#### THE NAVIGATION SYSTEM

Navigation instruction is by map and turn information displayed on the touch screen and can be complemented by voice guidance if required. A detailed intersection map is also displayed in the instrument panel. The system uses signals from Global Positioning System (GPS) satellites combined with information from vehicle sensors and from data stored on the hard drive, to establish the true vehicle position.

**Note:** Mapping data loaded on the hard drive is relevant to the market in which the vehicle is first sold and will provide guidance and information only for that area. Your Land Rover Retailer/Authorized Repairer will have details of software updates.

Using this combination of data sources the vehicle navigation computer enables you to plan and follow a route map to your desired destination.

The touch screen is used to control navigation via menus, text screens and map displays.

The requirements of national Road Traffic Regulations always apply.

Observation of traffic signs and local traffic regulations always take priority.

The navigation system serves solely as an aid to navigation. In particular, the navigation system cannot be used as an aid to orientation when visibility is poor.

GPS signals may occasionally be interrupted due to physical barriers such as tunnels and roads under raised highways.

However, direction and speed sensors on the vehicle will minimize any adverse effect on the navigation system. Normal operation will resume once the obstruction has been passed. Under certain conditions it is possible for the vehicle position shown on screen to be incorrect. This may happen when:

- Driving on a spiral ramp in a building.
- Driving on or beneath elevated roads.
- Two roads are close and parallel.
- The vehicle is transported to another destination.
- After the vehicle is rotated on a turntable.
- After vehicle battery disconnection.

#### **USING THE NAVIGATION SYSTEM**

# **A**WARNING

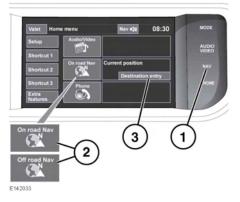
In the interests of safety, only operate, adjust or view the system when it is safe to do so.

# 

The navigation system is not a substitute for driving safely, with due care and attention. Drivers should not assume that a feature will correct errors in judgement in driving. The navigation system may not function properly in all circumstances.

# 

Do not allow the system to distract the driver while the vehicle is moving. Driver distraction can lead to accidents causing serious injury or death.



- 1. NAV shortcut button, press for navigation.
- 2. Navigation soft key, touch for navigation.
- **3. Destination entry**. Touch for destination entry menu.

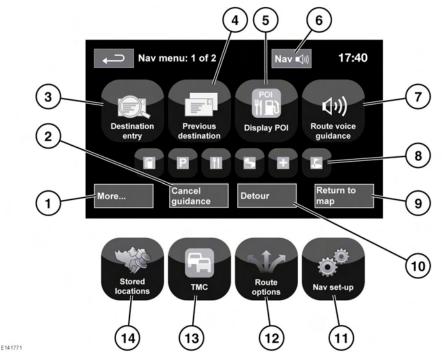
**Note:** On vehicles with off-road navigation, the soft key includes **On road** or **Off road**, to show the current Navigation mode.

If the navigation screen language has not been set, select **Language**, and touch **OK** to confirm. The **CAUTION** screen will return.

After touching **Agree**, the touch screen will display the previously displayed map view. This will show the current vehicle position. Touch the **Nav menu** soft key to display the main menu screen.

At this point, the first time user should set up personal preferences in the **Nav set-up** area. These settings are applied whenever navigation is used.

#### MAIN MENU



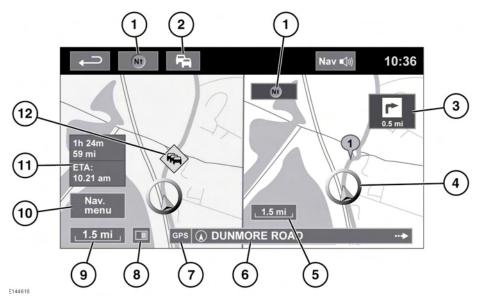
Do not adjust the touch screen controls, or allow the system to distract the driver, while the vehicle is moving. Driver distraction can lead to accidents, causing serious injury or death.

- 1. More...: Displays the other Nav menu screen.
- 2. Cancel guidance: Cancels current route guidance.
- **3. Destination entry**: Provides a choice of options for entering a destination.
- 4. Previous destination: Displays previous destinations entered.

- 5. Display/Hide POI: Turns the POI (Point Of Interest) icons on the map on/off.
- When a destination is set, the Range Rover logo is replaced by a soft key which enables the last voice instruction to be repeated.
- Route voice guidance: Allows the voice guidance messages to be turned off for the current trip. The soft key is highlighted while voice guidance is enabled.
- 8. Quick POI shortcuts. This provides the option to quickly enter a destination of a local POI. The categories can be changed in the Navigation setup menu.
- 9. Return to map: Advances to the main map screen.

- **10. Detour**: Allows a detour from the current route.
- **11. Nav set-up**: Settings for the navigation system.
- **12. Route options:** Allows selection of various options for the route.
- **13. TMC** (Traffic Message Channel): Not used for entering a destination but, when enabled, will provide data about road conditions and any events that may affect the trip.
- **14. Stored locations**: Manages the stored locations.

#### **MAP SPLIT SCREEN**



- 1. Compass (always indicates north). Press to select: north up, heading up or bird's eye map style.
- TMC (Traffic Message Channel) signal. Without a diagonal bar, a signal is being received; with a diagonal bar, a signal is not being received. The icon will also change color depending on the status of traffic on the route.
- **3.** Next direction display. When intersection map view has been switched off, touch icon to view again.
- 4. Current vehicle position and direction.
- 5. Right map view, scale/zoom setting.
- 6. Current location.
- 7. GPS signal indicator. The indicator is only displayed when there is no reception.
- 8. Screen selection.
- 9. Left map view, scale/zoom setting.

- **10.** Opens Navigation menu 1 of 2 screen.
- **11.** Distance/time to destination.
- **12.** TMC event (traffic congestion).



Touch to close the Intersection and Highway junction view. The previously displayed map is shown after closing.

#### MAP AUTO ZOOM

When under guidance the map zooms in automatically when approaching an intersection or highway junction.

- 1. From the map screen, touch the left map view, scale/zoom soft key.
- Touch the Auto zoom soft key. The soft key will be highlighted when auto zoom is enabled.

#### **SCREEN MODES**

Touch the screen mode selection key to view a series of icons, each depicting a different screen mode (as detailed below). Touch the relevant icon to select the desired screen mode.



Full screen view.

Split screen view.



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Shows list of turn directions on the right half screen.

- Guidance screen: Shows detailed view of the next junction on highway or intersection view on non-highway roads, in the right half of screen.
- 11

Highway information: This view is only available when travelling on a highway. It displays automatically to show remaining highway exits along your route.

To turn off the Guidance or Highway information screens, proceed as follows:

- 1. From the Nav menu, touch More....
- 2. Select Nav set-up.
- 3. Touch User settings.
- 4. Touch Guidance screen or Highway information to deselect the option.
- 5. Touch Ok to confirm.

## SEARCH AREA

The navigation map database is divided into states and provinces, called search areas. When setting a route, the destination (or waypoint) being entered, must be in the currently selected search area. Before attempting to set a destination or waypoint, set the correct search area as follows:

- 1. Select **Destination entry** from the main navigation menu.
- 2. Touch More....
- 3. Touch Search area.
- 4. Scroll through the list and select the 3 letter code that corresponds to the desired destination area.
- 5. Select **Ok**. The destination entry menu is shown and the information window shows the currently selected search area.

## **SETTING A DESTINATION**

- 1. After touching **Agree**, the initial map screen is displayed, now touch **Nav menu**.
- 2. From the Navigation Menu, touch **Destination entry**.
- Touch Address from the Destination screen and input the town name or zipcode.
- Once sufficient letters have been entered, touch **Ok** or **List** to display all the possible towns.
- 5. If necessary, use the scroll arrows to the left of the list to search up or down. Select the town you require.
- Now enter the road name. Once sufficient letters have been entered, touch Ok or List to display all the possible roads.
- Select the road you require. Enter the house number of the address (if known) then touch **Ok** to confirm.
- If the house number is not known, select Ok, the end of the road is then used as the destination.

- The map screen showing the selected destination details is displayed. Touch GO to calculate the default quick route, or Review route for alternative routes.
- 10. Touch GO to start trip.

# START GUIDANCE

After selecting **Review route**, the system will calculate the route.

- There is now a choice to select 3 Routes, Change route or select GO, to start navigation guidance.
- 2. Touch **3 Routes** to display a choice of 3 different route options on the map. The roads on the map are drawn in 3 different colors to highlight each route. EcoRoute helps you find the most fuel efficient route available. A display of 3 leaves indicates the most fuel efficient route.
- **3.** Select route **1**, **2** or **3** by touching the respective box displayed on the right side of the map.
- Touch Change Route followed by Route prefs. to change the route settings. If a destination is already set, touch Waypoint to add a waypoint in the trip if required.
- 5. When you have made your selection, if any, touch **GO**

**Note:** As you approach aa intersection, in addition to the voice guidance, an inset on the map will display an enlarged view of the intersection

# **AVOID POINTS**

When calculating a route, an area to avoid can be set and stored.

- 1. From the Nav menu, touch More....
- 2. Select Stored locations.
- 3. Select Avoid points.
- 4. Select Add.

- 5. Select the location of area to avoid from the **Destination entry** menu. Touch **Ok** to activate the view where the size of the area to avoid can be set.
- 6. Touch **Ok** to activate the area to avoid. The size of the area can be adjusted.
- 7. Touch **Ok**, the area to avoid is now set and stored.

To edit or delete an area to avoid from the stored list.

- 1. From the Nav menu, touch More....
- 2. Select Stored locations.
- 3. Select Avoid points.
- 4. From the sub menu, select Edit or Delete.

# EASY ROUTE

In Route options, Easy Route can be turned On or Off.

When **On** is selected, **Easy Route** changes the calculation parameters of **Route 3** in order to reduce:

- Junctions.
- Turns.
- Turns that cross traffic.
- The priority of minor roads.
- Complex junctions and maneuvers.

# LEARN ROUTE

In Route options, Learn Route can be turned On or Off.

When **On** is selected, if you make the same deviation from the proposed route 3 times, then the system will memorize the deviation and offer that as the normal route from then on. Select **Reset all routes** to delete any learnt routes and return to the default settings.

#### **VOICE GUIDANCE**

To turn voice guidance on or off but maintain route guidance, proceed as follows:

- 1. Touch Nav Menu on the navigation screen.
- 2. Touch the **Route voice guidance** soft key. The soft key will be highlighted when voice guidance is enabled.

## **CANCEL ROUTE GUIDANCE**

To cancel route guidance, proceed as follows:

- 1. Touch Nav menu on the navigation screen.
- 2. Touch the Cancel guidance soft key.

#### QUICK POI SELECTION

- 1. Touch the Map to display the additional options
- 2. Touch the Point of interest (POI) soft key.
- **3.** The screen shows six suggested categories, 5 of which can be selected as quick points of interest.
- Select a Quick POI category, or touch More to see further POIs. Touch Ok to confirm a selection.
- The map with the POI icon(s) is displayed. Scroll the map to the POI icon, then touch Set destination to set and calculate route.
- 6. Touch GO to start trip.

## **RESTORE SYSTEM DEFAULTS**

From the navigation menu, select **Nav set-up**. If you have made any changes to the system's default settings, use this menu to restore the original settings.

## **FAVORITES**

This enables you to manage destinations such as, place of work, home, favorite restaurant.

From the favorites sub menu in stored locations, you can save up to 400 stored favorites.

- 1. From the Nav menu, touch More....
- 2. Select Stored locations.
- 3. Touch Favorite.
- 4. To store a favorite, select Add from the submenu.
- 5. Select any destination entry method and confirm desired location.

#### **FAVORITES DETAILS**

- 1. From the Stored locations menu, touch Favorite.
- 2. Select Edit or Delete.
- **3.** Touch the selected favorite to display the details.
- 4. Select the chosen detail to edit. Details include Attribute, Name, Phone number, Location and Icon.

#### HOME

- 1. From the Nav menu, touch More....
- 2. Select Stored locations.
- 3. Touch Home location.
- **4.** To store a home location, select **Add** from the submenu.
- Select any destination entry method to set your home location. Touch **Ok** to confirm.
- 6. Touch **Ok** from the favorite summary, home location is now set.

#### EMERGENCY

Not all countries have this facility. Touch **Emergency** on the **Destination entry** screen to display a list of local police stations, hospitals or Land Rover Retailers.

Select **Name** to display the list in alphabetical order or **Distance** to display the list in order of proximity to the current vehicle location.

Touch the name of the facility to set it as a destination or waypoint.

#### MAP

Scroll the map to the area of your destination or waypoint, zooming in if required.

This location can be stored as a favorite, destination or waypoint.

## **COORDINATES**

From the navigation menu, select **Destination** entry. Select **More...** and then **Coordinates**.

If you know the coordinates of your destination they can be entered from this screen. The full latitude must be entered first before the longitude coordinates can be entered.

When the coordinates have been entered, touch **OK**.

If the coordinates entered are not contained within the area covered by the available maps, a message will be shown. This can also occur if the incorrect coordinates have been entered.

# RECALLING A PREVIOUS DESTINATION

- 1. From the Nav menu, touch Previous destination.
- Touch your previous destination from the list. The map showing the selected destination is displayed.
- 3. Touch GO to start trip.

#### HIGHWAY

- 1. From the Nav menu, touch Destination entry.
- 2. Touch More....
- 3. Touch Highway Entry/Exit.
- Enter the highway name or number, or select from List.
- 5. Touch Entrance or Exit.
- Enter the entrance or exit name for the chosen highway, or select from List. The map showing the selected highway and junction is displayed.
- 7. Touch GO to start trip.

#### **POINTS OF INTEREST (POI)**

- 1. From the Nav menu, touch Destination entry.
- 2. Touch More....
- 3. Touch Point of interest.
- 4. Touch POI name and touch Ok to confirm.
- 5. Enter POI name, or select from List.
- Alternatively, choose Category to see all categories of POI and make your selection. See 182, CATEGORIES AND SUB-CATEGORIES.
- 7. To narrow the search area, touch **Town** to enter a town name
- Once the POI has been selected, the map showing the selected destination is displayed.
- 9. Touch GO to start trip.

**Note:** If entering a POI name results in too many matches being listed, try entering the town name first. If you do not know the name of the POI you want, try selecting a POI category.

*Note:* POI icons can only be displayed up to the ½ mile (1 km) zoom level.

## **RETAILER LOCATIONS**

Details of Land Rover Retailers are held on the Navigation System as a point of interest category, under car/automotive category. See **182, LOCAL POI SEARCH**.

## **CATEGORIES AND SUB-CATEGORIES**

The POI database is divided into a number of categories. Each main category is further divided into a number of sub-categories.

Touch the desired category, then choose desired sub-categories.

## MY POI

Additional POIs can be downloaded and added to the list. Free POIs can be found on the internet.

Connect a USB device containing the POIs. See **157, CONNECTING A DEVICE**.

Note: POIs must be in GPX format.

- 1. From the Nav menu, touch More....
- 2. Select Stored locations.
- 3. Touch My POI.
- Select Add to individually select each POI group to be downloaded. Select Edit to change Name, Icon or Sound icon. Or select Delete.

## LOCAL POI SEARCH

Use to select points of interest close to the vehicle position.

- 1. From the Nav menu, touch Destination entry.
- 2. Touch More....
- 3. Touch Point of interest.
- 4. Touch POI near current and touch Ok to confirm.

- Select POI category, if required select again from sub-category and touch **Ok** to confirm.
- Touch Show List or Select Category to make further selections.

*Note:* Up to 5 categories can be chosen to select a POI from.

- Select your POI destination from the list. The map showing the selected destination is displayed.
- 8. Touch **Destination** to set and calculate route.
- 9. Touch GO to start trip.

*Note:* Nav POI near current position can be set as a Home menu shortcut. See **77, TOUCH SCREEN SETUP**.

#### **RBDS-TMC OVERVIEW**

Radio Data System-Traffic Message Channel (RBDS-TMC) is a feature that announces traffic hold-ups on your route as broadcast by radio stations that transmit TMC information.

Touch the **TMC** button on the Navigation Menu to access the TMC menu.

TMC events ahead on route can be displayed by touching the **Events ahead** soft key. TMC can be set to display on the map for all events, for major events or can be switched off. During route calculation, it can be set to avoid TMC events along the route.

#### **RBDS-TMC DISPLAY**

When a TMC signal is received the icon in the top left of the screen will appear green. If a TMC signal is not being received, the icon will be shown with a bar through it.

The system will inform the driver of any reported roadworks, narrow road, contraflow, accidents, slipperv road, diversion information. parking information, congestion or other hazard.

The driver is informed of a traffic event as follows:

- A TMC Event icon shown on the map at the location of the event.
- Text can be displayed showing the details • of each occurrence which can be selected either by touching the screen icon or from the traffic information list.
- Dynamic route guidance, which calculates an alternative route when the system receives the traffic event warning affecting the route currently set in the navigation system.
- Traffic event list shows all events sorted by road name/ distance on your selected route.

The information regarding the hold-up is maintained and updated even if the vehicle crosses into another country.

# **BBDS-TMC ICONS**

Any traffic event (broadcast on TMC) in your area, will be displayed as a warning icon on the map and an alert may be displayed as a message giving the road number(s) and between which junctions the hold-up or event occurs.

This data is stored in the system for up to 15 minutes.

The color of the TMC icon changes in order to show the type and priority of a TMC event. The background color of the icon returns to normal when there is no longer an event or hold-up, or if any re-route instructions are calculated.

The TMC Event icons appear on the navigation map display to indicate the location and nature of a TMC event.

TMC Event icons will appear on the map, even if the event does not occur on your route.

Incident (Red star)



Moving tailback ahead (Red arrow)

Moving traffic gueue, both lanes (Red double arrow)

Slow traffic ahead (Yellow arrow)



Slow traffic both lanes (Yellow double arrow)



Information (Yellow circle)



Incident (Yellow star)

**Note:** Single arrow icons indicate that the traffic event affects traffic travelling in the direction of the arrow. Double arrows indicate that both directions are affected.

If the map is scrolled to any of the above events, further details are available and are indicated as one of the following icons.



Closed road

Special warning (orange triangle)

Danger (red triangle)



Stationary traffic

# Navigation system



Congestion

Delay



Diversion



Contraflow (reversible lane)

Event

Height width limit

# USING TMC

Dynamic route guidance will calculate an alternative route to avoid a traffic event when the system receives an event warning. The system calculates a new route for all sections. However, if any waypoints are set, the system calculates for the next waypoint. If the event on route is serious (closed road) or if the new route is shorter than the current one and the current one was not recalculated within the last 5 minutes, then a message to confirm the new route will be displayed. This pop-up message will be displayed for 5 minutes and if the new route is not rejected, then the vehicle will stay on current route.

## OFF-ROAD NAVIGATION

The system can be switched between On-road and Off-road navigation by pressing the facia **NAV** button twice, from anywhere in the system, then selecting **On road** or **Off road** as required. The Navigation soft key on the Touch screen Home menu displays **On road NAV** or Off road NAV, whichever is the current Navigation mode.

Off-road navigation maps are similar to the on-road maps but have additional features and information, such as a large compass display. heading, altitude, latitude and longitude etc.

When switching to off-road navigation mode during on-road guidance, the current highlighted route will be removed from the map and on-road guidance will be suspended.

Waypoints and destination icons will remain displayed. The destination is marked with a double circle.

When exiting off-road guidance, the system recalculates the route and reverts to on-road guidance.

**Note:** TMC is not available in off-road navigation mode.

# **NEW ROUTE**

Allows the following route entry methods:

- Map.
- Previous. •
- Distance and Bearing.
- Coordinates. •

Entering destinations is achieved using the same methods as in On road nav.

## LOAD ROUTE

Load route allows a previously stored off road route to be recalled. Touching the Load Route soft key will bring up a list of stored routes, touch the desired route to select. When loading a route, the current vehicle location is stored as the starting point, shown as the letter S on the map screen.

## **ROUTE OPTIONS**

Allows access to the following commands:

#### Edit Route

These menu items are identical in operation to the on road menus.

A maximum of 20 off-road routes can be stored. When the maximum is reached the **New Route** soft key will no longer be active.

#### **Stop Guidance**

Allows a selected route to be cancelled. Touch the soft key to cancel guidance. All waypoints and icons will be removed.

#### **Display route**

The whole route can be displayed during guidance mode. It shows the total mileage of each section and updates as the vehicle position changes.

#### CCPS (Current car position to start)

A backward or return route can be made at any time. All waypoint icons of the original route are reset and the system draws straight lines between them.

The original start point is now designated as the destination point and way points are numbered in countdown order.

#### Waypoint list

Off road navigation waypoints are shown in numerical order. The nearest waypoint is the last in the list. A maximum of 35 waypoints can be stored.

During a forward route, the waypoint with the smaller number is nearest on the guidance display. During a backward or return route the smaller number is furthest away.

The bearing (e.g. R170) and distance (e.g. 1 mile) is a reference to the next waypoint. The bearing is the angle between the previous heading and the next waypoint. The displayed information is continuously updated.

While the list is shown, if the destination is reached, the system first changes to the map screen and then shows the pop-up for arrival at destination.

#### Skip Waypoint

While on a route this soft key can be selected to skip the next waypoint. Guidance will then be given to the following waypoint.

#### **Trace Points**

If **Current Trace Point** is selected via **Route Options**, trace point icons are automatically placed along a route as it is traversed. They are useful to backtrack along the route if required.

Adjustments to trace point operation can be made via the same screen. After selecting the **Current Trace Point** option, changes can be made to any registered trace point route.

Select one of the options, and make changes as required (e.g. trace points can be edited, renamed, turned off or deleted).

#### **COMPASS VIEW**

Compass view is recommended while driving off road. Select the map screen then the compass view icon at the top of the screen.

The compass can be viewed as 'north is up' or 'vehicle is up'.





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#### North is up

- The compass North pointer will always be at the top.
- The vehicle position arrow in the center will point in the current direction of travel.
- The colored icon on the edge of the compass is the direction to the next way point or destination. It will always stay in that position.

#### Vehicle is up

- The vehicle position arrow in the center will always point up.
- The compass will rotate as vehicle direction changes. Current direction of travel is shown at the top.
- The colored icon on the edge of the compass will move with the compass.

## NAVTEQ CORPORATION

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