

Intravee II Users Guide

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1. Introduction

The Intravee is designed to provide full control and display capability for Alpine AI-Net components using the BMW or Rover OEM audio system. As far as possible the interface looks and feels as though it was original BMW or Rover equipment.

1.1. User Interface Mode

Due to the wide range of different head units supplied in BMW and Rover cars, the Intravee has different User Interface (UI) modes to enable the maximum use to be made of the available features. By default the Intravee will automatically try to determine the correct UI mode so setting the UI should not be required. On changing from a system with one UI mode to another system with a different UI mode it may take the Intravee up to 30 seconds to switch to the new UI mode. Once set the UI mode will remain set until a different system configuration is detected.

Supported UI modes are

- 0 BMW CD Changer emulation
- 1 Single line Nav display
- 2 Business or Professional E46, Z4, X3 or Mini radio.
- 3 Business Nav on E46, Z4 or X3.
- 4 E38, E39, X5 or Range Rover MID or IRIS Business or Professional radio.
- 5 Professional Navigation or TV module with full screen software.
- 6 Professional Navigation with split screen software.

1.1.1. UI Mode 1

Single Line text on the Professional Navigation system. Normally this mode is not used for the navigation system, however cars equipped for the Japanese market do not support the menu area that the Intravee normally uses.

1.1.2. UI Mode 2

Single line text on E46, E83 (X3) and E85 (Z4) Business Tape, CD or MD head units. Mini 'Boost' Tape, CD or MD Head units.

Figure 1 Typical E46 Business head unit layout



Figure 2 Mini 'Boost' head unit layout



1.1.3. UI Mode 3

Single line text on E46, E83 (X3) and E85 (Z4) Business Navigation systems.

Figure 3 Business Navigation layout



1.1.4. UI Mode 4

Single line text on the E38, E39, E53 (X5) and Range Rover MID (Multi Information Display) and IRIS (Integrated Radio Information System).

Figure 4 MID Display layout



On the MID, the location of the 'Back' and 'Sel' keys is dependent on the type of radio module and media player that is connected to the MID, they will be positioned on two of the 6 keys on the right, they are usually, but not always, next to one another. Some options are shown below, the MID unit is the same in all cases shown, only the radio module on top is different.

Figure 5 Various MID layouts



The various radio modules refresh the MID key labels in different ways.

Some only update those labels that require changing, resulting in minimal flicker as the Intravee updates them. This can be taken to an extreme on some radios with the 'SC' or Scan key, if the radio module uses

the same key for Scan on the CDC as SCAN on FM/AM then when switching back to AM/FM from the Intravee the 'Sel' prompt may still be displayed.

Other radio modules, for example the MP3 capable CD radio, redisplay all the key labels whenever any label is changed, this can result in moderate display flicker as the Intravee overwrites the key labels.

Some radio modules have an 'auto mute' feature that causes the audio to be muted when any of the CD Changer navigation keys are used, these include the number keys and the < and > keys.

Figure 6 IRIS Display layout



The integrated radio, media and IRIS head unit which has the tone control on the IRIS above the clock and 'SET' keys does not support text display.

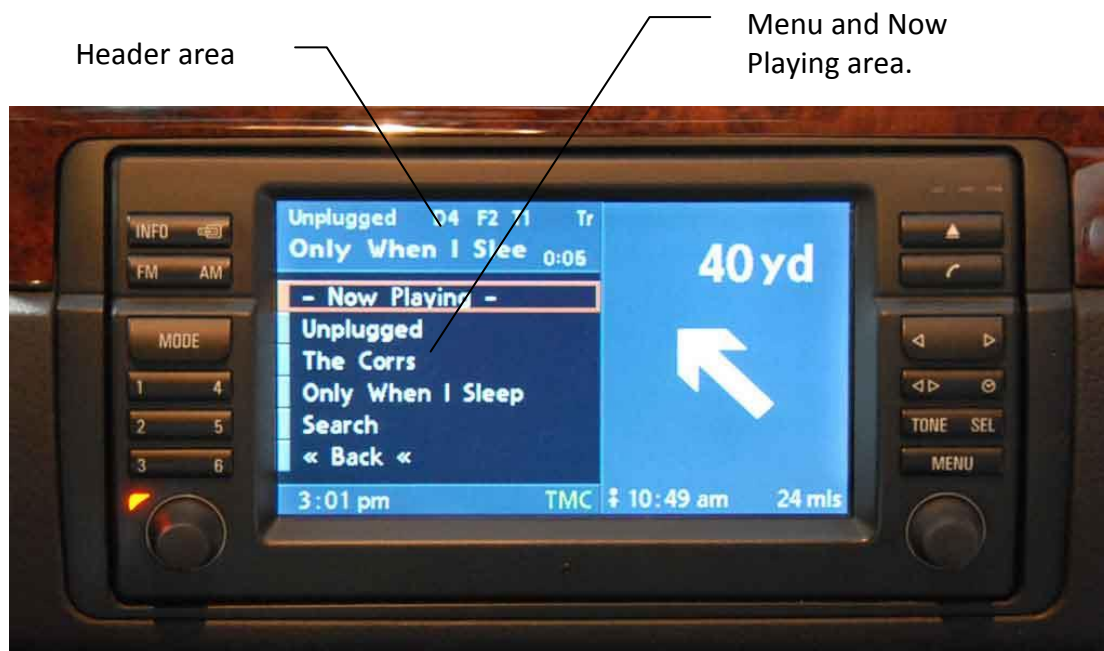
Figure 7 Integrated IRIS



1.1.5. UI Mode 5 & 6

Multiline menu based system for Professional Navigation systems including the MK I, MK II, MK III, MK IV navigation computers and TV module.

Figure 8 Typical Navigation screen layout



See later for full description of the monitor layout as this varies depending on the Nav computer type and software version.

1.2. Setting the UI Mode

The Intravee UI mode can be manually set in two ways

1.2.1. Setting the UI mode with a PC

With the Intravee connected to a PC via a serial port connection, either a native serial port or a USB/Serial adapter and a 9 pin 'D' extension serial cable, the UI mode can be set using any terminal emulation program or the Intravee downloader program by issuing the command

setui X

where X is the required UI mode. Issuing this command will disable the Intravee auto detect mode. Auto detect mode can be re-enabled using the command

setui auto

1.2.2. Setting the UI mode with the head unit

If you cannot connect a PC to the Intravee then the UI can be set from the head unit using a special key press sequence.

DO NOT USE THIS MECHANISM UNLESS THE INTRAVEE IS USING V6.02 FIRMWARE. IF YOU ARE UNSURE WHICH FIRMWARE VERSION YOUR INTRAVEE IS USING, DO NOT TRY TO CHANGE THE UI MODE WITH THIS KEY SEQUENCE.

First, select the Intravee as the source using the MODE key on your head unit. Next, with a gap of 1 second between key presses, do the following:

- Turn the radio off
- Turn the radio on
- Press the Prev button < on the head unit
- Press the Next button > on the head unit
- Turn the radio off
- Turn the radio on

You should have about 1 second between each button press, if it does not work then change your timing a bit and try again.

When in UI selection mode the track number will indicate the UI number that will be set and the CD number will display CD 9 to indicate that the Intravee is in UI setup mode.

To change the UI use the < and > buttons to change the track to the required UI mode between 1 and 6, when done press the SCAN button (or the Clock, Tape Reverse or Dolby button on Nav) to set the selection. On the Mini, Z4 and X3 you need to enter the 'Sel' menu and select the 'SCAN' option as these head units have no physical 'SCAN' key.

The Intravee should reboot, the new UI should be set. If pressing the 'SCAN', Clock, Tape Reverse or Dolby keys does not select the UI mode, you can also try using the 'SCAN' option on the 'Sel' menu, but this usually indicates that the Intravee is not running V6.02 firmware.

Setting the UI directly will disable the Intravee auto detect mode, this can only be re-enabled by connecting the Intravee to a PC.

2. Single Line display UI Modes 1,2,3 and 4

The Intravee menu is controlled using 4 navigation keys to select Next and Previous items on the current menu, to select a new menu or perform the desired action and to exit the menu. These actions are called Next, Previous, Select and Go Back.

The keys that are used depend on the head unit type and thus the UI mode.

Table 1 UI 1 Control Keys

Next	> on the Board Monitor
Previous	< on the Board Monitor
Select	<> Tape Reverse Key
Go Back	Clock Key

Table 2 UI 2 Control Keys

Next	> on the Head Unit
Previous	< on the Head Unit
Select	SCAN Key
Go Back	Rnd Key

Table 3 UI 3 Control Keys

Next	> on the Head Unit
Previous	< on the Head Unit
Select	<> Tape Reverse Key
Go Back	Dolby Key

Table 4 UI 4 Control Keys (MID)

Next	> on the Head Unit
Previous	< on the Head Unit
Select	'Sel' labelled Key
Go Back	'Back' labelled Key

Table 5 UI 4 Control Keys (IRIS)

Next	> on the Head Unit
Previous	< on the Head Unit
Select	SCAN Key
Go Back	<> Tape Reverse Key

On some head units the SCAN or Rnd key action may be performed by using a long key press of another key. Although the above keys will always perform the actions described, it is also possible to program any of the assignable keys to any of the above actions.

As the < and > keys on the head unit are used for menu navigation, when navigating any menu it is not possible to change tracks with these keys. The < and > keys on the head unit will only change tracks while

the Intravee is displaying the Now Playing menu. If you have a Multi Function Wheel then the < and > keys can be assigned so that they always perform the Next or Previous track action.

2.1. The double key press issue

Some of the older Business and Professional head units require a key to be pressed to clear any text that is displayed before any key will perform an action. The easiest way to work around this behaviour is to double press the keys – the first press clears the text, the second key is acted upon.

The double key press issue is exhibited by several older E46 head units, in particular:

- Business Tape head units with no 'soft' key options to the right of the main LCD
- Business CD head units with a 'CD' key instead of the 'MODE' key.
- Professional Tape and CD head units.

The issue only occurs when using the keys on the head unit, if the car is fitted with the multifunction wheel, then those keys can be used without having to press them twice. It is advisable to assign the navigation commands to the wheel keys, if available and no phone is installed, to make control easier with one of these head units.

2.2. Intravee Single Line Menu Reference

2.2.1. Menu Overview

The Single line menu has the following basic structure

Intravee

- Source Selection (Multiple Sources Only)

- Source type Specific Menu

Setup

- Setup Keys

- Setup Display

- Scroll Parameters

- Display Length

- Fast Update (UI2 only)

- Lead Char (UI2 only)

- Setup Search

- Auto Song

- Percent

- Setup Language

- Extras

- Vehicle Info

- Vehicle Status

- Service Info

- PDC Info

- Control

- Setup Clock

- Fold Mirrors

- Unfold Mirrors

- Blink Count

- Extras Setup

- Vehicle Type

- Units

- Speed Correction

- PDC Setup

- PDC Units

- OBC Display (UI1 and UI4 Only)

Diagnostics

Status

About

2.2.2. Main Menu

The Main Menu can always be select by continued selection of the 'Go Back' action.

The first item on the Main Menu is the 'Intravee' item. By selecting this item you can enter the Source Selection menu, or if you have only one source connected to the Intravee, directly to the Source type specific menu.

The subsequent menu options of Setup, Diagnostics, Status and About will enter the less commonly used menus used to configure the Intravee and obtain information about your Intravee.

2.2.3. Source Selection Menu

If the Intravee detects that you have multiple sources connected, for example an AI-Net switch or a Tuner module, then selecting the 'Intravee' option will enter the source selection menu.

The menu contains a list of sources that have been detected and will be a selection from the following list:

Source 1
Source 2
Source 3
Source 4
Source 5
Source 6
Aux 1
Aux 2
DAB
HD
Sirius
XM

As the names for Sources 1-6 and Aux 1-2 can be defined by the user the actual text displayed cannot be specified here, the defaults are "Net 1" through "Net 6" for sources 1 through 6 and "Aux 1" and "Aux 2" for Aux 1 and 2.

- Navigate through the list using the Next and Previous actions.
- Executing the 'Select' actions will select the currently displayed source and enter its source specific menu.
- Selecting the 'Go Back' action will return to the 'Intravee' option.

The Aux type source has no options, thus when selecting an Aux type source the Source selection menu will remain displayed.

When switching between the AI-Net ports on an AI-Net switch (KCA-400c, KCA-410c or Intravee switch) it will take a few seconds for the Intravee to determine the source type, while the source type is unknown the display will show "Src: ...".

2.2.4. Searching

When using an iPod or an MP3 CD/DVD Changer the Intravee can search for one item while playing another. For iPod this includes Playlists, Artists, Albums and Songs. For MP3 CDs and DVDs this includes Folders and Files.

Using the > or < keys will select the next and previous items, a long key press of > or < will advance or go back 10 items at a time, the display will show "+10" or "-10" briefly.

In order to improve search capability several features, some optional, are available.

Auto Song Search

When Auto Song Search is enabled the Intravee will automatically enter Song search mode on the selection of a Playlist or Album. Song search mode is not entered into on selecting an Artist as the KCA-420i will automatically enter Sub-Album search mode. When using an MP3 CD Changer File search will be entered from Folder search.

Percentage Search

When the Percentage Search feature is enabled the 1-6 keys on the head unit are used to enable more rapid searching of longer lists of Songs, Playlists, Artists, Albums, Folders and Files.

Percentage search is only active while in a search menu and will then override the assigned actions for the number keys if activated.

Pressing the number keys will cause the search location to jump to a predefined point, approximately 1/6th of the length of the search list for each numerical increment.

Table 6 Percentage Search increments

Key	Location in Search List		
	Percent	Number of 6ths	Item in a list of 150
1	0%	0	Item 1
2	16.66%,	1	Item 25
3	33.33%	2	Item 50
4	50%	3	Item 75
5	66.66%	4	Item 100
6	83.33%	5	Item 125

In UI4 (MID) the search percentages are show above the number keys.

2.2.5. iPod source specific menu

Source Type

The type of source will be displayed, "Src: iPod". When using an AI-Net switch it may take a few seconds for the source type to be determined.

The iPod specific menu has the following options :

Now Playing

- ID3 Title

- ID3 Album

- ID3 Artist

- Track Number and Time

Song Search

Album Search

Artist Search

Playlist Search

Random Mode

- Random Off

- Random Song

- Random Album

Repeat Mode

- Repeat All

- Repeat Song

Now Playing

When viewing the Now Playing menu you can cycle through the following information by using the Select action.

- ID3 Title

- ID3 Album

- ID3 Artist

- Track Number and Time

While viewing any of the Now Playing items you can use the < and > keys to select the Next or Previous track. Use Go Back to exit from Now Playing.

Song Search

The Intravee will enter Song Search mode, using the Next and Prev actions will navigate through the list. Using Select will select the displayed Song and using Go Back will exit the Song search menu.

Album Search

The Intravee will enter Album Search mode, using the Next and Prev actions will navigate through the list. Using Select will select the displayed Album and using Go Back will exit the Album search menu.

Artist Search

The Intravee will enter Artist Search mode, using the Next and Prev actions will navigate through the list. Using Select will select the displayed Artist and automatically select Sub-Album search mode. Using Go Back will exit the Artist search menu.

Playlist Search

The Intravee will enter Playlist Search mode, using the Next and Prev actions will navigate through the list. Using Select will select the displayed Playlist and using Go Back will exit the Playlist search menu.

Random Mode

When selected, the playback random mode can be cycled through the following modes:

Random Off

The tracks are played back in the order they are sequenced in the iPod, usually sorted by Track Number and Album or by their sequence in a Playlist.

Random Song

A song will be select at random from the current selection.

Random Album

An Album will be selected at random from the current selection, all the songs on the album will be played back in the sequence defined for the Album, usually track number.

Repeat Mode

When selected, the playback repeat mode can be cycled through the following modes:

Repeat All

The songs are played sequentially, when all songs in the current selection have been played the first song is repeated and all the songs are played again.

Repeat Song

The current song will be repeated until the repeat mode is cancelled.

2.2.6. CD Changer source specific menu

Source Type

The type of source will be displayed, "Src: CDC", "Src: MDC" or "Src: DVD". When using an AI-Net switch it may take a few seconds for the source type to be determined.

The CD Changer specific menu has the following options:

Now Playing

- ID3 Title
- ID3 Album
- ID3 Artist
- Track Number and Time
- Folder & Track
- Disc Number

File Search

Folder Search

Random Mode

- Random Off
- Random Folder
- Random Disc

Repeat Mode

- Repeat Off
- Repeat Track
- Repeat Folder
- Repeat Disc

Intro Scan

- On
- Off

Disc Select

- 1-12

Sel Mode

- Track
- Folder

Now Playing

When viewing the Now Playing menu you can cycle through the following information by using the Select action.

- ID3 Title
- ID3 Album
- ID3 Artist
- Track Number and Time
- Folder & Track
- Disc Number

While viewing any of the Now Playing items you can use the < and > keys to select the Next or Previous track. Use Go Back to exit from Now Playing.

File Search

The Intravee will enter File Search mode, using the Next and Prev actions will navigate through the list. Using Select will select the displayed File and using Go Back will exit the File search menu.

Folder Search

The Intravee will enter Folder Search mode, using the Next and Prev actions will navigate through the list. Using Select will select the displayed Folder and using Go Back will exit the Folder search menu.

Random Mode

When selected, the playback random mode can be cycled through the following modes:

Random Off

The tracks are played back in the order they are sequenced in the iPod, usually sorted by Track Number and Album or by their sequence in a Playlist.

Random Folder

A track will be select at random from the current Folder. When all tracks have been played the Folder will advance by one.

Random Disc

A track will be at random from the currently selected disc. When all the tracks on the disc have been played, the disc will advance by one..

Repeat Mode

When selected, the playback repeat mode can be cycled through the following modes:

Repeat Off

The tracks are played sequentially, cycling all discs in the changer.

Repeat Track

The current track will be repeated until the repeat mode is cancelled.

Repeat Folder

All tracks in the current folder will be played in sequence after the last track in the folder ends, the first track in the folder repeats.

Repeat Disc

All tracks on the current disc will be played in sequence after the last track on the disc ends, the first track in the folder repeats.

Intro Scan

When Intro Scan is selected the first 6 seconds of each track is played until Intro Scan is cancelled.

Disc Select

Each disc in the Changer can be selected directly.

Track/Folder Selection Mode

Changes the action of Next or Prev Track or Folder between track mode and Folder mode.

2.2.7. DAB Tuner source specific menu

Source Type

The type of source will be displayed, "Src: DAB".

The DAB specific menu has the following options:

Now Playing

Station

Multiplex Name

Genre

Multiplex ID

Text

Presets

1-6

Preset Bank

1-3

Now Playing

When viewing the Now Playing menu you can cycle through the following information by using the Select action.

Station

Multiplex Name

Genre

Multiplex ID

Text

While viewing any of the Now Playing items you can use the < and > keys to select the Next or Previous station within the selected multiplex. Use Go Back to exit from Now Playing.

Presets

From the presets menu you can display the current state of, or set, the 6 preset locations for the current bank.

Preset Bank

Displays the current Preset Bank that is selected, using the Select action will select the next bank.

2.2.8. HD Radio source specific menu

Source Type

The type of source will be displayed, "Src: HD-R".

The HD specific menu has the following options:

Now Playing

- Station
- Track Name
- Artist Name
- Album Name
- Frequency
- Band and Multiplex

Presets

- 1-6

Band

- FM-1
- FM-2
- AM

Seek Mode

- Distance
- Local
- Manual
- Digital

Now Playing

When viewing the Now Playing menu you can cycle through the following information by using the Select action.

- Station
- Track Name
- Artist Name
- Album Name
- Frequency
- Band and Multiplex

While viewing any of the Now Playing items you can use the < and > keys to select the Next or Previous station. Use Go Back to exit from Now Playing.

Presets

From the presets menu you can display the current state of, or set, the 6 preset locations for the current band.

Band

Displays the current Band that is selected, FM1, FM2 or AM. Using the Select action will select the next band.

Seek Mode

When selected, the tuner seek mode can be cycled through the following options:

Distance

The tuner will scan to the next station, even if the station has a weak signal.

Local

The tuner will scan to the next station with a strong signal.

Manual

The frequency will be incremented or decremented by one step.

Digital

The tuner will scan to the next station with a digital component.

2.2.9. Sirius/XM source specific menu

Source Type

The type of source will be displayed, "Src: XM" or "Src: Sirius".

The Sirius/XM specific menu has the following options:

Now Playing

- Station

- Track Name

- Artist Name

- Category

- Channel Number

Presets

- 1-6

Preset Bank

- 1-3

Now Playing

When viewing the Now Playing menu you can cycle through the following information by using the Select action.

- Station

- Track Name

- Artist Name

- Category

- Channel Number

While viewing any of the Now Playing items you can use the < and > keys to select the Next or Previous station. Use Go Back to exit from Now Playing.

Presets

From the presets menu you can display the current state of, or set, the 6 preset locations for the current bank.

Preset Bank

Displays the current Preset Bank that is selected, using the Select action will select the next bank.

2.2.10. Presets Menu

From the presets menu you can display the current state of, or set, the 6 preset locations for the current bank or band.

2.2.11. Setup Menu

Setup Keys

Various keys on the head unit and Multi Function Wheel can have a configurable action assigned to them. When changing the action a 'Search' type menu is used, the type of menu will depend on how you have setup the search options.

Each key is configurable by source type, that is to say that the key can be setup to perform different actions for each type of source, iPod, CD Changer, Radio and Aux. When entering the configuration for each key the currently selected source type determines the source type that is configured. Selecting a key action that is common to all source types will set the action for all source types.

All keys except the R/T key on the Multi Function Wheel can have actions assigned to both Short Key Press (SKP) and Long Key Press (LKP), a Long Key Press is triggered if the key is held for approximately 1 second.

The default actions, for each key by source type, are shown below.

Table 7 Single Line UI default actions for Head Unit and Multi Function Steering Wheel buttons.

Key	Press	Action			
		CDC/MDC/DVD	iPod	Tuner	Aux
1 Key	SKP	Select CD 1	Select Playlist 1	Select Preset 1	No Action
	LKP	Folder Search Menu	Playlist Search Menu	Set Preset 1	No Action
2 Key	SKP	Select CD 2	Select Playlist 2	Select Preset 2	No Action
	LKP	Track Search Menu	Artist Search	Set Preset 2	No Action
3 Key	SKP	Select CD 3	Select Playlist 3	Select Preset 3	No Action
	LKP	Combined Search Menu	Album Search	Set Preset 3	No Action
4 Key	SKP	Select CD 4	Select Playlist 4	Select Preset 4	No Action
	LKP	No Action	Song Search	Set Preset 4	No Action
5 Key	SKP	Select CD 5	Select Playlist 5	Select Preset 5	No Action
	LKP	Toggle Folder/Track Mode	No Action	Set Preset 5	No Action
6 Key	SKP	Select CD 6	Select Entire iPod	Select Preset 6	No Action
	LKP	Search Menu	Search Menu	Set Preset 6	No Action
'M' Key (UI4 only)	SKP	No Action			
	LKP	No Action			
> On MFSW	SKP	Next Track	Next Track	Next Station	No Action
	LKP	Fast Forwards	Fast Forwards	Next Multiplex	No Action
< On MFSW	SKP	Previous Track	Previous Track	Previous Station	No Action
	LKP	Rewind	Rewind	Previous Multiplex	No Action
R/T Key on MFSW	SKP	No Action			
'Voice' Key on MFSW	SKP	No Action			
	LKP	No Action			

It should be noted that for UI2 it is not possible to assign actions for the long key press of the 1-6 key, when using UI2 these options will not be available for selection.

For UI4, MID, the short name will be displayed under the key for the 1-6 keys Short press action.

For some actions a display prompt is show for 2 seconds after the action has been performed, those action names are highlighted in bold in the tables below.

Table 8 Single Line UI Common Actions

Action Name	Description	Short Name
No Action	The selected key will perform no function.	
Goto Now Playing	The now playing menu will be displayed. If the Now Playing menu is already displayed then the Now Playing information will be incremented to the next item.	N.P
Goto Main Menu	The main menu will be displayed.	M.M
Goto Source Menu	The source selection menu will be displayed. This action can only be performed when multiple sources are detected by the Intravee.	Src
Go Back	The 'Go Back' action is executed.	Back
Select	The 'Select' action is executed.	Sel
Next	The 'Next' action is executed.	Nxt
Previous	The 'Previous' action is executed.	Prv
Toggle Tuner	The radio module connected to the Intravee will be toggled with the currently selected AI-Net source. If no Alpine tuner is connected this will perform no action. This action does not toggle between the BMW radio and Intravee.	TTu
Next Source	Selects the Next Intravee source. *	Src
Next Net Source	Selects the Next Intravee source excluding Aux ports. *	Net
Select Net 1	The source attached to AI-Net port 1 will be selected.	Sr1
Select Net 2	The source attached to AI-Net port 2 will be selected.	Sr2
Select Net 3	The source attached to AI-Net port 3 will be selected.	Sr3
Select Net 4	The source attached to AI-Net port 4 will be selected.	Sr4
Select Aux 1	The source attached to Aux port 1 will be selected.	Ax1
Select Aux 2	The source attached to Aux port 2 will be selected.	Ax2
Select Tuner	The radio module connected to the Intravee will be selected.	Tun
Toggle High OBC Text	Text display to the OBC on the instrument cluster or MID on the E38, E39, E53 (X5) and Range Rover will be toggled on or off.	OBC
Bluetooth Pairing	If a BMW Bluetooth phone module is installed then Bluetooth pairing mode will be initiated. To exit Bluetooth pairing mode the car ignition must be cycled.	BtP

* Note that when selecting an AI-Net source on the KCA-410c or KCA-400c, if no source is connected the AI-Net switch will automatically move to the next port on which a device has been selected. If you have a tuner connected and no device on the last AI-Net port then the tuner will not be selectable using the Next Source or Next Net Source option. If you have an empty port on an AI-Net switch and an AI-Net tuner then it is advisable to ensure that a device is connected to the last AI-Net port on the switch and leave one of the others empty.

Table 9 Single Line UI iPod Actions

Action Name	Description	Short Name
Playlist Search	The playlist search mode will be selected.	PL
Artist Search	The artist search mode will be selected.	Art
Album Search	The album search mode will be selected.	Alb
Song Search	The song search mode will be selected.	Sng
Playlist 1	The first user created Playlist on the iPod will be selected.	P1
Playlist 2	The second user created Playlist on the iPod will be selected.	P2
Playlist 3	The third user created Playlist on the iPod will be selected.	P3
Playlist 4	The fourth user created Playlist on the iPod will be selected.	P4
Playlist 5	The fifth user created Playlist on the iPod will be selected.	P5
Playlist 6	The sixth user created Playlist on the iPod will be selected.	P6
Playlist 7	The seventh user created Playlist on the iPod will be selected.	P7
Playlist 8	The eighth user created Playlist on the iPod will be selected.	P8
Playlist 9	The ninth user created Playlist on the iPod will be selected.	P9
Playlist 10	The tenth user created Playlist on the iPod will be selected.	P10
Playlist 11	The eleventh user created Playlist on the iPod will be selected.	P11
Playlist 12	The twelfth user created Playlist on the iPod will be selected.	P12
All Songs on iPod	The automatically generated Playlist that has all tracks on the iPod will be selected.	All
Next Track	The next track will be selected.	>
Prev Track	The previous track will be selected or the current track will be started from the beginning.	<
Fast Forwards	The current track will play at increased speed.	>>
Rewind	The current track will be played backwards at increased speed.	<<
Skip Forwards	Tracks will be incremented at about 5 tracks per second until a Play, Next or Previous track command is executed or when the < or > key on the Multifunction Wheel is released.	>>T
Skip Backwards	Tracks will be decremented at about 5 tracks per second until a Play, Next or Previous track command is executed or when the < or > key on the Multifunction Wheel is released.	<<T
Next Random Mode	The next random mode will be selected, modes cycle through Off, Album and Song.	Rnd
Next Repeat Mode	The next repeat mode will be selected, modes cycle through All and Song.	Rep
Pause/Play	If the track is playing it will be paused, if paused it will start playing.	P/P

Table 10 Single Line UI CD, MD and DVD Changer actions

Action Name	Description	Short Name
Track Search	The track search mode will be selected.	Trk
Folder Search	The folder search mode will be selected.	Fld
Next Track	The next track will be selected.	> T
Prev Track	The previous track will be selected or the current track will be started from the beginning.	< T
Next Folder	The next folder will be selected (MP3 CD's only).	> F
Prev Folder	The previous folder will be selected (MP3 CD's only).	< F
Next Track or Folder	The next track or folder will be selected depending on the selection mode set (Track or Folder mode).	>TF
Prev Track or Folder	The previous track or folder will be selected depending on the selection mode set (Track or Folder mode).	<TF
Disc 1	Disc 1 will be selected from the magazine.	D1
Disc 2	Disc 2 will be selected from the magazine.	D2
Disc 3	Disc 3 will be selected from the magazine.	D3
Disc 4	Disc 4 will be selected from the magazine.	D4
Disc 5	Disc 5 will be selected from the magazine.	D5
Disc 6	Disc 6 will be selected from the magazine.	D6
Set Track or Folder Mode	The selection mode will toggle between Track and Folder mode.	T/F
Fast Forward	The current track will play at increased speed.	>>
Rewind	The current track will be played backwards at increased speed.	<<
Skip Forwards	Tracks will be incremented at about 5 tracks per second until a Play, Next or Previous track command is executed or when the < or > key on the Multifunction Wheel is released.	>>T
Skip Backwards	Tracks will be decremented at about 5 tracks per second until a Play, Next or Previous track command is executed or when the < or > key on the Multifunction Wheel is released.	<<T
Next Random Mode	The next random mode will be selected. Modes cycle through Off, Folder and Disc for MP3 CD's and Off and Disc for audio CD's.	Rnd
Next Repeat Mode	The next repeat mode will be selected. Modes cycle through Off, Track, Folder and Disc for MP3 CDs and Off, Track and Disc for audio CD's.	Rep
Pause/Play	If the track is playing it will be paused, if paused it will start playing.	P/P

Table 11 Single Line UI DAB, HD, XM and Sirius Radio actions

Action Name	Description	Short Name
Next Station	The next station will be selected. For DAB radio this is the next station on the current multiplex. For HD radio the way the station is found depends on the tuner scan mode.	> S
Prev Station	The previous station will be selected. For DAB radio this is the previous station on the current multiplex. For HD radio the way the station is found depends on the tuner scan mode.	< S
Next Mux	The next multiplex will be selected, available for DAB and HD radio only.	> M
Prev Mux	The previous multiplex will be selected, available for DAB and HD radio only.	< M
Next Station or Mux	The next station or multiplex will be selected depending on the selection mode set (Station or Mux).	>SM
Prev Station or Mux	The previous station or multiplex will be selected depending on the selection mode set (Station or Mux).	<SM
Next Band	The next radio band or preset bank will be selected.	> B
Prev Band	The previous preset bank will be selected. For the TUA-T500 this performs no action, for the TUA-T550 this selects the next band.	< B
Next Category	For Sirius, the next station category will be selected.	> C
Prev Category	For Sirius, the previous station category will be selected.	< C
Next Preset	The next preset will be selected. If no preset is currently selected then preset 1 will be selected.	> P
Prev Preset	The previous preset will be selected. If no preset is currently selected then preset 1 will be selected.	< P
Set Station or Mux Mode	The selection mode will toggle between Station and Multiplex mode.	S/M
Goto Presets Menu	The Presets menu will be selected.	Pre
Preset 1	Tuner preset 1 will be selected.	P1
Preset 2	Tuner preset 2 will be selected.	P2
Preset 3	Tuner preset 3 will be selected.	P3
Preset 4	Tuner preset 4 will be selected.	P4
Preset 5	Tuner preset 5 will be selected.	P5
Preset 6	Tuner preset 6 will be selected.	P6
Set Preset 1	Tuner preset 1 will be set to the current station.	SP1
Set Preset 2	Tuner preset 2 will be set to the current station.	SP2
Set Preset 3	Tuner preset 3 will be set to the current station.	SP3
Set Preset 4	Tuner preset 4 will be set to the current station.	SP4
Set Preset 5	Tuner preset 5 will be set to the current station.	SP5
Set Preset 6	Tuner preset 6 will be set to the current station.	SP6

Reset Key Defaults

Selecting this option resets all key actions to their default values.

Setup Display

Scroll Parameters

The speed, start and end delay and number of scroll repeats can be configured to suit your preferences.

Start Delay

The time between the text first being displayed and scrolling starting.

Speed

The time between each character scroll.

End Delay

The time between the last character of the displayed text being scrolled into view and the re-display of the first set of characters.

Repeats

The number of times scrolling will repeat. This can be set to Infinite which will cause the scrolling to continue until the text changes.

NP Timeout

A duration in seconds may be specified which control the time taken for the Intravee to revert back to the Now Playing display after a period of inactivity. The duration may be between 10 and 120 seconds or 'Disabled', if set to 'Disabled' the Intravee will never revert back to the Now Playing display automatically.

Display Length

Most head units that use the single line UI can display up to 11 characters. However some UI3 head units will only display 8 characters while the tuner is in FM mode and some Business head units can display up to 12 characters. Change this option to set the point at which scrolling stops and the number of characters the Intravee will attempt to display, the value may be between 1 and 20, the default is 11.

Fast Update (UI2 Only)

UI2 is unique in that the radio module and button board are integrated. This means that the radio module does not report all key presses over the iBus, only those that are relevant to the CD Changer device, it does however indirectly report that some key has been pressed, with no information on which key.

When Fast Update is selected the Intravee will immediately refresh the text it is displaying when it detects a key press, this gives much more reliable screen updates and a more consistent display.

There are however three limitations of this update mode:

- The Intravee will immediately overwrite the Tone display making changing the Bass, Treble, Balance and Fader quite hard. To prevent the user from having to set and reset this option when changing the tone settings, the feature is inactive on the main 'Intravee' menu option. Thus, to change the tone, select the 'Intravee' menu option first.

- On some Business head units when switching source from the Intravee to FM/AM radio, the Intravee will overwrite the initial radio display. Changing band or frequency is necessary to restore the correct display.
- On Business head units that have the 'double key press' issue, selecting this option will make navigation using the head unit keys **impossible**, all keys will become inoperable. Keys on the multifunction wheel will still work. If there is no multifunction wheel or the wheel keys have been assigned to non navigation actions (Next/Prev/Select/Back) then the **Intravee will require connecting to a PC to disable this setting.**

Lead Char (UI2 Only)

When displaying text the radio automatically removes any leading space characters, this can cause jerky scrolling when the text to scroll contains spaces. For example, the text "This contains spaces" would be displayed as follows:

"This contains spaces"
 "his contains spaces"
 "is contains spaces"
 "s contains spaces"
 "contains spaces"
 "contains spaces"
 "ontains spaces"

When the scrolling reaches the end of the word it will jump two characters, and then remain there for two character increments.

The work around for this is to replace a lead space character with another character to prevent it being removed. Due to the different characteristics of different head units the best character to use differs. The default lead character is the '.' (full stop) character, as this works on all head units and is relatively inconspicuous. However, some head units display a space for other character values, if this space is not a 'true' space it is not removed and the display will scroll smoothly.

You can use the Lead Char menu to display all the characters that your head unit is capable of and choose the best character for your display. Scroll through the characters using the < and > keys, each character will be displayed within single quotes followed by its numerical ID, for example:

'.' 46

With the current selection displayed within angled braces, for example:

<.> 46

Abandon selection using the Back action, set the lead character using the Select action.

Setup Search

Auto Song Search

Auto Song search will be turned on or off.

Percentage Search

Percentage search will be turned on or off.

Setup Language

Auto

When the 'Auto' language option is set the Intravee will monitor the iBus for language code broadcasts, when one is detected it will automatically switch into the language that the car is set to if available.

English

English is the default language if Auto set is off or the detected language is not supported by the Intravee.

Deutsch

Menus and prompts will be displayed in German.

Dutch

Menus and prompts will be displayed in Dutch.

Français

Menu and prompts will be displayed in French.

Italiano

Menus and prompts will be displayed in Italian.

Español

Menus and prompts will be displayed in Spanish.

Extras

See the Extra Features Supplement.

OBC Display (UI1 and UI4 Only)

On cars with either a MID display or the 'High OBC' instrument cluster, the Intravee can display additional information in the area normally used by the On Board Computer.

Enable

The option to disable or enable OBC text display.

Text Item

The text item to display in the OBC area.

The options available for assignment vary by source type with some common options available to all source types.

Table 12 Common Header Options

Nothing	The selected field will be blank.
Source Name	The name of the currently selected source will be displayed.
Source Type	The type of the current source will be displayed.
Coolant Temp	The currently reported coolant temperature.
Outside Temp	The currently reported outside temperature.
Vehicle Speed	The current vehicle speed.
Engine Revs	The current engine rpm.
Intravee	The text 'Intravee' will be displayed.

Table 13 iPod Header Options

Song	The ID3 Song tag from the current track will be displayed.
Album	The ID3 Album tag from the current track will be displayed.
Artist	The ID3 Artist tag from the current track will be displayed.
Now Playing	The Song, Album and Artist will be displayed according to the Now Playing sequence.
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
Track Time	The current track time will be displayed.
Track Number	The current track number will be displayed in the form 'Tx' where x is the track number.
Random Mode	The currently selected random mode will be displayed in short form, Off will display nothing, Album will display 'Ra' and Song will display 'Rs'.
FF/RW Mode	A set of double arrows will be displayed to indicate the transport mode, '<<' for rewind, '>>' for fast forwards.

Table 14 CD, MD and DVD Changer options

Track	The ID3 Song tag from the current track will be displayed.
Album	The ID3 Album tag from the current track will be displayed.
Artist	The ID3 Artist tag from the current track will be displayed.
Now Playing	The Song, Album and Artist will be displayed according to the Now Playing sequence.
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
File Name	The file name of the current track will be displayed. Leading numbers and trailing '.MP3' will be removed.
Folder Name	The current folder name will be displayed.
Disc Number	The current disc number will be displayed in the form Dx, where x is the disc number.
Track Number	The current track number will be displayed in the form 'Tx' where x is the track number.
Track Time	The current track time will be displayed.
Folder Number	The current folder number will be displayed in the form 'Fx' where x is the folder number.
Track & Folder Number	The current track and folder numbers will be displayed in the form 'Tx Fy' where x is the track number and y the folder number.
Track/Folder Mode	The current selection mode will be displayed as 'Track' or 'Folder'. If in fast forwards or rewind mode, a set of double arrows will be displayed to indicate the transport mode, '<<' for rewind, '>>' for fast forwards.
Random Mode	The currently selected random mode will be displayed in short form, Off will display nothing, Folder will display 'Rf' and Disc will display 'Rd'.
FF/RW Mode	A set of double arrows will be displayed to indicate the transport mode, '<<' for rewind, '>>' for fast forwards.

Table 15 DAB Radio options

Station Name	The current station name will be displayed.
Multiplex Name	The current multiplex name will be displayed.
Multiplex Number	The current multiplex number will be displayed.
Station/Mux Mode	The current selection mode will be displayed as 'Station' or 'Mux'.
Genre	The Genre of the selected station.
Preset Number	The preset in use (if any).
DAB Text	The descriptive text transmitted by the selected station, sometimes the name of the show or the current song.
Frequency	Details of the current frequency.
Preset Bank	The selected Preset bank number.

Table 16 HD Radio options

Station Name	The current station name will be displayed.
Radio Band	The current radio band will be displayed, FM1 FM2 or AM
Multiplex Number	The multiplex number will be displayed in the form 'Mx' where x is the current multiplex number.
Station/Mux Mode	The current selection mode will be displayed as 'Station' or 'Mux'.
Frequency	The current frequency selected.
Artist	The current Artist.
Song	The current Song.
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
Preset Number	The preset in use (if any).

Table 17 Sirius Radio options

Station Name	The current station name will be displayed.
Channel Number	The current Sirius Channel number will be displayed.
Category Name	The category of the selected station.
Artist	The current Artist
Song	The current Song
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
Preset Number	The preset in use (if any).
Preset Bank	The selected Preset bank number.

Table 18 XM Radio options

Station Name	The current station name will be displayed.
Channel Number	The current Sirius Channel number will be displayed.
Category Name	The category of the selected station.
Artist	The current Artist
Song	The current Song
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
Preset Number	The preset in use (if any).
Preset Bank	The selected Preset bank number.

OBC Target

The target area to display the text, options are MID and Cluster.

Figure 9 OBC Display on Instrument cluster



Start Delay

The time between the text first being displayed and scrolling starting.

Speed

The time between each character scroll.

End Delay

The time between the last character of the displayed text being displayed and the display of the first characters being displayed.

Final Delay

The time between the last scroll ending and the OBC display being cleared.

2.2.12. Diagnostics Menu

Items on the diagnostics menu should generally not be used unless instructed to do so by a member of the Intravee support team.

Reboot

Causes the Intravee to reboot.

Reset Counts

Resets various status counters.

Power Ctrl Off

Issues a power off command to the selected device.

Power Ctrl On

Issues a Power On command to the selected device.

iBusd

Displays the status, and allows setting or resetting, of iBus debugging information.

iBusm

Displays the status, and allows setting or resetting, of iBus message information.

Netd

Displays the status, and allows setting or resetting, of AI-Net debugging information.

Netm

Displays the status, and allows setting or resetting, of AI-Net message information.

Appm

Displays the status, and allows setting or resetting, of application message information.

Pings

Displays the status, and allows setting or resetting, of ping information.

Critm

Displays the status, and allows setting or resetting, of critical message information.

2.2.13. Status Menu

Boot Count

Displays the number of times the Intravee has booted up since manufacture.

Boot Fatal Count

Displays the number of times the Intravee has booted up after not being shutdown correctly since the counters were reset.

Recovery Count

The number of times the Intravee has rebooted in recovery mode since the counters were reset.

Sleep Fail Count

The number of times the Intravee has failed to enter sleep mode since the counters were reset.

Watchdog Count

The number of times the Intravee has been reset by the watchdog since the counters were reset.

IPC Count

The minimum number of free IPC locations.

Run Time

The total runtime since the Intravee was manufactured.

2.2.14. About Menu

Firmware Version

The current Firmware version.

Firmware Build

The current Firmware Build number.

Serial Number

The Intravee serial number.

Build Date

The date of manufacture.

3. Multi Line Menu UI Mode 6

The Intravee menu is controlled in the same way as the other menus and screens on the Nav monitor, by rotating the right rotary control to highlight an item and then pressing it to select the item. For most screens the item is highlighted using box around the text, the exceptions to this are the Fast Search and Advanced search screens. On the Fast Search screen the selected item is displayed in the lightly shaded area above the menu area of the screen. On the Advanced Search screen the selected item is identified by a diamond character on the left side.

The Intravee is designed to work with the Navigation system in either Split screen or full screen mode as set in the Nav software settings menu. The standard Search screen used by the Intravee will always be displayed Full screen.

Figure 10 BMW Settings Menu



The Nav settings menu displays the software version in the top right corner, this must be 4-1/40 or higher for the Advanced search and Now Playing screen (the Now Playing Menu is available with all software versions) to function.

When you use the Mode button or the < and > keys while the Nav map, Nav computer or main Menu are displayed, the BMW system switches automatically to the Audio screen for a few seconds. Using the Intravee menus in this state is not easy as it tends to switch back as you read the options on the menu. It is strongly recommended that you only navigate the Intravee menus when you have explicitly switched to the audio screen using the button with two overlapping rectangles.

The location of the display toggle button depends on the vehicle type, but the symbol is the same.



It is also possible to assign the 'Toggle Map' action to any assignable key.

Figure 11 E38, E39, X5 and Range Rover Wide Screen



Figure 12 E38 and E39 LHD 4:3 Screen



Figure 13 E38 and E39 RHD 4:3 Screen



Figure 14 X5 LHD 4:3 Screen



Figure 15 X5 RHD 4:3 Screen



Figure 16 E46 and Rover 75 Wide Screen



Figure 17 E46 and Rover 75 LHD 4:3 Screen



Figure 18 E46 and Rover 75 RHD 4:3 Screen



Figure 19 E83 (X3) and E85 (Z4)



The Mini does not have a display toggle key, use the 'Rnd' key on the right side of the 'Boost' radio instead.

3.1. Control Keys

A full list of the keys and their actions is shown in Table 1. Most keys have a Short Key Press (SKP) and Long Key Press (LKP) action.

Table 19 Head Unit and Multi Function Steering Wheel buttons used to control the Intravee for Multi Line UI.

Key	Action				
	CDC	iPod	DAB	HD Radio	Sirius/XM
Rotate control Clockwise	Move selection Up (dependent on Nav Controller settings)				
Rotate control Anticlockwise	Move Selection Down (dependent on Nav Controller settings)				
Rotary control SKP	Select Highlighted Item				
Rotary Control LKP	Sets Item count on Search menu. Exits from Fast and Advanced Search menus without making a selection.		Store Station Preset when on Station Preset menu		
> SKP	Select Next Track or Folder	Select Next Track	Select Next Station or Mux	Select Next Station or Multicast	Select Next Station
< SKP	Select Prev Track or Folder	Select Prev Track	Select Prev Station or Mux	Select Prev Station or Multicast	Select Previous Station
> LKP	Start Fast Forward (exit by pressing < or >)		Scan to Next Mux	Select Next Band, FM1, FM2 or AM	No Action
< LKP	Start Rewind (exit by pressing < or >)		Scan to Prev Mux	Select Prev Band, FM1, FM2 or AM	No Action
<> (Tape Reverse)	User Assigned				
Number Keys 1-6	User Assigned				
Clock Key	User Assigned				
Phone Key	User Assigned if no Phone Installed				
Dolby Key	User Assigned				
> On MFSW	User Assigned				
< On MFSW	User Assigned				
R/T Key on MFSW	User Assigned if no Phone Installed				
'Voice' Key on MFSW	User Assigned if no Phone Installed				

3.2. Initial Setup

3.2.1. Nav System Setup

The default setting for the Intravee when manufactured is for automatic Nav Type detection. Most variants of the Nav system and radio module should work in this mode with no requirement to change any settings. In some cases the menus may disappear if the wrong Nav type has been detected or selected, toggling to the map and back using the 'rectangles' button should restore the menus.

Although the basic menu system should work in any mode on any Nav system type, some features will not work correctly unless the correct type is selected.

When in Auto UI detection mode, the Intravee will attempt to determine the correct Nav system type when it first detects that a Nav system is installed.

TV Module

Unless set correctly the menu titles and search selections will not display. Field 0, the large text at the top of the display, will not be updated correctly (see the Headers section for more details on field areas). This area is used to display menu titles and the current search item information so it is important to configure this option correctly. Due to the possibility of the Nav computer crashing and the TV module taking over the UI, the Intravee monitors the Nav computer, if it detects that it has stopped responding it will automatically enable TV mode, although this will not be reflected on the settings menu.

Mk 1, Mk 2 and Mk 3 Nav computers with Software 3-1/31 or lower

Unless set correctly Field 0, the large text at the top of the display will not be updated correctly (see the Headers section for more details on field areas).

Mk 3 Nav computers with Software 3-1/40 or higher and Mk 4 Nav computers

Fields may be truncated unnecessarily, text size of Field 0 cannot be controlled (see the Headers section for more details on field areas) and the screen may not be updated correctly.

Mk 4 Nav computers with Software 4-1/40 or higher

Unless set correctly the static Now Playing screen and Advanced search features will not be available. The screen may not be updated correctly.

3.2.2. BMW Mini

The BMW Mini Nav system is different to the BMW Nav system in that there is no Radio module that controls the Nav display, the radio is a standard Boost head unit. Because of this there is normally no 'Audio' display on the Nav screen and no way to switch between it and the Map display. To achieve full control the 'Rnd' button on the Mini radio has be used to toggle between the Intravee display and the normal Nav display. This action is also assignable to any user assignable key.

3.3. Intravee Menu Reference

Many of the Intravee menus are source type specific, only the Setup menu and its sub menus will be the same regardless of the configuration. The menu reference is therefore split into source specific sections followed by Search menu types, a Source menu section and a Setup section.

3.3.1. iPod Source

Main Menu

Figure 20 iPod Main Menu



With an iPod source the main menu gives access to the Now Playing, Search, Source and Setup sub-menus and also gives control of Random mode, Repeat mode, and Pause.

The Source menu will be displayed only if the Intravee has detected more than one source connected, for example iPod and Radio or an AI-Net Switch.

Random Mode

The options available are:

Random Off

The tracks will be played in the sequence defined by the iPod.

Random Album

The Albums for a selected Artist or the Albums in the selected Playlist will be played in a random order, but with each Album in its track order.

Random Song

The tracks will be played in a random order.

Repeat Mode

The options available are:

Repeat All

All the tracks in the current selection will be repeated; when the last track ends the first track will start playing.

Repeat Song

The current track will be repeated continuously.

It is not possible to turn off repeat mode with an iPod source.

Pause/Play

The current track can be Paused or Resumed by selecting this option.

Now Playing Menu

Figure 21 iPod Now Playing Menu



The Now Playing Menu displays the Album, Artist and Song ID3 Information. The order in which this is displayed is determined by the 'Now Playing Sequence'.

Clicking on the 'Now Playing' option will display the 'Static Now Playing' display if using a Mk IV Nav computer with software 4-1/40 or higher.

Search capabilities can be accessed directly by clicking the ID3 Info for Album, Artist or Song, or by selecting the

Playlist Search option.

Now Playing Screen

Figure 22 iPod Static Now Playing Screen



The Static Now Playing screen is only available when using a MK IV Nav computer with software 4-1/40 or higher. It will display the Album, Artist and Song in the sequence determined by the Now Playing Sequence option.

Clicking the Right Rotary Controller will exit the screen, back to the Now Playing Menu.

A long key press on the Right Rotary Controller will enter the Search menu.

Turning the Right Rotary Controller will cycle through the Now Playing, Alternate Now Playing, Song, Artist and Album displays.

Alternate Now Playing Screen

Figure 23 iPod Alternate Now Playing Screen



The Alternate Now Playing screen displays the Artist and Album, in the sequence defined by the Now Playing Sequence setup, and then the current Song name. The Song is always displayed at the bottom and can occupy up to 3 lines.

A short click on the Right Rotary Controller will exit back to the Now Playing Menu, a long click will enter the Search menu.

Extended Song ID3 Now Playing Screen

Figure 24 iPod Extended Song ID3 Now Playing screen



While on the Song screen, a short click on the Right Rotary Controller will exit back to the Now Playing Menu, a long click will enter Song search directly.

Extended Album ID3 Now Playing screen

Figure 25 Extended Album ID3 Now Playing screen



While on the Album screen, a short click on the Right Rotary Controller will exit back to the Now Playing Menu, a long click will enter Album search directly.

Extended Artist ID3 Now Playing screen

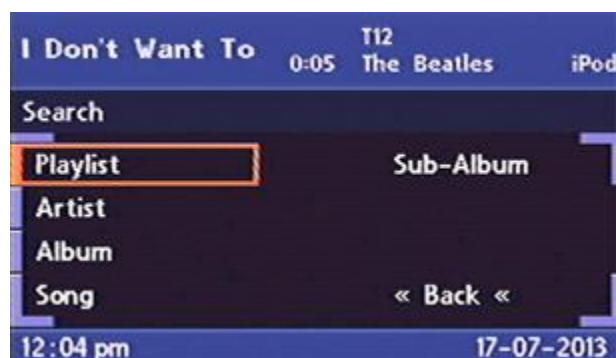
Figure 26 iPod Extended Artist ID3 Now Playing screen



While on the Artist screen, a short click on the Right Rotary Controller will exit back to the Now Playing Menu, a long click will enter Artist search directly.

Search Menu

Figure 27 iPod Search Menu



For the iPod you may search by Playlist, Artist, Album, Song and Sub-Album. The Sub-Album option is automatically selected when you select an Artist and is available for re-selection until another search mode is chosen. On selecting a Playlist or Album, if the 'Auto Song Srch' option is set in the 'Setup Search' menu, then Song search is automatically selected

3.3.2. MP3 CD or DVD Source

Main Menu

Figure 28 MP3 CD Main Menu



With a MP3 CD source the main menu gives access to the Now Playing, Search, Source and Setup sub-menus and also gives control of Random mode, Repeat mode, Intro Scan and Pause.

The Source menu will be displayed only if the Intravee has detected more than one source connected, for example MP3 CD Changer and Radio or an AI-Net Switch.

Random Mode

The options available are:

Random Off

The tracks will be played in the sequence they are stored on the CD.

Random Folder

The tracks in the current folder will be played in a random sequence, when all tracks have been played the next folder will be selected.

Random Disk

All the tracks on the disk will be played in a random order.

Repeat Mode

The options available are:

Repeat Off

All tracks on the current disk will be played, when the last track ends the first track on the next disk will be played. When the last track on the last disk in the magazine ends, the first track on the first disk in the magazine will be played.

Repeat Track

The current track will be repeated continuously.

Repeat Folder

The tracks in the current folder will be repeated.

Repeat Disk

The tracks on the current disk will be repeated.

Intro Scan

Intro Scan may be turned off or On for CD Changer or MD Changer type sources. When turned on the first 10 seconds of each track is played before the next track is selected.

Pause/Play

The current track can be Paused or Resumed by selecting this option.

Now Playing

Figure 29 MP3 CD Now Playing Menu



The Now Playing Menu when an MP3 CD is being played is similar to the Now Playing screen when an iPod is playing.

When playing an MP3 track from a CD the ID3 information, if available, is displayed in the menu area. The CHA-S634 only supports ID3 V1 information; ID3 V2 tags will not be displayed.

The 'Playlist Search' menu item is replaced by a toggle for Folder or Track mode, this controls how the < and > buttons on the head unit control the MP3 disk. In Track mode they select the next and previous track, in Folder mode they select the next and previous folder.

Clicking the 'Now Playing' option will display the 'Static Now Playing' display if using a MK IV Nav computer with software 4-1/40 or higher.

Clicking on any of the ID3 tags will directly call the Search menu, from which you can select the search mode.

The Static Now Playing display is similar to the iPod display, the exception being the Long Key Press action, this always enters the Search menu directly.

Static Now Playing Screen

Figure 30 MP3 CD Now Playing Screen



The Static Now Playing screen is only available if using a Mk IV Nav computer with software 4-1/40 or higher. It will display the Album, Artist and Song in the sequence determined by the Now Playing Sequence option.

Clicking the Right Rotary Controller will exit the screen, back to the Now Playing Menu. A long click on the controller will enter the Search Menu.

Turning the Right Rotary Controller will cycle through the Now Playing, Alternate Now Playing, Song, Artist and Album displays.

Search Menu

Figure 31 MP3 CD Search Menu



For an MP3 CD you may search by Folder or Track or a combined mode. You may also enter the Disc selection menu.

Combined Search Menu

Figure 32 MP3 CD Combined Search Menu



The combined search menu allows you select both folder and file at the same time from an MP3 CD without interrupting the currently playing track. The file name is displayed above the menu to the left, the folder name to the right.

Disc Selection Menu

Figure 33 MP3 CD Disc Selection Menu



The Disc selection menu allows you to select a Disc in the magazine directly and view the status of the magazine.

Possible disc states are :

- MP3 CD – A data disk with MP3 files.
- Audio CD – A standard audio CD.
- Empty – There is no disk in the slot.
- Unknown – The slot in the magazine has not been checked.

3.3.3. Audio CD or MD Source

Main Menu

Figure 34 Audio CD Main Menu



Random Mode

The options available are:

Random Off

The tracks will be played in the sequence they are stored on the CD/MD.

Random On

The tracks on the CD/MD will be played in a random order.

Repeat Mode

The options available are :

Repeat Off

The All tracks on the current disk will be played, when the last track ends the first track on the next disk will be played. When the last track on the last disk in the magazine ends, the first track on the first disk in the magazine will be played.

Repeat Track

The current track will be repeated continuously.

Repeat Disk

The tracks on the current disk will be repeated.

Intro Scan

Intro Scan may be turned off or On for CD Changer or MD Changer type sources. When turned on the first 10 seconds of each track is played before the next track is selected.

Pause/Play

The current track can be Paused or Resumed by selecting this option.

Now Playing

Figure 35 Audio CD Now Playing Menu



The content of the Now Playing Menu when an Audio CD is being played will depend on the type of Audio CD. If the CD supports CD-Text then the CD Text information will be displayed instead of the ID3 information. If the CD is not a CD-Text disk, then these options will be blank.

Clicking on the 'Now Playing' option will display the 'Static Now Playing' display if using a Mk IV Nav computer with software 4-1/40 or higher.

There is also an option to directly enter the Disc selection menu.

Static Now Playing Screen

Figure 36 Audio CD Static Now Playing Screen



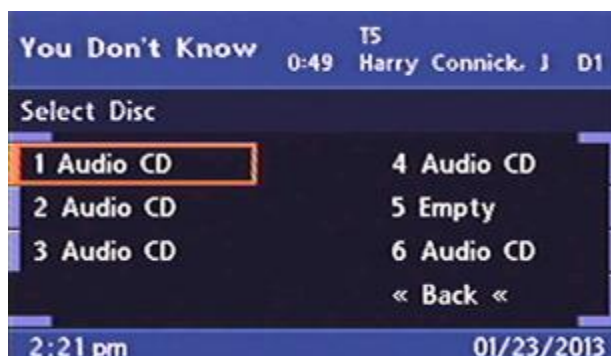
The Static Now Playing screen is only available if using a Mk IV Nav computer with software 4-1/40 or higher. It will display the Album, Artist and Song in the sequence determined by the Now Playing Sequence option.

Clicking the Right Rotary Controller will exit the screen, back to the Now Playing Menu.

Turning the Right Rotary Controller will cycle through the Now Playing, Alternate Now Playing, Song, Artist and Album displays.

Disc Selection Menu, 6 Disc Changer

Figure 37 Audio CD Disc Selection Menu, 6 Disc Changer



The CD selection menu allows you to select a CD in the magazine directly and view the status of the magazine. Each 'slot' is represented by a menu item, possible item states are :

Audio CD – A standard audio CD is occupying the slot.

Empty – There is no disk in the slot.

Unknown – The slot in the magazine has not been checked.

Disc 1-6 Selection Menu, 12 Disc Changer

Figure 38 Audio CD Disc 1-6 Selection Menu, 12 Disc Changer



When using a 12 disc changer an extra option will be displayed on the Disc selection menu to enable direct selection of discs 7-12.

Disc 7-12 Selection Menu, 12 Disc Changer

Figure 39 Audio CD Disc 7-12 Selection Menu, 12 Disc Changer



3.3.4. DAB Radio Source

Main Menu

Figure 40 DAB Radio Main Menu



Preset Banks 1-3

The DAB tuner supports 3 banks of 6 presets, 18 in total. You can select the preset bank by selecting the option from the menu. The selected bank number can be displayed in the menu header area.

The name of the Preset Bank can be changed, but not directly through the UI. The name can be changed only by using the Intravee downloader program console command

sbnX Name

Where 'X' is the Preset Bank number and 'Name' is the name assigned to the Bank.

Dynamic Range

DAB broadcasts have a much larger Dynamic Range (difference in volume between the loudest and quietest sound) than FM or AM radio broadcasts. In a car environment it may be desirable to compress the dynamic range so that the quieter sections are played back slightly louder and the loudest sections are played back slightly quieter. Dynamic Range is typically more noticeable when listening to Classic music, many DAB broadcasts already reduce the dynamic range. BBC Radio 3 is an example of a station that does not generally reduce the Dynamic Range.

Selecting the Dynamic Range option to ON will reduce the Dynamic Range.

Now Playing

Figure 41 DAB Radio Now Playing Menu



The Now Playing menu for the DAB source will display the first 4 lines of the DAB text, clicking on any of the DAB text options will enter the Station Presets menu.

Clicking on the 'Now Playing' option will display the 'Static Now Playing' display if using a Mk IV Nav computer with software 4-1/40 or higher.

Static Now Playing Screen

Figure 42 DAB Radio Static Now Playing Screen



The Static Now Playing display for the DAB source shows up to 5 lines of DAB text.

Turning the rotary controller while displaying the Static Now Playing screen will select the secondary Static Now Playing screen.

Secondary Static Now Playing Screen

Figure 43 DAB Radio Secondary Static Now Playing Screen



Turning the rotary controller while displaying the Secondary Static Now Playing screen will select the Static Now Playing screen.

Presets Menu

Figure 44 DAB Radio Presets Menu



DAB presets can be stored by performing a long press of the rotary control on the menu item or a long key press on the number keys if the default key actions have not been changed.

For DAB radio, storing a station will cause the current station and Mux to be stored.

Once a station is stored, the station name will be displayed in the preset location.

The presets displayed will pertain to the selected preset bank, when changing preset banks the preset that is displayed, retrieved and set will be changed to reflect the presets in the newly selected preset bank.

Auto Store

Selecting the Auto Store option will cause the DAB tuner to scan all frequencies, which will take several seconds. The first station from each received multiplex will then be stored sequentially in each of the presets.

DAB Station Secondary Service

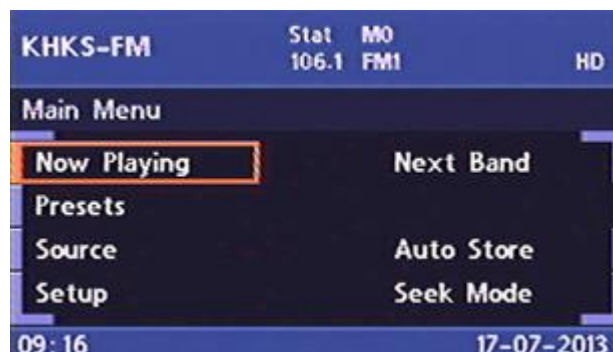
DAB radio station can broadcast a secondary service component in addition to their main component. The secondary service is usually only transmitted for specific events or when the main station has different programs for different analogue transmissions. Examples of the Secondary service include BBC Radio 4 which can transmit different programs on Long Wave and FM and BBC Radio 5 Live Sports Extra which is broadcast as a secondary service for Radio 5 Live when there are multiple sporting events.

When a secondary service is detected the Intravee will display the small letter 's' after the MUX ID, for example "12Bs". When a secondary service is available selecting the next station will select the secondary service. When the secondary service is selected the MUX ID will change to display a large letter 'S' after the MUX ID, for example "12BS". When the secondary service is selected the previous station command will select the primary service and the next station command will select the next station.

3.3.5. HD Radio source

Main Menu

Figure 45 HD Radio Main Menu



Next Band

Selects the next tuner band. The band cycles through FM1, FM2 and AM.

Auto Store

Initiates a scan of the current band and saves the strongest 6 stations found in the current preset bank.

Now Playing

Figure 46 HD Radio Now Playing Menu



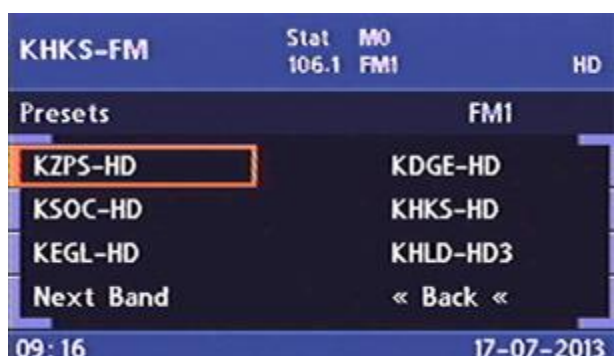
The HD Now Playing Menu will display Track, Album and Artist information if broadcast by the currently selected radio station. A menu option to enter the station preset menu is also available and clicking on any of the song information will also enter the station preset menu.

Clicking on the 'Now Playing' option will display the 'Static Now Playing' display if using a Mk IV Nav computer with software 4-1/40 or higher.

The option 'Set Mux Mode' or 'Set Station Mode' allows selection of Multiplex or Station scan mode when using the < and > keys on the board monitor or the "Next Station or Mux" or "Prev Station or Mux" action.

Presets Menu

Figure 47 HD Radio Presets Menu



HD presets can be stored by performing a long press of the rotary control on the menu item or a long key press on the number keys if the default key actions have not been changed.

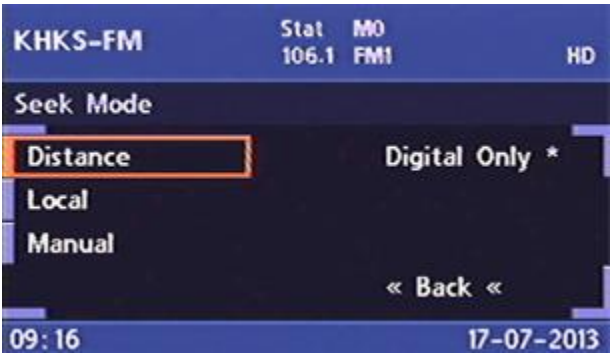
Once an FM station is stored, the station name will be displayed in the preset location, if no station name is available then the frequency will be displayed.

Auto Store

The Auto Store option causes the tuner to scan the current band for the stations with the 6 strongest signals, these stations are then saved in order of their signal strength, strongest to weakest. When stored using the Auto Store feature, the station name will be set to 'Auto Stored', the name or frequency of the station is not available until you have selected it. The name can be saved by selecting the preset and then re-saving it manually.

Seek Mode

Figure 48 HD Radio Seek Mode Menu



When tuning to the next or previous station, 4 seek modes are available.

Distance

The tuner will scan to the next station, even if the station has a weak signal.

Local

The tuner will scan to the next station with a strong signal.

Manual

The frequency will be incremented or decremented by one step.

Digital Only

The tuner will scan to the next station with a digital component.

3.3.6. Sirius or XM Radio Source

Main Menu

Figure 49 Sirius Main Menu



Figure 50 XM Main Menu



Preset Banks 1-3

The Sirius and XM tuners support 3 banks of 6 presets, 18 in total. You can select the preset bank by selecting the option from the menu. The selected bank number can be displayed in the menu header area. In addition to the 6 presets, each bank will remember the station that was being used when that bank was de-selected, the channel will be restored when the bank is re-selected.

The name of the Preset Bank can be changed, but not directly through the UI. The name can be changed only but using the Intravee downloader program console command

sbnX Name

Where 'X' is the Preset Bank number and 'Name' is the name assigned to the Bank.

Category Search (Sirius Only)

When using a Sirius tuner the Category search option is available. This mode allows you to select a category from a list, see the Search Menu Type section for more details on how to select an item.

Now Playing

Figure 51 Sirius or XM Radio Now Playing Menu



The Now Playing menu for the Sirius or XM source will display the Station, Artist and Track, clicking on either options will enter the Station Presets menu.

Clicking on the 'Now Playing' option will display the 'Static Now Playing' display if using a Mk IV Nav computer with software 4-1/40 or higher.

Static Now Playing Screen

Figure 52 Sirius or XM Radio Static Now Playing Screen

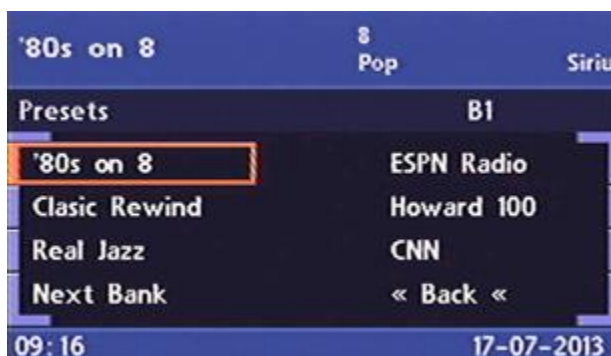


The Static Now Playing display for the Sirius and XM source shows the Track and Artist.

When viewing the Static Now Playing screen, turning the rotary controller will change channels, this is a faster way to navigate the channels than using the Next/Prev channel button presses.

Presets Menu

Figure 53 Sirius or XM Radio Presets Menu



Sirius and XM presets can be stored by performing a long press of the rotary control on the menu item or a long key press on the number keys if the default key actions have not been changed.

Once a station is stored, the station name will be displayed in the preset location.

Sirius Category Search

Figure 54 Sirius Category Search Menu



When using Sirius radio a category can be selected directly using the chose search mechanism. When select the first station in that category is selected.

3.3.7. Aux Source

Main Menu

Figure 55 Aux Main Menu



The main menu gives access to the Now Playing, Source and Setup sub-menus.

Now Playing

Figure 56 Aux Main Menu



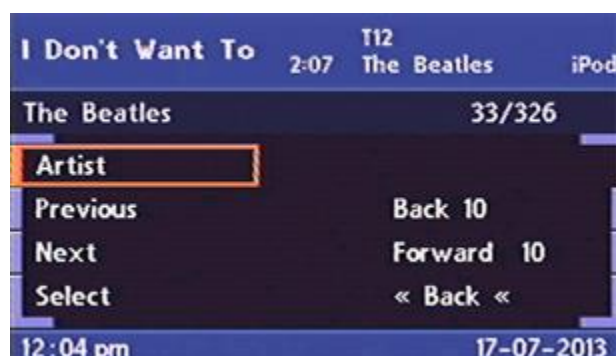
The Aux Now Playing menu just has the Aux source name and an option to enter the main menu.

3.4. Search Menu type

The type of search menu depends how your Intravee is setup in the 'Search Setup' menu. Standard Search and Fast Search are available on all systems, Advanced Search is only available on Mk IV Nav computers with version 4-1/40 software or higher.

3.4.1. Standard Search Menu

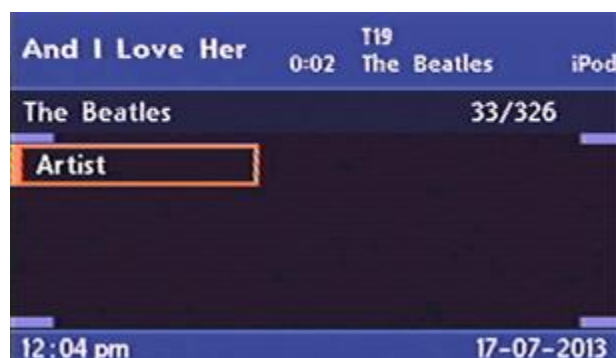
Figure 57 Standard Search Menu



The standard search menu allows you to move forwards or backwards through the list of selectable items either 1 at a time or 'n' at a time, where 'n' is 5, 10, 20 or 50. The value of 'n' can be changed by performing a long key press on the 'Back n' or 'Forward n' options. The current selection is shown above the menu on the left together with the current item number and total number of items on the right.

3.4.2. Fast Search Menu

Figure 58 Fast Search Menu



The fast search menu has one menu option which indicates the type of search. Clicking this option selects the current item, a long click on the item cancels the search. Search may also be cancelled by selecting the 'Back' item that is the first item in the search list. The current item, current item number and total items are displayed above the menu area. Selection is made by turning the right rotary controller, the direction in which the list is changed depends on the setup mode of the rotary controller from the 'Setup Keys' menu.

3.4.3. Advanced Search Menu

The Advanced Search menu takes one of two forms depending on the type of Nav computer you have. With the Mk IV Nav with Software V4-1/40 or higher the static type screen is used allowing a scrolling list of items. With all other Nav types and the TV module, the static screen is not supported so the standard full screen menu is used to show blocks of 6 items at a time.

Figure 59 Advanced Search Menu (not Mk IV >= 4-1/40)



With all Nav computers except the MK IV with software 4-1/40 or higher the Advanced Search menu displays blocks of 6 items at a time, together with previous block << and next block >> options. You can navigate through the blocks quickly by selecting the << or >> option as the currently selected item will remain in place. When the screen contains the item you would like to select, move the cursor to it and click. Exit from the menu with a long click on the rotary controller with any menu item selected.

Figure 60 Advanced Search Menu (Mk IV >= 4-1/40)



With the MK IV with software 4-1/40 or higher the advanced search menu displays a list of 4 items, the previous, current, next and next but 1 items. Scroll through the items by turning the rotary controller, make a selection by clicking the rotary controller and cancel the search with a long click on the controller or by selecting the 'Back' option from the top of the list. The direction that the list is scrolled depends on the setup mode of the rotary controller from the 'Setup Keys' menu.

The Intravee implements an exponential acceleration feature so that the faster the rotary controller is turned, the faster you progress through the list. However, there is bug in the BMW nav computer code that reports the speed with which the controller is turned, if it is turned too quickly it is reported as having been turned slowly. With a little practice you will get to know the optimum turn speed of the controller.

3.4.4. Percentage Search

When the Percentage Search feature is enabled the 1-6 keys on the head unit are used to enable more rapid searching of longer lists of Songs, Playlists, Artists, Albums, Folders and Files.

Percentage search is only active while in a search menu and will then override the assigned actions for the number keys if activated.

Pressing the number keys will cause the search location to jump to a predefined point, approximately 1/6th of the length of the search list for each numerical increment.

Table 20 Percentage Search increments

Key	Location in Search List		
	Percent	Number of 6ths	Item in a list of 150
1	0%	0	Item 1
2	16.66%,	1	Item 25
3	33.33%	2	Item 50
4	50%	3	Item 75
5	66.66%	4	Item 100
6	83.33%	5	Item 125

3.5. Source Menu

Figure 61 Source Menu



The Source menu is available only if the Intravee has detected more than one source.

The content of the menu will depend on the number of sources detected. The menu may contain up to 6 Ai-Net sources when a 2 cascaded KCA-400c AI-Net switches are connected, up to 2 Aux sources when a KCA-410c AI-Net switch is connected and a DAB, HD, XM or Sirius source if a tuner is connected. If a switch is detected then the switch type will be displayed in the top right above the menu area.

3.6. Setup Menu

The Intravee allows extensive customisation and setup options so that you can change the default settings and make the Intravee work the way you want it to. You can change the way the display is configured and the actions performed by pressing the keys on your head unit or Multi Function wheel.

The structure of the setup menu is shown below.

Figure 62 Setup Menu Structure

Setup Display	Now Playing	
	Language	
	Time Outs	
	Headers	Long Fields
		Short Fields
	Nav Type	
	High OBC	
	Text Size	
Setup Keys	M/F Wheel	
	Head Unit	
	Numbers	
	M/F Wheel LKP	
	Head Unit LKP	
	Numbers LKP	
Setup Search		
Extras		
Usage Options	Source Options	
	Key Memory	
Diagnostics	Status	
	Error Log	
	Logging	
About	Hardware	
	Software	
	Menu	
	Switch	

Figure 63 Setup Menu



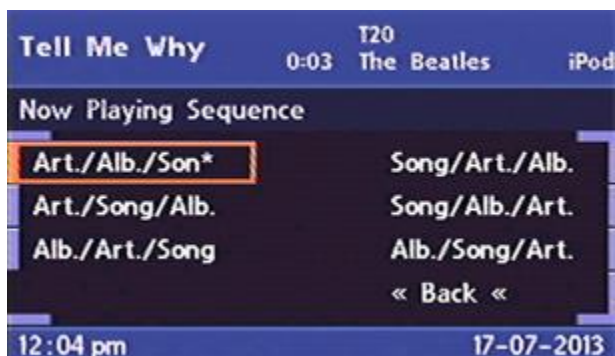
3.6.1. Setup Display

Figure 64 Setup Display Menu



Now Playing

Figure 65 Now Playing Sequence Setup Menu



The Now Playing Sequence menu controls the display sequence of the Artist, Album and Song ID3 tags on the Now Playing menu and Static Now Playing screen.

Art./Alb./Song

Display the Artist first, then the Album and finally the Song.

Art./Song/Alb.

Display the Artist first, then the Song and finally the Album.

Alb./Art./Song

Display the Album first, then the Artist and finally the Song.

Song/Art./Alb.

Display the Song first, then the Artist and finally the Album.

Song/Alb./Art.

Display the Song first, then the Album and finally the Artist.

Alb./Song/Art.

Display the Album first, then the Song and finally the Artist.

Language

Figure 66 Language Menu 1

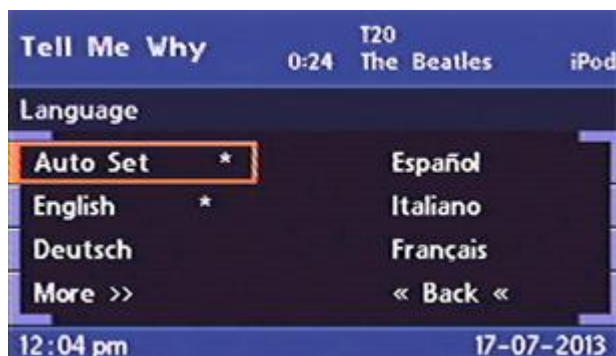
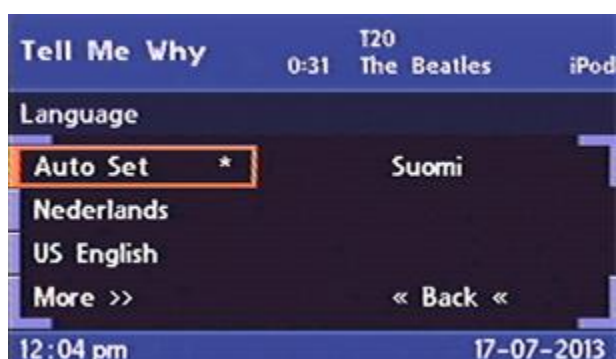


Figure 67 Language Menu 2



The language in which the Intravee menu options appear can be set to English, German (Deutsch), Spanish (Español), Italian (Italiano), French (Français), Dutch (Nederlands), Finish (Suomi) or US English. The Auto set option attempts to detect the current language that the Nav computer is set to use, if a supported language is detected then that language is used, otherwise the language defaults to English.

Time Outs

Figure 68 Now Playing Time Out Menu



The time taken to return back to the Now Playing menu after a period of inactivity.

Change by turning the rotary controller, accept the change by clicking the controller.

Headers

Figure 69 Headers Menu



The headers menu allows you to configure the text that is shown in the top area of the display. The two sub menus on the left give access to the long and short display fields.

When configuring a field's text, the field on the Nav screen will display vertical lines which indicate its position and size on the screen.

Reset Hdr Defs.

Resets all header assignments to their default values, you will be prompted to confirm this action.

The field layout is as follows:

Figure 70 Split Screen Mode



Figure 71 Full Screen Mode, coded for split screen radio.



Figure 72 Full Screen Mode, coded for full screen radio.



As can be seen from the screen layout picture, field 7 is not displayed with the split screen software when coded for split screen, and field 5 is not displayed with the split screen software when coded for full

screen, but field 7 is. A common question from people with incorrectly coded Nav computers is “Why does my track number not display?” as the track, and folder number for MP3 CDs, is displayed in field 5 by default.

Figure 73 Full Screen Nav Software

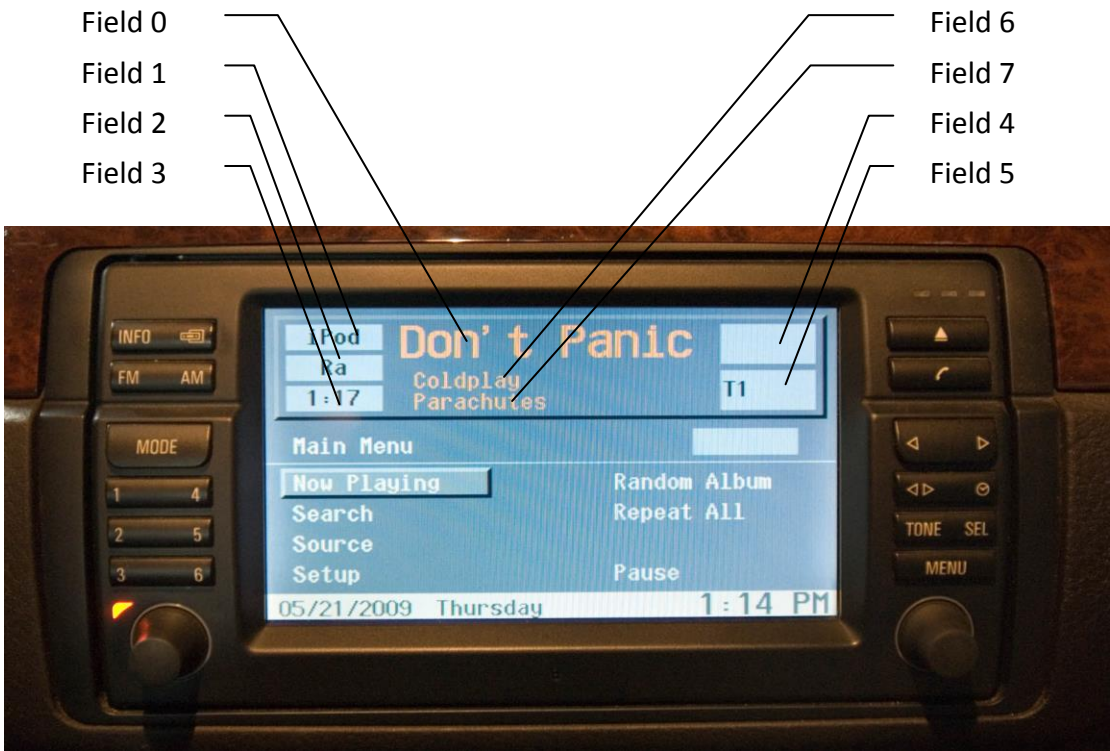


Figure 74 Analogue TV Module

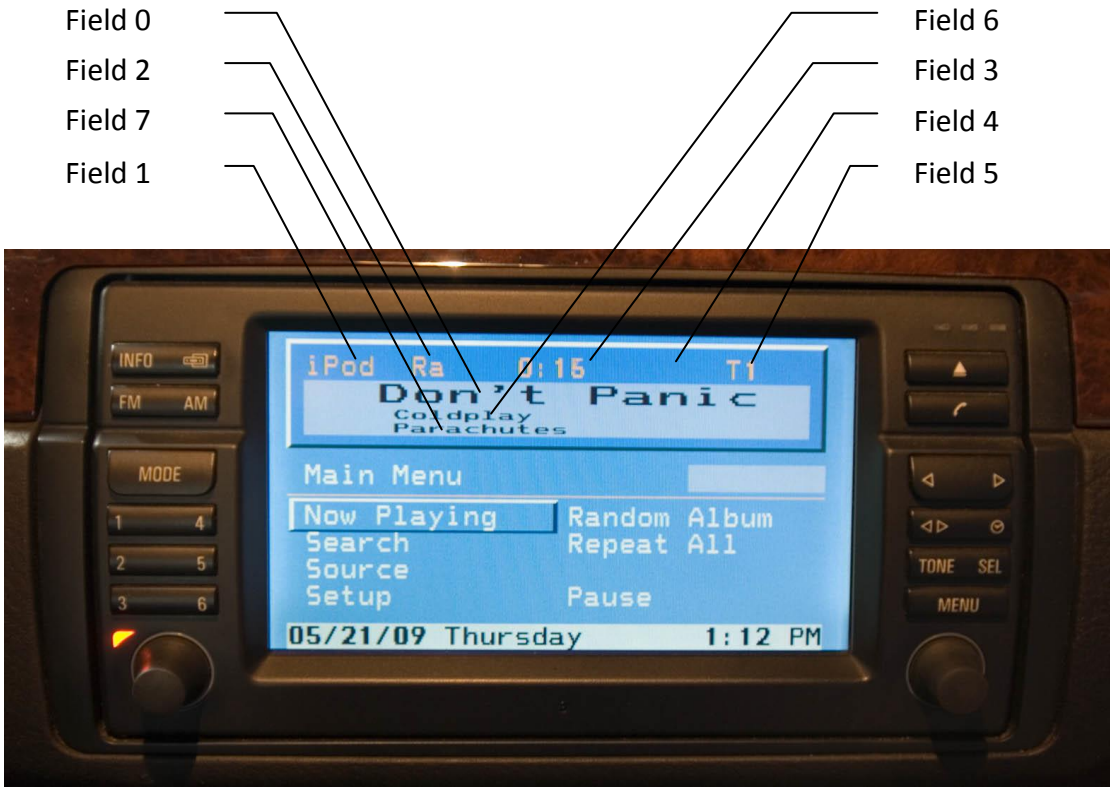


Figure 75 Digital TV Module



The sizes of the fields depend on the screen mode. For the Split Screen Nav software the characters used have different widths, so the number displayed will depend on the width of the characters. The table below gives an indication of the sizes of the various display areas :

Table 21 Header field lengths.

Field	Split Screen Mode	Split Screen Software, Full screen Mode	Full Screen software	TV Module
Field 0	Up to 11 Characters with large text, About to 17 characters with small text.		11 Characters	
Field 1	About 5 Characters	About 5 Characters	5 Characters	
Field 2	About 2 Characters	About 3 Characters	5 Characters	
Field 3	About 5 Characters	About 5 Characters	5 Characters	
Field 4	About 2 Characters	About 4 Characters	7 Characters	5 Characters
Field 5	About 7 Characters	About 5 Characters	7 Characters	5 Characters
Field 6	About 11 Characters	About 15 Characters	20 Characters	
Field 7	Not Available		20 Characters	
High OBC	20 Characters			

The options available for assignment vary by source type with some common options available to all source types.

Table 22 Common Header Options

Nothing	The selected field will be blank.
Source Name	The name of the currently selected source will be displayed.
Source Type	The type of the current source will be displayed.
Coolant Temp	The currently reported coolant temperature.
Outside Temp	The currently reported outside temperature.
Vehicle Speed	The current vehicle speed.
Engine Revs	The current engine rpm.
Intravee	The text 'Intravee' will be displayed.
Processor Volume	The current volume level set when a PXA audio processor is connected.

Table 23 iPod Header Options

Song	The ID3 Song tag from the current track will be displayed.
Album	The ID3 Album tag from the current track will be displayed.
Artist	The ID3 Artist tag from the current track will be displayed.
Now Playing	The Song, Album and Artist will be displayed according to the Now Playing sequence.
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
Track Time	The current track time will be displayed.
Track Number	The current track number will be displayed in the form 'Tx' where x is the track number.
Random Mode	The currently selected random mode will be displayed in short form, Off will display nothing, Album will display 'Ra' and Song will display 'Rs'.
FF/RW Mode	A set of double arrows will be displayed to indicate the transport mode, '<<' for rewind, '>>' for fast forwards.

Table 24 CD, MD and DVD Changer options

Track	The ID3 Song tag from the current track will be displayed.
Album	The ID3 Album tag from the current track will be displayed.
Artist	The ID3 Artist tag from the current track will be displayed.
Now Playing	The Song, Album and Artist will be displayed according to the Now Playing sequence.
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
File Name	The file name of the current track will be displayed. Leading numbers and trailing '.MP3' will be removed.
Folder Name	The current folder name will be displayed.
Disc Number	The current disc number will be displayed in the form Dx, where x is the disc number.
Track Number	The current track number will be displayed in the form 'Tx' where x is the track number.
Track Time	The current track time will be displayed.
Folder Number	The current folder number will be displayed in the form 'Fx' where x is the folder number.
Track & Folder Number	The current track and folder numbers will be displayed in the form 'Tx Fy' where x is the track number and y the folder number.
Track/Folder Mode	The current selection mode will be displayed as 'Track' or 'Folder'. If in fast forwards or rewind mode, a set of double arrows will be displayed to indicate the transport mode, '<<' for rewind, '>>' for fast forwards.
Random Mode	The currently selected random mode will be displayed in short form, Off will display nothing, Folder will display 'Rf' and Disc will display 'Rd'.
FF/RW Mode	A set of double arrows will be displayed to indicate the transport mode, '<<' for rewind, '>>' for fast forwards.

Table 25 DAB Radio options

Station Name	The current station name will be displayed.
Multiplex Name	The current multiplex name will be displayed.
Multiplex Number	The current multiplex number will be displayed.
Station/Mux Mode	The current selection mode will be displayed as 'Station' or 'Mux'.
Genre	The Genre of the selected station.
Preset Number	The preset in use (if any).
DAB Text	The descriptive text transmitted by the selected station, sometimes the name of the show or the current song.
Frequency	Details of the current frequency.
Preset Bank	The selected Preset bank number.

Table 26 HD Radio options

Station Name	The current station name will be displayed.
Radio Band	The current radio band will be displayed, FM1 FM2 or AM
Multiplex Number	The multiplex number will be displayed in the form 'Mx' where x is the current multiplex number.
Station/Mux Mode	The current selection mode will be displayed as 'Station' or 'Mux'.
Frequency	The current frequency selected.
Artist	The current Artist.
Song	The current Song.
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
Preset Number	The preset in use (if any).

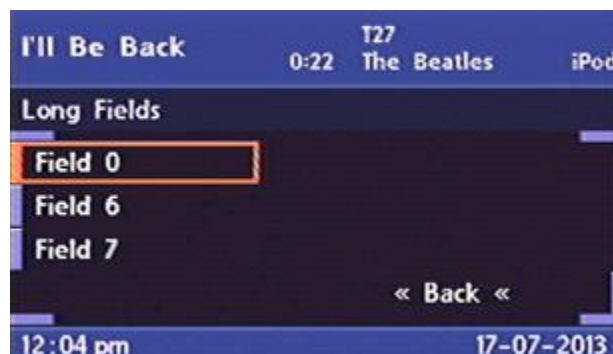
Table 27 Sirius Radio options

Station Name	The current station name will be displayed.
Channel Number	The current Sirius Channel number will be displayed.
Category Name	The category of the selected station.
Artist	The current Artist
Song	The current Song
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
Preset Number	The preset in use (if any).
Preset Bank	The selected Preset bank number.

Table 28 XM Radio options

Station Name	The current station name will be displayed.
Channel Number	The current Sirius Channel number will be displayed.
Category Name	The category of the selected station.
Artist	The current Artist
Song	The current Song
Song/Artist	The Song and Artist will be displayed according to the Now Playing sequence.
Preset Number	The preset in use (if any).
Preset Bank	The selected Preset bank number.

Long Fields

Figure 76 Long Fields

There are 3 long fields on the Nav screen, Field 6 is not available when using the Split Screen software on the MK III and MK IV Nav computers.

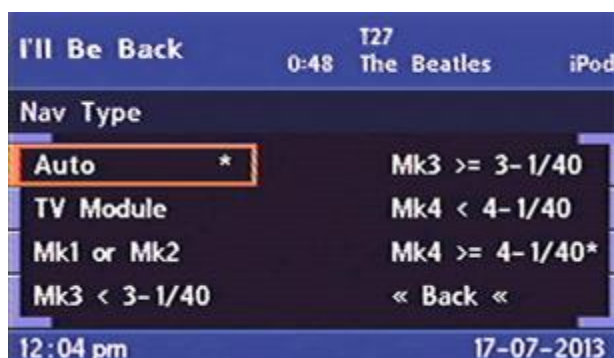
Short Fields

Figure 77 Short fields



Nav Type

Figure 78 Nav Type



Each of the different Nav computers and the TV module have slightly different characteristics. Select the option that matches the hardware you have.

Your Nav computer type and software version can be found in the top right corner of the BMW settings menu. It has the form X-1/YY where X is the Nav computer type (1 through 4) and YY is the software version.

Auto

The Intravee will try to determine the type of Nav system you have, the detected hardware type will be automatically selected. You can override this setting by selecting a different option.

TV Module

If no Nav computer is installed then the TV module is used to render the menus on the monitor. Unless this setting is checked menu titles and search options will not be displayed. If the Intravee detects that the Nav computer may have crashed or has been removed this option may be automatically selected regardless of the Nav type setting. If the TV module mode has been automatically selected a '+' sign will be displayed to the right of this menu option.

Mk1 or Mk2

For the early Nav computers that use the full screen software. Field 7 will not be displayed as displaying text in this area can cause the Nav computer to crash.

Mk3 < 3-1/40

Use with Mk 3 Nav computers with the older full screen software. This option also applies to the original Range Rover Nav computer.

Note :- The latest Mk III Nav computers fitted to the Rover 75 and ZT are installed with software 3-1/42 but are still the older full screen style, the Intravee will select, and should use, the “Mk3 < 3-1/40” option for these Rover Mk III Nav computers.

Mk3 >= 3-1/40

Mk 3 Nav computer with the newer split screen software.

Mk4 < 4-1/40

Mk 4 Nav computer with older software that does not support the ‘static’ type display mode.

Mk4 >= 4-1/40

Mk 4 Nav computer with newer software that does support the ‘static’ type display mode. This mode enables the Now Playing screen and the use of the Advanced Search feature.

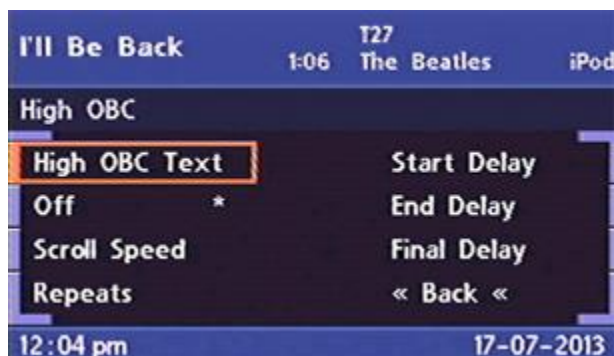
High OBC

The ‘High OBC’ option allows configuration of the text to be displayed on the Instrument cluster High OBC on the E38, E39, E53 (X5) and Range Rover.

Figure 79 Text display on the High OBC Instrument cluster



Figure 80 High OBC Configuration Menu



High OBC Text

Select the text item that you want to display on the High OBC. This is selected from a list in the same way as the header definitions.

Enable High OBC

Turns the High OBC Text on or off.

When text is displayed on the high OBC, pressing the 'BC' key on the indicator stalk will clear the text and restore the previous OBC display (if any).

Using the 'Goto Now Playing' or 'Goto Static Now Playing' action will re-initiate text display and scrolling if the Now Playing Menu or Static Now Playing screen is already being displayed, re-initialisation will occur even if the map/OBC/Menu screen is currently being viewed.

Scroll Speed

Set the delay between character increments. Change the setting using the rotary controller.

Repeats

Set the number of scroll repeats that will be performed. Change the setting using the rotary controller.

Start Delay

Set the delay from text being displayed until scrolling starts. Change the setting using the rotary controller.

End Delay

Set the delay from the last character being scrolled onto the display until the text returns to the beginning. Change the setting using the rotary controller.

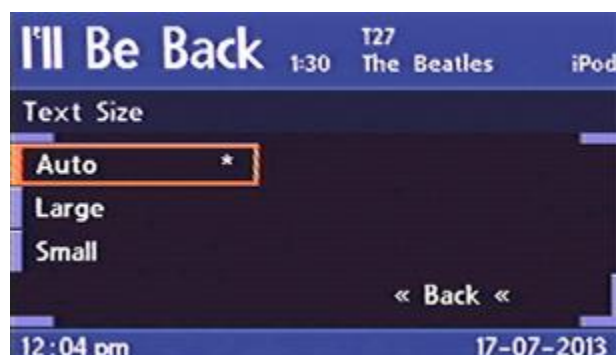
Final Delay

Set the delay after the final scroll until the text is cleared from the display. Change the setting using the rotary controller.

Text Size

This option is only available with the Split Screen software.

Figure 81 Text Size



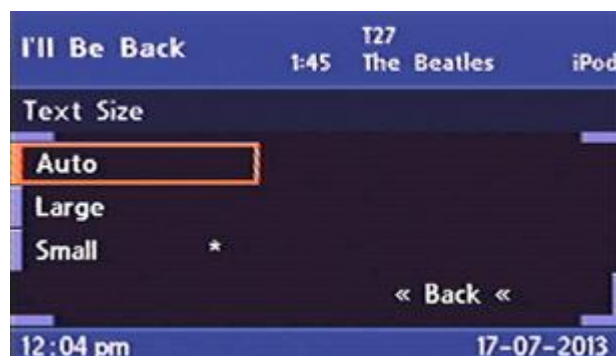
The size of the text displayed in the top section of the display can be set to either Auto, Large or Small. When the Auto option is selected the text will be displayed in the large font if it will fit, otherwise the small font will be used. A setting of Large or Small will force the text so that it is always displayed in the selected size. The standard BMW messages displayed in this area, such as Radio station names, use the equivalent of the Auto setting, which, as the messages have a maximum of either 8 or 11 characters, almost always results in the Large font. When

using the Intravee, the Auto setting will usually result in the smaller font being used.

Figure 82 Large Text



Figure 83 Small Text



3.6.2. Setup Keys

Figure 84 Setup Keys



Various keys on the head unit and Multi Function Wheel can have a configurable action assigned to them. When changing the action a 'Search' type menu is used, the type of menu will depend on how you have setup the search options.

Each key is configurable by source type, that is to say that the key can be setup to perform different actions for each type of source, iPod, CD Changer, Radio and Aux. When entering the configuration for each key the currently selected source type determines the source type that is configured. Selecting a key action that is common to all source types will set the action for all source types.

All keys except the R/T key on the Multi Function Wheel can have actions assigned to both Short Key Press (SKP) and Long Key Press (LKP), a Long Key Press is triggered if the key is held for approximately 1 second.

The default actions, for each key by source type, are shown in below.

Table 29 Default actions for Head Unit and Multi Function Steering Wheel buttons with Multi Line UI.

Key	Press	Action			
		CDC/MDC/DVD	iPod	Tuner	Aux
<> (Tape Reverse)	SKP	Source Menu			
	LKP	Toggle Radio			
1 Key	SKP	Select CD 1	Select Playlist 1	Select Preset 1	No Action
	LKP	Folder Search Menu	Playlist Search Menu	Set Preset 1	No Action
2 Key	SKP	Select CD 2	Select Playlist 2	Select Preset 2	No Action
	LKP	Track Search Menu	Artist Search	Set Preset 2	No Action
3 Key	SKP	Select CD 3	Select Playlist 3	Select Preset 3	No Action
	LKP	Combined Search Menu	Album Search	Set Preset 3	No Action
4 Key	SKP	Select CD 4	Select Playlist 4	Select Preset 4	No Action
	LKP	No Action	Song Search	Set Preset 4	No Action
5 Key	SKP	Select CD 5	Select Playlist 5	Select Preset 5	No Action
	LKP	Toggle Folder/Track Mode	Sub-Album Search	Set Preset 5	No Action
6 Key	SKP	Select CD 6	Select Entire iPod	Select Preset 6	No Action
	LKP	Search Menu	Search Menu	Set Preset 6	No Action
Clock Key	SKP	Now Playing Menu			
	LKP	Static Now Playing Display			
Phone Key	SKP	No Action			
	LKP	No Action			
Dolby Key	SKP	No Action			
	LKP	No Action			
> On MFSW	SKP	Next Track	Next Track	Next Station	No Action
	LKP	Fast Forwards	Fast Forwards	Next Multiplex	No Action
< On MFSW	SKP	Previous Track	Previous Track	Previous Station	No Action
	LKP	Rewind	Rewind	Previous Multiplex	No Action
R/T Key on MFSW	SKP	No Action			
'Voice' Key on MFSW	SKP	No Action			
	LKP	No Action			

It should be noted that, due to the special nature of the Mini system, it is not possible to assign actions for the 1-6 keys on the head unit.

Table 30 Multi Line UI Common Actions

No Action	The selected key will perform no function.
Goto Now Playing	The now playing menu will be displayed.
Goto Static Now Playing	The static now playing screen will be displayed. This action can only be performed when using a MK IV Nav computer with software 4-1/40 or higher.
Goto Main Menu	The main menu will be displayed.
Goto Source Menu	The source selection menu will be displayed. This action can only be performed when multiple sources are detected by the Intravee.
Goto Status Menu	The Vehicle status menu will be displayed.
Goto Journal	The Journal menu will be displayed.
Goto Processor	The Processor menu will be displayed if a processor is installed.
Go Back	The previous menu will be displayed.
Toggle Tuner	The radio module connected to the Intravee will be toggled with the currently selected AI-Net source. If no Alpine tuner is connected this will perform no action. This action does not toggle between the BMW radio and Intravee.
Toggle Map	The current display will toggle between the map and audio screens.
Emulate MODE	The key will perform the same action as the MODE button on the head unit.
Disable Head Unit Keys	The keys on the head unit will be temporarily disabled.
Next Source	Selects the Next Intravee source. *
Next Net Source	Selects the Next Intravee source excluding Aux ports. *
Select Net 1	The source attached to AI-Net port 1 will be selected.
Select Net 2	The source attached to AI-Net port 2 will be selected.
Select Net 3	The source attached to AI-Net port 3 will be selected.
Select Net 4	The source attached to AI-Net port 4 will be selected.
Select Aux 1	The source attached to Aux port 1 will be selected.
Select Aux 2	The source attached to Aux port 2 will be selected.
Select Tuner	The radio module connected to the Intravee will be selected.
Toggle High OBC Text	Text display to the High OBC on the instrument cluster on the E38, E39, E53 (X5) and Range Rover will be toggled on or off.
Bluetooth Pairing	If a BMW Bluetooth phone module is installed then Bluetooth pairing mode will be initiated. To exit Bluetooth pairing mode the car ignition must be cycled.
Toggle TV Video	Video is toggled between the TV module and non TV display, the audio source remains unchanged.
Toggle TV Audio	Sound is toggled between the TV module and the current audio source.
Toggle Sub	The sub woofer connected to a PXA processor is toggled on or off.

* Note that when selecting an AI-Net source on the KCA-410c or KCA-400c, if no source is connected the AI-Net switch will automatically move to the next port on which a device has been selected. If you have a tuner connected and no device on the last AI-Net port then the tuner will not be selectable using the Next Source or Next Net Source option. If you have an empty port on an AI-Net switch and an AI-Net tuner then it is advisable to ensure that a device is connected to the last AI-Net port on the switch and leave one of the others empty.

Table 31 Multi Line UI iPod Actions

Playlist Search	The playlist search mode will be selected.
Artist Search	The artist search mode will be selected.
Album Search	The album search mode will be selected.
Song Search	The song search mode will be selected.
Sub-Album Search	The sub-album search mode will be selected if available (only immediately after artist selection).
Goto Search Menu	The main search menu will be displayed.
Playlist 1	The first user created Playlist on the iPod will be selected.
Playlist 2	The second user created Playlist on the iPod will be selected.
Playlist 3	The third user created Playlist on the iPod will be selected.
Playlist 4	The fourth user created Playlist on the iPod will be selected.
Playlist 5	The fifth user created Playlist on the iPod will be selected.
Playlist 6	The sixth user created Playlist on the iPod will be selected.
Playlist 7	The seventh user created Playlist on the iPod will be selected.
Playlist 8	The eighth user created Playlist on the iPod will be selected.
Playlist 9	The ninth user created Playlist on the iPod will be selected.
Playlist 10	The tenth user created Playlist on the iPod will be selected.
Playlist 11	The eleventh user created Playlist on the iPod will be selected.
Playlist 12	The twelfth user created Playlist on the iPod will be selected.
All Songs on iPod	The automatically generated Playlist that has all tracks on the iPod will be selected.
Next Track	The next track will be selected.
Prev Track	The previous track will be selected or the current track will be started from the beginning.
Fast Forwards	The current track will play at increased speed.
Rewind	The current track will be played backwards at increased speed.
Next Random Mode	The next random mode will be selected, modes cycle through Off, Album and Song.
Next Repeat Mode	The next repeat mode will be selected, modes cycle through All and Song.
Pause/Play	If the track is playing it will be paused, if paused it will start playing.

Table 32 Multi Line UI CD, MD and DVD Changer actions

Track Search	The track search mode will be selected.
Folder Search	The folder search mode will be selected.
Goto Combined Search	The combined search mode menu will be displayed.
Goto Search Menu	The main search menu will be displayed.
Next Track	The next track will be selected.
Prev Track	The previous track will be selected or the current track will be started from the beginning.
Next Folder	The next folder will be selected (MP3 CD's only).
Prev Folder	The previous folder will be selected (MP3 CD's only).
Next Track or Folder	The next track or folder will be selected depending on the selection mode set (Track or Folder mode).
Prev Track or Folder	The previous track or folder will be selected depending on the selection mode set (Track or Folder mode).
Disc 1	Disc 1 will be selected from the magazine.
Disc 2	Disc 2 will be selected from the magazine.
Disc 3	Disc 3 will be selected from the magazine.
Disc 4	Disc 4 will be selected from the magazine.
Disc 5	Disc 5 will be selected from the magazine.
Disc 6	Disc 6 will be selected from the magazine.
Set Track or Folder Mode	The selection mode will toggle between Track and Folder mode.
Fast Forward	The current track will play at increased speed.
Rewind	The current track will be played backwards at increased speed.
Next Random Mode	The next random mode will be selected. Modes cycle through Off, Folder and Disc for MP3 CD's and Off and Disc for audio CD's.
Next Repeat Mode	The next repeat mode will be selected. Modes cycle through Off, Track, Folder and Disc for MP3 CDs and Off, Track and Disc for audio CD's.
Pause/Play	If the track is playing it will be paused, if paused it will start playing.

Table 33 Multi Line UI DAB, HD, XM and Sirius Radio actions

Next Station	The next station will be selected. For DAB radio this is the next station on the current multiplex. For HD radio the way the station is found depends on the tuner scan mode.
Prev Station	The previous station will be selected. For DAB radio this is the previous station on the current multiplex. For HD radio the way the station is found depends on the tuner scan mode.
Next Mux	The next multiplex will be selected, available for DAB and HD radio only.
Prev Mux	The previous multiplex will be selected, available for DAB and HD radio only.
Next Station or Mux	The next station or multiplex will be selected depending on the selection mode set (Station or Mux).
Prev Station or Mux	The previous station or multiplex will be selected depending on the selection mode set (Station or Mux).
Next Band	The next radio band or preset bank will be selected.
Prev Band	The previous preset bank will be selected. For the TUA-T500 this performs no action, for the TUA-T550 this selects the next band.
Next Category	For Sirius, the next station category will be selected.
Prev Category	For Sirius, the previous station category will be selected.
Next Preset	The next preset will be selected. If no preset is currently selected then preset 1 will be selected.
Prev Preset	The previous preset will be selected. If no preset is currently selected then preset 1 will be selected.
Set Station or Mux Mode	The selection mode will toggle between Station and Multiplex mode.
Goto Presets Menu	The Presets menu will be selected.
Preset 1	Tuner preset 1 will be selected.
Preset 2	Tuner preset 2 will be selected.
Preset 3	Tuner preset 3 will be selected.
Preset 4	Tuner preset 4 will be selected.
Preset 5	Tuner preset 5 will be selected.
Preset 6	Tuner preset 6 will be selected.
Set Preset 1	Tuner preset 1 will be set to the current station.
Set Preset 2	Tuner preset 2 will be set to the current station.
Set Preset 3	Tuner preset 3 will be set to the current station.
Set Preset 4	Tuner preset 4 will be set to the current station.
Set Preset 5	Tuner preset 5 will be set to the current station.
Set Preset 6	Tuner preset 6 will be set to the current station.

Reset Key Defs.

Resets all key assignments to their default values, you will be prompted to confirm this action.

M/F Wheel

Figure 85 M/F Wheel



Up Key

Define the action for a short key press on the up key on the multifunction wheel.

Down Key

Define the action for a short key press on the down key on the multifunction wheel.

Voice Key

Define the action for a short key press on the 'voice' key, the key with the picture of a person's head, on the multifunction wheel. This key should be assigned to 'No Action' if the BMW hands free phone kit is installed.

R/T Key

Define the action for a key press on the R/T key on the multifunction wheel. This key should be assigned to 'No Action' if the BMW hands free phone kit is installed.

M/F Wheel LKP

Figure 86 M/F Wheel LKP



Up Key

Define the action for a long key press on the up key on the multifunction wheel.

Down Key

Define the action for a long key press on the down key on the multifunction wheel.

Voice Key

Define the action for a short key press on the 'voice' key, the key with the picture of a person's head, on the multifunction wheel. This key should be assigned to 'No Action' if the BMW hands free phone kit is installed.

Head Unit

Figure 87 Head Unit



Clock Key

Define the action for a short key press on the 'clock' key, the key with the picture of a clock, on the Nav monitor, not available on the Z4, X3 or Mini Nav system.

Reverse <> Key

Define the action for a short key press on the 'Tape Reverse' key, the key with the <> symbol, on the Nav

monitor, not available on the Z4, X3 or Mini Nav system.

Phone Key

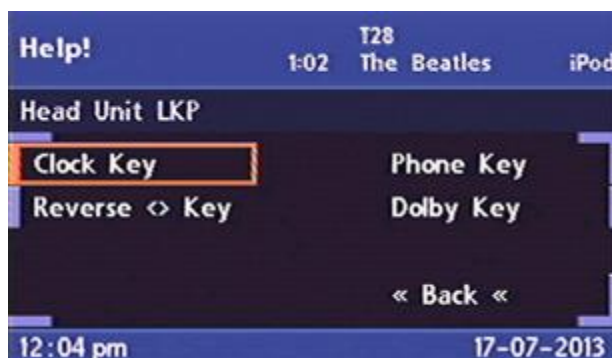
Define the action for a short key press on the 'Phone' key, the key with the picture of a telephone, on the Nav monitor. This key should be assigned to 'No Action' if the BMW hands free phone kit is installed.

Dolby Key

Define the action for a short key press on the 'Dolby' key, the key with the Dolby logo, on the Nav monitor, only available with the 4:3 monitor.

Head Unit LKP

Figure 88 Head Unit LKP



Clock Key

Define the action for a long key press on the 'clock' key, the key with the picture of a clock, on the Nav monitor, not available on the Z4, X3 or Mini Nav system.

Reverse <> Key

Define the action for a long key press on the 'Tape Reverse' key, the key with the <> symbol, on the Nav

monitor, not available on the Z4, X3 or Mini Nav system.

Phone Key

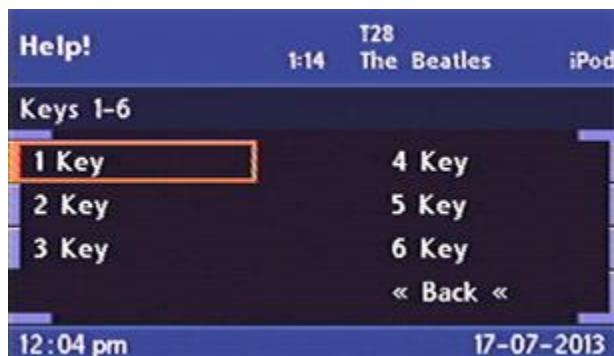
Define the action for a long key press on the 'Phone' key, the key with the picture of a telephone, on the Nav monitor. This key should usually be assigned to 'No Action' if the BMW hands free phone kit is installed. As the key performs no action when no phone is connected to the Bluetooth hands free system, it is possible to assign this key to activate Bluetooth Pairing mode.

Dolby Key

Define the action for a long key press on the 'Dolby' key, the key with the Dolby logo, on the Nav monitor, only available with the 4:3 monitor.

Keys 1-6

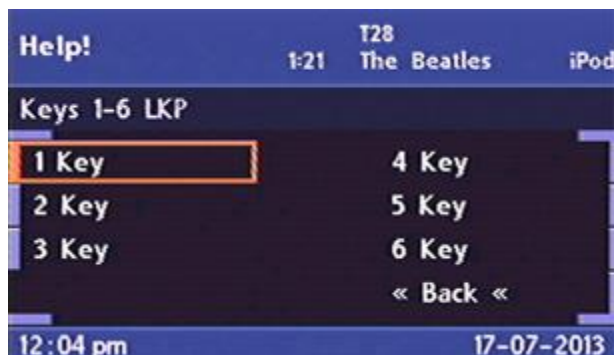
Figure 89 Keys 1-6 Menu



Allows key assignments to be made to the number preset keys on the Nav head unit when a short key press is made.

Keys 1-6 LKP

Figure 90 Keys 1-6 LKP Menu



Allows key assignments to be made to the number preset keys on the Nav head unit when a long key press is made.

3.6.3. Setup Search

Figure 91 Setup Search Menu



For specific detail of the different search types, see the section 3.4 Search Type Menu.

Standard

The various search options will use the standard search screen layout.

Fast Search

The various search options will use the fast search screen layout.

Advanced Search

The various search options will use the advanced search screen layout.

Auto Song Search

The Auto Song Search option causes the Intravee to automatically select Song search when an item is selected from a Playlist, Album or Sub-Album search.

Percentage

Enables or disables the percentage search feature, see the ‘Search Menu’ section for details of Percentage search.

Scroll Direction

Figure 92 Scroll Direction Menu



Determines the scroll direction for Fast and Advanced search when turning the Nav controller within Intravee menus that are either ‘Static’, i.e. without the highlighted items, or Single line parameter setting menus with only one menu item.

This option does not change the scroll direction when navigating regular Menus of the Intravee or other BMW menu screens.

3.6.4. Extras

See the Extra Features Supplement.

3.6.5. Usage Options

Figure 93 Usage Options Menu



Source Options

Figure 94 Source Options Menu



The top right of the Source Options menu will display the name of the current source.

iPod AutoName

When checked the iPod Autaname option will automatically set the source name to the name of an iPod when connected. If the iPod name has been set then unchecking this option will leave the source set to the current name until it is changed again.

Set Src Name

Sets the currently selected source name according to its type. Supported options are :

MP3 Changer
CD Changer
iPod

The name of a source can also be set through the Intravee PC console interface using the *ssnX Text* command, where *X* is the source number and *Text* is the name you want to apply to the source.

For the KCA-400c the values for *X* correspond to :

Net 1 = 1
Net 2 = 2
Net 3 = 3
Net 4 = 4

For 2 KCA-400c, daisy chained, the values for *X* correspond to :

Net 1 = 1
Net 2 = 2
Net 3 = 3
Net 4 = 4
Net 5 = 5
Net 6 = 6

For the KCA-410c the values for *X* correspond to :

Net 1 = 1
Net 2 = 2
Aux 1 = 3
Aux 2 = 4

For example, to name the Aux 1 port on a KCA-410c to 'DVD Player' you would issue the following console command :

ssn3 DVD Player

To reset the sources name to the default of Net 1-4 and Aux 1-2 use the ssnX command with no *Text* parameter.

For example :

ssn3

Will reset the name of source 3 to its default value of Net 3 or Aux 1.

Port Override

The Port Override option is for use with the KCA-400c and KCA-410c only. Use of this feature enables the Intravee to select a port on the switch even if no device is connected.

The default behaviour of the KCA-400c and KCA-410c is to only allow a port to be selected if a CD Changer type device is detected on the port within about 3 seconds of trying to select the port. This mechanism works for most devices, for example the KCA-420i and CHA-S634, but does not work if you want to connect a KCA-232B (Ai-Net to 3.5mm Jack), KCA-121B (Ai-Net to RCA) or the DHA-S690 DVD Changer.

Enable Actions

The Intravee can be configured to perform an action when a source is selected, the action is source specific in the same way as Key actions. Checking this option enables source change actions to be executed, if the option is not checked then source change actions will not be performed even if they are assigned.

Change Actions

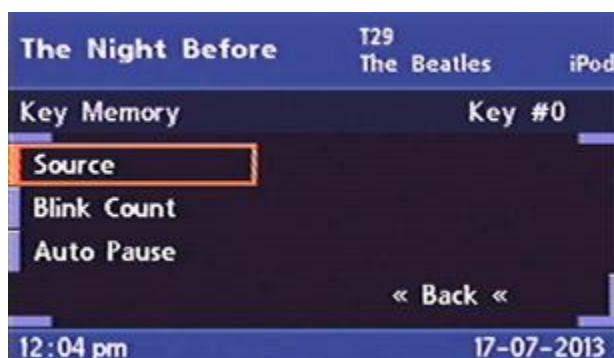
This option allows selection, on a source type basis, of actions that will be performed when the source type is selected. See the section on Key actions for possible options.

For example, you could configure the source selection action for a Tuner to be 'Goto Presets Menu' and the source selection action for an iPod to be 'Goto Artist Search'. The use of these actions and the 'Now Playing Timeout' can enable you to use the Intravee with minimum interaction.

Please note that the list of source change actions is the same as the list of key actions and that some of these actions will perform no function if executed as a source change action. For example, the actions that change source will do nothing if selected as a source change action.

Key Memory

Figure 95 Key Memory Menu



The Key Memory menu allows the user to select which options are set specifically for each key that is used with the vehicle.

Up to 6 keys can be configured to operate your car, each key identifies itself when inserted into the ignition.

The top right of the Key Memory menu will display the current key number, 0 through 5.

If no valid key has been detected the number will be displayed as 255.

Source

When the 'Source' option is highlighted the current source selection, including if the tuner is selected, will be saved for each key. When the key is used, the source saved for the key will be automatically selected.

Blink Count

When checked the Blink Count value, under 'Extras' 'Control' will be key specific.

Auto Pause

When checked the Auto Pause option will be key specific.

Sticky FF/RW

When this option is selected the Fast Forwards and Rewind keys act as toggles whereby FF and RW mode are started with the first press and stopped with the second press.

When the option is deselected the FF and RW keys must be held, FF and RW mode ends when the key is released.

Auto Pause

With the Auto Pause option checked, the Intravee will pause the current source while the PDC system is active. This option can be key specific, see the Key Memory menu. If the source type cannot be paused, for example a radio source, then no action will be performed.

Rev Vol Adjust

The Rev Vol Adjust menu enables adjustment of the volume level when reverse gear is engaged. The behaviour of the menu depends if a PXA processor is installed or not.

Figure 96 Rev Vol Adjust Menu without Processor



If no PXA processor is connected then the adjustment value is specified as a number of volume steps. The BMW radio does not indicate in any way the volume level that is set, so the only way to adjust the volume is to emulate turning the volume up or down by a number of steps. If the number of steps causes the volume to reach 0 then the restored volume may be louder than the initial volume as the full number of volume steps will be restored.

Figure 97 Rev Vol Adjust Menu with Processor



If a PXA processor is detected then the Intravee has more control over the volume. The adjustment is specified as a percentage change, for example 50% will halve the volume.

Audio Processor

The Audio Processor menu is displayed if a supported Alpine PXA processor is detected, see the Processor User Guide Supplement for details.

3.6.6. Diagnostics

The diagnostic menu enables you to perform some diagnostic commands, usually diagnostics are performed from the serial PC connection but sometimes it is useful to be able to perform these tasks when no PC is connected.

The user should not normally need to use any of the functions on this menu.

Figure 98 Diagnostics Menu



Reset Counts

Reset the Intravee counters.

Reboot

Reboot the Intravee, you will be prompted to confirm this action.

Power Ctrl Off

Issue a Power control Off command to the selected device.

Power Ctrl On

Issue a Power control On command to the selected device.

Status

Figure 99 Status Menu 1



Boot Count

The total number of boot cycles that the Intravee has undergone since manufacture.

Fatal Boot Count

The numbers of fatal re-boots undergone since the counters were reset.

Recovery Boot Count

The number of recovery boot cycles that the Intravee has undergone since the counters were reset. A recovery reboot is performed if the Intravee has been disconnected from the power supply before it entered sleep mode.

Watch Dog

The number of times the internal Watch Dog timer has triggered.

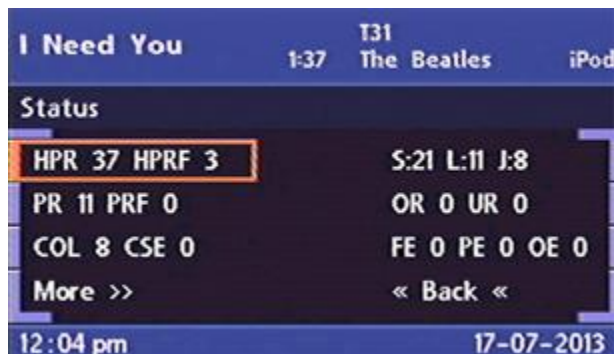
Sleep Fail Count

The number of times the Intravee has failed to enter sleep mode after the iBus idle timer has triggered since the counters were reset.

Run Time

The total run time since the Intravee was manufactured.

Figure 100 Status Menu 2



Various internal Intravee counters are displayed. These include items such as the number of iBus packet reorders, iBus collisions, Free internal messages and other iBus errors.

Error Log

The Intravee will keep track of the last 8 errors that it has detected in a cyclical log buffer. These errors are usually not important, but if you are having unusual problems the content may be useful for diagnostic purposes.

Figure 101 Error Log Display (Except Mk 4 >= 4-1/40)



When using any system except a Mk IV Nav with V4-1/40, select the previous log entry by clicking any item except '<<Back'.

Figure 102 Error Log Display (Mk 4 >= 4-1/40)

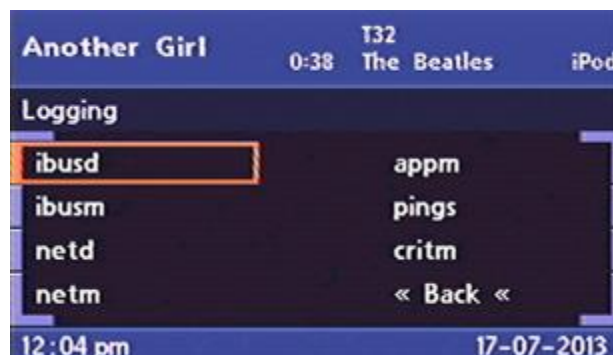


When using a MK IV Nav with V4-1/40 or higher, change the error entry using the rotary controller.

Logging

When connected to a PC via the serial port the Intravee can be configured to display various output. Due to the quantity of output that can occur it is advisable to leave these options off unless specifically instructed to enable them for diagnostic purposes by Intravee technical support.

Figure 103 Logging Menu



ibusd

Displays the status, and allows setting or resetting, of iBus debugging information.

ibusm

Displays the status, and allows setting or resetting, of iBus message information.

netd

Displays the status, and allows setting or resetting, of AI-Net debugging information.

netm

Displays the status, and allows setting or resetting, of AI-Net message information.

appm

Displays the status, and allows setting or resetting, of application message information.

pings

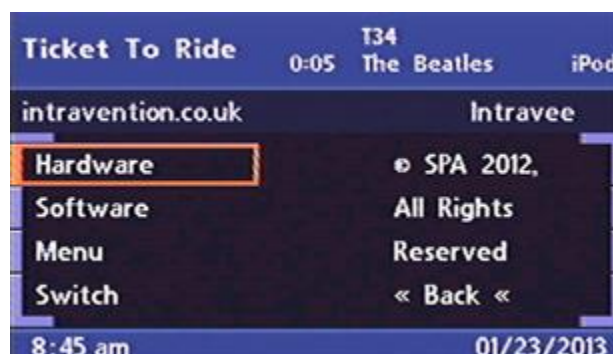
Displays the status, and allows setting or resetting, of ping information.

critm

Displays the status, and allows setting or resetting, of critical message information.

3.6.7. About

Figure 104 About Menu



The About menu shows information about the Hardware, Software, Menu definitions and, if connected, the AI-Net switch.

Hardware

Displays information about the Intravee hardware.

Figure 105 Hardware Information Menu



Serial Number

The Intravee serial number.

Manufacture Date

The Intravee manufacture date.

Hardware Type

The hardware type of the Intravee.

Hardware Version

The revision of the Intravee hardware.

CPU Type

The type of main CPU used.

Net CPU Type

The type of Net IC used.

Software

Displays information about the Intravee software.

Figure 106 Software Information Menu



Firmware version

The firmware version number.

Build Number

The firmware build number.

Bootloader Version

The bootloader version number.

Net Firmware version

The Net IC firmware version.

Net Bootloader Version

The Net IC bootloader version.

Menus

Displays information about the menu definition data versions.

Figure 107 Menu Version Information Menu



Menu Family

The menu data family. There may be more than one menu data 'family' available with a given firmware version. In order that saved values are not invalid, the menu current menu family is compared with the menu family used to save the values, if the family is not the same then all values are reset to their defaults.

Menu Version

The menu data version.

Key Actions Version

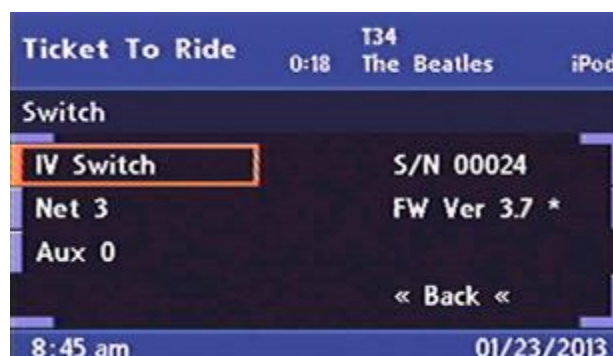
The key action version.

Header Definition Version

The header definitions version.

Switch

Figure 108 Switch Information Menu



Switch Type

Displays the type of switch detected, KCA-410c, KCA-400c or IV Switch.

Number of Net Ports

The number of AI-Net ports on the switch. With an Intravee switch installed, clicking this option will increment the number AI-Net ports to a maximum of 3 and decrement the number of Aux ports to a minimum of 0.

Number of Aux Ports

The Number of Aux ports on the switch. With an Intravee switch installed, clicking this option will increment the number Aux ports to a maximum of 3 and decrement the number of AI-Net ports to a minimum of 0.

Serial Number

For the Intravee Switch, the serial number of the switch will be displayed.

Software version

For the Intravee Switch, the version of the switch software will be displayed. If a * is displayed after the switch version then this indicates that the switch firmware is out of date. The switch firmware can be updated by installing a special version of the Intravee firmware that contains the switch firmware.