Intravee II
Extra Features Supplement

www.intravention.co.uk

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1. Introduction

This document describes the Intravee Extra Features. The extras menu contains various options that are not directly related to the main function of the Intravee. These features are provided 'As Is', they may or may not work on your vehicle, in some cases activating a particular feature may cause alternative actions to be performed. Any functions that may not operate on all vehicles, the Extras Control' menu will not be available unless the 'Disclaimer' on the Extras Settings menu has been accepted. If the disclaimer has not been accepted then the Control menu will not be available and options will not function even if previously activated.

If the Intravee detects that it has been moved into a different vehicle, the Control features will be disabled until the disclaimer has been accepted again.

2. Single Line UI

2.1. Vehicle Info

2.1.1. Vehicle Status

Outside Temperature

The outside temperature in both °C and °F, the order in which they are displayed depends on the vehicle configuration settings. This should be available for all vehicles.

Coolant Temperature

The engine coolant temperature in both °C and °F, the order in which they are displayed depends on the vehicle configuration settings. This should be available for all vehicles.

Vehicle Speed

The vehicle speed in both mph and km/h, the order in which they are displayed depends on the vehicle configuration settings. The update frequency may vary with vehicle type but should be about once every 2 seconds.

Engine RPM

The engine speed in revolutions per minute. The update frequency may vary with vehicle type but should be about once every 2 seconds.

Fuel remaining

The amount of fuel remaining in the fuel tank in increments of 1 Litre. The value is updated approximately every 2 minutes or when the status of any of the warning lights on the cluster changes.

Maximum Engine Temperature

The maximum engine temperature recorded for the current journey.

Maximum Speed

The maximum vehicle speed recorded for the current journey.

Maximum Engine RPM

The maximum engine rpm recorded for the current journey.

Acceleration in G.

The maximum acceleration force, measured as an average between the speed broadcasts every 2 seconds, for the current journey.

Deceleration in G.

The maximum deceleration force, measured as an average between the speed broadcasts every 2 seconds, for the current journey.

2.1.2.   Service Info

Vehicle Network Type

The reported vehicle iBus network family with the ID value in parenthesise.

Fuel Type

The type of fuel used, Petrol or Diesel.

Fuel Used

The amount of fuel used in Litres, in increments of 10L, since the last service, which will give an indication of when the next Inspection or Oil Service is due. The total number of Litres between services varies with vehicle type and engine.

Bi-Annual Check Due Date

The date on which the next bi-annual check for brake fluid and coolant is due. If the GPS or IKE date has not been received, then the number of days remaining is displayed.

Previous Service type

The type of service that was last carried out.

Oil Changes

The number of oil change service indicator resets that have been performed, not available on all vehicles.

Inspections

The number of Inspection service indicator resets that have been performed, not available on all vehicles.

2.1.3.   PDC Info

The PDC Info item shows the distances between the various PDC sensors and an obstruction while the PDC system is active.

PDC Summary

The PDC summary screen shows the information from all the PDC sensors on a single line. The information displayed depends on the PDC configuration in the vehicle.

If the Intravee is configured to display both front and rear PDC information ("Rear Only" option on the PDC setup menu not checked), then two bar graphs are displayed representing the information from all eight sensors, front on the left, rear on the right.

Figure 1 PDC summary with Front and Rear PDC

If the Intravee is configured to display the rear PDC information only ("Rear Only" option on the PDC setup menu checked), then the minimum distance to an obstruction is displayed, plus a bar graph representing the information from all four sensors.

On the Business Navigation system, as the display does not support the bar characters, the bar graph is replaced by numbers that represent the distance. The values represent a distance of 10cm, i.e 0 = 0-9cm, 1=10-19 cm, etc.

Figure 2 PDC summary with Rear Only PDC

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PDC Detail

Following the PDC summary display are either 2 or 4 displays showing the distance readings from the individual PDC sensors, two sensors are displayed per screen. If the Intravee is setup to display the rear PDC sensors only ("Rear Only" option on the PDC setup menu checked) then there are two displays, if the Intravee is setup to display both front and rear then there are 4 displays.

Each display shows the distance information from 2 PDC sensors together with a single letter that indicates which sensors are being displayed. The letter has the following values :

l   The front outer left and front centre left sensors.
r   The front centre right and front outer right sensors.
L   The rear outer left and rear centre left sensors.
R   The rear centre right and rear centre right sensors.

Figure 3 PDC Detail display

2.2.   Control

The Extra Features Control menu gives access to various functions that may be available in your car.

Disclaimer

INTRAVENTION ELECTRONICS TAKE NO RESPONSIBILITY WHATSOEVER FOR THE EFFECT THE USE OF ANY OF THESE OPTIONS MAY HAVE ON THE VEHICLE IN WHICH THE INTRAVEE IS INSTALLED. ALTHOUGH EXTENSIVE TESTING HAS BEEN PERFORMED, THERE IS A SMALL POSSIBILITY THAT THE USE OF SOME OPTIONS ON SOME TYPES OF CAR MAY HAVE UNDESIRABLE EFFECTS. THERE IS A VERY SMALL POSSIBILITY THAT YOUR CAR MAY NEED RECODING TO RESOLVE ISSUES CAUSED BY USING THE EXTRA CONTROL FEATURES.

USE THESE FEATURES AT YOUR OWN RISK. THE DISCLAIMER OPTION FROM THE EXTRAS SETUP MENU MUST BE ACCEPTED BEFORE THESE FEATURES WILL OPERATE.

Known Issues :

-   Using the Mirror folding options on some X5's with the E38/E39 vehicle type selected may cause the front windows to open and close instead of the mirrors folding and unfolding.
-   Using the Auto Lock/Unlock feature in a Range Rover with X5 9/03 On vehicle type selected may cause the windscreen wiper to make one sweep.
-   Using the Auto Lock feature when drive away locking is selected can cause the doors to lock and then unlock again

2.2.1.   Setup Clock

Supported on UI1 and UI3 Only

The Intravee can automatically synchronise your car clock with the GPS time signal broadcast from the Nav computer. As the GPS time signal is always broadcast in UTC (GMT) you must tell the Intravee which Time Zone and Daylight Savings you are using to set the clock correctly.

Auto Set

Enable or disable the auto clock setting feature.

Time Zone

Set the Time Zone offset in hours from UTC (GMT).

Daylight Savings

The current Daylight Savings Time setting, the value can be incremented by 1 hour by selecting the option. The option "Use RDS" is also available, when this option is selected the Intravee will try to determine your time zone from the data transmitted through the radio RDS system. When "Use RDS" is selected the Time Zone display changes to be an offset from UTC, this may be adjusted manually, but will be changed by any time offset data from the radio RDS system. If you live near a time zone boundary we would advise that you do not use this feature.

Time

The current adjusted time from the GPS signal.

Date

The current adjusted date from the GPS signal.

Status

The current status of the Intravee clock setting mechanism, this may be one of three states :

- Update Now – Select the option to initialise a one off time update.
- Waiting – The Intravee is waiting for a GPS time signal code.
- Updating – The Intravee has received the time signal and is waiting to set the clock on the exact minute.

2.2.2.   Fold Mirrors

Supported on the E38, E39, E46, E53 and Range Rover.

The Intravee can be set to fold the car mirrors on one of the listed status events. The electric folding mirror option is a pre-requisite for this option. The options are :

- Off, Mirrors will not be folded.

- Aft Lock Hold, the Mirrors will be folded when the lock button on the remote is released after it has been held for 2 seconds.
- On Lock Hold, the Mirrors will be folded when the lock button on the remote is held for 2 seconds.
- On Lock, the Mirrors will be folded when lock button on the remote is pressed.
- On Key Out, the Mirrors will be folded when the key is removed from the ignition.

If your car has comfort closing, windows and sun roof are closed by holding the lock button, then we would recommend using either the 'Aft Lock Hold' or 'On Key Out'. If the 'On Lock' or 'On Lock Hold' options are used then the folding commands may interfere with the comfort closing mechanism.

Please note that on the E38 and E39, if the car has been left unlocked for long enough for the car to enter sleep mode, about 15 minutes, the mirrors will not fold when the car is locked.

2.2.3.   Unfold Mirrors

Supported on the E38, E39, E46, E53 and Range Rover.

The Intravee can be set to unfold the car mirrors on one of the listed status events. The electric folding mirror option is a pre-requisite for this option. For the Intravee to unfold the mirrors, the mirrors must have been folded by the Intravee. The options are:

- On Unlock, the Mirrors will be unfolded when the unlock button on the remote is pressed.
- On Key In, the Mirrors will be unfolded when the key is detected near the ignition barrel.
- On Accessory, the Mirrors will be unfolded when the key is turned to the accessory position.
- On Ignition, the Mirrors will be folded when the key is turned to the ignition position.

2.2.4.   Auto Lock

Supported on the E38, E39, E46, E53 and Range Rover.

Enable or Disable the auto lock feature.

The Auto lock feature will lock all the doors when the vehicle speed exceeds about 10 mph (15 km/h). If your vehicle is configured with the drive away locking feature enabled then you should **NOT** use this option.

2.2.5.   Auto Unlock

Supported on the E38, E39, E46, E53 and Range Rover.

Enable or Disable the auto unlock feature.

The Auto unlock feature will unlock all the doors if either the key is removed from the ignition or when a door is opened and the key is still in the ignition.

2.2.6.   BT Pairing

Supported with the Bluetooth ULF Only.

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Initiates Bluetooth Pairing mode if you have a Bluetooth hands free phone installed. To exit this mode the ignition must be turned off.

2.2.7. Blink Count

The Blink count option will set the minimum number of times that the indicators will flash when in use. The value may be set to values of 'Off' and 2 through 11.

2.2.8. AEs as DLR

Supported on the E38, E39, and E53 (Sept 03 On Only).

When selected will cause the front side lights, Angle Eyes on later vehicles, to be used as Daylight Running Lights.

2.2.9. Boot Open Msg

Supported on vehicles with High OBC Only, E38, E39, E53 and Range Rover.

When selected this option will display a message, on the High OBC only, that the boot (trunk) is open when the ignition is on. The standard boot open message is displayed only when the boot is open and the vehicle starts to move. The option will also enable the display of a message that the bonnet (hood) is open.

2.2.10. Auto Close

Supported on E39, unknown on other vehicle types.

When selected will cause the windows and sun roof to close when the lock button is released after a press of more than 2 seconds. The windows and sun roof will continue to close after the lock button is released.

2.3. Extras Setup

2.3.1. Vehicle Type

Some of the Extra features, Mirror Folding and Auto Unlock, need to know the type of vehicle you have. Select the car type that most closely matches your car from this menu.

E38/E39

All E38 7 Series and E39 5 Series

E39 Late

Some late build E39's (2003 on) or E39's that have had replacement General Modules.

X5 To 9/03

Pre face lift X5s made up to September 2003.

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X5 9/03 On

Facelift X5s made from September 2003.

Range Rover

2003 and 2004 model year Range Rover.

E46 Type 1

E46 3 series using the ZKE4 Body Electronics module, generally pre-facelift cars, but some early facelift cars too.

E46 Type 2/Z4

E46 3 series and Z4 using the ZKE4_star12 Body Electronics module, generally facelift cars.

2.3.2.   Units

The units used to display temperature and speed may be configured.

Metric

Temperature will be displayed in degrees Centigrade and speed will be displayed in Kilometres per hour.

Imperial

Temperature will be displayed in degrees Fahrenheit and speed will be displayed in Miles per hour.

Vehicle

The units specified by the car settings will be used.

Vehi. (Alt)

The units specified by the car settings will be used followed by the alternative units in parenthesis.

Alt (Vehi.)

The units not specified by the car settings will be used followed by the units specified by the car settings in parenthesis.

Imp. (Met.)

Imperial units will be used followed by Metric units in parenthesis.

Met. (Imp.)

Metric units will be used followed by Imperial units in parenthesis.

2.3.3.　Speed Correction

To compensate for reported speed inaccuracy, a correction factor of +/- 25% can be applied.

2.3.4.　PDC Setup

Auto PDC

If the Auto Display option is selected then, if the Intravee is the selected audio source, the PDC Summary will automatically be displayed as soon as the PDC system becomes active, the previous item will be displayed when the PDC system is deactivated. The PDC Summary will only be displayed automatically when the Intravee detects that the PDC system is active.

Rear Only

For cars that only have Rear PDC, or if you only want the Rear PDC sensors to be displayed, this option changes the view of the PDC Summary item and the detailed sensor display items.

High OBC

The PDC information can be displayed on the High OBC cluster, there is not enough space to display all the sensor data, instead, a summary will be displayed. If the Intravee is configured to display on the OBC section of the MID then the MID will be used instead of the High OBC. The information will only be displayed on the cluster when the Intravee detects that the PDC system is active.

It should be noted that the sensitivity of the sensors is not the same, the various sensors have the following default detection ranges:

Rear Centre	150 cm
Rear Outside	60 cm
Front Centre	70 cm
Front Outside	60 cm

A continuous tone from the PDC system is generated when an obstruction is within 20cm.

The information from all 8 sensors is displayed on the High OBC Cluster in bar graph form, together with the shortest distance to an obstruction and arrows to indicate the location of the nearest obstruction.

The bar graph on the left of the display shows the front PDC information, the bar graph on the right of the display shows the rear PDC information. In between the two will be the distance to the nearest obstruction and the location arrows.

Each pixel in the height of the bar for each PDC sensor represents a distance of 10cm (4 inches), the lowest full line will be displayed if the reported distance is greater than 61cm (24 inches), a narrower display of the lowest line indicates that no obstruction is detected by that sensor.

Location identification arrows are :

Arrows	Sensor
◄ ◄ ▲	Front Outside Left sensor.
◄ ▲	Front Centre Left sensor.
▲ ►	Front Centre Right sensor.
▲ ► ►	Front Outside Right sensor.
◄ ◄ ▼	Back Outside Left sensor.
◄ ▼	Back Centre Left sensor.
▼ ►	Back Centre Right sensor.
▼ ► ►	Back Outside Right sensor.

Figure 4 Typical High OBC PDC distance display

The figure above shows a typical display of the PDC distance information on the High OBC. The display shows an obstruction to the front left plus a nearer obstruction to the rear left. The closest obstruction is being detected by the back outside left sensor at a distance of 14cm. The display shows that no obstruction is in range for the two front right sensors. Approximate distances for each sensor are

Sensor	Distance
Front Outside Left	21-30cm
Front Centre Left	31-40cm
Front Centre Right	No Obstruction
Front Outside Right	No Obstruction
Rear Outside Left	11-20cm
Rear Centre Left	21-30cm
Rear Centre Right	41-50cm
Rear Outside Right	51-60cm

PDC Units

PDC distance information units can be set independently of the units for speed, distance and temperature. The distance options are:

Metric

The distance will be displayed in cm.

Imperial

The distance will be displayed in inches.

Vehicle

The distance will be displayed in cm or inches depending on the Vehicle units for distance.

Alternate

The distance will be displayed in cm or inches which will be the opposite of the Vehicle units for distance.

2.3.5. Disclaimer

Before any of the Extra features that require the Intravee to request information will function (BT Pairing Mode, PDC sensor display, Auto locking/unlocking, Mirror folding and automatic Clock setting) the disclaimer must be accepted. The Intravee will automatically reset the disclaimer acceptance if it detects that the Intravee has been moved between vehicles. The vehicle detection takes place when the ignition if turned on, so if you accept the disclaimer before turning the ignition on for the first time in a new vehicle you will need to accept it for a second time.

3. Multi Line UI

3.1. Extras menu structure

Figure 5 Extras Menu
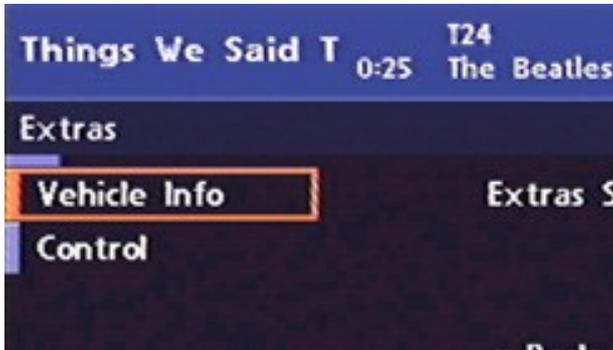
Extras	Vehicle Info	Vehicle Status	
		Light Sensor	
		PDC Info	
		Nav Info	
		Journal	
		Service Info	
		Device Info	
	Control	Setup Clock	
		Mirror Folding	Fold Mirrors
			Unfold Mirrors
		Auto Locks	Auto Lock
			Auto Unlock
		Light Control	Blink Count
			DLRs
			On Enter
			On Exit
			Flash To Pass
		Nav Control	Map Zoom
		Miscellaneous	
	Extras Settings	Vehicle Type	
		Display Units	
		Speed Correction	
		PDC Settings	
		Warnings	

3.2. Vehicle Info

Figure 6 Vehicle Info Menu

3.2.1. Vehicle Status

Figure 7 Vehicle Status Menu (Except Mk 4 >= 4-1/40)
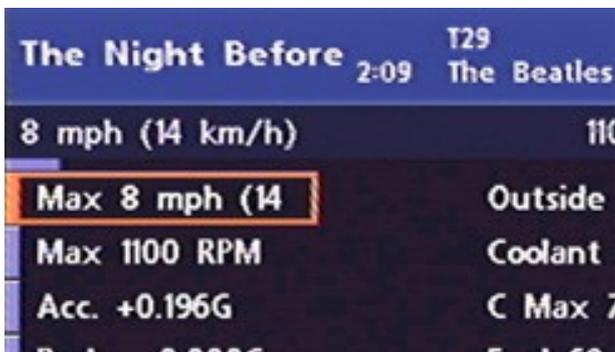
Click on any menu option to exit the menu and return to the previous menu.

Figure 8 Vehicle Status Menu (Except Mk 4 >= 4-1/40)

With a MK4 Nav computer and software V4-1/40 or higher a secondary status screen can be displayed by turning the rotary controller.

Figure 9 Secondary Vehicle Status Screen (Mk 4 >= 4-1/40)

The Vehicle Status menu will display the following information :

Outside Temperature

The outside temperature in both °C and °F, the order in which they are displayed depends on the vehicle configuration settings.

Coolant Temperature

The engine coolant temperature in both °C and °F, the order in which they are displayed depends on the vehicle configuration settings.

Vehicle Speed

The vehicle speed in both mph and km/h, the order in which they are displayed depends on the vehicle configuration settings. The update frequency may vary with vehicle type but should be about once every 2 seconds.

Engine RPM

The engine speed in revolutions per minute. The update frequency may vary with vehicle type but should be about once every 2 seconds.

Fuel remaining

The amount of fuel remaining in the fuel tank in increments of 1 Litre. The value is updated approximately every 2 minutes or when the status of any of the warning lights on the cluster changes. When the fuel reserve level is reached an (R) is displayed after the number of Litres.

Maximum Vehicle Speed

The highest recorded vehicle speed.

Maximum Engine RPM

The highest recorded engine rpm.

Maximum Coolant temperature

The highest recorded engine coolant temperature.

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Acceleration in G.

The highest recorded acceleration.

Deceleration in G.

The highest recorded deceleration.

The acceleration and deceleration figures are calculated by the change in speed over the speed broadcasts every 2 seconds and as such represent an average G force value over the 2 second period.

Values can be reset by pressing and holding the rotary controller while any of the data fields are selected, or while on the Secondary status screen for the Mk IV Nav with software 4-1/40 or higher.

3.2.2.   Light Sensor

Various information regarding the instrument backlight state will be displayed.

Figure 10 Light Sensor Menu

Dimmer State

The current cluster dimmer state value between 0 and 255. 'Full' indicates that the backlighting is not (or would not be) dimmed.

Ambient Light Sensor

The intensity of ambient light with a value between 1 and 8, a value outside this range indicates an error with the light sensor.

Auto Light

Indicates if the automatic light setting is on or off. The value is independent of the light switch position and indicates if the lights would be on or off if the switch is in the 'automatic' position.

Environment

The detected environment. Possible options are:

- Daylight
- Twilight
- Darkness
- Rain
- Tunnel
- Garage

3.2.3.   PDC Info

The PDC menu displays the distance in either cm or inches, depending on the units selected from the 'Extras Settings' menu, for each of the eight PDC sensors. If a sensor is not detecting any obstruction, then --cm or --.-" will be displayed. The sensor information is only available if the PDC system is active, either because the car is in reverse gear or because the PDC button (for cars with front PDC) has been pressed.

If the 'Rear Only' option under PDC Settings has not been checked, the top line of the displays the front sensors, the lower line displays the rear sensors. The right sensor is on the right of the display, the left sensor is on the left. If the car does not have front sensors then --cm or --.-" will be displayed on the top line.

Figure 11 PDC Menu, Rear Only

If the 'Rear Only' option under PDC settings has been checked, then the top line will show the rear sensors and nothing will be displayed on the lower line.

Figure 12 PDC Menu, Front and Rear
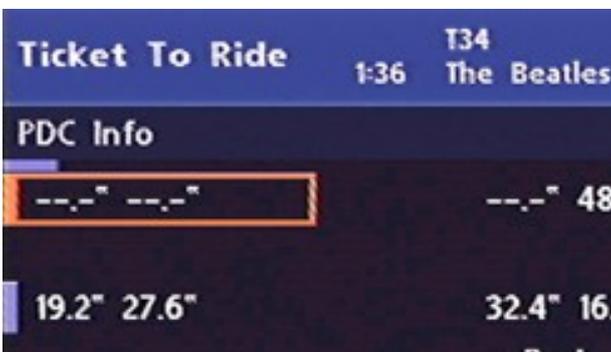
While viewing the PDC screen the PDC system is polled every 500 milli seconds for the sensor information.

3.2.4. Nav Info

Figure 13 Nav Info Menu
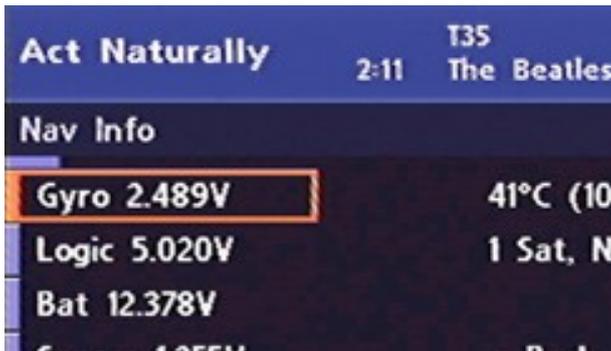
While displaying the Nav Info menu the Intravee will poll the Nav Computer every 2 seconds for the information. The Nav info menu contains the following data:

Gyro Voltage

Normal value is about 2.5V.

Logic Supply Voltage

Normal value is about 5.0V.

Battery Supply Voltage

Normal value is between 12.0V and 14.0V depending on the state of charge. This value is the voltage measured by the Nav computer and may be a little lower than a direct battery connection, however the value can give a reasonable indication of the main car battery state.

Sensor Supply Voltage

Normal value is about 1.25V.

Nav Temperature

The temperature of the Nav computer can give an early indication of a failing cooling fan, if the Nav computer gets excessively hot, in excess of 55°C (130°F), then it would be advisable to find out why.

GPS Status

The status of the GPS receiver is displayed, there are a number of possible states :

- No GPS : GPS Signal is unavailable.
- No Antenna : The GPS antenna is disconnected.
- Com. Fault : An error has occurred communicating with the GPS antenna.
- Reception Error : Invalid information from the GPS antenna.
- No Almanac : The satellite almanac is unavailable.
- Searching : No satellites are visible.
- 1 Sat, No Pos : 1 satellite is visible but no position fix can be made.
- 2 Sat, No Pos : 2 satellites are visible but no position fix can be made.
- 3 Sat, No Pos : 3 satellites are visible but no position fix can be made.
- 4 Sat, No Pos : 4 satellites are visible but no position fix can be made.
- 5 Sat, No Pos : 5 satellites are visible but no position fix can be made.
- 6 Sat, No Pos : 6 satellites are visible but no position fix can be made.
- 2D Fix : An approximate 2D fix has been made.
- 3D Fix : A full 3D position fix has been made.

3.2.5.   Journal

The Intravee will log various information about each journey your car makes, a journey is defined as the time between starting and stopping the engine. Each entry will contain the start time and date together with the duration of the journey. The entry will also contain the maximum speed attained and the maximum engine RPM. The last 17 journeys will be logged, after entry number 17 has been used, entry number 1 will be re-used.

Figure 14 Journal Menu (Mk 4 < 4-1/40)

For systems except the MK IV Nav with software 4-1/40 or higher, select the previous Journal entry by clicking on any of the menu items, except the Back option.

Figure 15 Journal Page 1 (Mk 4 >= 4-1/40)

Figure 16 Journal Page 2 (Mk 4 >= 4-1/40)

For the MK IV Nav with software 4-1/40 or higher, change Journal entry using the rotary controller, exit the Journal by clicking the rotary controller. Toggle between the journal pages using a long key press of the rotary controller.

The Journal stores the following information about the journey :

- The time that the journey started.
- The duration of the journey to the nearest minute.
- The distance travelled to the nearest 1km.
- The average speed.
- The maximum speed.
- The maximum engine rpm.
- The maximum acceleration and deceleration.
- The maximum engine coolant temperature.

3.2.6.   Service Info

Figure 17 Service Info Menu
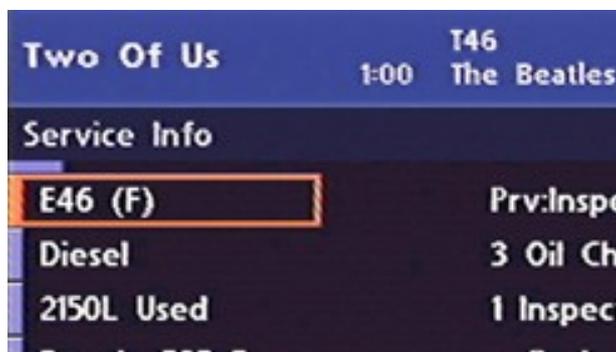
The Service info menu will display the following information :

Vehicle Network Type

The reported vehicle iBus network family with the ID value in parenthesise.

Fuel Type

The type of fuel used, Petrol or Diesel.

Fuel Used

The amount of fuel used in Litres, in increments of 10L, since the last service, which will give an indication of when the next Inspection or Oil Service is due. The total number of Litres between services varies with vehicle type and engine.

Bi-Annual Check Due Date

The date on which the next bi-annual check for brake fluid and coolant is due. If the GPS or IKE date has not been received, then the number of days remaining is displayed.

Previous Service type

The type of service that was last carried out.

Oil Changes

The number of oil change service indicator resets that have been performed, not available on all vehicles.

Inspections

The number of Inspection service indicator resets that have been performed, not available on all vehicles.

3.2.7.   Device Info

The Intravee can display various information regarding various components that may be installed in your car.

Figure 18 Device Info Menu

The Device Info menu displays a list of components from which the Intravee can gather and display information. Selecting any of the available options will display the following information about the component if it is installed.

Figure 19 Example Device Info Menu
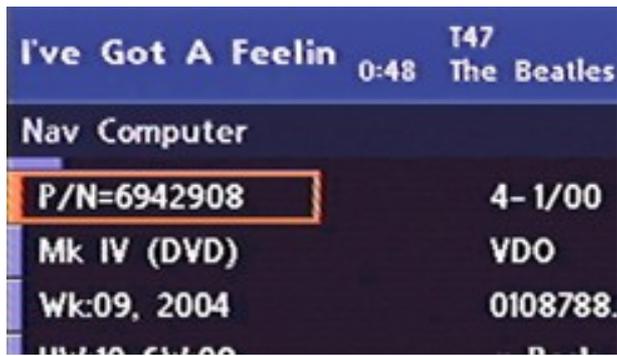
Information about the selected component includes

Part Number
Component description
Production seek and year
Hardware and software version
Nav software version or component Generation version
Device manufacturer name
Device manufacturer ID.

3.3. Extras Settings

Figure 20 Extras Settings Menu

3.3.1. Vehicle Type

Figure 21 Vehicle Type Menu

Some of the Extra features, Mirror Folding and Auto Unlock, need to know the type of vehicle you have. Select the car type that most closely matches your car from this menu.

E38/E39

All E38 7 Series and E39 5 Series

E39 Late

Some late build E39's (2003 on) or E39's that have had replacement General Modules.

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X5 To Sept 03

Pre face lift X5s.

X5 Sept 03 On

Facelift X5s.

Range Rover

2003 and 2004 model year Range Rover.

E46 Type 1

E46 3 series using the ZKE4 Body Electronics module, generally pre-facelift cars, but some early facelift cars too.

E46 Type 2/Z4

E46 3 series and Z4 using the ZKE4_star12 Body Electronics module, generally facelift cars.

3.3.2.   Extras Display

Figure 22 Extras Display Menu
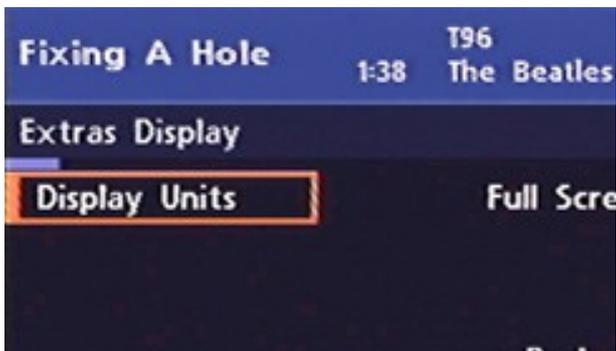
Display Units

The units used to display temperature, speed and distance may be configured.

Figure 23 Units Menu
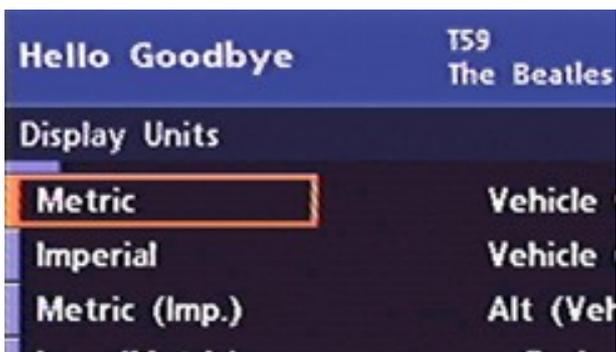
Metric

Temperature will be displayed in degrees Centigrade and speed will be displayed in Kilometres per hour.

Imperial

Temperature will be displayed in degrees Fahrenheit and speed will be displayed in Miles per hour.

Metric (Imp.)

Metric units will be used followed by Imperial units in parenthesis.

Imp. (Metric)

Imperial units will be used followed by Metric units in parenthesis.

Vehicle Only

The units specified by the car settings will be used.

Vehicle (Alt)

The units specified by the car settings will be used followed by the alternative units in parenthesis.

Alt (Vehicle)

The units not specified by the car settings will be used followed by the units specified by the car settings in parenthesis.

Full Screen

Selecting the Full Screen option will force the Intravee to use the Full Screen form of the Vehicle Status and Journal menus even if a MK IV Nav has been detected.

3.3.3. Speed Correction

Figure 24 Speed Correction Menu
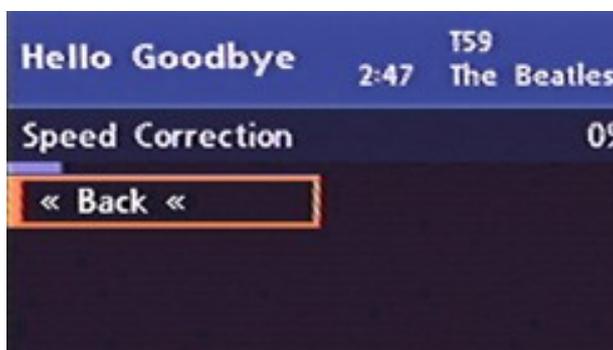
To compensate for reported speed inaccuracy, a correction factor can be applied. This adjustment only applies to the speed reported by the Intravee, **it has no effect on the speed reported on the speedometer or the 'Limit' feature of the On Board Computer.**

A speed correction factor of +/- 25% may be applied. Change the value by turning the rotary controller.

3.3.4. Disclaimer

In order to activate some of the Extra Features you need to accept the disclaimer. Accepting this disclaimer confirms that you understand the potential risks of use these features and that you accept full responsibility for any affects they may have on your vehicle. If you do not want to accept this responsibility, select the 'No' option on the last page of the disclaimer.

The Intravee will automatically reset the disclaimer acceptance if it detects that the Intravee has been moved between vehicles. The vehicle detection takes place when the ignition if turned on, so if you accept the disclaimer before turning the ignition on for the first time in a new vehicle you will need to accept it for a second time.

3.3.5. Reset Journal

All Journal entries can be cleared by selecting this option.

3.3.6. PDC Settings

Figure 25 PDC Settings Menu

Auto Display

If the Auto Display option is selected then, if the Intravee is the selected audio source, the PDC menu will automatically be displayed as soon as the PDC system becomes active, the previous screen will be displayed when the PDC system is deactivated. If the Map/Menu/OBC screen is displayed then it will be temporarily overridden while the PDC system is active. The menu will only be displayed automatically when the Intravee detects that the PDC system is active.

Rear Only

For cars that only have Rear PDC, or if you only want the Rear PDC sensors to be displayed, this option changes the view of the PDC Info menu.

High OBC

Supported on vehicles with High OBC Only, E38, E39, E53 and Range Rover.

The PDC information can be displayed on the High OBC cluster, as there is not enough space to display all the sensor data, instead, a summary will be displayed. The information will only be displayed on the cluster when the Intravee detects that the PDC system is active.

It should be noted that the sensitivity of the sensors is not the same, the various sensors have the following default detection ranges:

Rear Centre   150 cm
Rear Outside   60 cm
Front Centre   70 cm
Front Outside   60 cm

A continuous tone from the PDC system is generated when an obstruction is within 20cm.

The information from all 8 sensors is displayed on the High OBC Cluster in bar graph form, together with the shortest distance to an obstruction and arrows to indicate the location of the nearest obstruction.

The bar graph on the left of the display shows the front PDC information, the bar graph on the right of the display shows the rear PDC information. In between the two will be the distance to the nearest obstruction and the location arrows.

Each pixel in the height of the bar for each PDC sensor represents a distance of 10cm (4 inches), the lowest full line will be displayed if the reported distance is greater than 61cm (24 inches), a narrower display of the lowest line indicates that no obstruction is detected by that sensor.

Location identification arrows are :

◄ ◄ ▲   Front Outside Left sensor.
◄ ▲   Front Centre Left sensor.
▲ ►   Front Centre Right sensor.
▲ ► ►   Front Outside Right sensor.
◄ ◄ ▼   Back Outside Left sensor.
◄ ▼   Back Centre Left sensor.
▼ ►   Back Centre Right sensor.
▼ ► ►   Back Outside Right sensor.

Figure 26 Typical High OBC PDC distance display

The figure above shows a typical display of the PDC distance information on the High OBC. The display shows an obstruction to the front left plus a nearer obstruction to the rear left. The closest obstruction is being detected by the back outside left sensor at a distance of 14cm. The display shows that no obstruction is in range for the two front right sensors. Approximate distances for each sensor are

Front Outside Left   21-30cm
Front Centre Left   31-40cm
Front Centre Right   No Obstruction
Front Outside Right   No Obstruction
Rear Outside Left   11-20cm
Rear Centre Left   21-30cm

Rear Centre Right	41-50cm
Rear Outside Right	51-60cm

PDC Units

Figure 27 PDC Units Menu
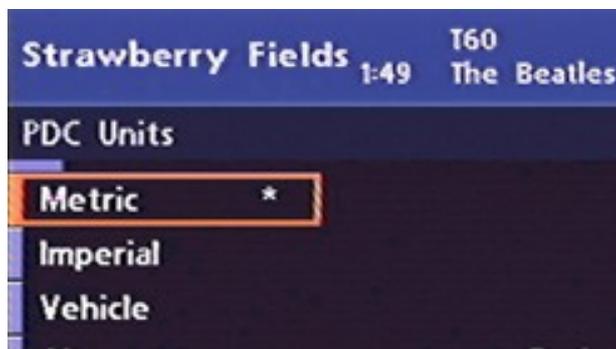
PDC distance information units can be set independently of the units for speed, distance and temperature. The distance options are:

Metric

The distance will be displayed in cm.

Imperial

The distance will be displayed in inches.

Vehicle

The distance will be displayed in cm or inches depending on the Vehicle units for distance.

Alternate

The distance will be displayed in cm or inches which will be the opposite of the Vehicle units for distance.

3.3.7.   Warnings

Supported on vehicles with High OBC Only, E38, E39, E53 and Range Rover.

Figure 28 Warnings Menu

Boot Open Message

When selected this option will display a message, on the High OBC only, that the boot (trunk) is open when the ignition is on. The standard boot open message is displayed only when the boot is open and the vehicle starts to move.

Bonnet Open Message

The option will enable the display of a message that the bonnet (hood) is open.

Over Rev

If the engine speed exceeds various set points while still warming up a message will be displayed. These set points are as follows

For Petrol vehicles

Temperature °C	Engine RPM limit
25	2500
50	2900
65	3100
70	3300
75	3500

For Diesel vehicles

Temperature °C	Engine RPM limit
25	2200
50	2300
65	2400
70	2600
75	2800

If an over rev warning is triggered an entry will be made in the Error Log.

Over Heat

Figure 29 Over Heat Menu
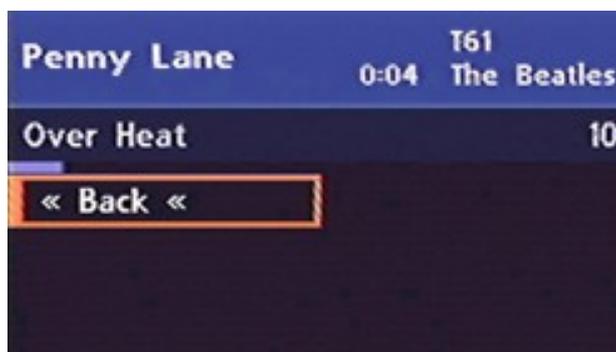
The coolant temperature is monitored and a warning given if it exceeds the specified value. A value of between 80°C and 120°C can be set.

3.4. Control

The Extra Features Control menu gives access to various functions that may be available in your car. The Control menu is only available is the Disclaimer has been accepted on the Extras Setup menu.

Disclaimer

INTRAVENTION ELECTRONICS TAKE NO RESPONSIBILITY WHATSOEVER FOR THE EFFECT THE USE OF ANY OF THESE OPTIONS MAY HAVE ON THE VEHICLE IN WHICH THE INTRAVEE IS INSTALLED. ALTHOUGH EXTENSIVE TESTING HAS BEEN PERFORMED, THERE IS A SMALL POSSIBILITY THAT THE USE OF SOME OPTIONS ON SOME TYPES OF CAR MAY HAVE UNDESIRABLE EFFECTS. THERE IS A VERY SMALL POSSIBILITY THAT YOUR CAR MAY NEED RECODING TO RESOLVE ISSUES CAUSED BY USING THE EXTRA CONTROL FEATURES.

USE THESE FEATURES AT YOUR OWN RISK. THE DISCLAIMER OPTION FROM THE EXTRAS SETUP MENU MUST BE ACCEPTED BEFORE THESE FEATURES WILL OPERATE.

Known Issues :

- Using the Mirror folding options on some X5's with the E38/E39 vehicle type selected may cause the front windows to open and close instead of the mirrors folding and unfolding.
- Using the Auto Lock/Unlock feature in a Range Rover with X5 Sept 03 On vehicle type selected may cause the windscreen wiper to make one sweep.
- Using the Auto Lock feature when drive away locking is selected can cause the doors to lock and then unlock again.

Figure 30 Control Menu

3.4.1. Setup Clock

Figure 31 Setup Clock Menu

Supported only when only a Nav computer module is installed, not supported with TV module only setups.

Time Zone

The current Time Zone setting, the value can be incremented by ½ hour by selecting the option.

Daylight Saving Time

The current Daylight Savings Time setting, the value can be incremented by 1 hour by selecting the option. The option "Use RDS" is also available, when this option is selected the Intravee will try to determine your time zone from the data transmitted through the radio RDS system. When "Use RDS" is selected the Time Zone display changes to be an offset from UTC, this may be adjusted manually, but will be changed by any time offset data from the radio RDS system. If you live near a time zone boundary we would advise that you do not use this feature.

Auto Set

The option to automatically set the clock when the Intravee receives a GPS time signal from the Nav. computer.

Update Now

Causes the time to be updated at the next available opportunity.

The Clock Setup menu allows you to synchronise the car clock with the highly accurate clock signal available to the GPS system. As the GPS clock is always set to UTC it is necessary to enter a time zone offset and Daylight saving time offset. To change the offsets, select the TZ and DST options.

To have the car time automatically set to the GPS time, plus or minus the TZ and DST offsets, check the AutoSet menu option.

The current GPS time and date are displayed on the right side of the menu, after first starting the car the time may be wrong as the GPS time signal must be received from the GPS satellites. If no GPS time is being received then the Nav computer falls back to using the car clock time, this can cause the car clock time to be set incorrectly as the DST and TZ offsets will be applied incorrectly.

You may perform a manual time update by clicking the Update Now menu item.

The status item will indicate the state of the clock setting routine. The car clock can only be set in units of minutes, as the GPS signal contains a seconds element the Intravee will wait until the exact minute before setting the car clock.

GPS Time

The current GPS time.

GPS Date

The current GPS date.

Status

The status of the clock setting mechanism, blank if no action is pending.

3.4.2.   Mirror Folding

Supported on the E38, E39, E46, E53 and Range Rover.

Figure 32 Mirrors Folding Menu

The Intravee can be set to fold and unfold the car mirrors on one of the listed status events. The electric folding mirror option is a pre-requisite for this option.

Fold Mirrors

Figure 33 Fold Mirrors Menu
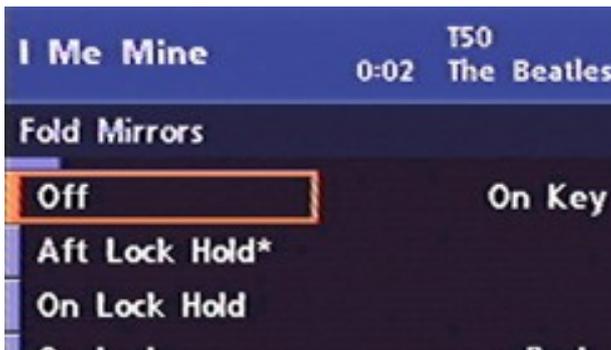
Select the event that you wish to be used to fold the vehicle mirrors.

The options are:

-   Off, Mirrors will not be folded.
-   Aft Lock Hold, the Mirrors will be folded when the lock button on the remote is released after it has been held for 2 seconds.
-   On Lock Hold, the Mirrors will be folded when the lock button on the remote is held for 2 seconds.
-   On Lock, the Mirrors will be folded when lock button on the remote is pressed.
-   On Key Out, the Mirrors will be folded when the key is removed from the ignition.

If your car has comfort closing, windows and sun roof are closed by holding the lock button, then we would recommend using either the 'Aft Lock Hold' or 'On Key Out'. If the 'On Lock' or 'On Lock Hold' options are used then the folding commands may interfere with the comfort closing mechanism.

Please note that on the E38 and E39, if the car has been left unlocked for long enough for the car to enter sleep mode, about 15 minutes, the mirrors will not fold when the car is locked.

Unfold Mirrors

Figure 34 Unfold Mirrors Menu

For the Intravee to unfold the mirrors, the mirrors must have been folded by the Intravee. Select the event that wish to be used to unfold the vehicle mirrors.

The options are:

- On Unlock, the Mirrors will be unfolded when the unlock button on the remote is pressed.
- On Key In, the Mirrors will be unfolded when the key is detected near the ignition barrel.
- On Accessory, the Mirrors will be unfolded when the key is turned to the accessory position.
- On Ignition, the Mirrors will be folded when the key is turned to the ignition position.

Fold Duration

Figure 35 Fold Duration Menu
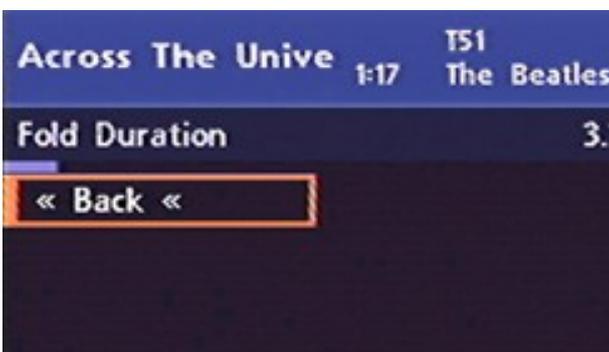
The fold duration menu controls the time allowed for the folding mirrors to fold out or in. For most cars the default of 3.3 seconds should be adequate, but if you find that one or both of the mirrors stop folding before they are fully folded or unfolded then you may increase this value. If this value needs to be more than 8 seconds to fully fold or unfold the mirrors then you should make sure that the folding mechanism is properly lubricated. The value can be changed by turning the rotary control knob.

3.4.3.   Auto Locks

Figure 36 Auto Locks Menu
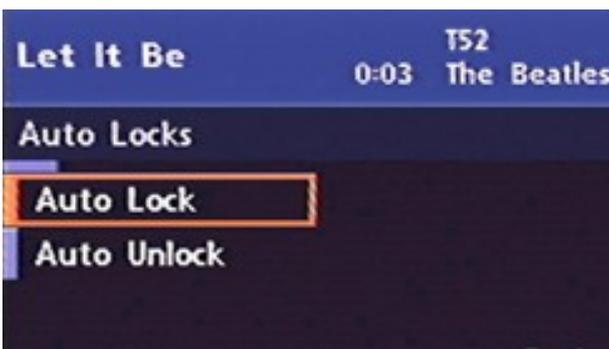
Auto Lock

Supported on the E38, E39, E46 (Type I Only), E53 and Range Rover.

Enable or Disable the auto lock feature.

The Auto lock feature will lock all the doors when the vehicle speed exceeds 10 mph (15 km/h). If your vehicle is configured with the drive away locking feature enabled then you should **NOT** use this option.

Auto Unlock

Supported on the E38, E39, E46, E53 and Range Rover.

Figure 37 Auto Unlock Menu
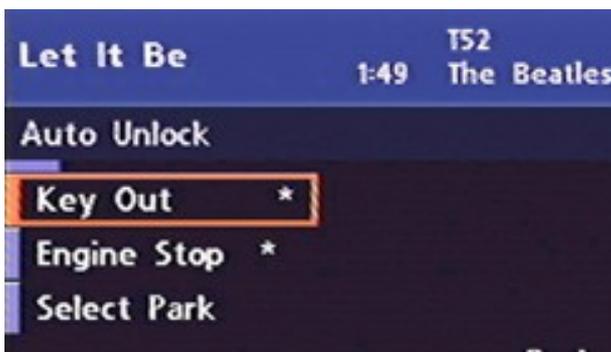
Various triggers can be set to cause the vehicle doors to unlock.

Key Out

The doors are unlocked if either the key is removed from the ignition, or when a door is opened and the key is still in the ignition.

Engine Stop

The doors are unlocked when the engine is stopped.

Select Park

The doors are unlocked when the Automatic Transmission is placed in the 'Park' position.

3.4.4.   Light Control

Figure 38 Light Control Menu
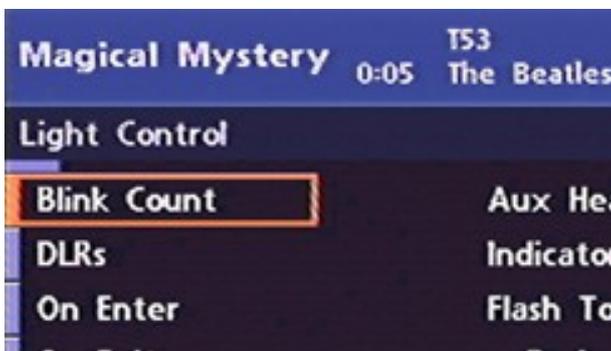
Blink Count

Figure 39 Blink Count Menu
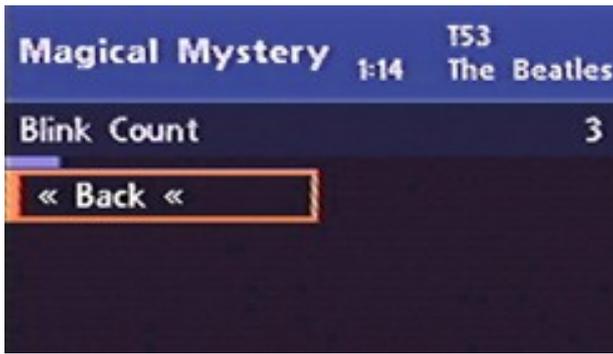
The Blink count option will set the minimum number of times that the indicators will flash when in use. The value may be set to values of 'Off' and 2 through 11. This option can be made key specific, see the Key Memory menu.

DLR's

Figure 40 DLR's Menu
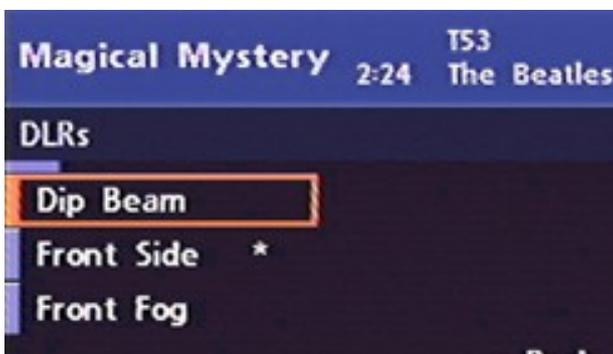
When selected will enable the front side lights, Fog lights or Dip beam to be used as Daylight Running Lights. The Daylight Running Lights are not active if the rear lights are on.

On Enter and On Exit

The Intravee can be configured to illuminate certain light bulbs when the vehicle is locked or unlocked. The lights can be set to stay illuminated for a specified maximum time. Unlock lights will remain illuminated for the set time or until the car is locked or a key is put in the ignition. Lock lights will remain illuminated for the set time or until the car is unlocked. The menus for On Lock and On Unlock are the same, but the lights can be set independently for each option.

### Figure 41 On Enter Light Control Menu

Figure 42 On Exit Light Control Menu

MaxTime

Figure 43 Light Control Maximum Time Menu
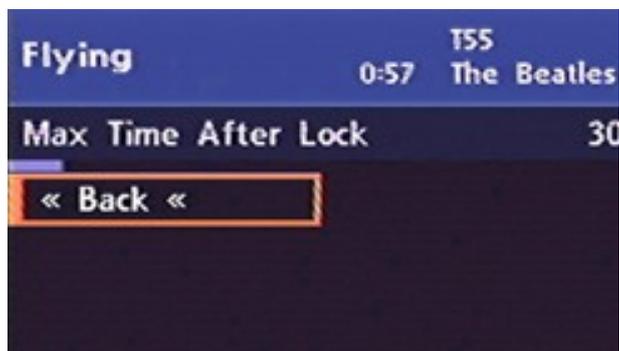
The maximum time is set by turning the right rotary control knob. Values of between 10 and 120 seconds can be set, to disable light control set the value to 'Disabled'.

Active Lights

The following lights can be controlled individually, unless otherwise stated.

- Left Main
- Right Main
- Left Dip
- Right Dip
- Left Front Fog (only with Right Front Fog for E46)
- Right Front Fog (only with Left Front Fog for E46)
- Left Front Side Light
- Right Front Side Light
- Left Front Turn Light
- Right Front Turn Light
- Left Rear Turn Light
- Right Rear Turn Light
- Left Rear Side Light (only Top light for X5)
- Right Rear Side Light (only Top light for X5)
- Left Rear Fog Light (only with Right Rear Fog for E46)
- Right Rear Fog Light (only with Left Rear Fog for E46)
- Left Reverse (not available on E46)
- Right Reverse (not available on E46)
- Left Stop Light
- Right Stop Light
- Centre Stop Light
- Licence Plate Light

Exit Trigger

Various trigger points can be set to activate the Exit Lights.

Figure 44 Light Control Exit Triggers Menu
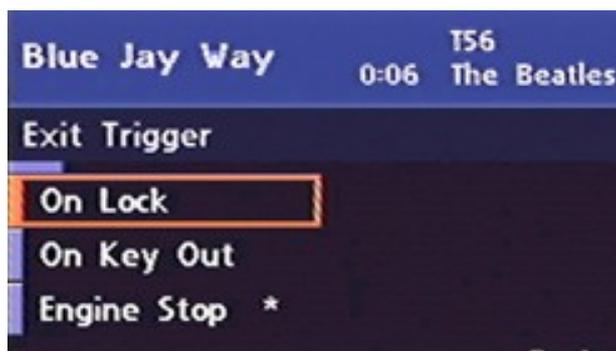
The Exit Lights can be set to turn on when any of the events that are selected occur. If the Exit Lights are already on when a second trigger occurs then the maximum time is reset by the new trigger.

35

Trigger Level

Figure 45 Light Control Trigger Level Menu
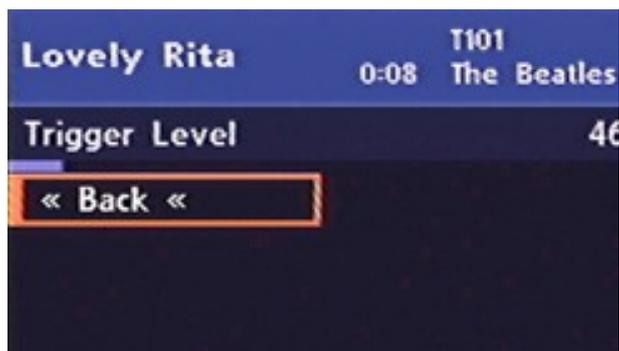
The Exit and Entry lights can be linked to the light sensor level, if the light intensity is above a defined level then the lights will not be triggered. The feature is currently not supported on the E38, E39, E53 and Range Rover as the light sensor does not send the required information.

The trigger level can be set to any value, the numbers are set in Hex to allow both set and current values to be displayed. A value of 46 is a good point to start.

Use RLS

By selecting the 'Use RLS' option the Exit lights can be set so that they are only triggered if the Auto Lights would be on due to the light level. If your vehicle does not have the Rain and Light sensor then you should not enable this option, it will disable exit lights altogether.

When using the 'Use RLS' option the Exit lights will only trigger if the Rain and Light sensor is indicating that the lights should be on due to low light. If no message is seen from the Rain and Light sensor then the Exit lights will not trigger. In some vehicles the Rain and Light sensor only reports it's status if the ignition is on. Therefore if this option is selected and the vehicle is unlocked and locked again without the ignition having been turned on, or if the Intravee has entered sleep mode since the ignition was last on, the Exit lights will not trigger.

Aux Heat Ind.

For vehicles with an Independent Auxiliary Heating system this option will cause the front and rear indicators to illuminate for 2 seconds to show that the remote control signal has been received.

Indicator Fog

When selected the front fog light corresponding to the turn direction will be illuminated while indicating as long as the vehicle is travelling at less than 40 kph (25 mph) and the side or head lights are turned on.

Flash To Pass

Figure 46 Flash To Pass Menu
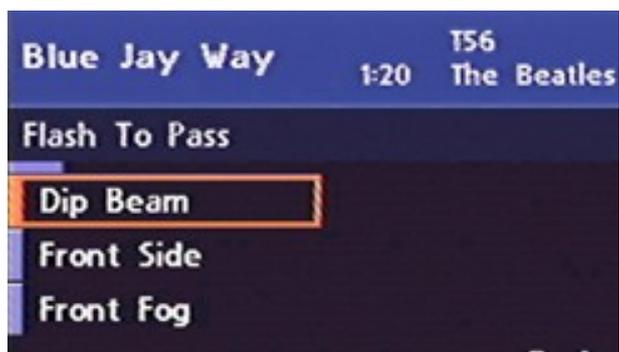
When selected causes the Front Side, Fog or Dip Beam to flash in conjunction with the use of 'Flash To Pass' of the main beam.

This option is useful on pre-facelift Z4s that have had facelift lights fitted, the facelift lights have no main beam bulb and use the dip beam light and shutter for main beam. Without this option Flash To Pass does not work.

This option should be used with caution on cars with Xenon lights. Xenon lights can fail prematurely if regularly illuminated for short periods.

3.4.5. Nav Control

Figure 47 Nav Control Menu

Map Zoom Menu

The Intravee can set the Nav Map to zoom in and out as the speed of your vehicle changes. The map will be zoomed in at low speeds and out at higher speeds. The rate of zoom and available scales can be configured.

In order to prevent the map scale changing back and forth between two scales there is a buffer speed implemented. The scale will increase when the vehicle speed reaches the set transition point plus 4Kph and will decrease when the vehicle speed reaches the set transition point minus 4Kph.

Figure 48 Map Zoom Menu

Auto

Use the Auto option to enable or disable the speed dependent map scale feature.

Speed Offset

Figure 49 Speed Offset Menu

The speed offset sets the speed before which the speed increment values start being applied. For example, a speed offset of 20Kph together with a speed increment of 20Kph would trigger scale changes at 40Kph, 60Kph, 80Kph etc.

Speed Increment

Figure 50 Speed Increment Menu

The speed increment sets the speeds at which the scale changes occur. An change in scale will occur at each multiple of the speed increment.

Min Scale

Figure 51 Min Scale Menu
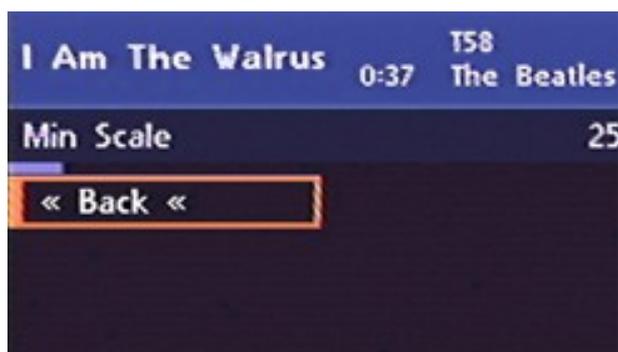
The Min Scale option sets the minimum scale that the map will be set to. The units will depend on the distance options selected in the Extras Settings menu.

Options are:

100m	125 yds
200m	250 yds
500m	450 yds
1Km	900 yds
2Km	1 Mile
5Km	2.5 Miles
10Km	5 Miles
20Km	10 Miles
50Km	25 Miles

Max Scale

Figure 52 Max Scale Menu

The Max Scale option sets the maximum scale that the map will be set to. The units will depend on the distance options selected in the Extras Settings menu.

Options are:

200m	250 yds
500m	450 yds
1Km	900 yds
2Km	1 Mile
5Km	2.5 Miles
10Km	5 Miles
20Km	10 Miles
50Km	25 Miles
100Km	50 Miles

Nav Audio Off

Checking this option will cause the Nav audio instructions to be disabled by default rather than enabled. The setting is made when the Intravee detects the Nav computer, the user may re-enable the instructions at any time, but whenever the Nav powers up the instructions will be disabled again if this option is checked.

3.4.6. Miscellaneous

Figure 53 Miscellaneous Menu
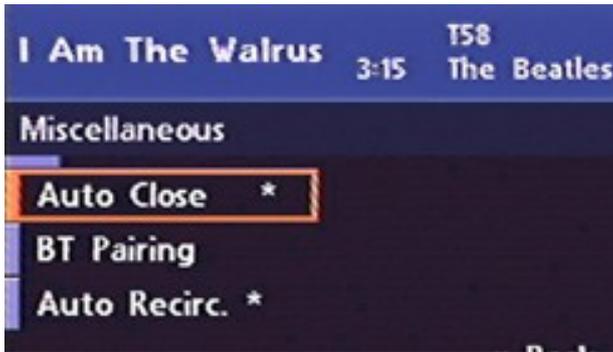
Auto Close

Supported on E39, unknown on other vehicle types.

When selected will cause the windows and sun roof to close when the lock button is released after a press of more than 2 seconds. The windows and sun roof will continue to close after the lock button is released.

BT Pairing

Supported with the Bluetooth ULF Only.

Initiates Bluetooth Pairing mode if you have a Bluetooth hands free phone installed. To exit this mode the ignition must be turned off.

Auto Recirc.

When selected will cause the Air Conditioning 'Recirculate' function to activate when reverse gear is engaged, when reverse gear is disengaged the recirculate mode will be returned to its previous state.

Note : In some vehicles the Recirculation mode may be set to 'Off' rather than 'Auto' on disengaging reverse gear.