■ NAVIGATION WITH AV SYSTEM

1. Major Difference

The design of the display and navigation module display has been changed, and the following functions have been added on the display and navigation module display.

- The Hard Disk Drive (HDD) is provided as standard on the display and navigation module display on models for Russia.
- A USB port is provided that enables operation of a USB memory stick or iPod.
- A hands-free function for a Bluetooth-compatible cellular telephone is used.



001SI50Y

Bluetooth is a trademark owned by Bluetooth SIG, Inc.

- Supported iPod models and firmware versions are listed below:

Supported iPod Model	Supported Firmware Version
iPod 5G	1.2 or higher
iPod nano 1G	1.3 or higher
iPod nano 2G	1.1.2 or higher
iPod nano 3G	1.0 or higher
iPod touch	1.1 or higher
iPod classic	1.0 or higher

- Unsupported iPod models are listed in the table below:

Unsupported Models	iPod shuffle
	iPhone*
	iPod 1G, 2G, 3G, 4G
	iPod mini

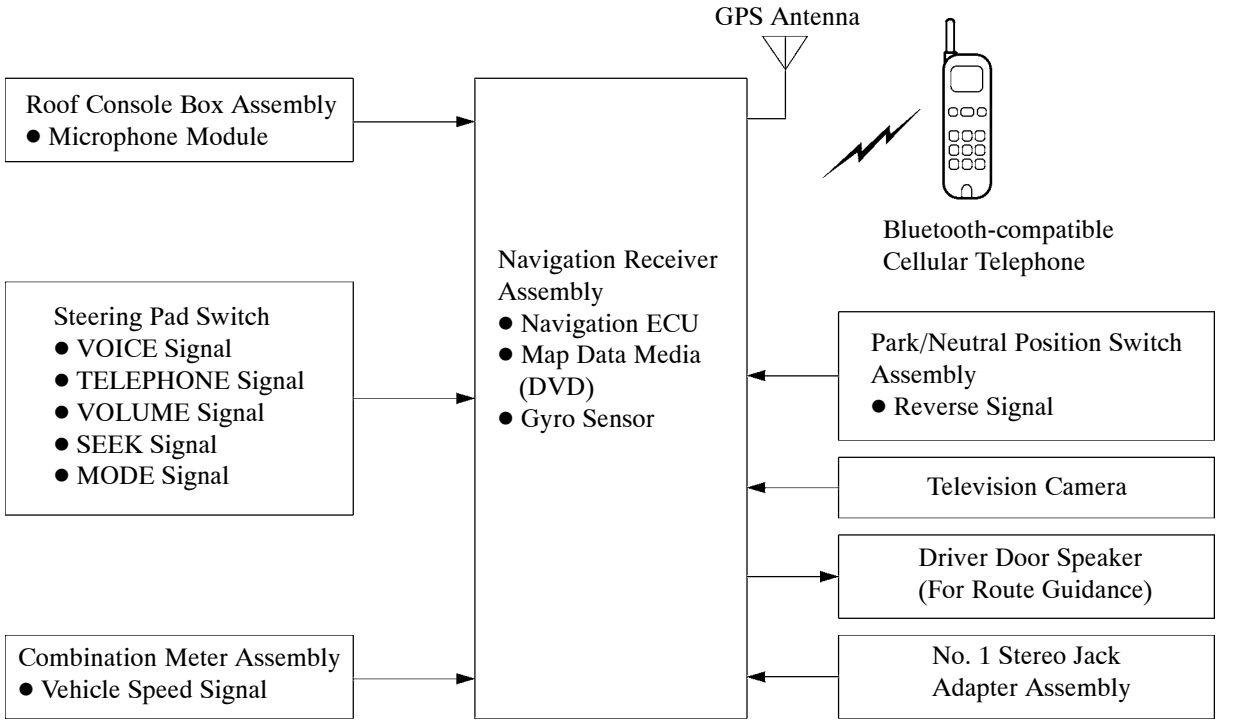
- The specifications of the navigation with AV system are as follows:

Item		Destination	
		Australia	Russia
Navigation Receiver Assembly	Display	8.0-inch Wide LCD	7.0-inch Wide LCD
	Navigation ECU	FUJITSU TEN	AISIN AW
	Gyro Sensor	Piezoelectric Ceramic Element	
	Hard Disk Drive (HDD)	—	Capacity 40 GB
Map Data Media		DVD	HDD

*: Bluetooth equipped iPhones can be connected via the Bluetooth audio function.

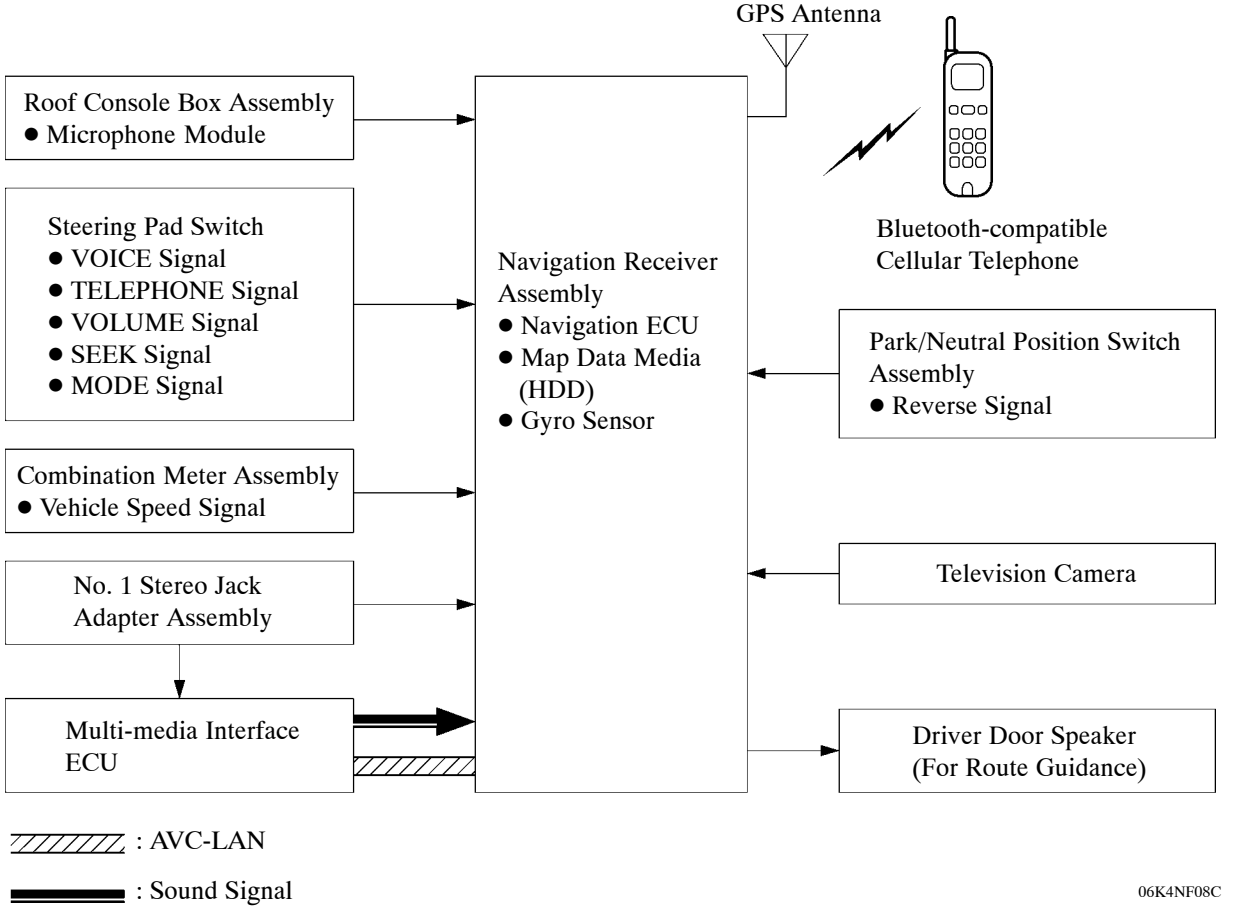
2. System Diagram

Models for Australia



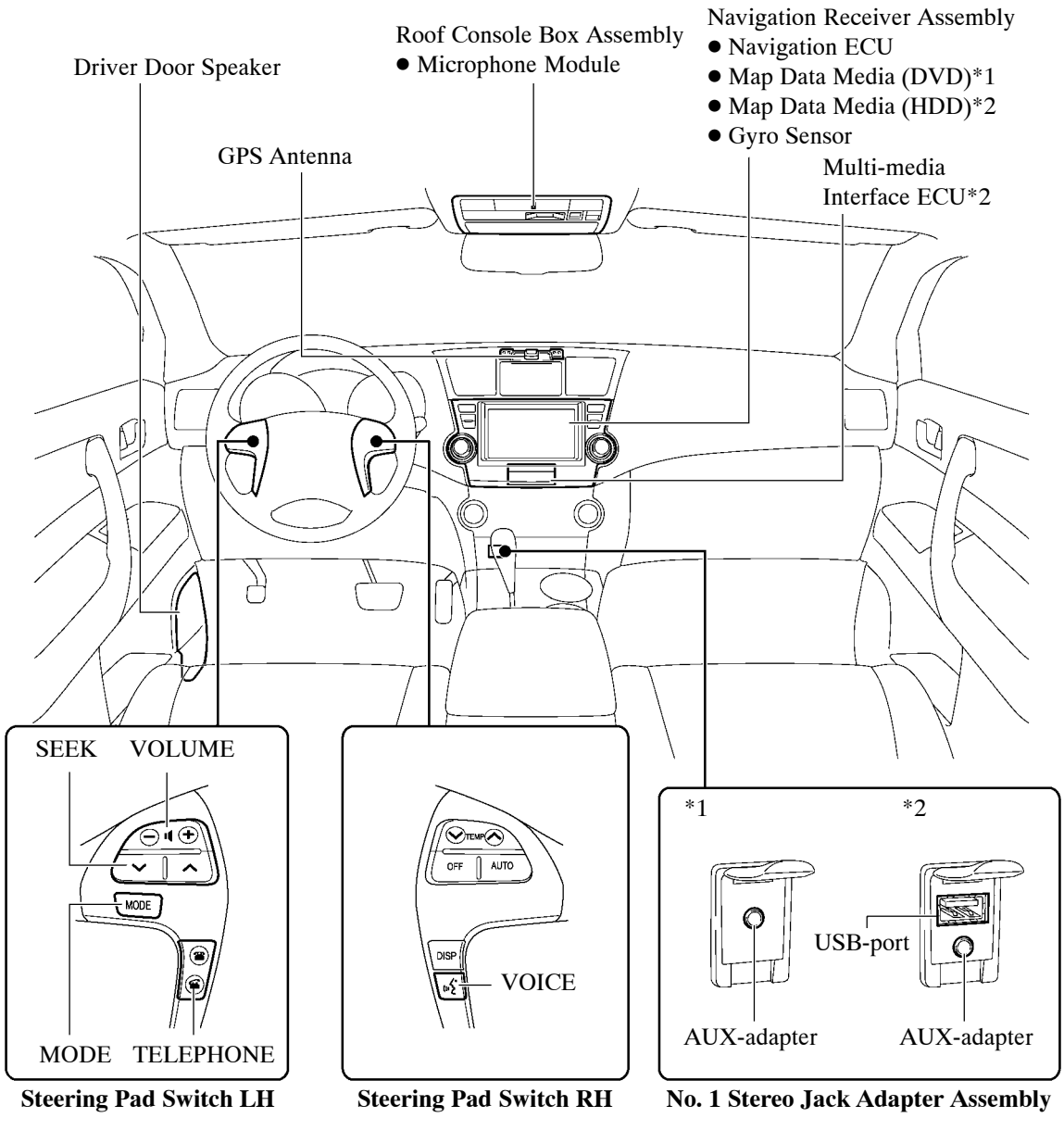
06K4NF07C

Models for Russia



06K4NF08C

3. Layout of Main Components



Steering Pad Switch LH **Steering Pad Switch RH** **No. 1 Stereo Jack Adapter Assembly**

06K4NF09C

Models for Russia*3

*1: Models for Australia
*2: Models for Russia
*3: The illustration of the model for Australia is basically a mirror image of the illustration for Russia.

4. Function

General

The main functions of navigation with AV system are listed below.

Function		Outline
Navigation Screen		Through the use of the Global Positioning System (GPS) and map data which is stored on a DVD*1 or HDD*2, the navigation system analyzes the position of the vehicle and indicates that position on the map that is displayed on this screen.
Audio System		Displays the following operations: ● Radio Operation ● CD Changer Operation*1 ● CD Play Operation*2 ● Bluetooth-compatible portable player operation*2 ● USB memory stick operation*2 ● iPod operation*2 ● Portable audio player operation (AUX type)
Hands-free System		When a Bluetooth-compatible cellular telephone is registered to the multi display, the driver can make and receive calls or talk hands-free on the cellular telephone by operating the switches on the screen/steering pad.
Speech Command System*2		Operates the navigation system based on voice commands. However, only English can be recognized by this function.
Rear View Monitor System		Displays a view of the area behind the vehicle that is captured by the television camera mounted on the tailgate when the shift lever is moved to the reverse position.
Others	Maintenance Information	Can be used to inform the driver of inspection or replacement timing of the following items based on the calendar function and vehicle speed signal. Engine Oil: Replace engine oil Oil Filter: Replace engine oil filter Rotation: Rotate tires Tires: Replace tires Battery: Replace battery Brake Pad: Replace brake pads Wipers: Replace wiper blades LLC: Replace engine coolant Brake Oil: Replace brake fluid ATF: Replace ATF Service: Scheduled maintenance Air Filter: Replace air filter Personal: New information items can be created separately from the provided items
	Calendar*1	The calendar screen is displayed using time information from the GPS.
	Calendar with Memo*2	● The calendar screen is displayed using time information from the GPS. ● It is possible to enter memos for particular dates on the calendar.
	Help Screen	The help screen can show the command list and operation guide.
	Language Select*2	The language of the touch-screen buttons, pop-up messages and the voice guidance can be changed.
	Screen Setting	This enables automatic return to the navigation screen from the audio screen.

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Function		Outline
Others	Delete Personal Data	The following personal data can be deleted or returned to their default settings: ● Maintenance conditions ● Maintenance information “off” setting ● Memory points (Address book) ● Areas to avoid ● Previous points ● Route guidance ● Route trace ● Telephone setting*2 ● Phonebook data ● Dialed numbers and received calls ● Speed dial ● Voice tag data*1 ● Bluetooth phone data ● Audio setting*2 ● Tracks recorded in the hard disk drive*2
	Beep Setting	The beep sound can be turned off.
	Screen Adjustment	The brightness or contrast of the screen can be adjusted to suit the brightness of surroundings.
Diagnosis		Contains the following: ● Failure Diagnosis – System Check – HDD Check*2 – MM Diagnosis Recorder*2 ● Display Check – Panel and Steering Switch – Mic and Voice Recognition – Color Bar – GPS and Vehicle Sensors – Vehicle Signal – Hands-free Volume Setting – Camera Settings ● Program Update*2

*1: Models for Australia
*2: Models for Russia

Navigation Screen

The navigation ECU calculates the present position, direction of travel, determines a route and calculates the driving distance based on the following information sources.

- DVD map data*1
- Map data in the HDD*2
- Global Positioning System (GPS) Satellites
- Built-in Gyro Sensor
- Vehicle Speed Signal
- Reverse Signal

*1: Models for Australia
*2: Models for Russia

The functions of the navigation screen display are shown below:

Item		Function
Map Display	Linear Touch Scroll	Enables smooth scrolling by connecting the touch points on the screen.
	Map Color Change	Depending on the position of the light control switch, the screen changes to day mode or night mode.
	Taillight-interlocked Map Color Change	Changes the color of the map screen that is displayed when the taillights are turned on.
	North Up/Heading Up	● If North Up is selected, regardless of the direction of vehicle travel, north is always up. ● If Heading Up is selected, the direction of vehicle travel is always up.
	Multi-step Scale Display	● Changes the map scale in 14 steps.*1 ● Changes the map scale in 13 steps.*2
	Direct Scale Change	Directly selects and displays the map scale.
	Street Name Indication on Scrolled Map	Displays the street name and city name even when the map screen is being scrolled.
	Stepless Scale Display	Changes the scale of the map from the basic 14 steps to an even finer range of scales.
	Street Name Sign Board Display	Displays the street name on the map.
	Point of Interest Display	Displays selected types of points of interest as marks on the map.
	3D Display*2	Displays a 3-dimensional (3D) view of the map.
	Split-view Display	Displays different modes on a screen that is split into 2 views.
	Compass Mode Screen	Displays the direction of travel and detailed data of the present location.
	On-route Scroll (Route Preview)*1	Scrolls the center of the cursor forward and backward constantly along the route.
	Route Trace	It is possible to store up to the last 200 km (124 miles) of a traveled route and retrace the route on the display.
	RDS-TMC Display*2	Displays RDS-TMC icons, arrows and indicators when RDS-TMC service is being received.

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Item		Function
Destination Search	Preset Destination Memory Search	Sets a pre-registered point as a destination point while driving.
	Address Search*1	A destination can be set in 2 ways: ● Information can be input in the order of: city name, street address and house number. ● Information can be input in the order of: house number, street address and city name.
	Address Search*2	A destination can be set in 2 ways: ● Information can be input in the order of: street name, town and house number. ● Information can be input in the order of: town or postal code, street name and house number.
	Hybrid Point of Interest Search	Narrows the search by names of the point of interest, category and areas.
	Previous Destination Search	Stores the coordinates, names, and date of up to 100 locations that have been set as destinations in the past.
	Address Book (Memory Point) Search	Sets a destination from the registered Address Book (Memory Point).
	Intersection Search	By specifying 2 streets, the point at which they intersect is set as the destination point.
	Motorway (Highway, Freeway) Entrance or Exit Search	Searches for the destination by the name of the street that connects to a motorway entrance or exit.
	Map Search	A destination can be set by scrolling the cursor on the map.
	Coordinate Search	A destination can be input by entering its coordinates.
	UK Postal Code Search*2	A destination can be input by entering its postal code.
	Voice-recognition Search*2	A destination can be set up by voice command input.
Route Search	Multiple Destination Setting	Sets multiple destinations. It can also rearrange the sequence of the destinations.
	Multiple Route Search	Searches for multiple routes.
	Search Condition Designation	Searches for the recommended, alternative, and shortest routes.
	Detour Search	Changes the route to detour around a section of the route.
	Regulated Road Consideration	Performs searches which consider regulated roads.
	Avoidance Area	Searches for a route that avoids a designated area.
	Adjacent Road Search*1	Searches for a route adjacent to the current road.

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Item		Function
Guidance	Voice Guidance	Provides voice guidance about the distance and the direction of travel to a destination point based on road conditions and vehicle speed.
	Rotary Guidance	Provides guidance with a special voice phrase in a rotary (traffic circle).
	Next Turn Guidance	Provides guidance about the distance to the next turn and indicates the direction of the turn using an arrow.
	Motorway (Highway, Freeway) Mode Display	Displays the distance to the next junction and exit.
	Motorway (Highway, Freeway) Direction of Travel Display	Displays the direction of travel to take on the motorway.
	Intersection Zoom-in Display	Zooms in the image when approaching an intersection.
	Turn List Display	Displays a turn list on the right side of the 2-screen display.
	Arrow Display*2	Displays the direction of the next turn and the distance to the turn on the right side of the 2-screen display.
	Distance Display Destination	Displays the distance from the present location to the destination.
	Estimated Arrival Time Display	Displays estimated arrival time.
	Off-route Arrow Display	Displays the route ahead on the route guidance line in case of being off the route during the guidance.
Others	Help	Explains what operation can be performed when a “?” on the display is touched.
	Map Coverage Information Display	Displays the map area that is recorded in the DVD*1 or on the HDD*2

*1: Models for Australia
*2: Models for Russia

Information Screen

The functions of the menu screen display are listed below:

Item		Function
Hands-free Phone	Enter a Bluetooth Phone	A maximum of 6 Bluetooth-compatible cellular telephones can be registered. In addition, connection with automatically registered Bluetooth-compatible cellular phone is available.
	Call and Receive on the Bluetooth Phone	● The following 6 methods are available to make a call: – By Dial – By Phonebook – By Speed Dial – By Call History – By Voice Recognition – By Point Of Interest Search (POI) Call ● When a call is received, the incoming call screen will be displayed. The following operations are available: – Talk on the phone – Adjust the volume – Hang up the phone – Mute voice – Transfer the call
Information Check*2	Display of Information Acquired from the Operator Service	Acquired information can be displayed and manually updated.
Calendar	Calendar*1	The current date is highlighted in yellow.
	Calendar with Memo*2	● The current date is highlighted in yellow. ● It is possible to enter memos for particular dates on the calendar.
Map Data*1	Map Coverage Information Display	Displays the map area that is recorded on the DVD.

*1: Models for Australia
*2: Models for Russia

Setup Screen

The settings for functions of the multi display are available from the setup screen.

Item		Function
Setup	General Setting	● Language can be selected.*2 ● Voice recognition language can be selected.*2 ● The beep sound can be turned off. ● Selecting automatic screen change from audio to map after audio controls are operated. ● Keyboard layout can be changed. ● Distance unit can be changed.*2 ● Registered information (personal data) can be cleared.
	Clock Setting	● The time zone can be set.*1 ● Daylight savings time automatic change can be turned on/off. ● The system can be set to automatically adjust the time using GPS time information.*1
	Voice Setting	● The voice guidance volume can be adjusted or switched off. ● Voice guidance during route guidance can be set. ● Voice guidance while using the audio system can be set. ● Voice recognition talkback can be set.
	Navigation Setting	The Navigation Settings can be used to: ● Set up Home. ● Set up Preset Destinations. ● Set up the Address book. ● Set up Areas to Avoid. ● Delete previous destinations. ● Set detailed navigation settings such as: – Average cruising speed – Displayed POI icon categories – Display of 3D landmarks*2 – Buttons displayed on the map screen when “OFF” is selected – Manual adjustment of the current vehicle position mark – Display of pop-up messages – Display of traffic notification*2
	Phone Setting	● Voice and ring volume adjustment. ● Initial registration and settings for a Bluetooth phone. ● Setting the phonebook. ● Information on a registered Bluetooth phone can be displayed and the settings can be changed. ● Detailed phone settings can be set.
	Audio Setting	● A Bluetooth audio device can be registered. ● A registered Bluetooth compatible portable player can be selected. ● Recording settings for music CDs can be changed.*2

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Item		Function
Setup	Vehicle Setting	● Settings can be changed for the following maintenance items: – Engine oil – Oil filter – Rotation – Tires/TYRES – Battery – Brake pad – Wipers – Coolant/LLC – Brake oil – Trans. Fluid/AT fluid – Service – Air filter – Personal

*1: Models for Australia
*2: Models for Russia

Diagnosis

For details on the procedure required to enter the Service Menu screen, refer to the Repair Manual.