Take the key out of the ignition switch.

*Does the navigation screen stay on?*

**YES**—Go to step 2.

**NO**—The system is OK at this time. ■

2. Check for battery voltage on navigation unit connector C (8P) terminal No. 2.

*Is there battery voltage?*

**YES**—Troubleshoot a short to battery voltage on the ACC circuit. ■

**NO**—Replace the navigation unit (see page 23-190). ■

## Navigation cannot control audio/disc

### Diagnostic Test: Navi System Link

1. Make sure the anti-theft code for the audio system is entered.
2. Go into the Diagnostic mode, and use the "Navi System Link" diagnostic (see page 23-170).

*Is the "Radio" icon red?*

**YES**—Do the troubleshooting for the voice guidance cannot be heard (see page 23-156). ■

**NO**—Go to step 3.

3. Substitute a known-good navigation unit (see page 23-190), and recheck.

*Can the navi control audio/disc?*

**YES**—Replace the navigation unit (see page 23-190). ■

**NO**—Do the audio system troubleshooting. ■

# Navigation System

## Symptom Troubleshooting (cont'd)

### Rearview camera does not come on or work properly

1. Turn the ignition switch ON (II), and start the engine.

*Does the Navigation screen come on and show an image when the vehicle is started?*

**YES**—Go to step 2.

**NO**—Go to troubleshooting for “No picture is displayed” (see page 23-150). ■

2. Go into the diagnostic menu and use the “Navi System Link” test (see page 23-170) to check the connection between the navigation unit and the rearview camera.

*Is the “R-camera” link on the screen?*

**YES**—Go to step 3.

**NO**—Go to step 11.

3. Confirm the system connection.

*Is the “R-camera” link red on the screen?*

**YES**—Go to step 4.

**NO**—Go to “Car Status” and check the BACK-Reverse indication status (see page 23-175). ■

4. Check the connections between navigation unit connector G (7P) and the rearview camera connector (6P).

*Are the connections OK?*

**YES**—Go to step 5.

**NO**—Reconnect the connectors. ■

5. Disconnect navigation unit connector G (7P) and rearview camera connector (6P). Check for continuity

| Navigation unit connector | Rearview camera | Wire color |
|---------------------------|-----------------|------------|
| G1                        | 6               | WHT        |
| G2                        | 5               | RED        |
| G4                        | 4               | YEL        |
| G5                        | 3               | BLK        |
| G7                        | 1               | GRN        |
| G6                        | 2               | GRY        |

*Is there continuity?*

**YES**—Go to step 6.

**NO**—Repair open in the wire between navigation unit connector G (7P) and rearview camera connector (6P). ■

6. Check for continuity between navigation unit connector G (7P) and body ground according to the table. Then check for continuity between the navigation unit connector G (7P) terminal No. 6, rearview camera 6P connector terminal No.2 and same terminals.

| Navigation unit connector | Wire color |
|---------------------------|------------|
| G1                        | WHT        |
| G2                        | RED        |
| G4                        | YEL        |
| G5                        | BLK        |
| G7                        | GRN        |

*Is there continuity?*

**YES**—Repair short in the wire between navigation unit and the rearview camera, or replace the appropriate shielded harness. ■

**NO**—Go to step 7.



7. Turn the ignition switch ON (II), and measure the voltage between navigation unit connector G (7P) and body ground according to the table.

| Navigation unit connector | Wire color |
|---------------------------|------------|
| G1                        | WHT        |
| G2                        | RED        |
| G4                        | YEL        |
| G5                        | BLK        |
| G7                        | GRN        |
| G6                        | GRY        |

*Is there 0.5 V or more?*

**YES**—Repair short to power in the wire between the navigation unit and the rearview camera, or replace the appropriate shielded harness. ■

**NO**—Go to step 8.

8. Turn the ignition switch OFF.
9. Reconnect the rearview camera connector (6P).
10. Substitute a known-good navigation unit and check the rearview camera image in reverse.

*Is the rearview image OK?*

**YES**—Replace the original navigation unit. ■

**NO**—Replace the rearview camera. ■

11. Press the "Return" in the upper right corner of the screen to return the main menu, then go to "Version" (see page 23-186).

12. Check the model code that is displayed.

*Is the correct navigation unit model code displayed for this vehicle?*

**YES**—Go to step 13.

**NO**—The wrong navigation unit is installed. Replace the navigation unit with the correct part. ■

13. Remove the DVD disc from the navigation unit and check the label color of the DVD disc.

*Is the DVD disc label white (or possibly gray for Canada)?*

**YES**—Reinsert the DVD disc, and go to step 4.

**NO**—Replace the DVD disc with the correct color. See the Obtaining a Navigation DVD in the "General Troubleshooting Information" (see page 23-115).

# Navigation System

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## Symptom Troubleshooting (cont'd)

### Navigation cannot control XM radio

#### Diagnostic Test: Navi System Link

1. Make sure the anti-theft code for the audio system is entered.
2. Go into the Diagnostic mode, and use the "Navi System Link" diagnosis (see page 23-170).

*Is the "XM" icon red?*

**YES**—Do the troubleshooting for the voice guidance cannot be heard (see page 23-156). ■

**NO**—Go to step 3.

3. Substitute a known-good navigation unit (see page 23-190).

*Can the navi control XM radio?*

**YES**—Replace the navigation unit (see page 23-190). ■

**NO**—Replace the XM receiver. ■

### Navigation frequently asks for anti-theft code and needs GPS initialization

**NOTE:** This is often caused by a loss of battery power or a poor ground.

1. Check for an open on navigation unit connector C (8P) terminals No. 1, No. 2, and ground No. 4.

*Are the circuits OK?*

**YES**—Replace the navigation unit. ■

**NO**—Repair the circuits. ■



## Traffic information is not being shown on map screen

If your client complains that traffic is not being displayed, it could be because a traffic setting is not correct.

### NOTE:

- The client's account must be active. Call XM customer care to verify the account status before troubleshooting.
- Currently, real-time traffic (display of traffic flow and/or incidents) is available in over 30 metropolitan areas, and it is likely to grow. The current list can be found at [www.acura.com/realtimetraffic](http://www.acura.com/realtimetraffic). The site also contains a traffic demo and FAQs.
- Traffic flow speed is displayed as bands of red, orange, and green alongside of the freeway. Some or all freeways in a covered city may not have traffic coverage. The link above shows the freeways covered for each city.
- Incident icons (yellow or red diamonds) point out accidents, construction areas, or weather conditions.
- Not all areas have "traffic flow" and "traffic icons." It is possible that an area may have one or the other.

Even if your area does not receive real-time traffic, complete the steps below to make sure the system is set up correctly.

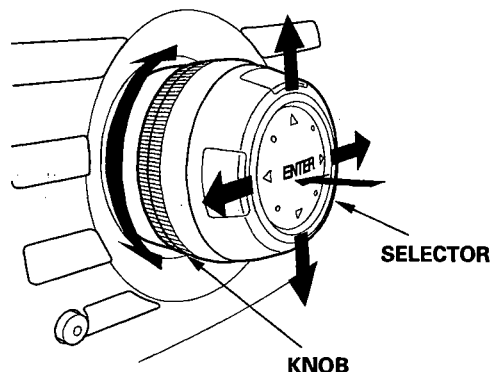
1. Check if your area has real-time traffic coverage.  
From an iN workstation, go to [www.acura.com](http://www.acura.com).

2. Park the vehicle outside where you have a clear view of the southern sky. Turn on the XM radio, and make sure it receives at least channels 0, 1, and 247 (XM's preview mode).

- If the XM radio gets at least channels 0, 1, and 247, go to step 5.
- If the XM radio does not get at least channels 0, 1, and 247, troubleshoot the XM radio, repair as needed then go to step 5.

3. In the lower left corner of the navi map screen make sure the scale is set to 1/2, 1, 2, or 5 miles. (The scale must be set to one of these values to see real-time traffic). To change the scale, turn the interface knob left or right as needed.

NOTE: Many AcuraLink functions are selected using the interface dial at the center of the dashboard. The interface dial has two parts a gray knob behind a silver selector. The knob turns left and right. The selector can be pushed left, right, up, down, and in.



4. Check if the navi screen shows real-time traffic.

- If you do not see real-time traffic, go to step 7.
- If you see real-time traffic, or if you are not in an area that receives it, return the vehicle to your client.

5. Go into the map menu:

- If you were using the interface selector to scroll on the map screen, press the MAP/GUIDE button.
- Press the interface selection in.

(cont'd)

# Navigation System

## Symptom Troubleshooting (cont'd)

6. In the map menu, turn the interface knob to show icon on map, then press the interface selector in. The traffic icon on the far left should be solid blue. If it is not blue, turn the interface knob until the traffic icon is outlined in blue, then press the selector in, and go to step 10.

If the traffic icon does not change to solid blue, do the AcuraLink self-diagnostic function (see page 23-197), then go to step 9.

7. Reset the AcuraLink control unit, then go to step 8:

- With the ignition switch in the LOCK (0) position, pull the No. 23 (10 A) fuse from the under-hood fuse/relay box. Wait 20 seconds, then reinstall the fuse.
- Enter the audio and navigation system anti-theft codes.

8. From the "map menu," go into icon options by pressing the interface selector to the right.

9. Turn the interface knob to traffic, then press the selector in.

10. Press the interface selector in to select traffic speeds. Turn the knob to traffic icons, and press the selector in again. Both traffic speeds and traffic icons must be solid blue. When both are solid blue, select done by pushing the selector to the right.

11. Check if the map screen shows real-time traffic.

- If you do not see real-time traffic, go to step 14.
- If you see real-time traffic, or if you are not in an area that receives it, return the vehicle to your client.

12. See if real-time traffic is currently being broadcast by checking real-time traffic on another RDX with a known-good navigation system. Wait about 5 minutes for the display screen to refresh.

- If the other real-time traffic equipped vehicle displays real-time traffic, go to step 15.
- If the other real-time traffic equipped vehicle does not display real-time traffic, call Acura Client Service at 800-382-2238 and ask about any known traffic system outages or blackouts in your area.

13. Reset the AcuraLink control unit

- With the ignition switch in the LOCK (0) position, pull the No. 23 (10 A) fuse from the under-hood fuse/relay box. Wait 20 seconds, then reinstall the fuse.
- Enter the audio and navigation system anti-theft codes.

14. Check if the map screen shows real-time traffic.

- If you still do not see real-time traffic, go to step 17.
- If you see real-time traffic, or if you are not in an area that receives it, return the vehicle to your client.

15. Make sure the vehicle's XM Navi Traffic account status is active.

- Call XM at 800-852-9696.
- From the automated menu, select 1 (dealers and retailers) and from the next menu, select 3 (technical support).
- Ask the agent to check the XM Navi Traffic account status on the vehicle in question.
  - If the account is active and there are no known outages or blackouts, go to step 16.
  - If the account is inactive, get it activated, then ask for a rapid refresh. (A rapid refresh takes 15 to 30 minutes.)

16. Check if the map screen shows real-time traffic.

- If you still do not see real-time traffic, go to step 17.
- If you see real-time traffic, or if you are not in an area that receives it, return the vehicle to your client.

17. Install a known-good AcuraLink control unit (XM receiver), and check the real-time traffic.

*Does the map screen show real-time traffic?*

**YES**—Replace the AcuraLink control unit (XM receiver) and register it with XM radio and Acura client services.

**NO**—Replace the navigation unit.



## System Diagnostic Mode

### Start-up procedure and Diagnostic Menu

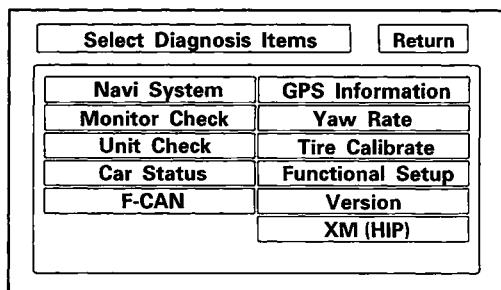
There are two ways to enter the diagnostic mode:

1. Connect the SCS service connector (see page 23-189) to the navigation service connector located behind the navigation unit. Then turn the ignition switch ON (II). The display will go directly to the diagnostic menu screen shown below.

NOTE: When finished troubleshooting, make sure to remove the SCS service connector.

2. Turn the ignition switch ON (II). Use the navigation display hard buttons as described below:

Make sure the battery is connected then press and hold the three buttons (Menu, Map/Guide, and Cancel), and keep them pressed for approximately 5 seconds. The display screen will go directly to the "Select Diagnosis Items" menu shown below.



3. After the display changes to the Select Diagnosis Items menu, select the item you want to check and the diagnostic will start. To return to the previous screen, select "RETURN".

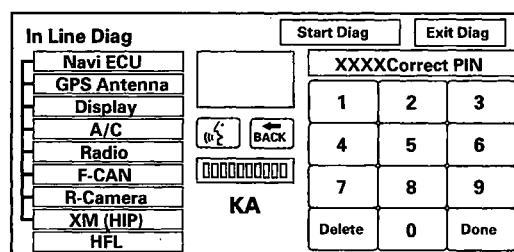
- Navi System (Link)
- Monitor Check
- Unit Check
- Car Status
- F-CAN (System link)
- GPS Information
- Yaw Rate
- Tire Calibrate
- Functional Setup
- Version
- XM (HIP)

### 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.

When a navigation control unit is powered up for the first time at the factory or after replacement with a new or remanufactured navigation unit, the "factory diagnosis" screen (In Line Diag) shows up. Normally the factory performs the steps necessary to verify proper operation and terminate the "factory diagnostic".

Until the proper confirmation sequence is performed, the screen will show up 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 + Cancel) for about 5 seconds (the "Select Diagnosis items" screen will appear).
- Press and hold the Map/Guide button for 5–10 seconds (a screen with a "Complete" button, will appear).
- Touch "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.

(cont'd)

# Navigation System

## System Diagnostic Mode (cont'd)

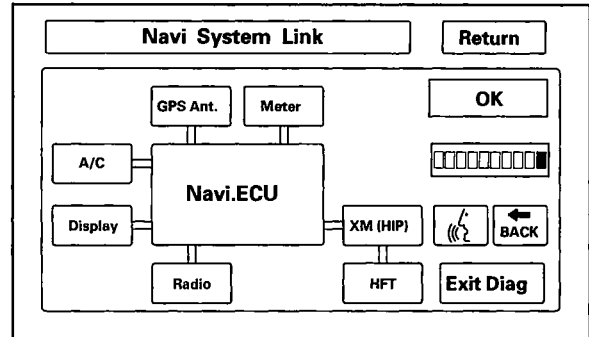
### Navi System Link

- This diagnostic tests the cables connecting the navigation components. Ensure that the ignition switch is in the ON (II) position. When the diagnostic begins, you hear a "bong" sound. The system is in a "Detecting" mode, and is waiting for all items in white to be tested. This includes the navigation voice control (TALK/BACK) buttons, and microphone. Press the navigation TALK button on the steering wheel, and in a normal voice, say "testing." The TALK indicator on the screen should turn green, and the voice level indicator should move to at least the 6th bar to pass. Next, press the navigation BACK button. The "Cancel" indicator should turn green.
- If all of the communication lines connecting the system components, and the navigation TALK/BACK buttons/microphone check out OK (all block diagram items green), then the "OK" indicator turns green.
- If there is a problem with the system, the faulty system component items turn red, and the screen will show "NG" in red. Use the troubleshooting index, and other diagnostic screens to help locate the problem.
- The indication on the screen may not change until you cycle the ignition switch. After repairing the affected cable or system, repeat this diagnostic.

#### NOTE:

- Green boxes and green "OK" indicate that the communications lines (cables) are intact. This diagnostic does not necessarily imply that the individual components are functioning properly. For instance, the GPS antenna wire may be crushed, but still show as "green." A road test, or other diagnostic may be necessary to find the problem.
- A green box and link to the AcuraLink control unit (XM receiver) does not mean that the unit is receiving traffic information. Always verify that the client's account status is active, and compare to a known-good vehicle to ensure that there isn't a local coverage problem.

- Select "Return" to return to the Diagnosis Menu.



#### NOTE:

- The mic level indicator must reach the 6th bar or greater to pass the test.
- If the XM link is red or flashing red, go to audio system symptom troubleshooting (see page 23-45), or see XM (HIP) diagnostic screen.

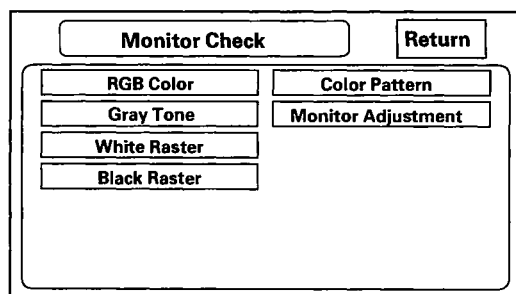


## Monitor Check

### Overview of display unit

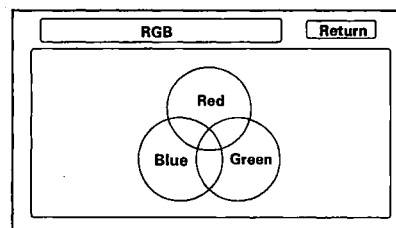
- The display unit communicates with the navigation unit over its own GA-Net bus. Information sent by the navigation unit to the display unit includes commands to control the LCD back light.
- The security system protects the navigation display unit by daisy-chaining the security signal through it, and 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 display unit. Select the item you want to troubleshoot, and follow the diagnostic instructions.



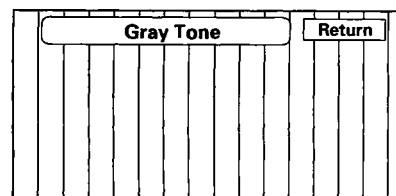
### RGB Color

This screen verifies that the display unit is receiving the video (R, G, B and Composite sync) signals properly. The three primary colors should all be shown 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 23-152). If the picture has lines in it or scrolls horizontally, or vertically, troubleshoot for a Composite sync problem (see page 23-153).



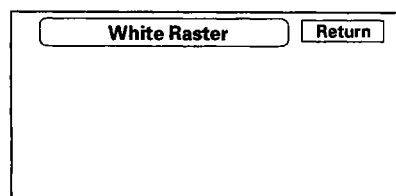
### Gray Tone

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.



### White Raster

The entire display must be white.



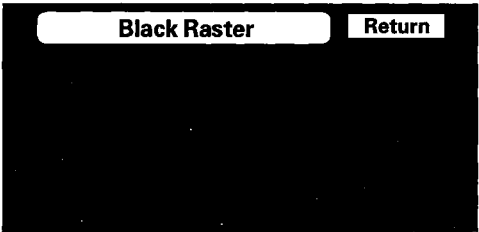
(cont'd)

# Navigation System

## System Diagnostic Mode (cont'd)

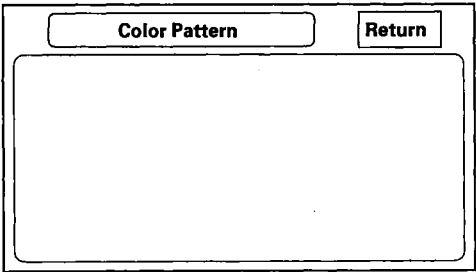
### Black Raster

The entire display must be black.



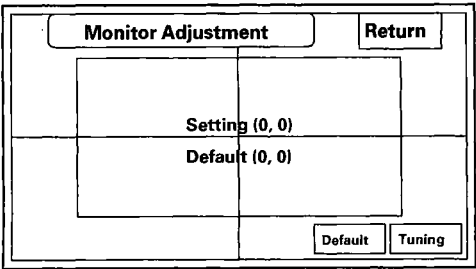
### Color Pattern

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.



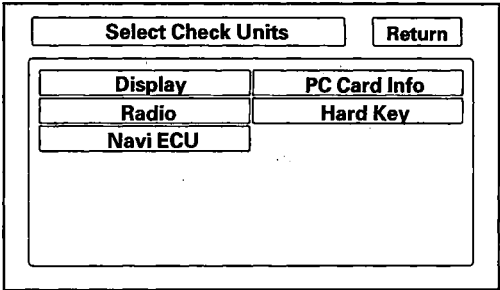
### Monitor Adjustment

This allows you to center the navigation display. Use the joystick 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

To start the test, select the item you want to check.





### Display

This diagnostic performs additional checks on the communication bus between the control unit and the display. In addition, the internal electronics functionality are confirmed.

- When the connection is NG, first check for loose terminals at the navigation unit and the display unit connections. Next check for an open or short in the communication line between the navigation unit and the display unit. If you find the line has an open or short, replace the affected shielded harness.
- If the ROM or RAM is NG, replace the display unit.
- The version represents the software version in the display.

| Display    |        | Return |
|------------|--------|--------|
| Connection | OK     | OK     |
| ROM        | OK     |        |
| RAM        | OK     |        |
| Version    | 030611 |        |

### Radio

If the NG is indicated, check for loose audio unit connector.

NOTE: If the XM link was displayed red, but the radio link was displayed green in the navigation system link, refer to audio system symptom troubleshooting.

| Radio      |    | Return |
|------------|----|--------|
| Connection | OK | OK     |

# Navigation System

## System Diagnostic Mode (cont'd)

### Navi ECU

This screen looks for problems the navigation unit. When you initiate this diagnosis, the navigation unit may delay up to a minute while the diagnosis runs.

NOTE: Do not try to end this diagnostic by pressing "OK" or "Mem clear" before it finishes, otherwise the system may reboot.

- If "V-RAM" or "D-RAM" is NG, then replace the navigation unit.
- If "GPS" indicates "NG (ANT)," then check the entire GPS antenna wire from the navigation unit to the antenna. If the wire is crushed or damaged, try a known good antenna. If this diagnostic reads OK, then order a new GPS antenna. If the diagnostic still reads NG (ANT), then replace the navigation unit.
- "DVD ROM" 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 Clr is for factory use and should not be used unless instructed by the factory. Selecting this will erase the client's settings, personal information, GPS orbital data, and anything else stored in memory.

| Navi ECU   |    | Return    |
|------------|----|-----------|
| V-RAM      | OK | OK        |
| D-RAM      | OK |           |
| GPS        | OK |           |
| DVD-ROM    | -  |           |
| Serial No. | -  |           |
|            |    | Mem Clear |

### PC Card info.

There is no PC Card in the PC slot, and the screen should say, "PC Card is not inserted."

NOTE: Do not insert any card or object into the slot.

| PC Card Info.            | Return |
|--------------------------|--------|
| PC Card is not inserted. |        |

If the factory provides a PC card and instructs you to insert a card, then the screen displays the Manufacturer, and Product Name as shown in the following screen.

| PC Card Information                              | Return |
|--------------------------------------------------|--------|
| Manufacturer<br>xxxxxx<br>Product Name<br>xxxxxx |        |
| FILES                                            |        |

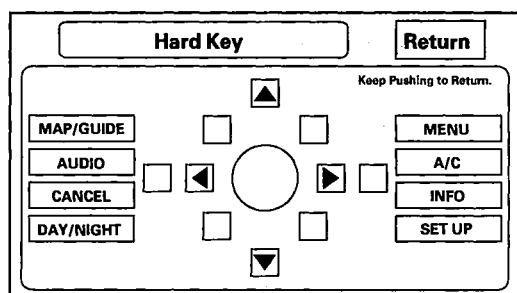


### Hard Key

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 or the vehicle's control 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



### Car Status

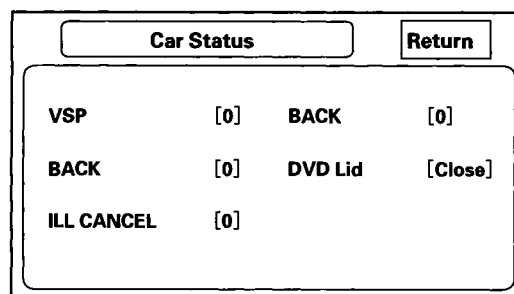
Use this screen to confirm that navigation unit is properly receiving input signals. Signals equal to (0) are OFF, and signals equal to (1) are ON. If the value on the display does not match the actual vehicle status, then check the wire carrying the signal.

- VSP-Vehicle Speed Pulse from PCM (Pin 6 of C-connector)
  - a) OFF (0) when vehicle is not moving
  - b) ON (1) when vehicle is moving

The VSP comes from the 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 (Pin 5 of C-connector)
  - 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)

# Navigation System

## System Diagnostic Mode (cont'd)

### 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" using the "+" button. The CAN bus passes this information from the gauge assembly to the navigation control unit.

NOTE: This setting is unaffected by the "display mode" hard button located below and to the left of the interface dial.

- ILL-Illumination Indication  
(Pin 5 of navigation unit A-connector)
  - 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)

- DVD Lid-senses if the DVD door is open
  - a) (Close) when the door is closed
  - b) (Open) when the door is open

The navigation unit has a micro switch to detect this. If open is indicated when the door is closed, replace the navigation unit.

## F-CAN System Link

F-CAN (Fast Controller Area Network) passes information between processors on the network. For example, the F-CAN network is used to pass charging system signals between the PCM and the navigation unit for the trip computer cooling fan function. 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 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 system.

| F-CAN System Link |              | Return |
|-------------------|--------------|--------|
| F-CAN             | ERROR ACTIVE |        |
| UNIT              | ID           | ID     |
| ENG               | 1F4          | 2E4    |
| METER             | 2E7          |        |

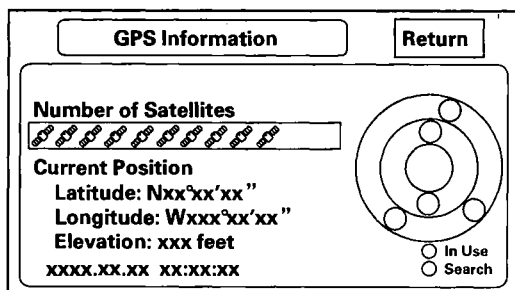


## GPS Information

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:** To use this screen for troubleshooting, the vehicle should be 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 23-156).
- 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 client 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 10 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.

| GPS Detail     |                        |                                |                                  |    |     | Return |
|----------------|------------------------|--------------------------------|----------------------------------|----|-----|--------|
| TS:xx<br>AS:xx | HDop:xx.x<br>VDop:xx.x | Speed:x.xKm/h<br>Direction: x° | Date:xxxx.xx.xx<br>Time:xx:xx:xx |    |     |        |
| 3D             | PRN                    | ST                             | AZI                              | EL | C/N | ACC    |
| ○              | xx                     | xx                             | xxx                              | xx | xxx | xx     |
| ○              | xx                     | xx                             | xxx                              | xx | xxx | xx     |
| ○              | xx                     | xx                             | xxx                              | xx | xxx | xx     |
| ○              | xx                     | xx                             | xxx                              | xx | xxx | xx     |
| ○              | xx                     | xx                             | xxx                              | xx | xxx | xx     |
| ○              | xx                     | xx                             | xxx                              | xx | xxx | xx     |

- 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).

(cont'd)

# Navigation System

## System Diagnostic Mode (cont'd)

NOTE: The data shown in the GPS Detail screen is an example only.

The table of values shown on the screen below has the following columns:

| Column                     | Description                                                   | Problem indication                                                                                                                      |
|----------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Active                     | 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 23-156). |
| PRN                        | The satellite ID number                                       |                                                                                                                                         |
| ST                         | The status:<br>0 = cannot view or searching,<br>2 = acquiring | If all 0, then, follow GPS icon is white or not shown troubleshooting (see page 23-156).                                                |
| AZI                        | Azimuth, the angle (0—360) clockwise from north               |                                                                                                                                         |
| EL                         | Elevation from the horizon (90 deg is overhead)               |                                                                                                                                         |
| C/N                        | N/A                                                           | Normal signal is 49-52, no signal: 27-33                                                                                                |
| ACC                        | N/A                                                           |                                                                                                                                         |
| △<br>1/2<br>or<br>2/2<br>▽ | Shows view of all satellites in two screen views 1/2 or 2/2   |                                                                                                                                         |

## Yaw Rate

This diagnostic checks the yaw rate sensor in the control 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 23-123).

- "Sensor" indicates the voltage output from the yaw rate sensor. It should indicate about 2.500 V when stopped.
- "Offset" is the reference voltage or standard within the yaw rate sensor. It also should indicate about 2.500 V when 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 stopped. If either reads zero, or 5.000 V, replace the navigation unit.
- The yaw rate offset and sensor should be within  $\pm 0.01$  V of each other when stopped. The sensor value should change relative to the offset as the car is turned while driving. If not, replace the navigation unit.

### Example: Car stopped

| Normal |               | Abnormal |         |
|--------|---------------|----------|---------|
| Offset | 2.526 V       | Offset   | 2.526 V |
| Sensor | 2.516—2.536 V | Sensor   | 2.623 V |

### Example: Car turning

| Normal |                                                   | Abnormal |                                 |
|--------|---------------------------------------------------|----------|---------------------------------|
| Offset | 2.526 V                                           | Offset   | 2.526 V                         |
| Sensor | 2.678 V<br>(left turn)<br>2.478 V<br>(right turn) | Sensor   | 2.623 V<br>(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   |         | Return                                                                               |
|------------|---------|--------------------------------------------------------------------------------------|
| Sensor     | x.xxx V | <div>▲</div> <div>▼</div> <div>▲</div> <div>▼</div> <div>Tuning</div> <div>Set</div> |
| Offset     | x.xxx V |                                                                                      |
| CCW Factor | x.x%    |                                                                                      |
| CW Factor  | x.x%    |                                                                                      |

## Yaw Rate Tuning

This diagnostic 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 diagnostic). When the sensor is healthy, 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 below. For gross problems with the sensor, the stationary test usually confirms whether the sensor is defective. For yaw rate issues related to driving, perform the road test described below.

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 control 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 control 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."

| Tuning                     | 0.0% | ▲  | ▼   | Return |
|----------------------------|------|----|-----|--------|
| <div>ANG-Disp<br/>0°</div> |      |    |     |        |
| Reset                      | CCW  | CW | Set |        |

(cont'd)

# Navigation System

## System Diagnostic Mode (cont'd)

### Tire Calibrate

As the vehicle moves, the navigation system receives speed pulses from the PCM. These pulses are converted using a conversion factor to a mph speed that moves the vehicle position (VP) on the map. The navigation system has an internal tuning function that generates and refines this factor based on actual driving. The "Study" indicates the status of the tuning. At navigation initialization, it begins at 0, and increases to 10 as the navigation system is used.

- The "Auto Tuning" is factory set to "ON," and should remain on.
- The "Study" indicates the tuning status. If it is less than 10, the unit is still calibrating.
- The "Tire-Cal. Tuning" and Set should not be used. It is for factory use only.

|                 |        |           |
|-----------------|--------|-----------|
| Tire-Calibrate  |        | Return    |
| Auto Tuning     | OFF    | ON<br>OFF |
| Study           | ----   |           |
| Tire-Cal.Tuning | -x.xx% | ▲<br>▼    |
|                 |        | Set       |

### Functional Setup

Select the item you want to check.

- Log Data
- Mic Level
- GPS Send Time
- Solar Angle
- Demo Mode
- Save Users Memory

|                  |                   |        |
|------------------|-------------------|--------|
| Functional Setup |                   | Return |
| Log Data         | Mic Level         |        |
| GPS Send Time    | Solar Angle       |        |
| Demo Mode        | Save Users Memory |        |



### Log Data

This screen allows the factory to select log data to troubleshoot navigation system issues.

- Normally there is no card in the "PC Card Slot," and the PC slot door should always be closed. The screen should look like below.

The screenshot shows a screen with a title bar containing 'Log Data' and 'Return' buttons. The main area displays the text 'PC Card is not inserted.'

- However, if the factory provides a PC card and instructs you to insert it into the card slot (label side up). If instructed by the factory, select "Gyro. Sensor Logs ON." Follow the factory procedure for gathering test data, and properly ending the test.

The screenshot shows a screen with a title bar containing 'Log Data' and 'Return' buttons. The main area displays 'Logging VP Data' followed by 'OFF' and two buttons labeled 'ON' and 'OFF'.

### Send GPS Time

This screen is for factory use only. It allows adjustment of the GPS time. This display updates in real time.

- "GPS Time" is the time as received from the GPS satellites. It is in Greenwich Mean Time (GMT).
- Date, Hour, Minute, and "Set" should not be used.

The screenshot shows a screen with a title bar containing 'Send GPS Time' and 'Return' buttons. The main area displays 'GPS Time' followed by two fields: 'xxxx.xx.xx' and 'x:xx:xx'. Below these are fields for 'Year', 'Month', 'Day', 'Hour', 'Minute', and 'Second', each followed by a single character and a set of up/down arrows. A 'Set' button is located at the top right.

### Demo Mode

This screen is for factory use only, and should always be set to "OFF." Occasionally "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" can change the speed of the demo mode.

The screenshot shows a screen with a title bar containing 'Demo Mode' and 'Return' buttons. The main area displays 'Demo' followed by 'OFF' and two buttons labeled 'ON' and 'OFF'. Below this is 'Speed Rate' followed by '1 MPH' and two arrows pointing left and right.

(cont'd)

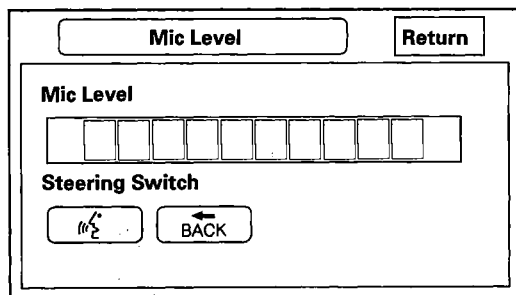
# Navigation System

## System Diagnostic Mode (cont'd)

### 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. It is directional, and works best with the voice coming from the drivers seat.

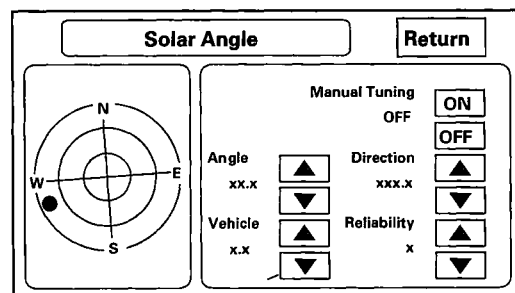
- Press the TALK button on the steering wheel, and in a normal voice say "testing." The TALK indicator on the screen should momentarily turn green, and the text "Now Recording..." should appear in yellow. In addition, the Mic Level indicator shown on the screen does not briefly turn green, then check the wiring from the steering wheel 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 roof console (see page 22-196).
- Press the 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 BACK button to the navigation unit.



### Solar Angle

This screen is used to graphically display a sun's position as determined by GPS. The HVAC system uses the navigation systems sun's angle, along with the sunlight sensor to control the driver/passenger A/C air flow. The heat that the climate control unit removes varies, depending on the angle of the sun entering the vehicle. This screen is for factory use only, and should not be adjusted.

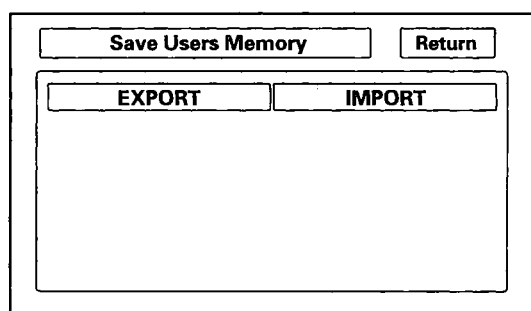
- The screen shows a circular diagram of the sky oriented in the direction that the vehicle is pointing. During daylight hours a red dot is shown, representing the direction and elevation of the sun. The outer circle represents the horizon (0 degrees elevation). The middle circle is 30 degrees, the center circle is 60 degrees, and the very center is directly overhead (90 degrees).
- The "manual tuning" button should always be "OFF."
- The "Angle" is the angle that the sun (shown with red "dot") is above the horizon.
- The "vehicle" value represents the angle, clockwise from North, to the direction that the vehicle position (VP) icon is pointing (always points straight up).
- The "direction" value is the angle, measured clockwise from the VP (straight up) to the suns position.
- The reliability ranges from 1 to 3, and represents the accuracy of the Vehicle Position relative to the sun.





## Save Users Memory

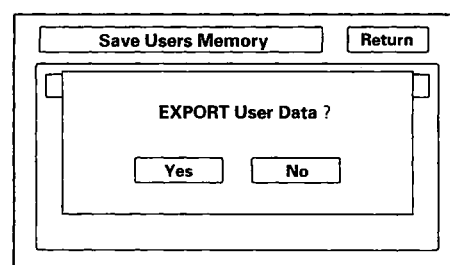
When replacing the navigation unit, this function allows the dealer to transfer the customer's personal data to the new navigation unit. The transferred information includes their Setup settings, and personal addresses. The dealer inserts a PC card to the navigation unit, and then selects the "Save Users 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 the use of this function.

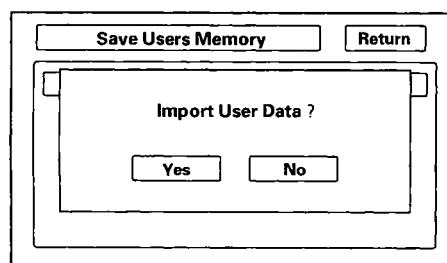
1. Select EXPORT button to move the customer's data from the original navigation unit to the PC card. Select "YES" on the "Export User Data" Confirmation screen. The process takes only a couple of seconds. The system stores two files on the card.

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 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 will automatically reboot. After the system reboots, remove the PC card from the PC 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.



(cont'd)

# Navigation System

## System Diagnostic Mode (cont'd)

### 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. They can be purchased at a computer, or office supply store. The card will have 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 should be used anytime your '07 or later customer needs their navigation personal files transferred to a new navigation unit.                                                                                                                                                                                                                                   |
| 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 allow you to perform file maintenance on your PC card. Most laptops will also accept the PC card.                                                                                                                                                                                                                                            |
| Can we move the client'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 client's data to the same vehicle with a different software version?                                 | The client'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, if 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 client's data?                               | After the transfer of client 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 will accumulate two files for each version of the 8 or so Honda navigation models. |
| What format should be used if the PC card needs reformatting?                                                        | It is unlikely that the PC card will ever need formatting, however the FAT file system should be used.                                                                                                                                                                                                                                                                                                                    |
| I can't enter the navigation diagnostic mode to do the Export/Import function. How can I transfer the client's data? | Some internal navigation unit ECU failures may make it impossible to use the Export/Import function.                                                                                                                                                                                                                                                                                                                      |

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| Question                                                                                  | Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Why wont the Export or Import functions work? What do I check as part of troubleshooting? | <ul style="list-style-type: none"><li>• 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 result in damage to the pins in the rear of the slot.</li><li>• 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.</li><li>• The flash memory chip type may not be accepted by the system. Only Compact Flash and ATA cards have been tested.</li><li>• The card's PCMCIA adaptor may be preventing a known-good PC card from playing. Avoid multi slot type PCMCIA adaptors that accept several different flash memory types.</li><li>• 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.</li><li>• 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 attempting to use the Export function.</li><li>• 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.</li><li>• The PC card may have been formatting using the format "NTFS". Only the "FAT" format is accepted by the system.</li><li>• 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.</li><li>• Before performing the Import function, ensure that the client's original DVD is loaded into the new navigation unit and working properly.</li></ul> |

(cont'd)

# Navigation System

## System Diagnostic Mode (cont'd)

### 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 navi software in memory.
- Program Disc: If displayed, this value represents the version of the navi software on the navi 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 "STK."
- Download: Do not touch, unless instructed by the factory.

The screenshot shows a screen titled "Version" with a "Return" button in the top right corner. The screen displays the following information:

|               |           |
|---------------|-----------|
| Program Flash | x.xx.xxBN |
| Program Disc  | -         |
| IPL           | x.xxx.xxx |
| APL           | -         |
| DBOOT         | x.x.xxx   |
| System uCom   | x.xxx.    |
| Model         | STKA      |

At the bottom right of the screen is a "DownLoad" button.

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. Clients 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 clients 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.

### XM (HIP)

These screens allow troubleshooting on XM or HIP (AcuraLink) problems. Select the item you want to troubleshoot, and follow the diagnostic instructions.

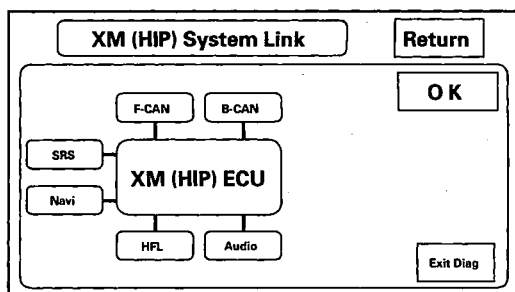
The screenshot shows a screen titled "XM (HIP)" with a "Return" button in the top right corner. The screen displays two options:

- XM (HIP) System Link
- XM (HIP) ECU



### XM (HIP) System Link

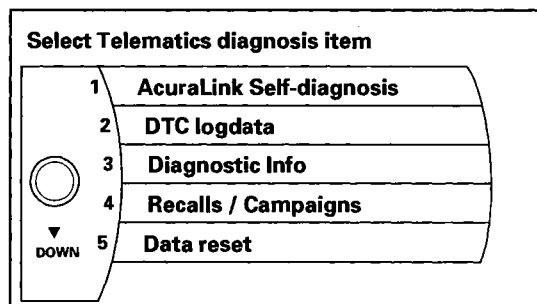
This diagnostic tests the cables connecting the XM (HIP) components.



### XM (HIP) ECU

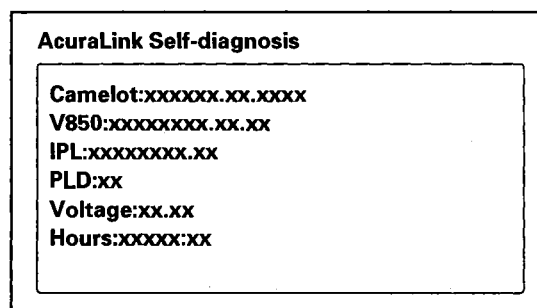
Select the item you want to troubleshoot, and follow the diagnostic instructions.

NOTE: Only select "DATA RESET" when instructed. Selecting "DATA RESET" will clear the AcuraLink registration, and the AcuraLink service will reset to the factory default. If the vehicle was already registered for the AcuraLink service, it will have to be reactivated by calling Acura Client Services before all features will be available. The reactivation will cause the Feature Guide to start over at the first message, which will result in the client getting repeated messages.



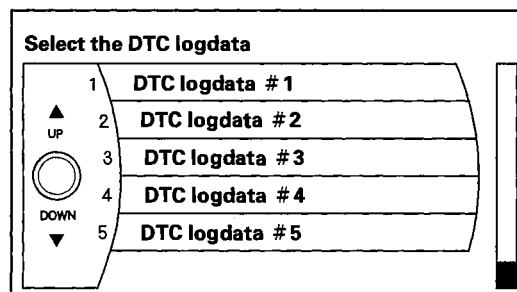
### AcuraLink Self-diagnosis

This screen used to do self-diagnosis for the XM (HIP). Toggle the jog dial left to exit the screen.



### DTC Log Data

You can check the DTC log data in this screen. Toggle the jog dial left to exit the screen.



NOTE: When DTC B2200-B2249 is displayed, it is in engineering mode and is not for trouble diagnosis.

(cont'd)

# Navigation System

## System Diagnostic Mode (cont'd)

### 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.<br>If not, move the vehicle to an open space away from tall buildings, trees, etc.<br>Window tinting and after-market devices can affect the GPS reception.                                                           |
| Navigation unit door is open or No DVD disc 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.                                                                                                   |
| PC card slot door is open. Please check system.                             | Make sure that the sliding door for the PC card is fully closed and that there is no PC card installed.                                                                                                                                                                                     |
| No DVD disc, please check system.                                           | Check that the navigation DVD is installed with the label side up.                                                                                                                                                                                                                          |
| Display temp is too high. System will shut down until display cools down.   | This message will appear briefly when the display temperature is too high, and then the display will turn off until the temperature cools down. The system will turn back on when the display cools down.                                                                                   |
| Outside temperature is low, system will take a while to start up.           | The temperature is below — 22 °F (—30 °C) and the navigation unit has difficulties reading the DVD. The system will start up when the temperature warms up.                                                                                                                                 |
| DVD disc reading error (unformatted), please consult your dealer.           | Check the 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. If the problem persists, see your dealer. |
| 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 guided.                    | 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 joystick.                                                                                                                                                                 |

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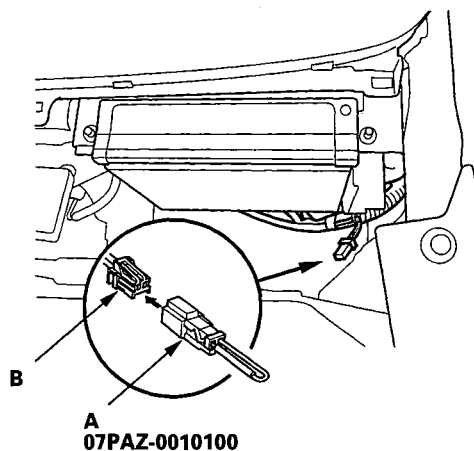


## Forced Starting of Display

### Special Tools Required

SCS service connector 07PAZ-0010100

1. Remove the passenger's console trim (see page 20-92).
2. Turn the ignition switch OFF.
3. Connect the SCS service connector (A) to the navigation service connector (B) located behind of the navigation unit.



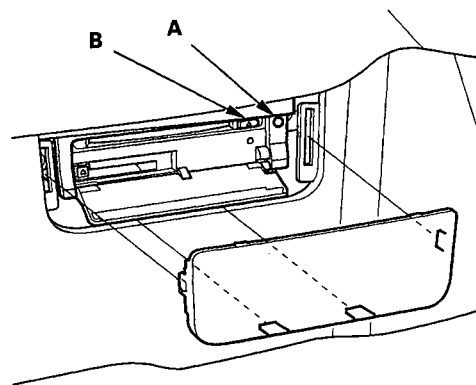
4. Turn the ignition switch ON (II).
5. Check that the diagnosis menu for the picture diagnosis starts up, and then changes to the system link menu.

**NOTE:** If the display fails to display the system link screen, refer to no picture is displayed troubleshooting (see page 23-150).

## DVD-ROM Replacement

**NOTE:** When the DVD-ROM is re-inserted or replaced, a map match must be done (see page 23-115). This system uses a white labeled DVD (possibly gray for Canada).

1. Remove the passenger's console trim (see page 20-92).
2. Turn the ignition switch ON (II).
3. Push the open button (A) located on the right side of the navigation unit.



4. Press the EJECT button (B).
5. Remove the DVD-ROM.
6. Insert the new DVD-ROM with the white label facing up.
7. Close the front cover. Do not turn the ignition switch OFF; watch the navigation screen until the data is down loaded to the navigation unit.

**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.

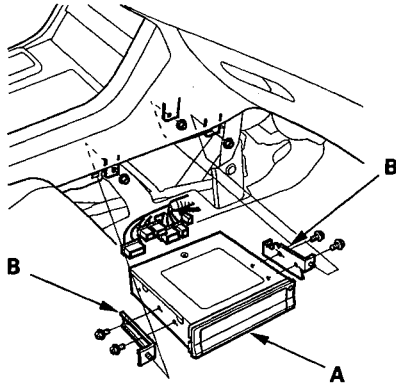
# Navigation System

## Navigation Unit Removal/Installation

### NOTE:

- If possible, have the client record any personal information from the navigation system that will be lost.
- If the navigation unit is replaced or disconnected, a Map Match must be done (see page 23-115).

1. Remove the DVD-ROM (see page 23-189).
2. Remove the nuts, then pull out the navigation unit (A).



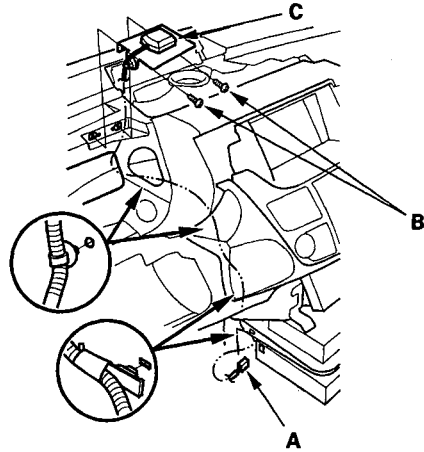
3. Disconnect the navigation unit connectors and remove the navigation unit.
4. Remove the screws from the navigation unit brackets (B).
5. Install the unit in the reverse order of removal.
6. Install the DVD-ROM, then enter the 4-digit security code.
7. Do the system initialization (see page 23-114).
8. Give the new security code to the client.
9. If the factory diagnostic screen (In Line Diag) appears after you replace the unit, refer to system diagnostic mode (see page 23-169).

## GPS Antenna Removal/Installation

1. Remove these items:

- Dashboard upper panel (see page 20-106)
- Gauge control module (see page 22-284)
- Driver's console trim (see page 20-92)

2. Disconnect the GPS antenna connector (A), and remove the bolts (B).



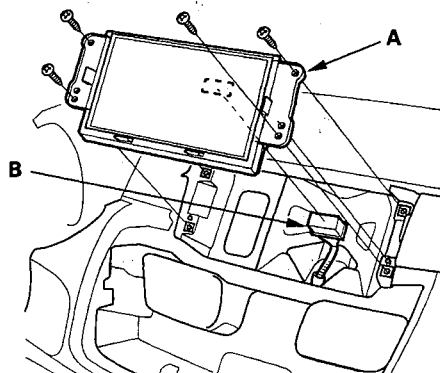
3. Detach the clips, then remove the GPS antenna (C).
4. Install the antenna in the reverse order of removal.



## Navigation Display Unit Removal/Installation

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

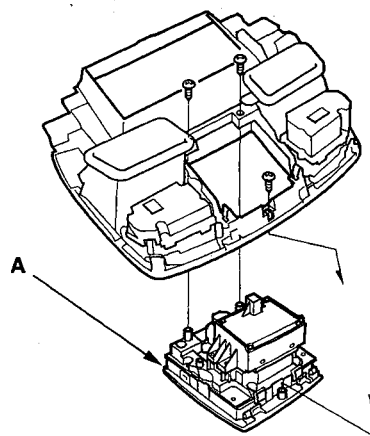
1. Remove the center panel (see page 20-101).
2. Remove the screws, then pull out the navigation display unit (A).



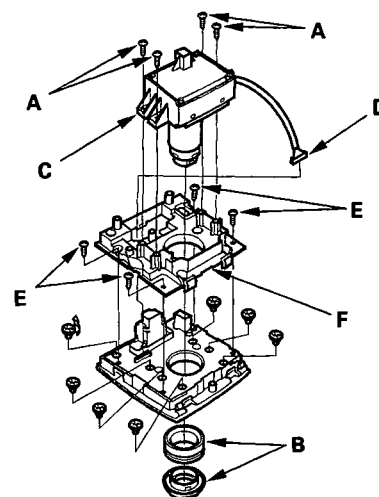
3. Disconnect the connector (B) and remove the navigation display unit.
4. Install the unit in the reverse order of removal.

## Navigation Switch Panel Removal/Installation

1. Remove the center panel (see page 20-101).
2. Remove the screws and navigation switch panel (A) from the center panel.



3. Remove the screws (A) and jog dial (B) from the interface dial (C).

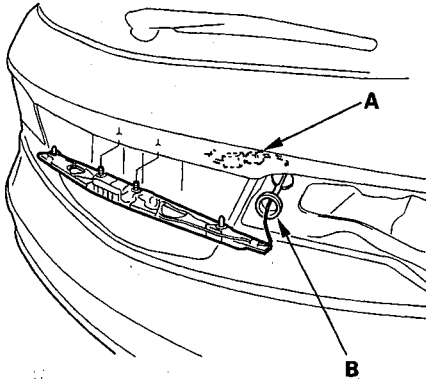


4. Disconnect the connector (D), then remove the interface dial.
5. If necessary, remove the screws (E) and cover (F), then remove the bulbs.
6. Install the dial in the reverse order of removal.

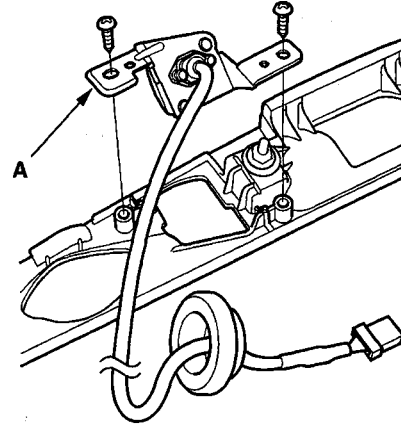
# Navigation System

## Rearview Camera Removal/Installation

1. Remove the rear license trim (see page 20-173).
2. Remove the inner taillight (see page 22-178).
3. Inside the tailgate, disconnect the rearview camera connector (A) and free it from its mounting clip. Remove grommet (B) from the tailgate, then push the rearview camera connector through the hole in the tailgate.



4. Remove screws, then remove the rearview camera (A).

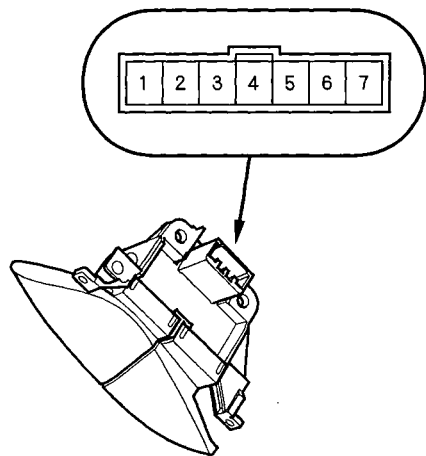


5. Install in the reverse order of removal.



# Voice Control Switch Test

1. Remove the HFL-voice control switch (see page 23-240).



2. Measure the resistance between the No. 3 and No. 5 terminals in each switch position according to the table.

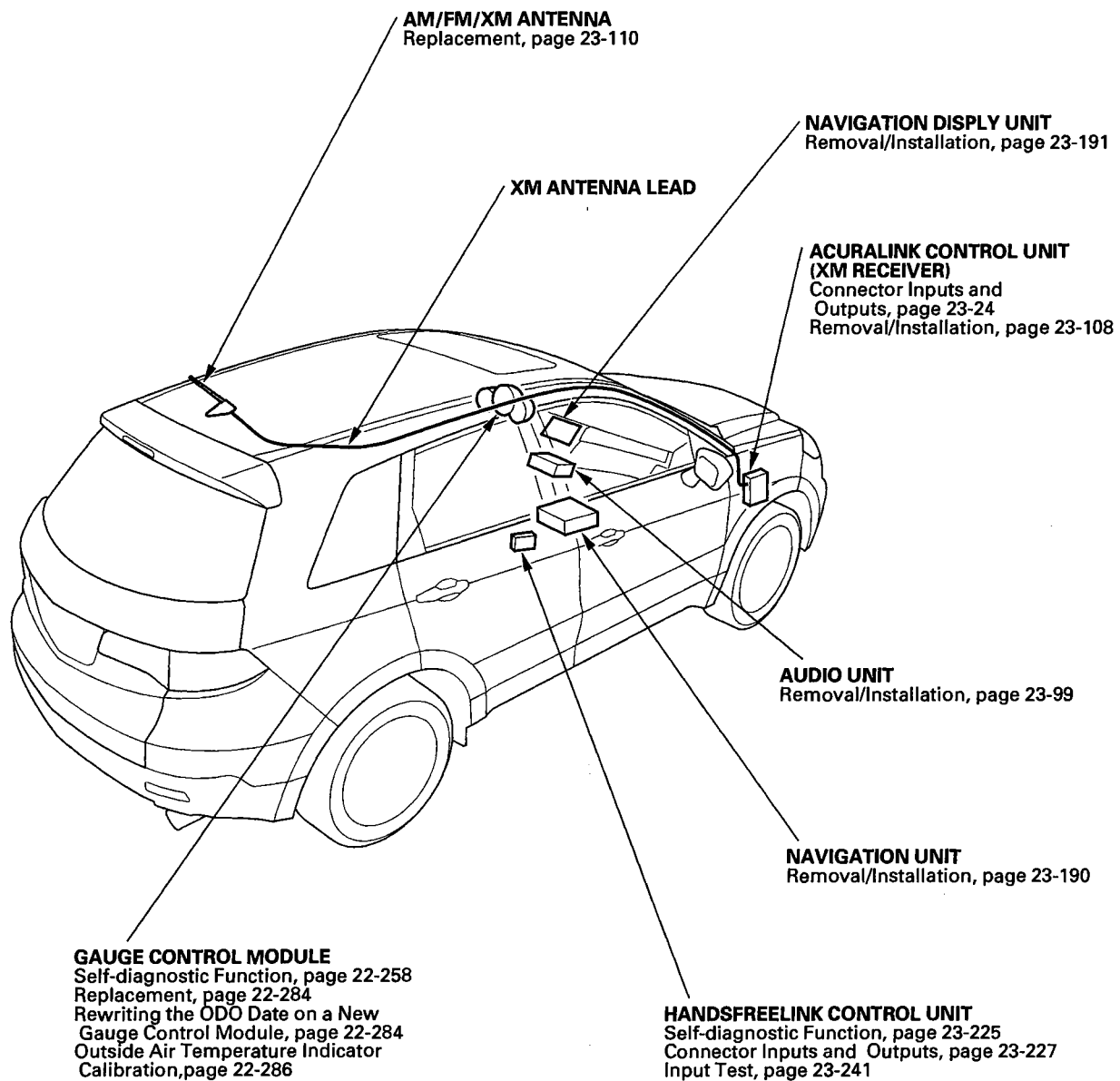
| Position            | Resistance           |
|---------------------|----------------------|
| OFF                 | About 10 k $\Omega$  |
| TALK button pressed | About 2.9 k $\Omega$ |
| BACK button pressed | About 680 k $\Omega$ |

3. If the resistance is not as specified, replace the HFL-voice control switch (see page 17-23).
4. Use a diode tester between the terminals in each switch position according to the table.

| Terminal | 6 |  | 2 |
|----------|---|--|---|
|          |   |  |   |

5. If the diode test is not as specified, replace the HFL-voice control switch (see page 17-23).

## Component Location Index



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## Symptom Troubleshooting Index

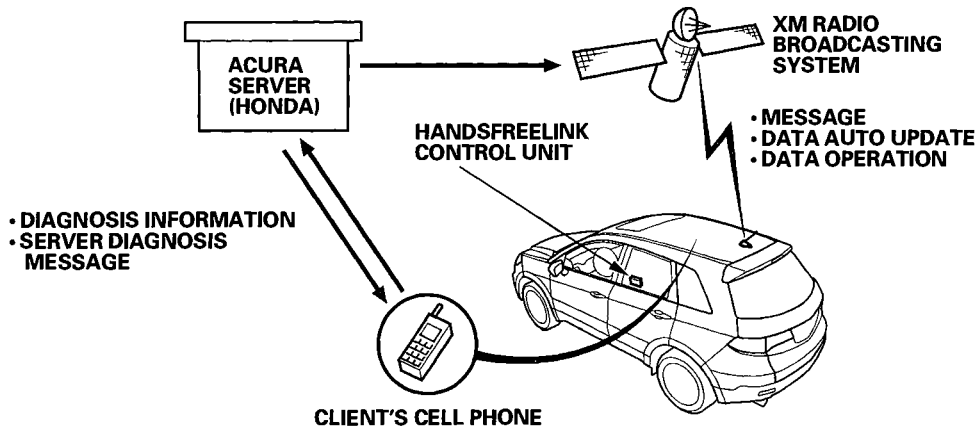
| Symptom                                                                                 | Diagnostic procedure                                        | Also check for                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AcuraLink service application does not work                                             | Symptom Troubleshooting (see page 23-220)                   | <ul style="list-style-type: none"><li>• Blown fuse No. 23 (10 A) in the under-hood fuse/relay box and No. 35 (7.5 A), No. 10 (7.5 A) in the under-dash fuse/relay box</li><li>• Poor ground at G505</li></ul> |
| AcuraLink services do not work after replacing the AcuraLink control unit (XM receiver) | Navigation System Symptom Troubleshooting (see page 23-166) | <ul style="list-style-type: none"><li>• Call Acura Client Services and request an activation.</li><li>• Call XM customer service and register the replacement AcuraLink control unit (XM receiver).</li></ul> |

## System Description

The AcuraLink uses the client's cell phone or XM radio to transmit and receive information about the vehicle. In addition, the AcuraLink system has a Text-To-Speech engine, and will also have the capability to initiate voice or data calls with the HandsFreeLink control unit.

The AcuraLink control unit (HIP) is very similar in design to an XM receiver that has additional communication features. The main functions include:

- Receiving and playing XM stations. Displaying station, song title and other information on the audio unit using the GA-Net bus.
- Receiving XM traffic channel data.
- Gives "Feature Guide" tips.
- Receiving AcuraLink messages and displaying them in the navi display.
- Processing DTC (diagnostic trouble code) error messages from the PCM, the SRS and other systems and displaying them on the navi display.
- Sending DTC information to the AcuraLink servers using the client's cell phone (only if the client has set up and enabled this option).



### Service Application

- Malfunction indicator lamp (MIL) explanation (from server message and vehicle message)
- Service information message
- Recall Information
- Quick tips
- Place to provide feedback/view cautions that were not available when vehicle was initially sold
- Correction of address and full name that is registered
- Real time traffic information
- Maintenance information message
- Feature guide (90 days)



## Self-diagnostic Function

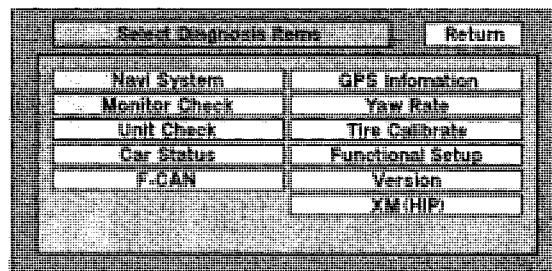
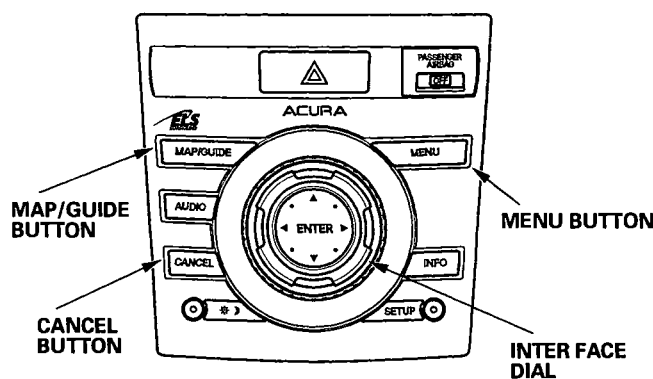
NOTE: Only select "DATA RESET" from the "XM (HIP) ECU" screen when instructed. Selecting "DATA RESET" will clear the AcuraLink registration, and the AcuraLink service will reset to the factory default. If the vehicle was already registered for the AcuraLink service, it will have to be reactivated by calling Acura Client Services before all features will be available.

The AcuraLink control unit (XM receiver) has a self-diagnostic function. To run the self-diagnostic function, do the following:

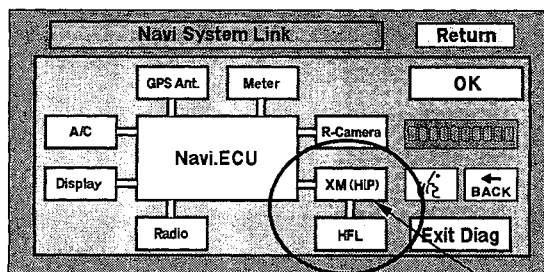
### How to Enter the Self-diagnostic Function

NOTE: Always check for and repair any CAN DTCs before troubleshooting the AcuraLink system.

1. Turn the ignition switch ON (II).
2. Press the interface dial.
3. Press and hold the MAP/GUIDE, CANCEL, and MENU buttons at the same time for 3 seconds more, and the self-diagnosis will begin.



4. Using interface dial, select the "NAVI System" from the "Select Diagnosis Items". Press the interface dial. The display indicates "NAVI System Link", and will perform a Navi connection check for each device. If a connection is faulty, the place where it is faulty will be indicated with "NG" (red color). If "XM (HIP)" indicator is "NG" (red color), go to step 5.



Connection OK: Green color  
Connection NG: Red color

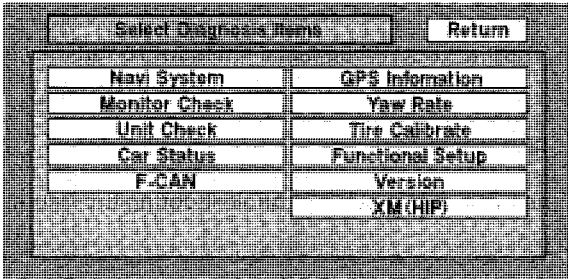
AcuraLink indicator

5. Using the interface dial, select the "Return" from the "Navi System Link". Press the interface dial.

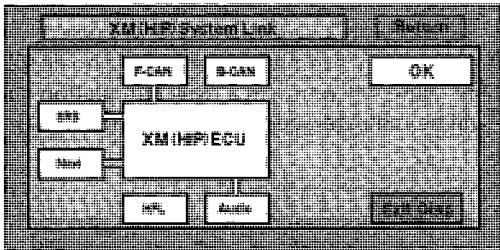
(cont'd)

Self-diagnostic Function (cont'd)

6. Using the interface dial, select the "XM (HIP)" from the "Select Diagnosis Items". Press the interface dial.



7. Using the interface dial, select the "XM (HIP) System Link" from the "XM (HIP)". Press the interface dial. The display indicates "XM (HIP) System Link", and will perform an AcuraLink connection check for each device. If a connection is faulty, the place where it is faulty will be indicated with "NG" (red color).



Connection OK: Green color  
Connection NG: Red color



8. When a red color is indicated, check the continuity between the AcuraLink control unit (XM receiver) and the device indicated in red.

| Device indicated in red | Test condition                                                                                                | Test: Desired result                                                                                                                                                                                         | Possible cause if result is not obtained |
|-------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| F-CAN                   | AcuraLink control unit (XM receiver) connector A (20P) and SH-AWD control unit connector A (20P) disconnected | Check for continuity between the No. 6 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 10 terminal of the SH-AWD control unit connector A (20P): There should be continuity.  | An open in the wire                      |
|                         |                                                                                                               | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 20 terminal of the SH-AWD control unit connector A (20P): There should be continuity. | An open in the wire                      |
|                         | AcuraLink control unit (XM receiver) connector A (20P) and PCM connector A (44P) disconnected                 | Check for continuity between the No. 6 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 36 terminal of the PCM connector A (44P): There should be continuity.                  | An open in the wire                      |
|                         |                                                                                                               | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 37 terminal of the PCM connector A (44P): There should be continuity.                 | An open in the wire                      |
|                         | AcuraLink control unit (XM receiver) connector A (20P) and gauge control module 36P connector disconnected    | Check for continuity between the No. 6 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 28 terminal of the gauge control module 36P connector: There should be continuity.     | An open in the wire                      |
|                         |                                                                                                               | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 29 terminal of the gauge control module 36P connector: There should be continuity.    | An open in the wire                      |
|                         | AcuraLink control unit (XM receiver) connector A (20P) and TPMS control unit 20P connector disconnected       | Check for continuity between the No. 6 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 1 terminal of the TPMS control unit 20P connector: There should be continuity.         | An open in the wire                      |
|                         |                                                                                                               | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 10 terminal of the TPMS control unit 20P connector: There should be continuity.       | An open in the wire                      |
|                         | AcuraLink control unit (XM receiver) connector A (20P) and navigation unit connector A (20P) disconnected     | Check for continuity between the No. 6 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 8 terminal of the navigation unit connector A (20P): There should be continuity.       | An open in the wire                      |
|                         |                                                                                                               | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 18 terminal of the navigation unit connector A (20P): There should be continuity.     | An open in the wire                      |

(cont'd)

## Self-diagnostic Function (cont'd)

| Device indicated in red | Test condition                                                                                                                                                                                                                                                                                                     | Test: Desired result                                                                                                                                                                                            | Possible cause if result is not obtained            |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| F-CAN                   | AcuraLink control unit (XM receiver) connector A (20P) and VSA modulator-control unit 46P connector disconnected                                                                                                                                                                                                   | Check for continuity between the No. 6 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 29 terminal of the VSA modulator-control unit 46P connector: There should be continuity.  | An open in the wire                                 |
|                         |                                                                                                                                                                                                                                                                                                                    | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 30 terminal of the VSA modulator-control unit 46P connector: There should be continuity. | An open in the wire                                 |
|                         | AcuraLink control unit (XM receiver) connector A (20P) and SRS unit connector A (28P) disconnected                                                                                                                                                                                                                 | Check for continuity between the No. 6 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 11 terminal of the SRS unit connector A (28P): There should be continuity.                |                                                     |
|                         |                                                                                                                                                                                                                                                                                                                    | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 12 terminal of the SRS unit connector A (28P): There should be continuity.               |                                                     |
|                         | AcuraLink control unit (XM receiver) connector A (20P), SH-AWD control unit connector A (20P), PCM connector A (44P), gauge control module 36P connector, TPMS control unit 20P connector, VSA modulator-control unit 46P connector, SRS unit connector A (28P) and navigation unit connector A (20P) disconnected | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                              | A short in the wire                                 |
|                         |                                                                                                                                                                                                                                                                                                                    | Check for continuity between the No. 1 and No. 6 terminals of AcuraLink control unit (XM receiver) connector A (20P): There should be no continuity.                                                            | A short in the wire                                 |
|                         |                                                                                                                                                                                                                                                                                                                    | Check for continuity between the No. 1 and No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P): There should be no continuity.                                                           | A short in the wire                                 |
|                         | SH-AWD control unit connector A (20P), PCM connector A (44P), gauge control module 36P connector, TPMS control unit 20P connector, VSA modulator-control unit 46P connector, SRS unit connector A (28P) and navigation unit connector A (20P) disconnected                                                         | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                              | A short in the AcuraLink control unit (XM receiver) |
|                         | AcuraLink control unit (XM receiver) connector A (20P), PCM connector A (44P), gauge control module 36P connector, TPMS control unit 20P connector, VSA modulator-control unit 46P connector, SRS unit connector A (28P) and navigation unit connector A (20P) disconnected                                        | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                              | A short in the SH-AWD control unit                  |
|                         | AcuraLink control unit (XM receiver) connector A (20P), SH-AWD control unit connector A (20P), gauge control module 36P connector, TPMS control unit 20P connector, VSA modulator-control unit 46P connector, SRS unit connector A (28P) and navigation unit connector A (20P) disconnected                        | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                              | A short in the PCM                                  |



| Device indicated in red | Test condition                                                                                                                                                                                                                                                                          | Test: Desired result                                                                                                                                               | Possible cause if result is not obtained  |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| F-CAN                   | AcuraLink control unit (XM receiver) connector A (20P), SH-AWD control unit connector A (20P), PCM connector A (44P), TPMS control unit 20P connector, VSA modulator-control unit 46P connector, SRS unit connector A (28P) and navigation unit connector A (20P) disconnected          | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity. | A short in the gauge control module       |
|                         | AcuraLink control unit (XM receiver) connector A (20P), SH-AWD control unit connector A (20P), PCM connector A (44P), gauge control module 36P connector, VSA modulator-control unit 46P connector, SRS unit connector A (28P) and navigation unit connector A (20P) disconnected       | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity. | A short in the TPMS control unit          |
|                         | AcuraLink control unit (XM receiver) connector A (20P), SH-AWD control unit connector A (20P), PCM connector A (44P), gauge control module 36P connector, TPMS control unit 20P connector, SRS unit connector A (28P) and navigation unit connector A (20P) disconnected                | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity. | A short in the VSA modulator-control unit |
|                         | AcuraLink control unit (XM receiver) connector A (20P), SH-AWD control unit connector A (20P), PCM connector A (44P), gauge control module 36P connector, TPMS control unit 20P connector, VSA modulator-control unit 46P connector, and navigation unit connector A (20P) disconnected | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity. | A short in the SRS unit                   |
|                         | AcuraLink control unit (XM receiver) connector A (20P), SH-AWD control unit connector A (20P), PCM connector A (44P), gauge control module 36P connector, TPMS control unit 20P connector, VSA modulator-control unit 46P connector, and SRS unit connector A (28P) disconnected        | Check for continuity between the No. 6, No. 16 terminals of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity. | A short in the navigation unit            |

(cont'd)

## Self-diagnostic Function (cont'd)

| Device indicated in red | Test condition                                                                                                                                                                                                                                                                            | Test: Desired result                                                                                                                                                                                                                | Possible cause if result is not obtained            |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| B-CAN                   | AcuraLink control unit (XM receiver) connector B (16P) and gauge control module 36P connector disconnected                                                                                                                                                                                | Check for continuity between the No. 5 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 30 terminal of the gauge control module 36P connector: There should be continuity.                            | An open in the wire                                 |
|                         | AcuraLink control unit (XM receiver) connector B (16P) and immobilizer-keyless control unit 7P connector disconnected                                                                                                                                                                     | Check for continuity between the No. 5 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 4 terminal of the immobilizer-keyless control unit 7P connector: There should be continuity.                  | An open in the wire                                 |
|                         | AcuraLink control unit (XM receiver) connector B (16P) and under-dash fuse/relay box connector Q (16P) disconnected                                                                                                                                                                       | Check for continuity between the No. 5 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 6 terminal of the under-dash fuse/relay box connector Q (16P) disconnected: There should be continuity.       | An open in the wire                                 |
|                         | AcuraLink control unit (XM receiver) connector B (16P) and climate control unit connector B (16P) disconnected                                                                                                                                                                            | Check for continuity between the No. 5 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 8 terminal of the climate control unit connector B (16P): There should be continuity.                         | An open in the wire                                 |
|                         | AcuraLink control unit (XM receiver) connector B (16P) and HandsFreeLink control unit 22P connector disconnected                                                                                                                                                                          | Check for continuity between the No. 5 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 14 terminal of the HandsFreeLink control unit 22P connector: There should be continuity.                      | An open in the wire                                 |
|                         | AcuraLink control unit (XM receiver) connector B (16P), under-dash fuse/relay box connector Q (16P), gauge control module 36P connector, immobilizer-keyless control unit 7P connector, HandsFreeLink control unit 22P connector, and climate control unit connector B (16P) disconnected | Check for continuity between the No. 5 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                           | A open in the wire                                  |
|                         |                                                                                                                                                                                                                                                                                           | Check for continuity between the No. 5 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 1 terminal of the AcuraLink control unit (XM receiver) unit connector A (20P): There should be no continuity. | A open in the wire                                  |
|                         | Under-dash fuse/relay box connector Q (16P), gauge control module 36P connector, immobilizer-keyless control unit 7P connector, HandsFreeLink control unit 22P connector, and climate control unit connector B (16P) disconnected                                                         | Check for continuity between the No. 5 terminals of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                          | A short in the AcuraLink control unit (XM receiver) |
|                         | AcuraLink control unit (XM receiver) connector B (16P), gauge control module 36P connector, immobilizer-keyless control unit 7P connector, HandsFreeLink control unit 22P connector, and climate control unit connector B (16P) disconnected                                              | Check for continuity between the No. 5 terminals of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                          | A short in the under-dash fuse/relay box            |



| Device indicated in red | Test condition                                                                                                                                                                                                                                        | Test: Desired result                                                                                                                                       | Possible cause if result is not obtained        |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| B-CAN                   | AcuraLink control unit (XM receiver) connector B (16P), under-dash fuse/relay box connector Q (16P), immobilizer-keyless control unit 7P connector, HandsFreeLink control unit 22P connector, and climate control unit connector B (16P) disconnected | Check for continuity between the No. 5 terminals of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity. | A short in the gauge control module             |
|                         | AcuraLink control unit (XM receiver) connector B (16P), under-dash fuse/relay box connector Q (16P), gauge control module 36P connector, HandsFreeLink control unit 22P connector, and climate control unit connector B (16P) disconnected            | Check for continuity between the No. 5 terminals of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity. | A short in the immobilizer-keyless control unit |
|                         | AcuraLink control unit (XM receiver) connector B (16P), under-dash fuse/relay box connector Q (16P), gauge control module 36P connector, immobilizer-keyless control unit 7P connector, and climate control unit connector B (16P) disconnected       | Check for continuity between the No. 5 terminals of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity. | A short in the HandsFreeLink control unit       |
|                         | AcuraLink control unit (XM receiver) connector B (16P), under-dash fuse/relay box connector Q (16P), gauge control module 36P connector, immobilizer-keyless control unit 7P connector, and HandsFreeLink control unit 22P connector disconnected     | Check for continuity between the No. 5 terminals of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity. | A short in the climate control unit             |

(cont'd)

## Self-diagnostic Function (cont'd)

| Device indicated in red | Test condition                                                                                           | Test: Desired result                                                                                                                                                                                   | Possible cause if result is not obtained |
|-------------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Navi                    | AcuraLink control unit (XM receiver) connector A (20P) and navigation unit connector F (5P) disconnected | Check for continuity between the No. 3 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 1 terminal of the navigation unit connector F (5P): There should be continuity.  | An open in the wire                      |
|                         |                                                                                                          | Check for continuity between the No. 13 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 2 terminal of the navigation unit connector F (5P): There should be continuity. | An open in the wire                      |
|                         |                                                                                                          | Check for continuity between the No. 4 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 3 terminal of the navigation unit connector F (5P): There should be continuity.  | An open in the wire                      |
|                         |                                                                                                          | Check for continuity between the No. 14 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 4 terminal of the navigation unit connector F (5P): There should be continuity. | An open in the wire                      |
|                         |                                                                                                          | Check for continuity between the No. 3 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                              | A short in the wire                      |
|                         |                                                                                                          | Check for continuity between the No. 1 and No. 3 terminals of AcuraLink control unit (XM receiver) connector A (20P): There should be no continuity.                                                   | A short to power in the wire             |
|                         |                                                                                                          | Check for continuity between the No. 13 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                             | A short in the wire                      |
|                         |                                                                                                          | Check for continuity between the No. 1 and No. 13 terminals of AcuraLink control unit (XM receiver) connector A (20P): There should be no continuity.                                                  | A short to power in the wire             |
|                         |                                                                                                          | Check for continuity between the No. 4 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                              | A short in the wire                      |
|                         |                                                                                                          | Check for continuity between the No. 1 and No. 4 terminals of AcuraLink control unit (XM receiver) connector A (20P): There should be no continuity.                                                   | A short to power in the wire             |
|                         |                                                                                                          | Check for continuity between the No. 14 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                             | A short in the wire                      |
|                         |                                                                                                          | Check for continuity between the No. 1 and No. 14 terminals of AcuraLink control unit (XM receiver) connector A (20P): There should be no continuity.                                                  | A short to power in the wire             |



| Device indicated in red | Test condition                                                                                                   | Test: Desired result                                                                                                                                                                                            | Possible cause if result is not obtained            |
|-------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Navi                    | Navigation unit connector F (5P) disconnected                                                                    | Check for continuity between the No. 3 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                                       | A short in the AcuraLink control unit (XM receiver) |
|                         |                                                                                                                  | Check for continuity between the No. 13 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                                      | A short in the AcuraLink control unit (XM receiver) |
|                         |                                                                                                                  | Check for continuity between the No. 4 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                                       | A short in the AcuraLink control unit (XM receiver) |
|                         |                                                                                                                  | Check for continuity between the No. 14 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                                      | A short in the AcuraLink control unit (XM receiver) |
|                         | AcuraLink control unit (XM receiver) connector A (20P) disconnected                                              | Check for continuity between the No. 3 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                                       | A short in the navigation unit                      |
|                         |                                                                                                                  | Check for continuity between the No. 13 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                                      | A short in the navigation unit                      |
|                         |                                                                                                                  | Check for continuity between the No. 4 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                                       | A short in the navigation unit                      |
|                         |                                                                                                                  | Check for continuity between the No. 14 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                                      | A short in the navigation unit                      |
| HFL                     | AcuraLink control unit (XM receiver) connector B (16P) and HandsFreeLink control unit 22P connector disconnected | Check for continuity between the No. 8 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 16 terminal of the HandsFreeLink control unit 22P connector: There should be continuity.  | An open in the wire                                 |
|                         |                                                                                                                  | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 17 terminal of the HandsFreeLink control unit 22P connector: There should be continuity. | An open in the wire                                 |
|                         |                                                                                                                  | Check for continuity between the No. 7 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 5 terminal of the HandsFreeLink control unit 22P connector: There should be continuity.   | An open in the wire                                 |
|                         |                                                                                                                  | Check for continuity between the No. 15 terminal of AcuraLink control unit (XM receiver) connector B (16P) and the No. 15 terminal of the HandsFreeLink control unit 22P connector: There should be continuity. | An open in the wire                                 |

(cont'd)

## Self-diagnostic Function (cont'd)

| Device indicated in red | Test condition                                                                                                   | Test: Desired result                                                                                                                                                                                                            | Possible cause if result is not obtained            |
|-------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| HFL                     | AcuraLink control unit (XM receiver) connector B (16P) and HandsFreeLink control unit 22P connector disconnected | Check for continuity between the No. 8 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                       | A short in the wire                                 |
|                         |                                                                                                                  | Check for continuity between the No. 1 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 8 terminal of the AcuraLink control unit (XM receiver) connector B (16P): There should be no continuity.  | A short to power in the wire                        |
|                         |                                                                                                                  | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                      | A short in the wire                                 |
|                         |                                                                                                                  | Check for continuity between the No. 1 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 16 terminal of the AcuraLink control unit (XM receiver) connector B (16P): There should be no continuity. | A short to power in the wire                        |
|                         |                                                                                                                  | Check for continuity between the No. 7 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                       | A short in the wire                                 |
|                         |                                                                                                                  | Check for continuity between the No. 1 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 7 terminal of the AcuraLink control unit (XM receiver) connector B (16P): There should be no continuity.  | A short to power in the wire                        |
|                         |                                                                                                                  | Check for continuity between the No. 15 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                      | A short in the wire                                 |
|                         |                                                                                                                  | Check for continuity between the No. 1 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 15 terminal of the AcuraLink control unit (XM receiver) connector B (16P): There should be no continuity. | A short to power in the wire                        |
|                         | HandsFreeLink control unit 22P connector disconnected                                                            | Check for continuity between the No. 8 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                       | A short in the AcuraLink control unit (XM receiver) |
|                         |                                                                                                                  | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                      | A short in the AcuraLink control unit (XM receiver) |
|                         |                                                                                                                  | Check for continuity between the No. 7 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                       | A short in the AcuraLink control unit (XM receiver) |
|                         |                                                                                                                  | Check for continuity between the No. 15 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                      | A short in the AcuraLink control unit (XM receiver) |
|                         | AcuraLink control unit (XM receiver) connector A (20P) disconnected                                              | Check for continuity between the No. 8 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                       | A short in the HandsFreeLink control unit           |
|                         |                                                                                                                  | Check for continuity between the No. 16 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                      | A short in the HandsFreeLink control unit           |
|                         |                                                                                                                  | Check for continuity between the No. 7 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                       | A short in the HandsFreeLink control unit           |
|                         |                                                                                                                  | Check for continuity between the No. 15 terminal of AcuraLink control unit (XM receiver) connector B (16P) and body ground: There should be no continuity.                                                                      | A short in the HandsFreeLink control unit           |



| Device indicated in red | Test condition                                                                                       | Test: Desired result                                                                                                                                                                                | Possible cause if result is not obtained            |
|-------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Audio                   | AcuraLink control unit (XM receiver) connector A (20P) and audio unit connector B (14P) disconnected | Check for continuity between the No. 7 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 9 terminal of the audio unit connector B (14P): There should be continuity.   | An open in the wire                                 |
|                         |                                                                                                      | Check for continuity between the No. 17 terminal of AcuraLink control unit (XM receiver) connector A (20P) and the No. 10 terminal of the audio unit connector B (14P): There should be continuity. | An open in the wire                                 |
|                         |                                                                                                      | Check for continuity between the No. 7 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                           | A short in the wire                                 |
|                         |                                                                                                      | Check for continuity between the No. 1 and No. 7 terminals of AcuraLink control unit (XM receiver) connector A (20P): There should be no continuity.                                                | A short to power in the wire                        |
|                         |                                                                                                      | Check for continuity between the No. 17 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                          | A short in the wire                                 |
|                         |                                                                                                      | Check for continuity between the No. 1 and No. 17 terminals of AcuraLink control unit (XM receiver) connector A (20P): There should be no continuity.                                               | A short to power in the wire                        |
|                         | Audio unit connector B (14P) disconnected                                                            | Check for continuity between the No. 7 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                           | A short in the AcuraLink control unit (XM receiver) |
|                         |                                                                                                      | Check for continuity between the No. 17 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                          | A short in the AcuraLink control unit (XM receiver) |
|                         | AcuraLink control unit (XM receiver) connector A (20P) disconnected                                  | Check for continuity between the No. 7 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                           | A short in the audio unit                           |
|                         |                                                                                                      | Check for continuity between the No. 17 terminal of AcuraLink control unit (XM receiver) connector A (20P) and body ground: There should be no continuity.                                          | A short in the audio unit                           |

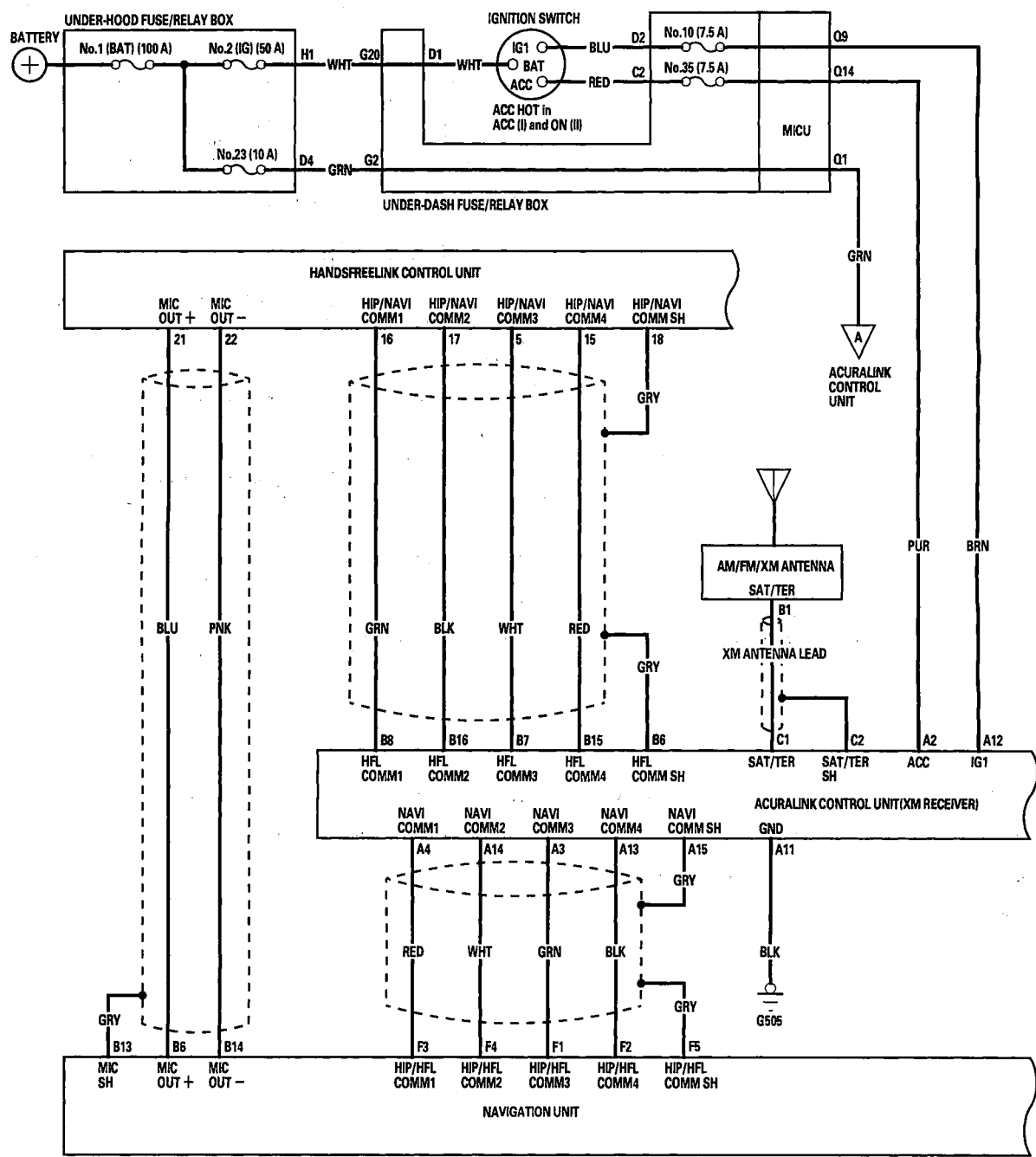
NOTE: If the XM antenna connection condition is faulty, "XM ANTENNA" will be indicated on the audio-HVAC subdisplay unit.

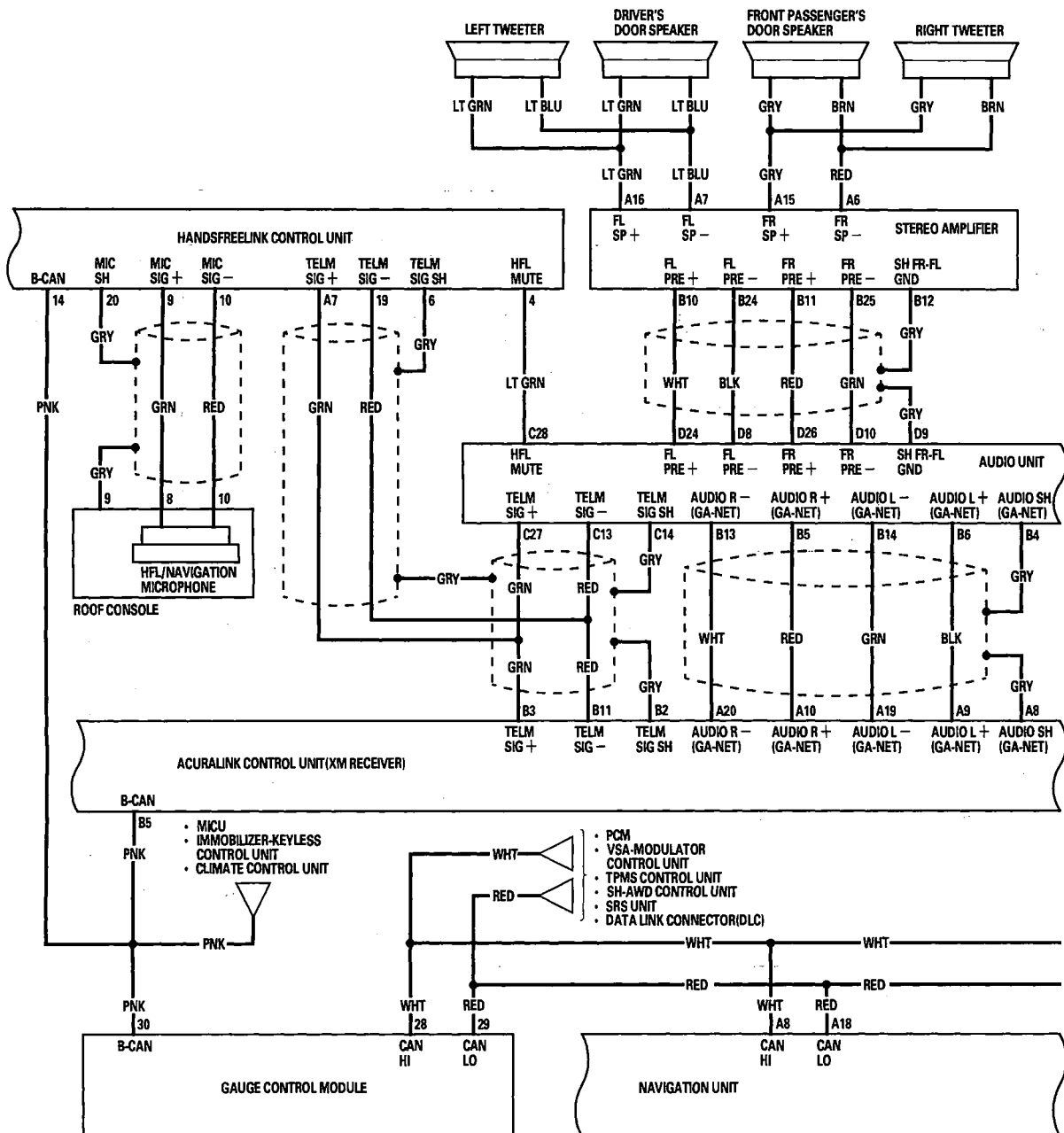
- If the indication does not go away, confirm DTCs, and refer to the relevant system troubleshooting and input tests.

## Cancelling the Self-diagnostic Function

- Use the interface dial, select the "Exit Diag". Press the interface dial to cancel the self-diagnostic function.

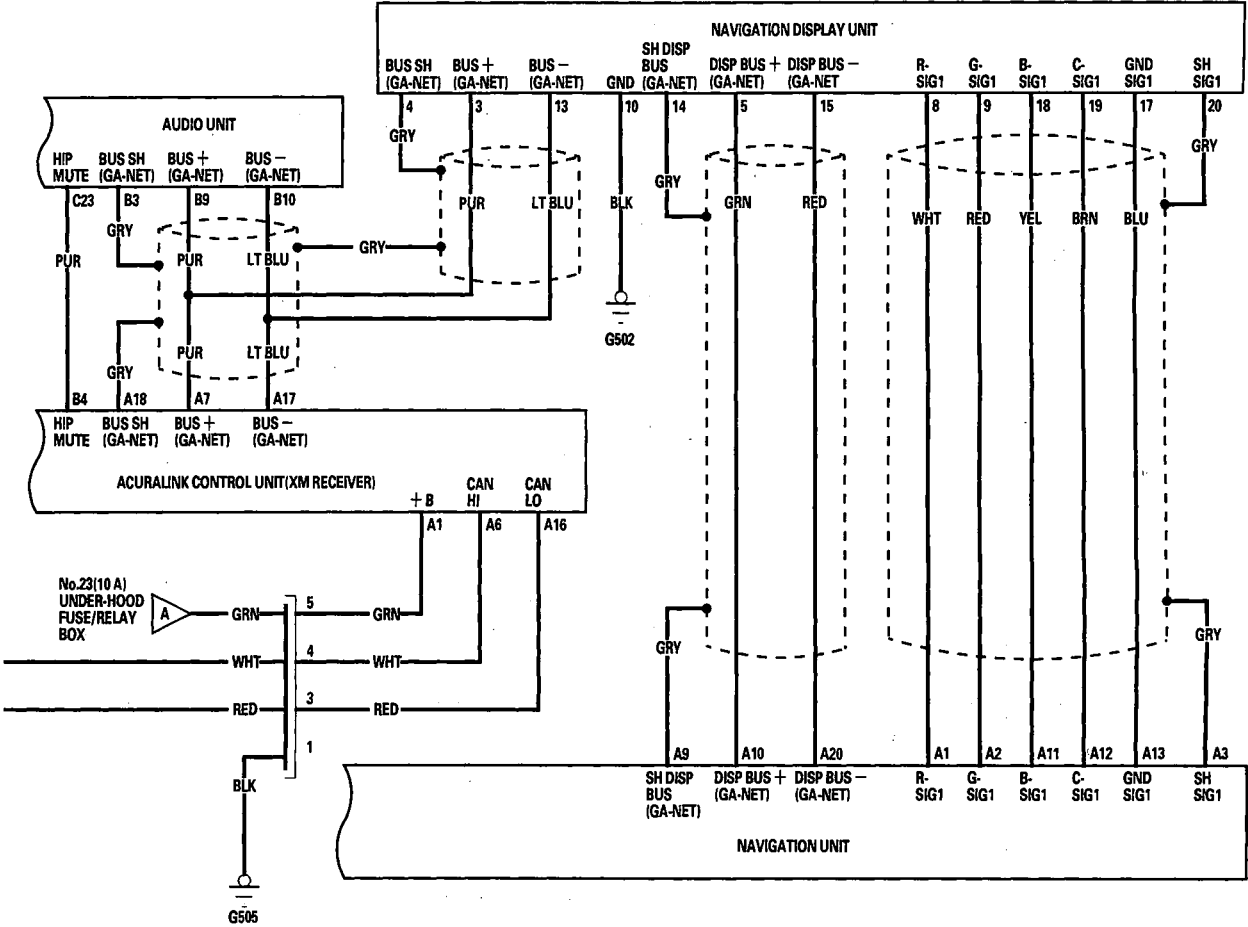
Circuit Diagram





(cont'd)

Circuit Diagram (cont'd)



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## DTC Troubleshooting

### DTC B2204: B-CAN Communication Line Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-88).

1. Connect the HDS to the DLC (see page 11-3).
2. Turn the ignition switch ON (II).
3. Check for DTCs with the HDS and DTC log data in the navigation system diagnostic mode (see page 23-169).

*Is DTC B2204 indicated with HDS and on the navigation display?*

**YES**—Go to step 4.

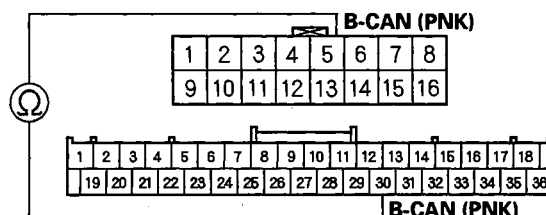
**NO**—Intermittent failure, B-CAN communication line is OK at this time. Check for poor connections or loose terminals at the AcuraLink control unit (XM receiver). ■

4. Turn the ignition switch OFF.
5. Disconnect the AcuraLink control unit (XM receiver) connector B (16P) and the gauge control module 36P connector.

6. Check for continuity between the AcuraLink control unit (XM receiver) connector B (16P) terminal No. 5 and gauge control module 36P connector terminal No. 30.

#### ACURALINK CONTROL UNIT (XM RECEIVER) CONNECTOR B (16P)

Wire side of female terminals



#### GAUGE CONTROL MODULE 36P CONNECTOR

Wire side of female terminals

*Is there continuity?*

**YES**—Check for poor connections or loose terminals at the AcuraLink control unit (XM receiver). If all connections are OK, replace the AcuraLink control unit (XM receiver) (see page 23-108). ■

**NO**—Repair open in the wire between AcuraLink control unit (XM receiver) and the gauge control module. ■

## DTC Troubleshooting (cont'd)

### DTC B2205: F-CAN Communication Line Error

**NOTE:** If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN system diagnosis test mode A (see page 22-88).

1. Connect the HDS to the DLC (see page 11-3).
2. Turn the ignition switch ON (II).
3. Check for DTCs with the HDS and DTC log data in the navigation system diagnostic mode (see page 23-169).

*Is DTC B2205 indicated with HDS and on the navigation display?*

**YES**—Go to step 4.

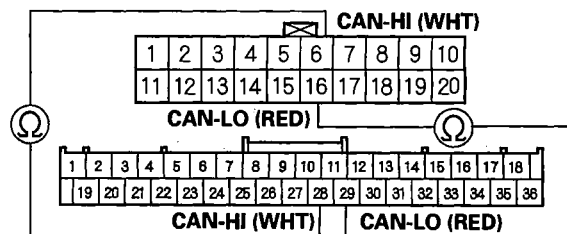
**NO**—Intermittent failure, F-CAN communication line is OK at this time. Check for poor connections or loose terminals at the AcuraLink control unit (XM receiver). ■

4. Turn the ignition switch OFF.
5. Disconnect the AcuraLink control unit (XM receiver) connector A (20P) and the gauge control module 36P connector.

6. Check for continuity between the AcuraLink control unit (XM receiver) connector A (20P) terminal No. 6, No. 16 and gauge control module 36P connector terminal No. 28, No. 29 individually.

#### ACURALINK CONTROL UNIT (XM RECEIVER) CONNECTOR A (20P)

Wire side of female terminals



#### GAUGE CONTROL MODULE 36P CONNECTOR

Wire side of female terminals

*Is there continuity?*

**YES**—Check for poor connections or loose terminals at the AcuraLink control unit (XM receiver). If all connections are OK, replace the AcuraLink control unit (XM receiver) (see page 23-108). ■

**NO**—Repair open in the wire between AcuraLink control unit (XM receiver) and the gauge control module. ■



### DTC B2207: Navigation Unit Lost Communication with AcuraLink Control Unit (XM Receiver)

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF, then turn it ON (II) and wait 30 seconds or more.
4. Check for DTC with the HDS.

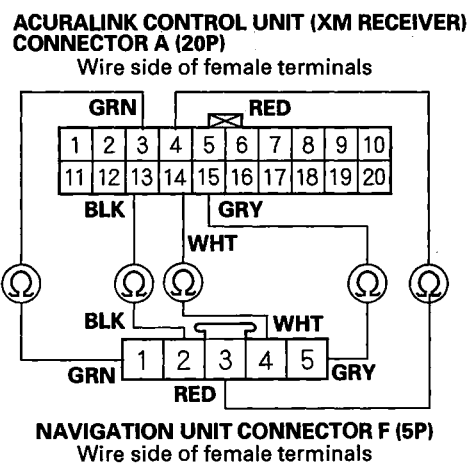
*Is DTC B2207, B2208 indicated?*

**YES**—Check the battery condition (see page 22-63). If the system is OK, replace the AcuraLink control unit (XM receiver). ■

**NO**—

- If only B2207 is indicated, go to step 5.
  - If only B2208 is indicated, refer to the B2208 troubleshooting.
5. Turn the ignition switch OFF.
  6. Disconnect the AcuraLink control unit (XM receiver) connector A (20P) and the navigation unit connector F (5P).

7. Check for continuity between the following terminals of AcuraLink control unit (XM receiver) connector A (20P) and the navigation unit connector F (5P).



*Is there continuity?*

**YES**—Go to step 8.

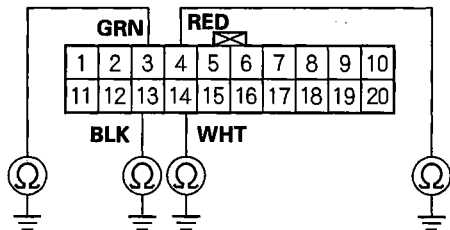
**NO**—Repair open in the wire(s) between the AcuraLink control unit (XM receiver) and the navigation unit. ■

(cont'd)

DTC Troubleshooting (cont'd)

8. Check for continuity between body ground and AcuraLink control unit (XM receiver) connector A (20P) terminals No. 3, No. 4, No. 13, and No. 14 individually.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

Is there continuity?

**YES**—Repair short to body ground in the wire(s) between the AcuraLink control unit (XM receiver) and the navigation unit. ■

**NO**—Go to step 9.

9. Check for continuity between the terminals of AcuraLink control unit (XM receiver) connector A (20P) as follows.

| From terminal | To terminals      |
|---------------|-------------------|
| A3            | A4, A13, A14, A15 |
| A4            | A13, A14, A15     |
| A13           | A14, A15          |
| A14           | A15               |

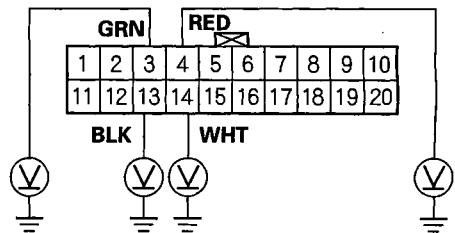
Is there continuity between any of the terminals?

**YES**—Repair short in the wire(s) between the AcuraLink control unit (XM receiver) and navigation unit (replace the appropriate shielded harness). ■

**NO**—Go to step 10.

10. Turn the ignition switch ON (II), and check the same terminals for voltage.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

Is there any voltage?

**YES**—Repair short to power in the wire(s) between the AcuraLink control unit (XM receiver) and the navigation unit. ■

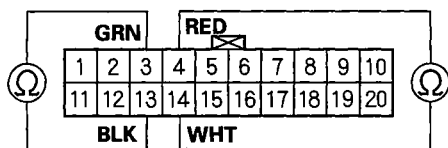
**NO**—Go to step 11.

11. Turn the ignition switch OFF.
12. Reconnect the AcuraLink control unit (XM receiver) connector A (20P).



13. Measure the resistance between AcuraLink control unit (XM receiver) connector A (20P) terminals No. 3, No. 4, and No. 13, No. 14.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)**



Wire side of female terminals

*Is there less than about 100 k $\Omega$ ?*

**YES**—AcuraLink control unit (XM receiver) is faulty, replace the AcuraLink control unit (XM receiver). ■

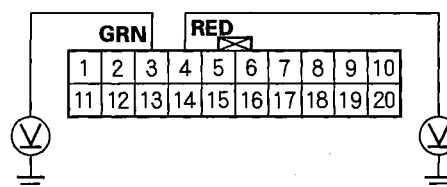
**NO**—Go to step 14.

14. Reconnect the navigation unit connector F (5P).

15. Turn the ignition switch ON (II).

16. Measure the voltage between the body ground and the AcuraLink control unit (XM receiver) connector A (20P) terminal No. 3, No. 4 individually.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)**



Wire side of female terminals

*Is there less than about 3.5 V?*

**YES**—AcuraLink control unit (XM receiver) is faulty, replace the AcuraLink control unit (XM receiver). ■

**NO**—Navigation unit is faulty, replace the navigation unit. ■

## DTC Troubleshooting (cont'd)

### DTC B2208: HandsFreeLink Control Unit Lost Communication with AcuraLink Control Unit

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF, then turn it ON (II) and wait 30 seconds or more.
4. Check for DTC with the HDS.

*Is DTC B2207, B2208 indicated?*

**YES**—Check the battery condition (see page 22-63). If the system is OK, replace the AcuraLink control unit (XM receiver). ■

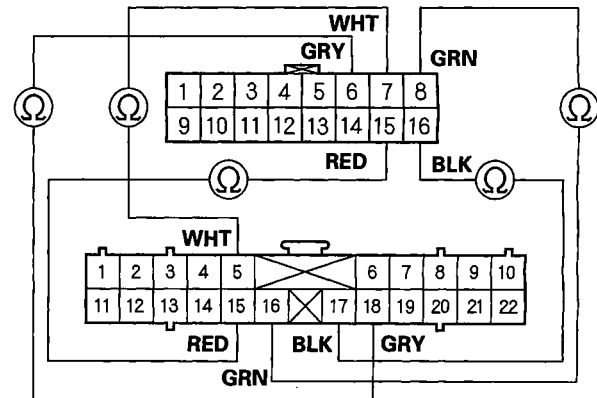
**NO**—

- If only B2208 is indicated, go to step 5.
  - If only B2207 is indicated, refer to the B2207 troubleshooting.
5. Turn the ignition switch OFF.
  6. Disconnect the AcuraLink control unit (XM receiver) connector B (16P) and the HandsFreeLink control unit 22P connector.

7. Check for continuity between the following terminals of AcuraLink control unit (XM receiver) connector B (16P) and the HandsFreeLink control unit 22P connector.

#### ACURALINK CONTROL UNIT (XM RECEIVER) CONNECTOR B (16P)

Wire side of female terminals



#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR

Wire side of female terminals

*Is there continuity?*

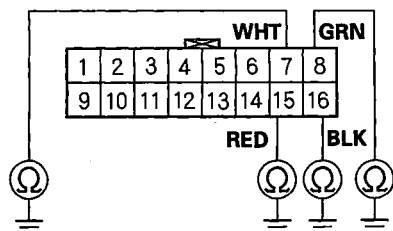
**YES**—Go to step 8.

**NO**—Repair open in the wire(s) between the AcuraLink control unit (XM receiver) and the HandsFreeLink control unit. ■



8. Check for continuity between body ground and AcuraLink control unit (XM receiver) connector B (16P) terminals No. 7, No. 8, No. 15 and No.16 individually.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR B (16P)**



Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to body ground in the wire(s) between the AcuraLink control unit (XM receiver) and the HandsFreeLink control unit. ■

**NO**—Go to step 9.

9. Check for continuity between the terminals of AcuraLink control unit (XM receiver) connector B (16P) as follows.

| From terminal | To terminals     |
|---------------|------------------|
| B7            | B8, B15, B16, B6 |
| B8            | B15, B16, B6     |
| B15           | B16, B6          |
| B16           | B6               |

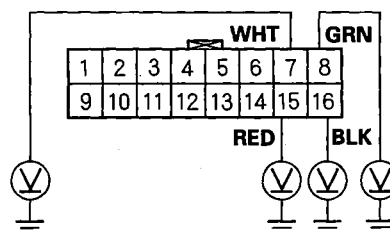
*Is there continuity between any of the terminals?*

**YES**—Repair short in the wire(s) between the AcuraLink control unit (XM receiver) and HandsFreeLink control unit (replace the appropriate shielded harness). ■

**NO**—Go to step 10.

10. Turn the ignition switch ON (II), and check the same terminals for voltage.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR B (16P)**



Wire side of female terminals

*Is there any voltage?*

**YES**—Repair short to power in the wire(s) between the AcuraLink control unit (XM receiver) and the HandsFreeLink control unit. ■

**NO**—Go to step 11.

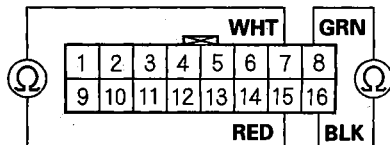
11. Turn the ignition switch OFF.  
12. Reconnect the AcuraLink control unit (XM receiver) connector B (16P).

(cont'd)

## DTC Troubleshooting (cont'd)

13. Measure the resistance between AcuraLink control unit (XM receiver) connector B (16P) terminals No. 7, No. 8, and No. 15, No. 16.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR B (16P)**



Wire side of female terminals

*Is there less than about 100 k $\Omega$  ?*

**YES**—AcuraLink control unit (XM receiver) is faulty, replace the AcuraLink control unit (XM receiver). ■

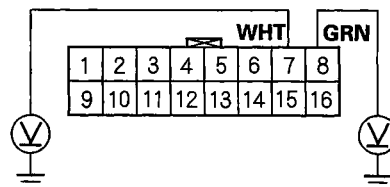
**NO**—Go to step 14.

14. Reconnect the HansFreeLink control unit 22P connector.

15. Turn the ignition switch ON (II).

16. Measure the voltage between the body ground and the AcuraLink control unit (XM receiver) connector B (16P) terminal No. 7, No. 8 individually.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR B (16P)**



Wire side of female terminals

*Is there less than about 3.5 V ?*

**YES**—AcuraLink control unit (XM receiver) is faulty, replace the AcuraLink control unit (XM receiver). ■

**NO**—HansFreeLink control unit is faulty, replace the HansFreeLink control unit. ■



### **DTC B2209: AcuraLink Control Unit Internal Error**

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF, then turn it ON (II) and wait 30 seconds or more.
4. Check for DTC with the HDS.

*Is DTC B2209 indicated?*

**YES**—AcuraLink control unit (XM receiver) is faulty, replace the AcuraLink control unit (XM receiver). ■

**NO**—Intermittent failure, AcuraLink control unit (XM receiver) is OK at this time. ■

### **DTC B2240: XM Antenna Error**

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTC with the HDS.
3. Turn the ignition switch OFF, then turn it ON (II) and wait 30 seconds or more.
4. Check for DTC with the HDS.

*Is DTC B2240 indicated?*

**YES**—Go to step 5.

**NO**—Intermittent failure, AM/FM/XM antenna is OK at this time. Check for poor connections or loose terminals at the AcuraLink control unit (XM receiver) and AM/FM/XM antenna. ■

5. Check the XM antenna lead connection at the AcuraLink control unit (XM receiver) and at the AM/FM/XM antenna.

*Is it connected properly?*

**YES**—Substitute a known-good AM/FM/XM antenna, and recheck. If the symptom/indicated goes away, replace the original AM/FM/XM antenna. If the symptom/indicated is still present replace the AcuraLink control unit (XM receiver). ■

**NO**—Reconnect the connector, and recheck the DTC. ■

## Symptom Troubleshooting

### AcuraLink service application does not work

NOTE: In order for the AcuraLink service to work, the client must have an activated account with XM (receives all channels).

1. Check the No. 23 (10 A) fuse in the under-hood fuse/relay box and No. 35 (7.5 A), No. 10 (7.5 A) fuse in the under-dash fuse/relay box.

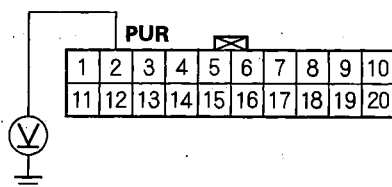
*Are the fuses OK?*

**YES**—Go to step 2.

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

2. Turn the ignition switch to ACC (I).
3. Measure the voltage between the No. 2 terminal of the AcuraLink control unit (XM receiver) connector A (20P) and body ground.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

*Is there battery voltage?*

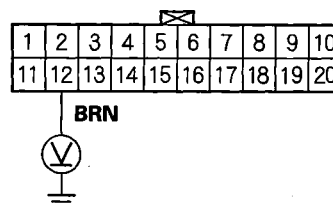
**YES**—Go to step 4.

**NO**—Repair open in the wire(s) between the AcuraLink control unit (XM receiver) and the No. 35 (7.5 A) fuse in the under-dash fuse/relay box. ■

4. Turn the ignition switch ON (II).

5. Measure the voltage between the No. 12 terminal of the AcuraLink control unit (XM receiver) connector A (20P) and body ground.

ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)



Wire side of female terminals

*Is there battery voltage?*

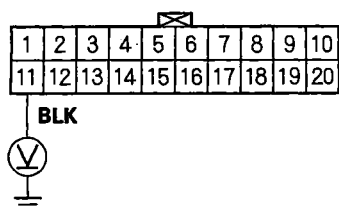
**YES**—Go to step 6.

**NO**—Repair open in the wire(s) between the AcuraLink control unit (XM receiver) and the No. 10 (7.5 A) fuse in the under-dash fuse/relay box. ■



6. Measure the voltage between the No. 11 terminal of the AcuraLink control unit (XM receiver) connector A (20P) and body ground.

**ACURALINK CONTROL UNIT (XM RECEIVER)  
CONNECTOR A (20P)**



Wire side of female terminals

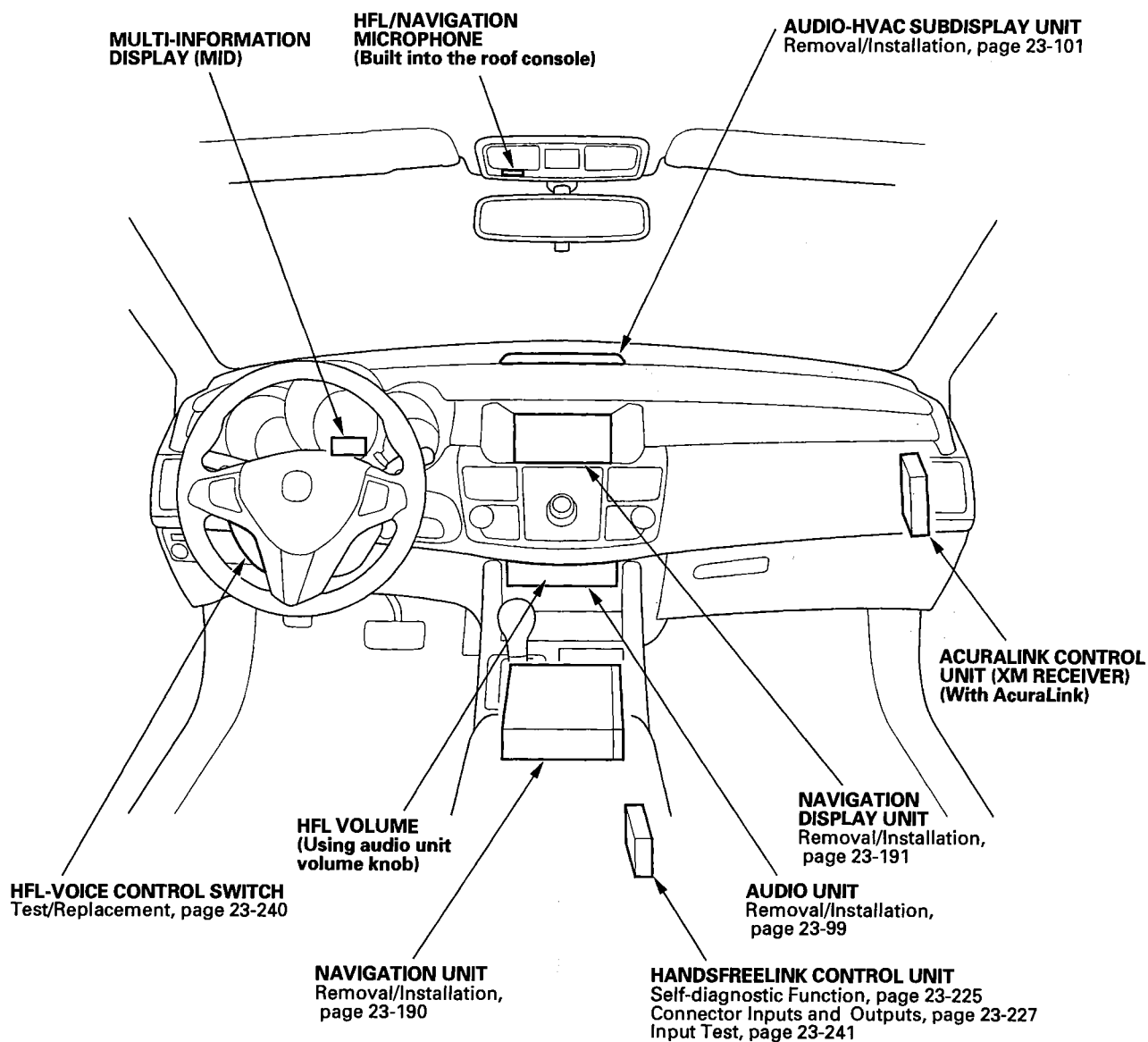
*Is there less than 1 V?*

**YES**—Check for loose wires or poor connections at the AcuraLink control unit (XM receiver) connector A (20P). If the connections are good, substitute a known-good AcuraLink control unit (XM receiver), and recheck. If the symptom goes away, replace the original AcuraLink control unit (XM receiver). ■

**NO**—Check for an open in the wire between the AcuraLink control unit (XM receiver) and body ground. If the wire is OK, check for poor ground at G505 (see page 22-60). ■

# HandsFreeLink System

## Component Location Index





## General Troubleshooting Information

The HandsFreeLink (HFL) works only with an approved Bluetooth enabled cell phones with the Hands Free Profile. If you are not sure if your cell phone is compatible with the HFL — and not all phones are — Acura has a dedicated call center and web-site to answer your questions. On the web, go to [www.acura.com](http://www.acura.com), or dial 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.

The HFL gives the user the convenience of hands-free operation. It can't control the phone's performance (call quality and signal strength). To avoid performance problems, don't put the phone in a metal briefcase or in a purse under the seat.

This guide shows you just a few of the HFL's many features. You will see how to pair your phone to the HFL and then make and receive calls, all using simple voice commands. If you want a complete description of this system, please refer to the owner's manual and quick start guide.

### Voice Control Tips

To give any voice command, press and release the 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 front spotlights.

If the HFL doesn't recognize your voice command, you'll hear "Pardon." If after repeating your command, it still doesn't recognize it, you'll hear "Please repeat." If after repeating your command again, it still doesn't recognize it, the HFL sends you to the Help menu.

To hear a list of available options at any time, say "Hands free help."

You can give many voice commands together. For example, you can say "Dial 123-456-7890."

To give a string of numbers in a call or dial voice command, you can say them all at once, or separate them into blocks of 3, 4, 7, 10, or 11.

To skip a voice prompt, press and release the TALK button while the HFL is speaking. The HFL begins listening for your next voice command.

To go back a step in a voice command sequence, press and release the Back button, or say "Go back."

If you don't say anything while the HFL is listening for your voice command, it will time out and stop its voice recognition. The next time you press and release the TALK button, the HFL begins listening from the point where it timed out.

To stop a voice command sequence at any time, press and hold the Back button, or press and release the TALK button, wait for the beep, and say "Cancel." The next time you press and release the TALK button, the HFL begins from its main menu. You'll see MAIN on the multi-information display (MID) in the instrument panel.

When you're done with a voice command sequence, the HFL goes back to its main menu. The next time you press and release the TALK button, you'll be at the main menu and you'll see MAIN on the MID.

Remember to press and hold the Back button until you exit the main menu, otherwise, the audio system stays muted.

The HFL may have problems with some voice. To improve voice recognition:

- 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.
- Speak in a clear and natural voice. If the system cannot recognize your command, speak louder.
- If the microphone picks up voices other than yours, the system may not interpret your voice commands correctly.
- If you speak with something in your mouth, or your voice is too husky, the system may misunderstand your command.

(cont'd)

# HandsFreeLink System

## General Troubleshooting Information (cont'd)

### Pairing Your Cell Phone (A One Time Procedure)

You must pair an approved Bluetooth compatible phone to the HFL before you can make and receive calls. The following steps show you what you need to do. For a current list of approved phones and specific phone pairing instructions, go to [www.acura.com](http://www.acura.com). You can also refer to the phone's operating manual or call the phone retailer. Make sure the vehicle is stationary when you pair the phone;

**NOTE:**

- You cannot pair a phone if the vehicle is moving.
- Your phone must be in its Discovery mode.
- Up to six Bluetooth compatible phones can be paired by the HFL.
- Not all Bluetooth phones are compatible with the HFL. For a current list of approved Bluetooth phones, visit [www.acura.com](http://www.acura.com).

1. Turn on your phone, and follow the prompts to activate Bluetooth.
2. Give these voice commands to the HFL by pressing the TALK button.

| You say                                                   | You'll hear                                                                                                                                                                                                                 |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| "Phone setup"                                             | "Phone setup options are status, pair, edit, delete, and list."                                                                                                                                                             |
| "Pair"                                                    | "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." |
| "1. 2. 3. 4." (This can be any four-digit code you want.) | "1. 2. 3. 4. is this correct?"                                                                                                                                                                                              |
| "Yes"                                                     | "Searching for a Bluetooth phone. Make sure the phone you are trying to pair is in Discovery mode !"                                                                                                                        |

3. Follow the cell phone manufacturer's instructions to put the phone in its Discovery mode. The phone will search for the HFL. When you see HANDSFREELINK in the device list on the phone, select it.
4. When prompted, enter the four-digit PIN from step 2 into the phone. You will hear the HFL say "A new phone has been found. Would you like to name this phone?"
5. Press and release the TALK button, and say what the phone name will be. For example, say "John's phone". You'll hear "John's phone has been successfully paired, returning to the main menu".
6. To pair another phone, repeat steps 1 thru 5.

### Clearing the system

**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.

1. Turn on your phone, and follow the prompts to activate Bluetooth.
2. Press and release the TALK button. After the beep, say "Clear" and the HFL will respond, "This process will clear all paired phone, clear all entries in the phonebook, and clear the passcode. Is this what you would like to do?".
3. Press and release the TALK button. After the beep, say "Yes" and the HFL respond, "Preparing to clear all paired phone, all phonebook entries, and the passcode. This may take up to 2 minutes to complete".



4. Press and release the TALK button. After the beep, say "OK" to proceed, or say "Go back" or "Cancel".
5. If you said "OK", after a short period of time, the HFL will respond, "System has been cleared. Returning to the main menu", the Clearing HFL system procedure is now complete.

### **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 ACC (I).
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 control unit audibly outputs "The hands free system test is in progress".
  - If there is no DTC, the HandsFreeLink control unit audibly outputs "The hands free system is OK".
  - If there is any DTC, the HandsFreeLink control unit audibly outputs "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 is considered to start once the 5 seconds press and hold is detected, and ends when the units returns to idle state.

# HandsFreeLink System

## Symptom Troubleshooting Index

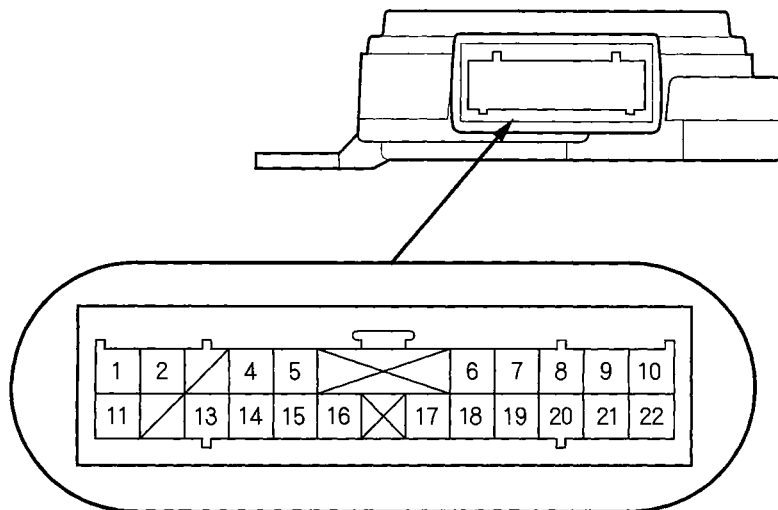
| Symptom                                                                                                | Diagnostic procedure                                                                                         | Also check for                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The MID displays an HFL message that does not go away after pressing the HFL button                    | Symptom Troubleshooting (see page 23-239)                                                                    | Check and repair all CAN related DTCs.                                                                                                                                                                                            |
| The phone icon in the navigation route to screen is grayed-out                                         | 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 <a href="http://www.acura.com">www.acura.com</a> , or call 888-528-7876 for further assistance. |
| The approved Bluetooth phone is having problems pairing to the vehicle                                 | HFL System Troubleshooting (see page 23-230)                                                                 | The phone must be on the list of approved Bluetooth phones and configured correctly. For a current list of approved phones, go to <a href="http://www.acura.com">www.acura.com</a> , or call 888-528-7876 for further assistance. |
| The Bluetooth phone cannot use all its functions                                                       | HFL System Troubleshooting (see page 23-230)                                                                 | The phone must be on the list of approved Bluetooth phones and configured correctly. For a current list of approved phones, go to <a href="http://www.acura.com">www.acura.com</a> , or call 888-528-7876 for further assistance. |
| The Bluetooth phone does not place or receive calls using the HFL system                               | HFL System Troubleshooting (see page 23-230)                                                                 | The phone must be on the list of approved Bluetooth phones and configured correctly. For a current list of approved phones, go to <a href="http://www.acura.com">www.acura.com</a> , or call 888-528-7876 for further assistance. |
| The client wants the HFL system reset (all phones and address information cleared from the HFL system) | Clearing the system (see page 23-224)                                                                        | 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 23-239)                                                                    |                                                                                                                                                                                                                                   |
| The HFL system does not recognize all voice prompts                                                    | HFL System Troubleshooting (see page 23-230)                                                                 | Also see "Voice control tips" (see page 23-223).                                                                                                                                                                                  |
| The HFL system speaks in French                                                                        | See the HFL section in the Owner's Manual for "Changing Language"                                            |                                                                                                                                                                                                                                   |



## System Description

### HandsFreeLink Control Unit Inputs and Outputs

When replacing an HandsFreeLink control unit connector, match the wires to the cavities listed in the following table.



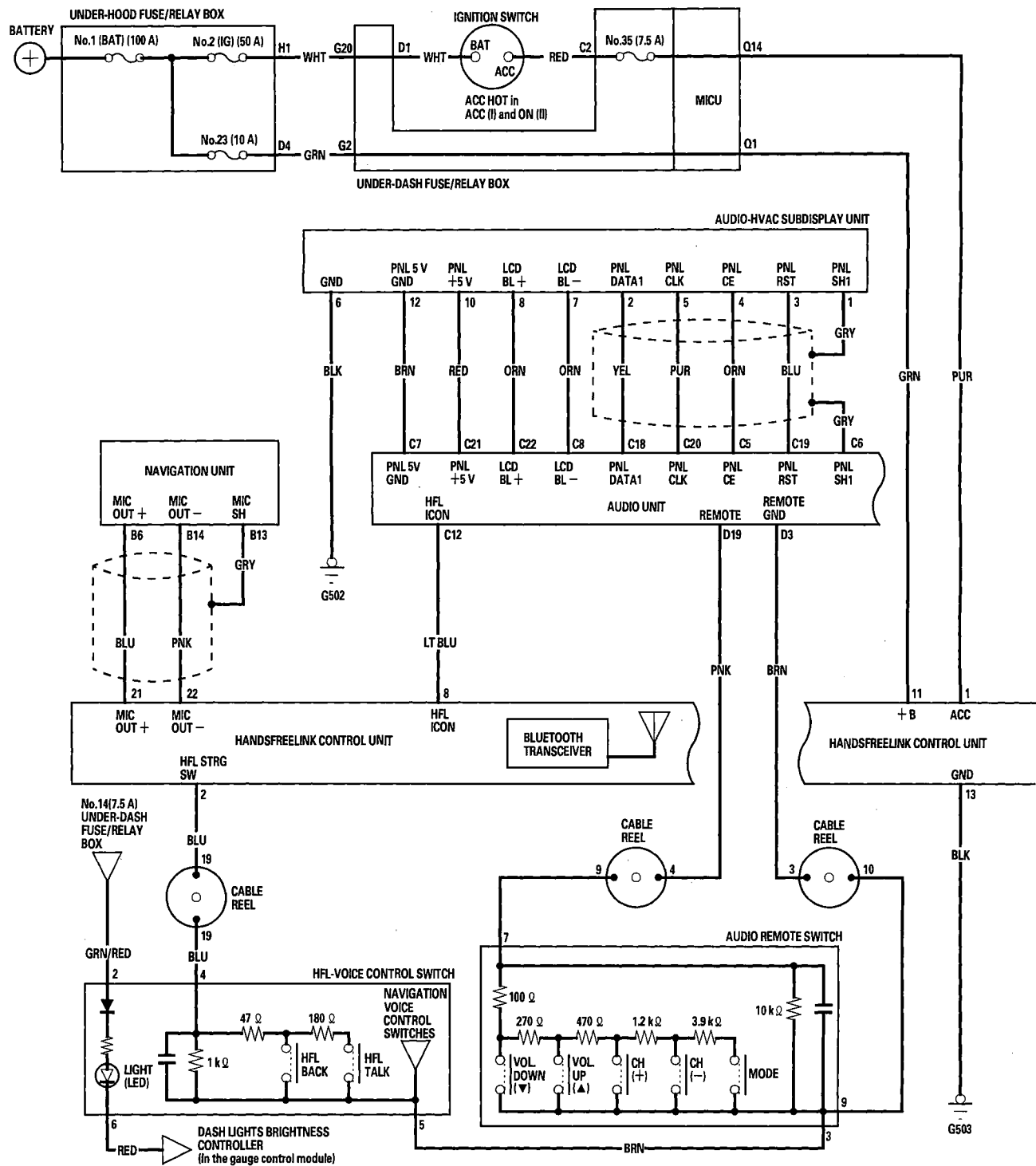
| Cavity | Wire   | Connects to                                                                                                   |
|--------|--------|---------------------------------------------------------------------------------------------------------------|
| 1      | PUR    | ACC (HandsFreeLink control unit power supply)                                                                 |
| 2      | BLU    | HFL-voice control switch (STRG SW)                                                                            |
| 3      | —      | Not used                                                                                                      |
| 4      | LT GRN | Audio unit (HFL MUTE)                                                                                         |
| 5      | WHT    | AcuraLink control unit (XM receiver) (HIP/NAVI COMM3)* <sup>1</sup> Navigation unit (HFL COMM3)* <sup>2</sup> |
| 6      | GRY    | Shielding (TELM SIG SH)                                                                                       |
| 7      | GRN    | Audio unit, AcuraLink control unit (XM receiver)* <sup>1</sup> (TELM SIG+)                                    |
| 8      | LT BLU | Audio unit (HFL ICON)                                                                                         |
| 9      | GRN    | HFL-navigation microphone (MIC SIG+)                                                                          |
| 10     | RED    | HFL-navigation microphone (MIC SIG-)                                                                          |
| 11     | GRN    | Constant power                                                                                                |
| 12     | —      | Not used                                                                                                      |
| 13     | BLK    | Ground (G502)                                                                                                 |
| 14     | PNK    | B-CAN                                                                                                         |
| 15     | RED    | AcuraLink control unit (XM receiver) (HIP/NAVI COMM4)* <sup>1</sup> Navigation unit (HFL COMM4)* <sup>2</sup> |
| 16     | GRN    | AcuraLink control unit (XM receiver) (HIP/NAVI COMM1)* <sup>1</sup> Navigation unit (HFL COMM1)* <sup>2</sup> |
| 17     | BLK    | AcuraLink control unit (XM receiver) (HIP/NAVI COMM2)* <sup>1</sup> Navigation unit (HFL COMM2)* <sup>2</sup> |
| 18     | GRY    | Shielding (HIP/NAVI COMM SH)* <sup>1</sup> (HFL COMM SH)* <sup>2</sup>                                        |
| 19     | RED    | Audio unit, AcuraLink control unit (XM receiver)* <sup>1</sup> (TELM SIG-)                                    |
| 20     | GRY    | Shielding (MIC SH)                                                                                            |
| 21     | BLU    | Navigation unit (MIC OUT+)                                                                                    |
| 22     | PNK    | Navigation unit (MIC OUT-)                                                                                    |

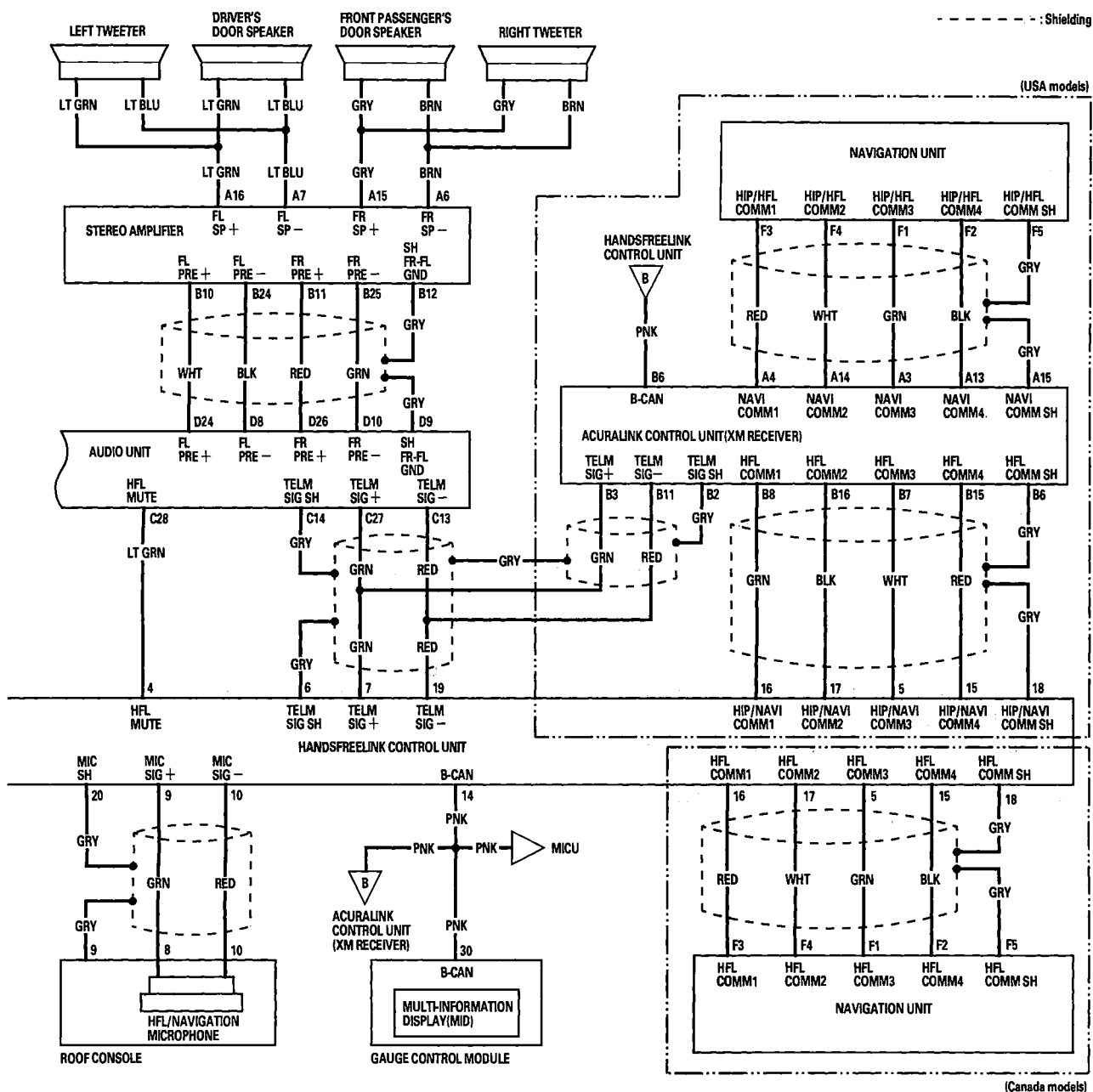
\* 1: USA models

\* 2: Canada models

# HandsFreeLink System

## Circuit Diagram





# HandsFreeLink System

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## HFL System Troubleshooting

### NOTE:

- You must be able to duplicate the client's concern to successfully diagnose and the problem.
- Always use the client's phone.
- Make sure the phone is approved and configured correctly. Online, go to [www.acura.com](http://www.acura.com), or call the HFL support desk at 888-528-7876 for further assistance.

1. Connect the HDS to the DLC (see page 11-3).

2. Turn the ignition switch 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 to 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 client 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. ■



## DTC Troubleshooting

### DTC B1775: Microphone Input/Output Short to Power/Open

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTCs with the HDS.
3. Turn the ignition switch OFF, and then back ON (II).
4. Check for DTCs with the HDS.

*Is DTC B1775 indicated?*

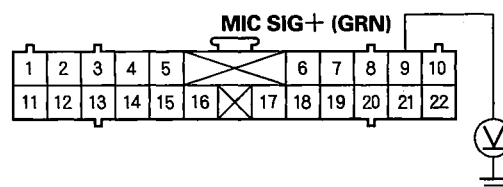
**YES**—Go to step 5.

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

5. Turn the ignition switch OFF.
6. Remove the roof console (see page 22-196) and the passenger's console trim (see page 20-92).
7. Disconnect the 20P connector from the roof console and the 22P connector from the HandsFreeLink control unit.
8. Turn the ignition switch ON (II).

9. Measure the voltage between HandsFreeLink control unit 22P connector terminal No. 9 and body ground.

#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR



Wire side of female terminals

*Is there battery voltage?*

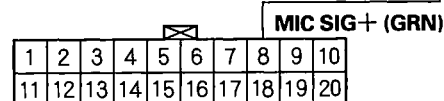
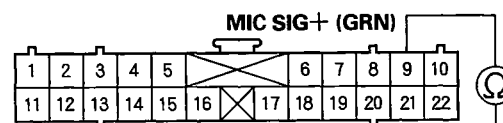
**YES**—Repair short to power in the wire between the HandsFreeLink control unit and the roof console. ■

**NO**—Go to step 10.

10. Turn the ignition switch OFF.
11. Check for continuity between HandsFreeLink control unit 22P connector terminal No. 9 and roof console 20P connector terminal No. 8.

#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR

Wire side of female terminals



#### ROOF CONSOLE 20P CONNECTOR

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 12.

**NO**—Repair open in the wire between the HandsFreeLink control unit and the roof console. ■

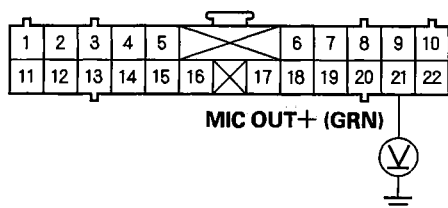
(cont'd)

# HandsFreeLink System

## DTC Troubleshooting (cont'd)

12. Disconnect connector B (14P) from the navigation unit.
13. Turn the ignition switch ON (II).
14. Measure the voltage between HandsFreeLink control unit 22P connector terminal No. 21 and body ground.

### HANDSFREELINK CONTROL UNIT 22P CONNECTOR



Wire side of female terminals

*Is there battery voltage?*

**YES**—Repair short to power in the wire between the HandsFreeLink control unit and the navigation unit. ■

**NO**—Substitute a known-good roof console, then recheck. If the symptom goes away, replace the original roof console. ■

### DTC B1776: Microphone Input/Output Short to Ground/Open

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTCs with the HDS.
3. Turn the ignition switch OFF, and then back ON (II).
4. Check for DTCs with the HDS.

*Is DTC B1776 indicated?*

**YES**—Go to step 5.

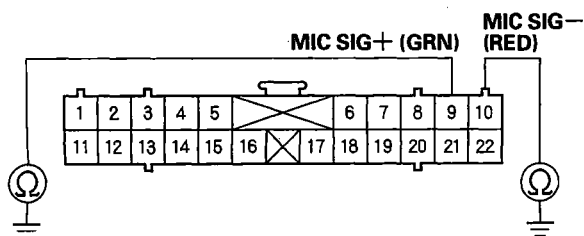
**NO**—Intermittent failure, the system is OK at this time. ■

5. Turn the ignition switch OFF.
6. Remove the roof console (see page 22-196) and the passenger's console trim cover (see page 20-92).
7. Disconnect the 20P connector from the roof console and the 22P connector from the HandsFreeLink control unit.



8. Check for continuity between body ground and the No. 9 and No. 10 terminals of the HandsFreeLink control unit 22P connector individually, then check for continuity between same terminals and HandsFreeLink control unit 22P connector terminal No. 20 (harness shield).

#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR



Wire side of female terminals

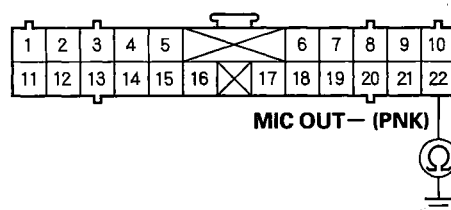
*Is there continuity?*

**YES**—Repair short in the wires between the HandsFreeLink control unit and the roof console or body ground. ■

**NO**—Go to step 9.

9. Disconnect the 14P connector from the navigation unit.
10. Check for continuity between HandsFreeLink control unit 22P connector terminal No. 22 and body ground.

#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR



Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to body ground in the wire between the HandsFreeLink control unit and the navigation unit. ■

**NO**—Substitute a known-good navigation unit, then recheck. If the symptom goes away, replace the HandsFreeLink control unit. ■

# HandsFreeLink System

## DTC Troubleshooting (cont'd)

### DTC B1779: HFL Switch or HFL-Voice Control Switch (HFL TALK/HFL BACK Buttons) Circuit Open/Short to Power

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTCs with the HDS.
3. Turn the ignition switch OFF, 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 OFF.
  6. Do the HFL-voice control switch test (see page 23-240).
- Is the switch OK?*

**YES**—Go to step 7.

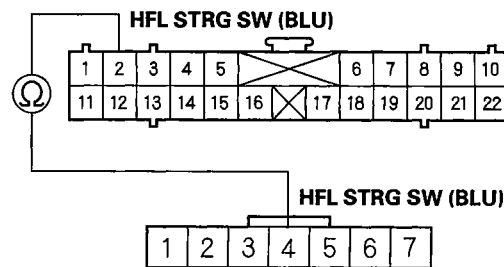
**NO**—Replace the HFL-voice control switch (see page 23-240). ■

7. Remove the passenger's console trim (see page 20-92).
8. Disconnect the 22P connector from the HandsFreeLink control unit.
9. Disconnect the 6P connector from the HFL-voice control switch.

10. Check for continuity between the HandsFreeLink control unit 22P connector terminal No. 2 and HFL-voice control switch 7P connector terminal No. 4.

#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR

Wire side of female terminals



#### HFL-VOICE CONTROL SWITCH 7P CONNECTOR

Wire side of female terminals

*Is there continuity?*

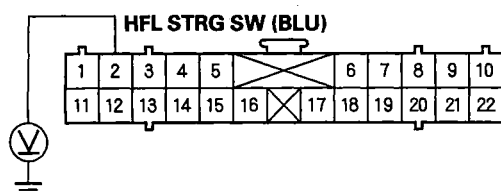
**YES**—Go to step 11.

**NO**—Repair an open in the BLU wire between the switch, cable reel, and HandsFreeLink control unit. ■



11. Turn the ignition switch ON (II).
12. Measure the voltage between HandsFreeLink control unit 22P connector terminal No. 2 and body ground.

#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR



Wire side of female terminals

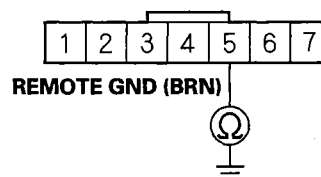
*Is there voltage?*

**YES**—Repair short to body ground in the wire between the HandsFreeLink control unit and the HFL-voice control switch. ■

**NO**—Go to step 13.

13. Turn the ignition switch OFF.
14. Check for continuity between HFL-voice control switch 7P connector terminal No. 5 and body ground.

#### HFL-VOICE CONTROL SWITCH 7P CONNECTOR



Wire side of female terminals

*Is there continuity?*

**YES**—Replace the HandsFreeLink control unit. ■

**NO**—Repair open in the wire between the switch, cable reel, and the audio unit. ■

# HandsFreeLink System

## DTC Troubleshooting (cont'd)

### DTC B1780: HFL-Voice Control Switch (HFL TALK/HFL BACK Buttons) Circuit Short

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTCs with the HDS.
3. Turn the ignition switch OFF, 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 OFF.
6. Do the HFL-voice control switch test (see page 23-240).

*Is the switch OK?*

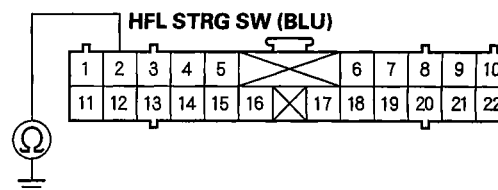
**YES**—Go to step 7.

**NO**—Replace the HFL-voice control switch (see page 23-240). ■

7. Remove the passenger's console trim (see page 20-92).
8. Disconnect the 22P connector from the HandsFreeLink control unit.

9. Check for continuity between HandsFreeLink control unit 22P connector terminal No. 2 and body ground.

#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR



Wire side of female terminals

*Is there continuity?*

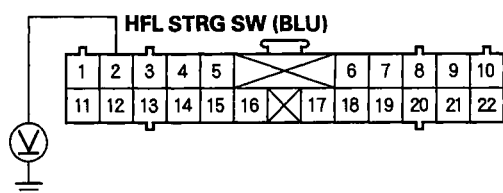
**YES**—Repair short in the wire between the HandsFreeLink control unit and the HFL-voice control switch. ■

**NO**—Go to step 10.



10. Reconnect the HandsFreeLink control unit 22P connector.
11. Turn the ignition switch ON (II).
12. Measure the voltage between HandsFreeLink control unit 22P connector terminal No. 2 and body ground.

#### HANDSFREELINK CONTROL UNIT 22P CONNECTOR



Wire side of female terminals

*Is there voltage?*

**YES**—Replace the HandsFreeLink control unit. ■

**NO**—Check the No. 35 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is OK, check for an open in the wire between the under-dash fuse/relay box and the HandsFreeLink control unit. If the wire is OK, replace the HandsFreeLink control unit. ■

# HandsFreeLink System

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## DTC Troubleshooting (cont'd)

### **DTC B1792:** HandsFreeLink Control Unit Internal Error

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTCs with the HDS.
3. Turn the ignition switch OFF, and then back ON (II).
4. Check for DTCs with the HDS.

*Is DTC B1792 indicated?*

**YES**—Replace the HandsFreeLink control unit. ■

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



## Symptom Troubleshooting

### The MID displays an HFL message that does not go away after pressing the HFL button

1. Connect the HDS to the DLC (see page 11-3).
2. Clear the DTCs with the HDS.
3. Turn the ignition switch OFF, and then ON (II).
4. Check the DTCs.

*Are there any DTCs indicate?*

**YES**—Repair the indicated DTCs. ■

**NO**—Go to step 5.

5. Turn the ignition switch OFF.
6. Substitute known-good HandsFreeLink control unit, then turn the ignition switch ON (II) and recheck the MID.

*Are the messages cleared?*

**YES**—Replace the original HandsFreeLink control unit. ■

**NO**—Replace the gauge control module. ■

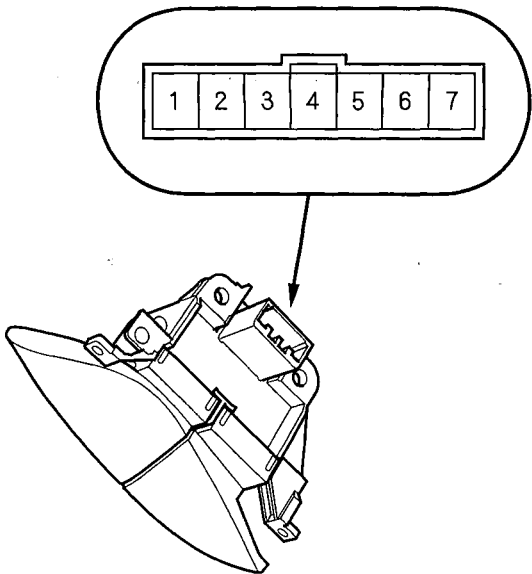
### The HFL system is locked and the pass code has been lost or forgotten

1. Connect the HDS to the DTC (see page 11-3).
2. Turn the ignition switch ON (II).
3. From the "Body Electrical menu", then select "HandsFreeLink".
4. Select "Miscellaneous Tests", then select "Pass code reset".
5. Follow the HDS system prompts to reset the pass code.

# HandsFreeLink System

## HFL-Voice Control Switch Test/Replacement

- 1. Remove the steering wheel (see page 17-22).
- 2. Remove the HFL-voice control switch (see page 17-23).



- 3. Measure resistance between the No. 4 and No. 5 terminals in each switch position according to the table.

HFL-Voice Control Switch

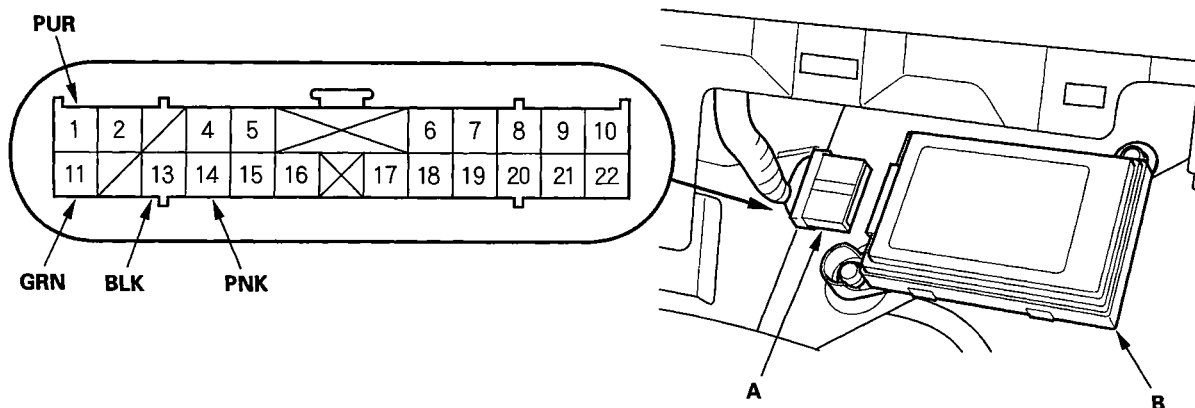
| Position                | Resistance           |
|-------------------------|----------------------|
| OFF                     | About 1 k $\Omega$   |
| HFL TALK button pressed | About 227 k $\Omega$ |
| HFL BACK button pressed | About 47 k $\Omega$  |

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



## Control Unit Input Test

1. Remove the passenger's console trim (see page 20-92).
2. Disconnect the 22P 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                                                                                                   |
|--------|------|------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 13     | BLK  | Under all conditions               | Measure the voltage to ground:<br>There should be less than 1 V.   | <ul style="list-style-type: none"><li>• Poor ground (G503)</li><li>• An open in the wire</li></ul>                                         |
| 11     | GRN  | Under all conditions               | Measure the voltage to ground:<br>There should be battery voltage. | <ul style="list-style-type: none"><li>• Blown No. 23 (10 A) fuse in the under-hood fuse/relay box</li><li>• An open in the wire</li></ul>  |
| 1      | PUR  | Ignition switch ACC (I) or ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | <ul style="list-style-type: none"><li>• Blown No. 35 (7.5 A) fuse in the under-dash fuse/relay box</li><li>• An open in the wire</li></ul> |

5. Disconnect the 22P 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 unit must be faulty, replace it.

| Cavity | Wire | Test condition                                  | Test: Desired result                                                                                                                    | Possible cause if result is not obtained |
|--------|------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| 14     | PNK  | Under all conditions                            | Check for continuity between No. 14 terminal and the gauge control module 36P connector terminal No. 30:<br>There should be continuity. | An open in the wire                      |
|        |      | Gauge control module 36P connector disconnected | Check for continuity to ground:<br>There should be no continuity.                                                                       | Short to ground                          |

**BACK**