■MULTI DISPLAY

1. General

- The multi display of the new Land Cruiser (Station Wagon) features redesigned new display screens and new functions have been added to the navigation system, thus, ease of use has been improved.
- A HDD navigation system has been newly provided on European and G.C.C. country models (including Nigerian package models). For models other than those mentioned, a DVD navigation system, similar to current models, is used.
- The navigation ECU for a HDD navigation system has been fitted onto the rear of the multi display in order to integrate it into the multi display.
- The backlight used in the multi display Liquid Crystal Panel (LCD) has been changed from mercury fluorescent tubes to LED. In comparison with those in which the mercury fluorescent tubes are used, the start-up performance (boosting brightness) in low temperatures, response and color reproducibility have been enhanced, and also an environmental contribution has been made through discontinuing use of mercury.
- For European models, Finish, Polish, Greek and Russian have been added to the languages available for the touch-screen buttons, pop-up messages and voice guidance.
- For European models, Italian, Dutch, Spanish and Russian have been added to the languages available for the voice recognition function.

▶ Specifications ◀

Europe			
Component		New	Previous
Multi Display		● 8.0 inch wide LCD ● FUJITSU TEN	←
	Navigation ECU*1	AISIN AW	—
	Gyro Sensor*1	Piezoelectric Ceramic Piece	←
Navigation ECU*2		—	AISIN AW
Map Data Media*1		HDD Update	Digital Versatile Disc (DVD)
Hard Disc Drive (HDD)*1		Capacity 40GB	—
Language Supported	Voice Guidance	English, German, French, Italian, Dutch, Spanish, Danish, Swedish, Portuguese, Norwegian, Finnish, Polish, Greek and Russian	English, German, French, Italian, Dutch, Spanish, Danish, Swedish, Portuguese and Norwegian
	Voice Recognition	English, German, French, Italian, Dutch, Spanish and Russian	English, German and French

*1: Models with Navigation System
*2: The multi display and the navigation ECU are mounted separately.

G.C.C. Countries and Australia			
Component		G.C.C. Countries	Australia
Multi Display		● 8.0 inch wide LCD ● FUJITSU TEN	←
	Gyro Sensor*1	Piezoelectric Ceramic Piece	←
Navigation ECU*2		AISIN AW	DENSO
Map Data Media*1		Digital Versatile Disc (DVD)	←
Language Supported	Voice Guidance	English, Arabic	English
	Voice Recognition	—	←

*1: Models with Navigation System.
*2: The multi display and the navigation ECU are mounted separately.

G.C.C. Countries (Nigeria package VX grade models)			
Component		New	Previous
Multi Display		● 8.0 inch wide LCD ● FUJITSU TEN	←
	Navigation ECU*1	AISIN AW	—
	Gyro Sensor*1	Piezoelectric Ceramic Piece	←
Navigation ECU*2		—	AISIN AW
Map Data Media*1		HDD Update	Digital Versatile Disc (DVD)
Hard Disc Drive (HDD)*1		Capacity 40GB	—
Language Supported	Voice Guidance	English, German, French, Italian, Dutch, Spanish, Danish, Swedish, Portuguese, Norwegian, Finnish, Polish, Greek and Russian	English
	Voice Recognition	English, German, French, Italian, Dutch, Spanish and Russian	—

*1: Models with Navigation System
*2: The multi display and the navigation ECU are mounted separately.

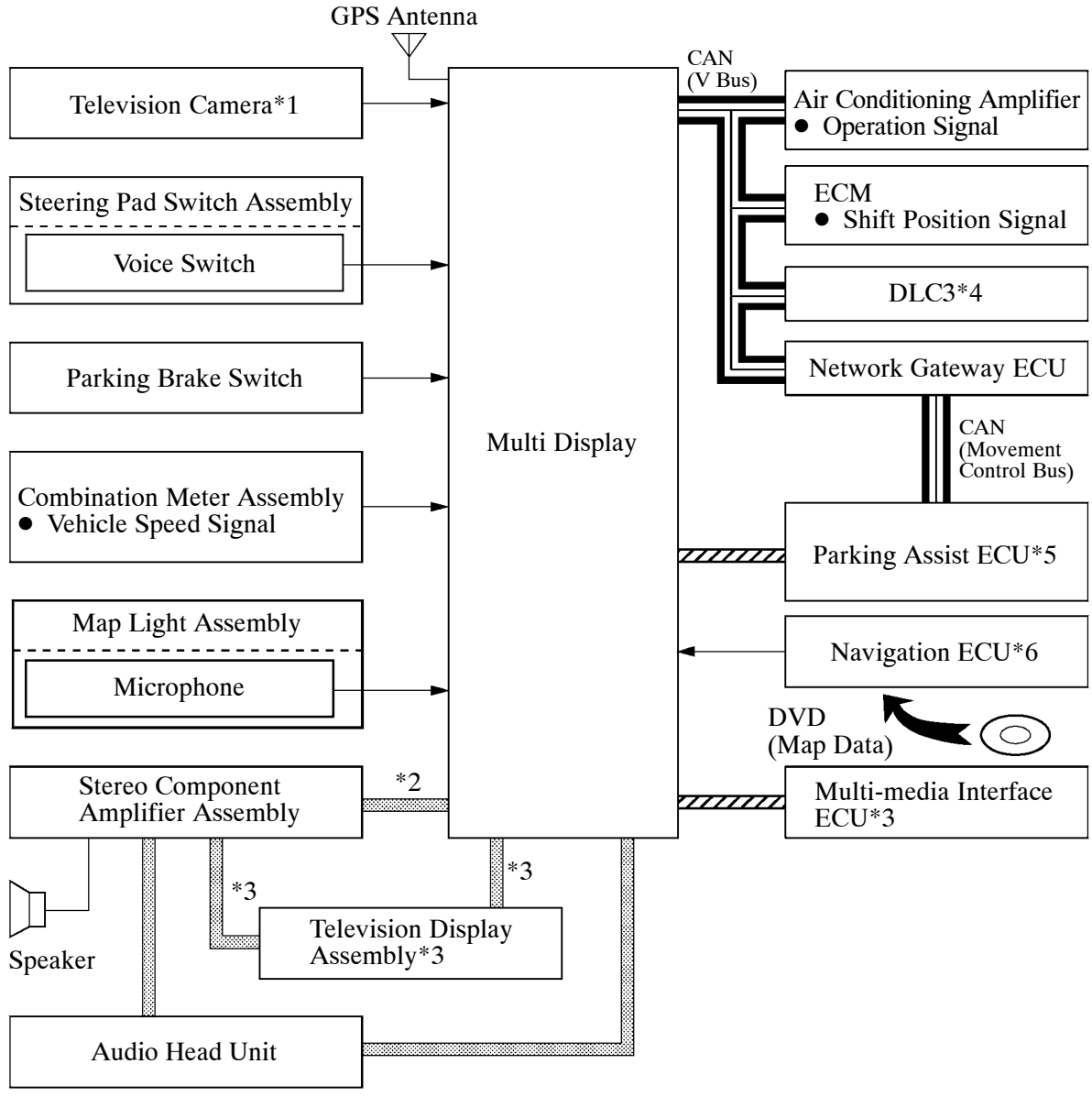
China and General Countries			
Component		China	General Countries
Multi Display		● 8.0 inch wide LCD ● FUJITSU TEN	←
	Gyro Sensor*1	Piezoelectric Ceramic Piece	←
Navigation ECU*2		DENSO	←
Map Data Media*1		Digital Versatile Disc (DVD)	←
Language Supported	Voice Guidance	Chinese (Mandarin)	—
	Voice Recognition	Chinese (Mandarin)	—

*1: Models with Navigation System.
*2: The multi display and the navigation ECU are mounted separately.

Service Tip

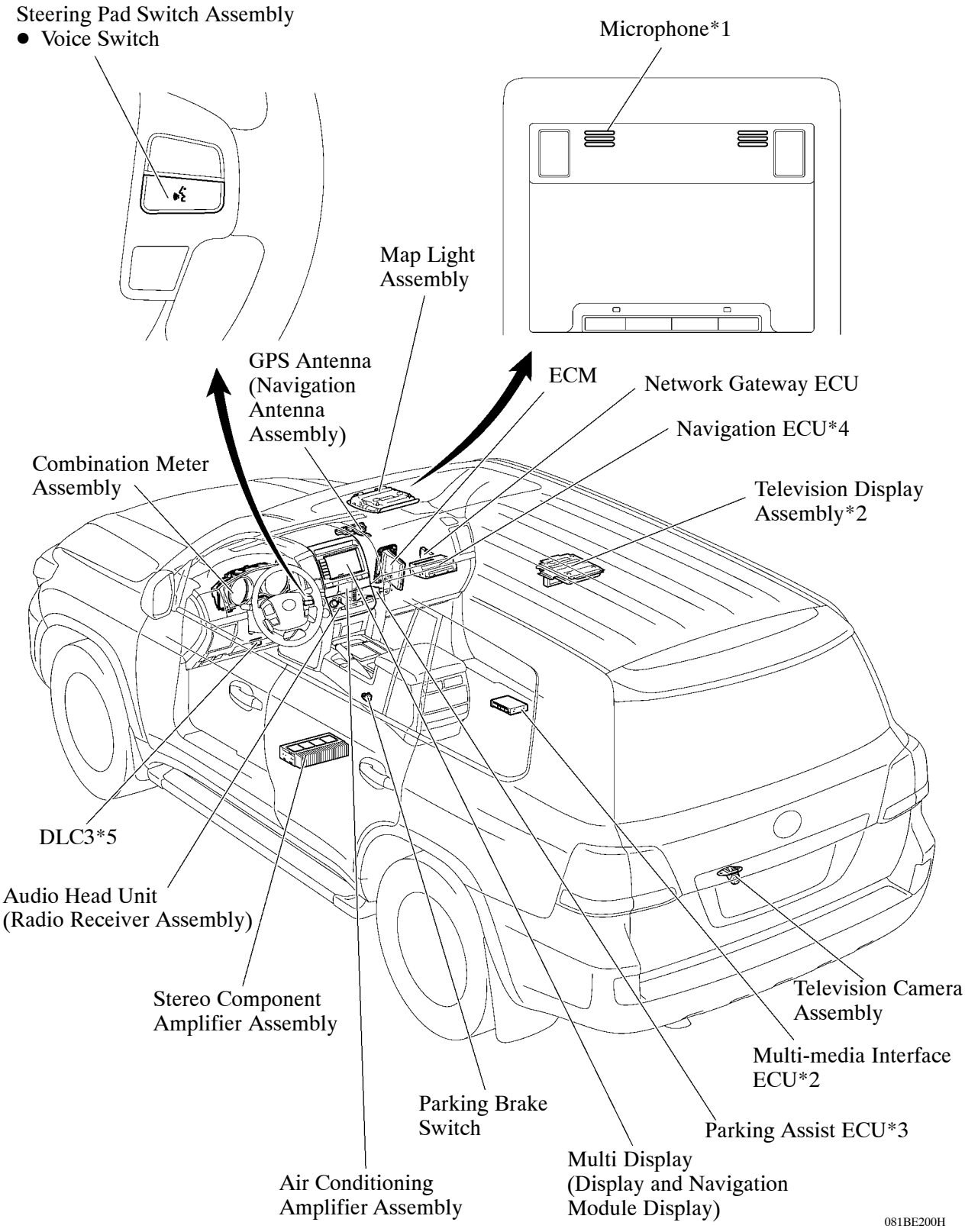
The map data is updated by updating the map data inside the Hard Disc Drive (HDD). TIS connecting kit and IEEE1394 inside cabin are used for updating. For details, refer to Instruction Manual provided with TIS connecting kit.

2. System Diagram



*1: Models for G.C.C. Countries and General Countries
*2: Models without Rear Seat Entertainment System
*3: Models with Rear Seat Entertainment System
*4: Models with Navigation System (HDD)
*5: Models with the parking assist monitor system
*6: Models with Navigation System (DVD)

3. Layout of Main Components

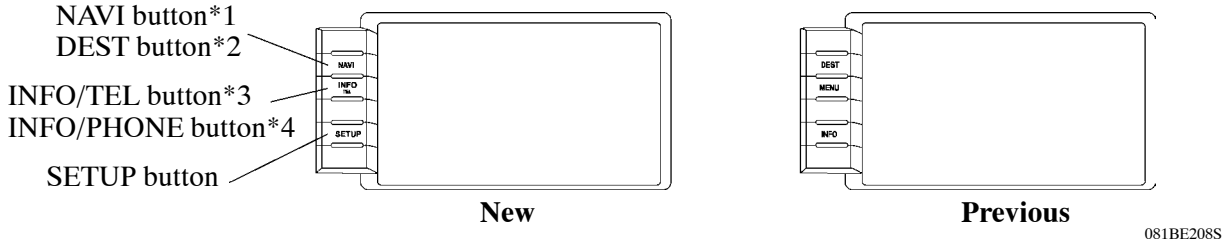


*1: The microphone equipped with the voice recognition function is available for the driver side only.
*2: Models without Rear Seat Entertainment System
*3: Models with Parking Assist Monitor System
*4: Models with Navigation System (DVD)
*5: Models with Navigation System (HDD)

4. Function

General

- In order to improve the ease of using the multi display provided on the new Land Cruiser (Station Wagon), the setting menus for each function have been integrated into one single location, and the switch indications have been changed too. For example the MENU button text has been changed to SETUP.
- A display function that shows track information from portable audio players (USB type) has been added to the Audio/Video system.



*1: Models for Europe and G.C.C. Countries
*2: Models for Australia, China and General Countries
*3: Except General Countries models
*4: Models for General Countries

- The main functions of the multi display are shown below.

Main Function	Outline
Navigation Screen	Through the use of the Global Positioning System (GPS) and map data which is stored on a HDD or DVD, the navigation system analyzes the position of the vehicle and indicates that position on the map that is displayed on this screen. In addition, it is possible to use the system to register memory points and navigate to a destination.
Audio/Video System	Displays the following operations: ● Radio Operation ● CD changer operation (Different optional setting) ● DVD changer operation (Different optional setting) ● HDD Audio operation (Models for Europe) ● Bluetooth-compatible portable player operation (Models for Europe) ● Portable audio player operation (USB type) (Different optional setting) ● iPod operation (Different optional setting)
Air Conditioning	The operation and control of the air conditioning system can be effected through the use of the automatic air conditioning display of the multi display and the touch switch that appears on the display.
Parking Assist Monitor System (Except G.C.C. Countries and General Countries models)	Displays the rear view of the vehicle has been captured by the television camera mounted on the back door when the shift lever is moved to the reverse position.
Clearance Sonar System	Detects obstacles and displays the information on the multi display to inform the driver (Different optional setting).

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Main Function		Outline
Others	Hands-free	When a Bluetooth-compatible cellular telephone is registered to the multi display, the user can make and receive calls or talk hands-free on the cellular telephone by operating the switches on the screen or the steering pad.
	Calendar with Memo	It is possible to enter memos for particular dates on the calendar.
	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 linings **Wipers:** Replace wiper blades **Coolant:** Replace engine coolant **Brake Oil:** Replace brake fluid **Trans. fluid:** Replace ATF **Service:** Scheduled maintenance **Air Filter:** Replace air filter **Personal:** New information items can be created separately from provided ones.
	Help Screen	Help screen can see the command list and operation guide on it.
	Screen Adjustment	The brightness or contrast of the screen can be adjusted to suit the brightness of surroundings. (The color depth and tint of the display can also be adjusted in the DVD mode.)
	Beep Setting	Beep sound off.
	Select Language (Models for Europe)	The language used for the touch-screen buttons, pop-up messages and voice guidance can be changed.
	Delete Personal Data	The following personal data can be deleted or returned to their default settings: ● Maintenance conditions ● Maintenance information “off” setting ● Address book ● Areas to avoid ● Previous points ● Route trace ● User selection settings ● Phonebook data ● Dialed numbers and received calls ● Speed dial ● Bluetooth phone data

Main Function	Outline
Diagnosis	This contains the following items: ● Failure Diagnosis – System Check – HDD Check (Models for Europe) – MM Diagnosis Recorder (Models for Europe) ● Function Check/Setting – Panel & Steering Switch – Touch Switch – Mic & Voice Recognition – Color Bar – GPS & Vehicle Sensors – Vehicle Signal – Hands-free Volume Settings – Camera Settings (Except G.C.C. Countries and General Countries models) – Sound Library Settings (Models for Europe) ● Program update (Models for Europe and Nigerian package)

Navigation Screen

- Adding the new functions to the navigation system of the new Land Cruiser (Station Wagon) has enhanced ease of use and searching capability.
- The functions of the navigation screen display are shown below.

×: Applicable —: Not applicable

Item		Function	New	Previous
Map Display	Linear Touch Scroll	Enables smooth scrolling by connecting the touch points on the screen.	×	×
	On-route Scroll	Scrolls the center of the cursor forward and reverse constantly along the route.	×	×
	Taillight-interlocked Map Color Change	Changes the color on the map screen that is displayed when the taillights are turned on.	×	×
	Heading Up	● Displays the map so that the direction of the route progression heading faces up during route guidance. ● Displays a map in the direction of travel of the vehicle in an enlarged form.	×	×
	Multi-step Scale Display	Changes and displays the map scale in 14 stages.	×	—
		Changes and displays the map scale in 13 stages.	—	×
	Step-less Scale Display	Changes the scale of the map from the basic 14 steps to an even finer display.	×	—
		Changes the scale of the map from the basic 13 steps to an even finer display.	—	×
	Direct Scale Change	Directly selects and displays the map scale.	×	×
	Split-view Display	Displays different modes on a screen that is split into two views.	×	×
	Points of Interest Display	Displays selected types of points of interest as marks on the map.	×	×
	3D Display (Models for Europe)	Displays a 3-dimensional (3D) view of the map.	×	—
	Road Number Sign Board Display	Displays the road number on the map.	×	—
	Street Name Indication on Scrolled Map	Displays the street name and the city name even when the map screen is being scrolled.	×	×
	Compass Mode Screen	Displays the direction of travel and detailed data of the present location.	×	×
	Route Trace	It is possible to store up to the last 200 km (124 miles) of a travelled route and retrace the route on the display.	×	×
	Traffic Information (Models for Europe)	The user can use the traffic information obtained from the Radio Data System – Traffic Message Channel (RDS-TMC).	×	×

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Item		Function	New	Previous
Destination Search	Points of Interest Search	A destination can be set in 3 ways: ● The name of a point of interest can be entered and then searched for from City or Category. ● A Point of Interest category can be selected and a point of interest searched for near the present location, along the current route, near the city center or near the destination. ● The phone number of a point of interest can be entered to search for it.	×	×
	Address Search	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.	×	×
	Phone Number Search (Models for Europe)	A destination can be input by entering its phone number.	×	×
	Hybrid Points of Interest Search	Narrows the search by names of the points of interest, category, and areas.	×	×
	Memory Search	Sets a destination from the registered memory point.	×	×
	Last Destination Memory	Stores 20 locations of coordinates, names and times that have been set as destinations in the past.	×	×
	Preset Destination Memory Search	Sets a pre-registered point as a destination point while driving.	×	×
	Address Book Search	Sets a destination from the registered address book (Memory Point).	×	×
	UK Postal Code Search (Models for Europe)	A destination can be input by entering its postal code.	×	—
	House Number Search	Searches for a house number.	×	×
	Intersection Search	By specifying two streets, the point at which they intersection is set as the destination point.	×	×
	Motorway Entrance or Exit Search	Searches for the destination by the name of the street that connects to a freeway entrance or exit.	×	×
	Coordinate Search	Searches for a destination by latitude and longitude.	×	×
	Map Search	A destination can be set by scrolling the cursor on the map.	×	×
	POI, Brand Icon Indication	Displays an icon for point of interest.	×	×
	Voice-recognition Search	A destination can be set up by voice command input.	×	×

(Continued)

Item		Function	New	Previous
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, shortest, and other routes.	×	×
	Detour Search	Changes the route to detour around a section of the route.	×	×
	Regulated Road Consideration	Performs search which considers regulated roads.	×	×
	Avoidance Area	Searches for a route that avoids a designated area.	×	×
	Auto Avoid traffic Search (Models for Europe)	Automatically changes to another route to avoid heavy congestion.	×	—
	Motorway Mode Screen	Displays information on facilities in the vicinity of the freeway exits and entrances.	×	×
	Street Address Search	The user can set up the destination by voice input of the city or street name.	×	×
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.	×	×
	Next Turn Guidance	Provides guidance about the distance to the next turn and indicates the direction of the turn using an arrow.	×	×
	Right or Left Turn Guidance	Voice guidance to instruct the direction of travel to be taken.	×	×
	Motorway Mode Display	Displays the distance to the next junction and exit, or POIs in the vicinity of the freeway exit.	×	×
	Motorway Direction of Travel Display	Voice guidance to instruct the direction of travel to take on the freeway.	×	×
	Intersection Zoom-in Display	Zoom-in display when approaching an intersection.	×	×
	Turn List Display	Displays a turn list on the right side of the two-screen display when approaching an intersection.	×	×
	Arrow Display	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 to a user.	×	×
	Destination Direction Arrow Display	Display the direction from the current position to the destination in case of being off the route during the guidance.	×	×
	Off-route Arrow Display	Display the route ahead on the route guidance line in case of being off the route during the guidance.	×	×

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Item		Function	New	Previous
Others	Voice Recognition (Models for Europe)	Recognize pre-programmed system commands voiced by the user to operate the navigation system.	×	×
	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 on HDD or DVD.	×	—
		Displays the map area that is recorded on DVD.	—	×

Diagnosis

- Since the HDD type navigation system has been made available, a HDD checking function has been added to the diagnosis, and a program updating function that is used to update the map data has been added.
- For details on the procedure required to enter the diagnosis menu screen, refer to the LAND CRUISER Station Wagon Repair Manual (Pub. No. RM0813E).