Uhlenbrock digital

IB-Control II

The shortest connection between technology and pleasure

Manual for Software Version 1.0

Table of Contents

1. General Information

The IB-Control II is an auxiliary controller for all Intelliboxes, and also centers like SystemControl 7, TwinCenter and Piko PowerBox. It extends the respective functions by 2 speed controls, switch panel, route control, feedback mode, locomotive database and many more.

All driving and switching functions of the particular digital center can be reached.

Access to the programming track and to all settings which do not concern the center is not possible.

1.1 Description

Large, high resolution Display

The high resolution display is 98 x 42 mm (visible diagonal 105 mm) and allows a detailed representation of information in plain text or as symbols.

Night design

The Display and the keys have backlighting with which you can also see during the night phase when using an IntelliLight.

Two Throttles

Two locomotives can be controlled independently with the two large rotary controls. When the locomotive is changed these clever throttle controls without ends stop automatically and restore the saved speed of the selected locomotive. They can be operated in DC and AC throttle mode.

The display shows the locomotive name or number, the speed (absolute and relative to the highest speed) and the direction of both locomotives that are actually being controlled by the throttles.

The light and 4 special functions can be switched by the function keys. In DCC operation up to 28 special functions can be switched by the keys beside the display.

Switch panel

The IB-Control II can control 320 Märklin and/or 2048 DCC solenoids. Groups of 8 or 16 in each case can be directly accessed by the key block. The state of turnouts and signals is indicated with the appropriate symbols in the centre of the display.

Route control

The IB-Control II internal route memory can hold up to 80 routes with 24 entries each. These can be called up by feedback contacts. Further routes that are stored in external devices can be called up by the IB-Control II or merged into internal routes.

Feedback Mode

Up to 2048 feedbacks in groups of 8 or 16 are shown in the centre of the display by selectable symbols. In groups of 8 feedbacks can also be triggered directly from the key block.

Large Locomotive Database

The empty locomotive data base can store one's own locomotive data records. Data entered can be address, name, data format, symbols for special functions and the setting for the maximum speed in km/h.

Locomotive Position Indication

In conjunction with the Individual Locomotive Control System "LISSY" or "MARCo", the actual position of the locomotive is displayed at the top of the display when it is called up.

DirectDrive

Control of a locomotive can be taken over by a throttle with a simple key press and without entering the locomotive address or name, when it passes a selected LISSY receiver in LISSY-Mode.

Model Time Clock

The IB-Control II integrated model clock can be blended into the middle part of the display. It indicates the time and weekday. The model time can be accelerated, relative to the real time, by factors between 1 and 127. This provides possibilities such as timetabled trips and the synchronization of further LocoNet clocks, like in the IB-Control, the LocoNet display 63450, IntelliLight 28000 and SoundDircetor 38000.

Extended Locomotive Special Functions

32.767 Special functions (for some DCC decoders) are available for switching lights, Sounds etc. per locomotive address.

With Help function

The context - sensitive Help function makes a manual almost redundant. Assistance is available at any time for the current operation.

Non-volatile Memory

All configurations set in the IB-Control II remain permanently saved in non-volatile memory even after the device is switched off.

Updatable System Software

Using the interface on the digital center, the IB-Control II System software can be updated at any time.

Transferable Database

The LocoNet connection can be used to transfer the existing database from the IB-Control II, or a further IB-Control II.

1.2 Quick guide

Important! *Please use this quick guide only in the beginning if you want to try out the IB-Control II. Please read the entire manual to be fully informed about all functions and options of the device.*

Connecting the Device

Connect the IB-Control II with any LocoNet Cable to the LocoNet Connector on your Digital center.

Important! *Only the Intellibox 1(650, 65000, 65050) and the TwinCenter use the LocoNet-B connector on the center. A maximum of 2 IB-Control II can be connected, after that a LocoNet Power injector (63100) is needed.*

With all other centers the LocoNet-T connection is used. Here a maximum of 3 IB-Control II can be connected, before a LocoNet power injector (63100) is required.

The advantage of the LocoNet is that it is possible to have cable lengths of up to 100m, which provides a large radius of action for the IB-Control II.

Presets

Ex-factory, the IB-Control II has the following settings:

Speed display	Speed steps indication
Throttle	AC throttle

A complete description of the operation as well as all settings can be found in Chapters 3 and 4.

Calling up a Locomotive

- Press the left or right [lok]-Key
- Use the numeric keys to enter the locomotive address
- Confirm with the [↵]-key

Controlling a Locomotive

- Increase the speed by turning the knob to the right
- Decrease the speed by turning the knob to the left
- Press on the control knob when the locomotive is stationary to change direction

Switching Light

The [f0]-key switches the Light on or off

Switching Special functions

- Press one of the Special function keys [f1] [f2] [f3] [f4]
- If you press the context sensitive key beside the display you operate functions f0 to f28 on DCC decoders (see Chapter 4.4).

Note: *All entries must be made on the controller on which the locomotive address or name was originally entered!*

Changing the data for a single Locomotive

- Press the [lok]-key of the right or left controller twice
- With the Scroll key scroll down to the "Change Loco data entry" item
- Confirm the selection with the Select Key (Auswahltaste)
- Then make change to the desired setting for this locomotive address

Switching Turnouts

Turnouts are switched from the key block. With the eight pairs of keys the turnouts or signals with addresses 1 to 8 can be switched. The respective position is indicated by a turnout symbol in the middle part of the display.

1.3 Overview of the Commands

Very important! *Use this brief description only if you want a quick reference to a little information. Please read the entire manual to be fully informed about all functions and options of the device.*

Switch off track power

- [stop]

Switch on track power

- [go]

Select Locomotive by Address

- [lok] + Address entry + [↵]

Select Locomotive by Name

- [lok] + Select key

Change Speed

- Turn the throttle knob

Change Direction

- With locomotive stationary press on the controller knob

Emergency stop of the controlled locomotive

- Press on the controller knob

Switch the Light function

- The [f0]-key switches the light on or off

Switch Special functions f1-f4

- [f1] [f2] [f3] [f4]

Switch Special functions f0-f28

- Press the context sensitive keys beside the display
  Active functions are indicated with a tick.

Selecting the Device Mode

- Press [mode]-key
- Select with the keys on the right of the Display

Change Control Panel Mode Key Assignment

- Press [mode]-key
- Select panel with the keys on the right of the Display
- [menu] + Number 1 Key + [↵] (Factory setting 1)

Change Feedback Mode Key Assignment

- Press [mode]-key
- Select feedback with the keys on the right of the Display
- [menu] + Number 1 Key + [↵] (Factory setting 1)

Configure the Data format individual Decoder

- [lok] + address entry + [↵] or [lok] + Select key
- Press [lok]-key x2 + with Scroll key scroll to "Change Loco Data"
- "Change Loco Data" + select "Change Data format"
- Select the desired Data format + "Save"

Change Basic Setting

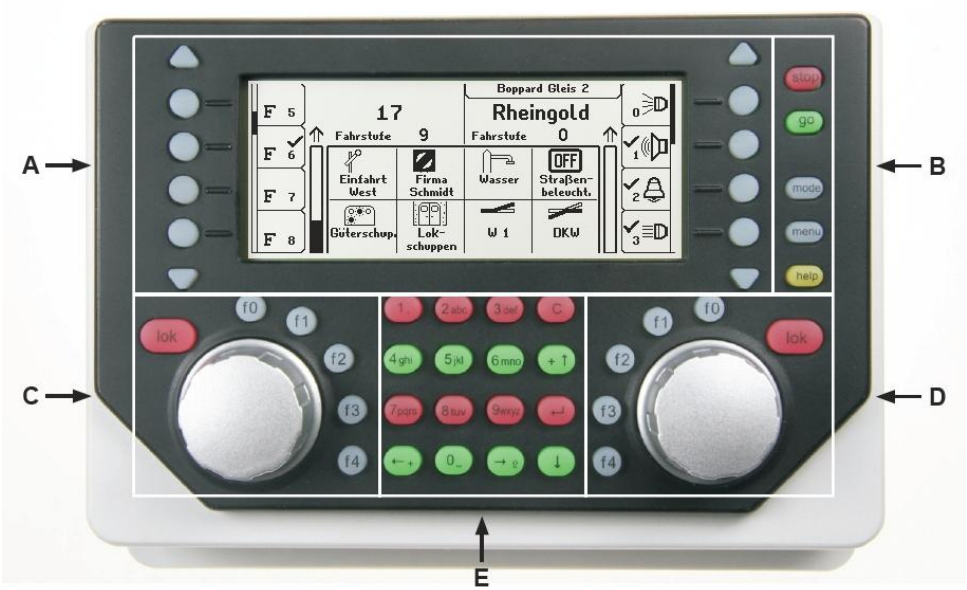
- Press [mode]-key
- Select Basic Settings with the Select key on the left side of the display
- Confirm the setting with Select key
- Return control mode with [menu]-key

1.4 Technical Data

- **Connections**
  2 LocoNet Sockets
- **Power Load to LocoNet**
  160 mA
- **Dimensions**
  180 x 136 x 80 mm

2. The Control Elements

2.1 Definition of the individual Sockets



A. Backlit LCD with associated display keys with information about locomotive address or name, speed and driving direction and the current operating mode, e.g. the control desk mode shows turnout or signal status. The display keys are for selecting entries from the lists which are shown down the side of the display, e.g. the control desk mode shows the list of special functions

B. Key area with operational status indicator, main control keys and help function

C. Left Controller with function keys and locomotive selection key

D. Right Controller with function keys and locomotive selection key

E. Key block with telephone keyboard and special keys

stop/go

Operating status and key for interrupting and restarting of running operations

mode

Selection of the operating mode e.g. operating desk mode, feedback mode, route mode, LISSY/MARCo mode, programming mode, etc.

menu

Setting options related to the current operating mode and return to the operating desk mode from each submenu

help

Help for every operating situation

Left Controller

With endless rotary control, direction switch, f0 for switching light function, 4 function keys and locomotive selection key.

Right Controller

With endless rotary control, direction switch, f0 for switching light function, 4 function keys and locomotive selection key.

Centre Key block

Telephone key pad for entering digits and characters. With special keys for easy entry of addresses and working in the individual modes.

LCD Display

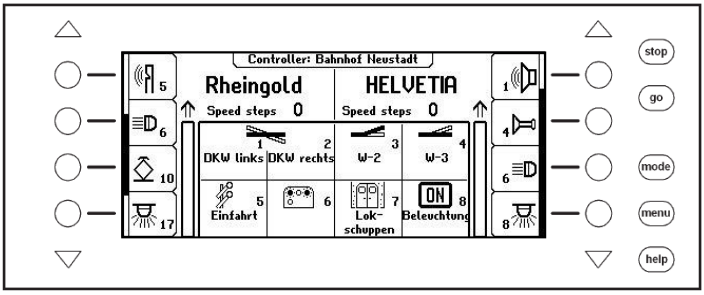
The large backlit LCD Display provides information about both currently controlled vehicles, currently selected operating mode (e.g. in control desk mode, display of turnout or signal status) and the assignment of the display keys, which always match the individual operating situations.

Display keys

For selecting entries from the lists which are shown down the side of the display, e.g. in the control desk operation, in the list of the special functions or the selection of individual menu items.

2.2 The Display with the Display keys

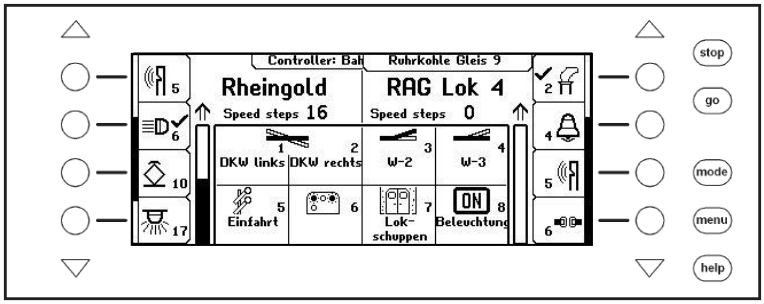
The large backlit LCD Display is clearly arranged on the panel. The three part display provides a clear overview of the current running status at all times.



The top area shows the current selected vehicle for each of the controllers along with their speed and driving direction.

The special functions are switched by the round display keys beside the display. If the controlled locomotive has more than 4 special functions, then the scrollbar indicates the active items in the list. The triangular keys (= Scroll keys) can page through this list upward or downward. Their background light indicates the possible direction.

If the LISSY/MARCO system is connected to the IB-Control II the messages indicating the current state of the locomotive is shown above the locomotive name. This information is stored in the IB-Control II and displayed again when the locomotive is next called. The display is updated whenever the locomotive passes another place on the layout that is being monitored by the LISSY/MARCO system.



The middle has information about the current operating mode, e.g. in the control desk mode, the state of turnouts or signals.

2.3 The Controller

Locomotives can be called and controlled by the control desk. The IB-Control II has two independent integrated controllers. They are on the left and right side of the unit.

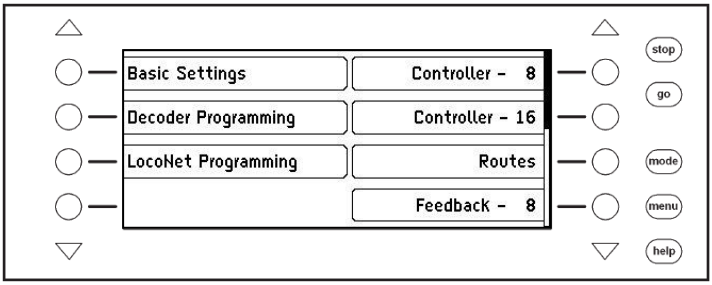
Digital decoders with different data formats can be controlled simultaneously.

The controllers are also operational during programming or while changing presets.

Each control desk consists of the throttle control knob for changing locomotive speed and driving direction as well as of the f0 to f4 special function keys. The [lok]-key on each control desk serves to select new locomotives on the controller.

2.4 Menu Operation

The IB-Control II is operated by three main control keys [mode], [menu] and [help]. [Mode]-key switches between the device modes. If it is pressed the main selection menu appears and shows all the modes. On the left side are the modes that fully utilize the display and on the right are the modes which represent the control desk in the display in combination with other control elements (control desk, routes, etc.) in the middle display area.

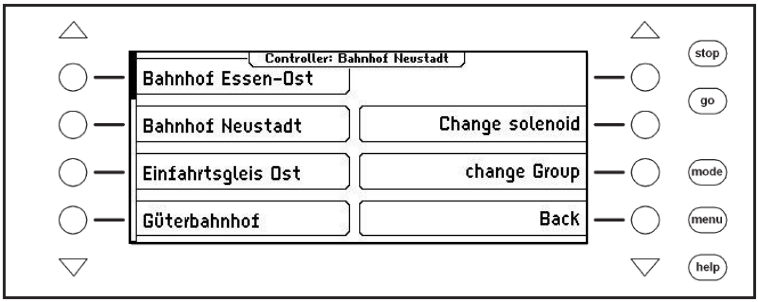


The [Menu]-key leads to selection or configuration menus, which belong to each device mode. In the control desk mode e.g. a new control desk is selected or a solenoid is linked with a name and a symbol. A further press of the [menu]-key returns back to the Control Desk.

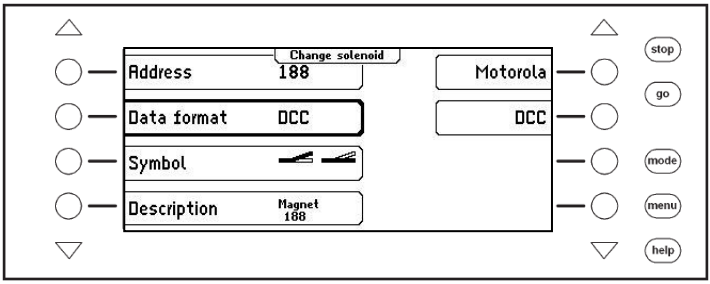
The [help]-key can call context sensitive help at any time.

The individual menus are always navigated with the display keys beside the left and on the right the display. Depending upon the operation, the display gives the meaning of these keys. If more than four options are available the triangular scroll keys light up. A scrollbar indicates if different options are still present above or below the four represented. These other options can be accessed with the triangular scroll keys.

The menus are constructed in such a way that the left side has the main options. The right side shows associated control steps or a submenu which belong to one of the options on the left side. Here one often also finds the “Back” key to exit the menu or with which to return to a parent menu. For example the control desk menu:



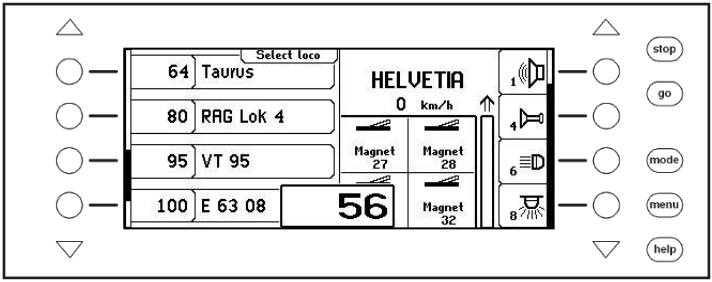
If an option on the left side is activated by key press, this is represented by a frame around the menu element, e.g.:



The right side now shows options for this point. In this example the data format for solenoids can be set. The submenu is faded out again by another operation of the left selection key. If a selection key on the right is pressed the selection for this parameter (here the data format) is accepted and indicated left.

2.5 Entry of Numerals

If during the course of operating the device input of a number of sequences is required to enter a locomotive or a solenoid address, it is done with the alphanumeric keyboard in the centre of the unit (key block). As soon as a digit key is pressed an input field appears. The input can be completed in the field and confirmed with [↵]-key. The last entered digit can be deleted with the [C]-key. The [+↑]-key increments the number in the input field by one, while [↓]-key decrements the number by one.

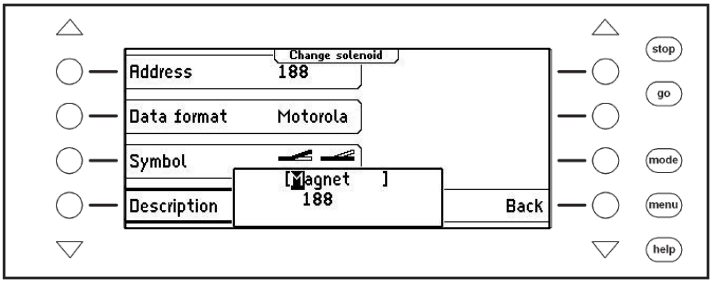


2.6 Entry of Names

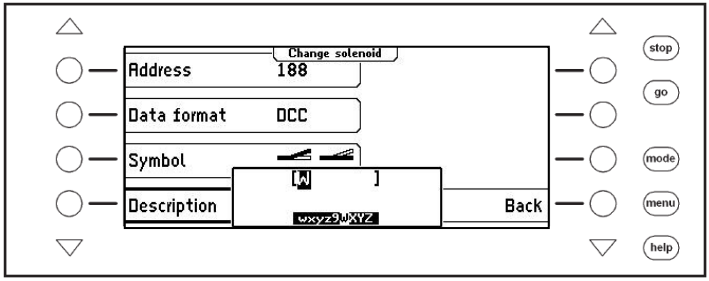
While operating the device, input of names may be necessary to provide a locomotive or a turnout with a name. This input can be done with the alphanumeric keyboard in the centre of the unit (key block). As soon as a change of name is selected, depending upon context, a one or two line input field appears.

The actual line in which the text can be entered is marked by square brackets. The Curser position at which the next character will be changed is shown inverted. The arrow keys [←] and [→] can move the cursor within the line. The arrow keys [↓] and [↑] can be changed between the lines. The [C]-key will delete the character at the input position.

The character input is ended with the [↵]-key.



When an alphanumeric key is pressed a list of characters which can be inserted appears. As is the case for mobile phones repeated pressing of the key selects characters from this list. If the key is then released for a short time or if another key is pressed the character at the cursor position is used.



Here are the symbols assigned to the alphanumeric keys 0-9:

Key	Assignment
1	-1.,()<>_:+*/#!
2	abc2ABCäÄ
3	def3DEF
4	ghi4GHI
5	jkl5JKL

Key	Assignment
6	mno6MNOöÖ
7	pqrs7PQRSß
8	tuv8TUVüÜ
9	wxyz9WXYZ
0	(space)0

Note: *Key [0] will overwrite the existing character at the cursor position either with a blank or the number "0" inserted.*

3. Basic Settings Menu

The Basic Setting of the IB-Control II can be changed by menu driven options and are then saved to non-volatile memory.

The Basic Settings Menu is reached by pressing the [mode]-key and selecting “Basic Settings” submenu.

The Basic Settings Menu has the following items:

- Operation
- Language
- Display
- Special options
- Software Version
- Database

To leave the main menu press the [mode]-key.

3.1 Menu Item Operation

3.1.1 Speed Display

The display of the vehicle speed can be in one of three ways.

Speed Step display

The display is directly in speed steps according to the decoder data format 0-14, 0-28, 0-31 or 0-126 speed steps.

Percent Display

The display is in percent of the maximum speed irrespective of the data format being used.

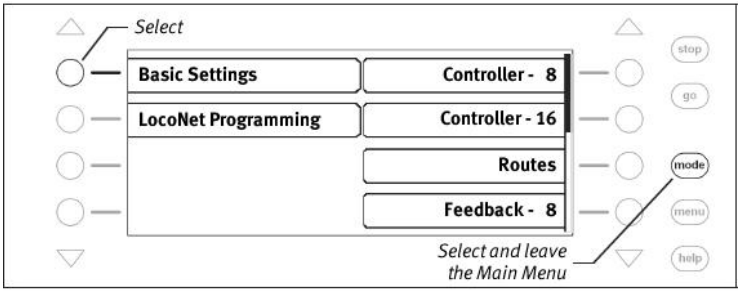
Display in km/h

If the individual locomotive address in the database has a top speed assigned to it (see Chapter 4.6.5) the speed can be calculated and displayed in km/h.

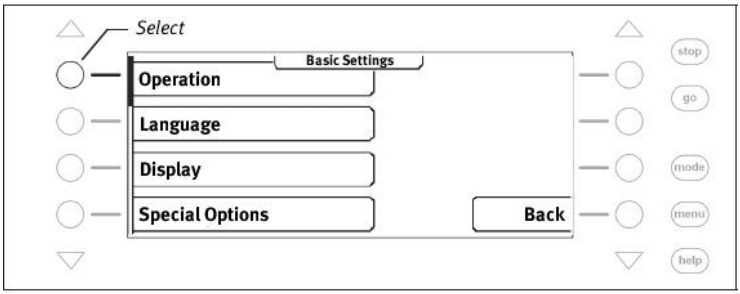
The display is preset to “Speed Step display”.

Procedure:

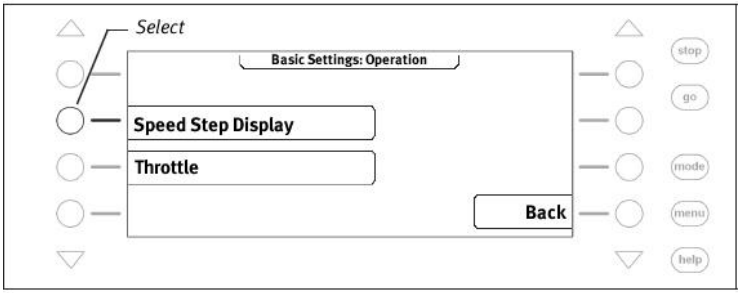
Step 1



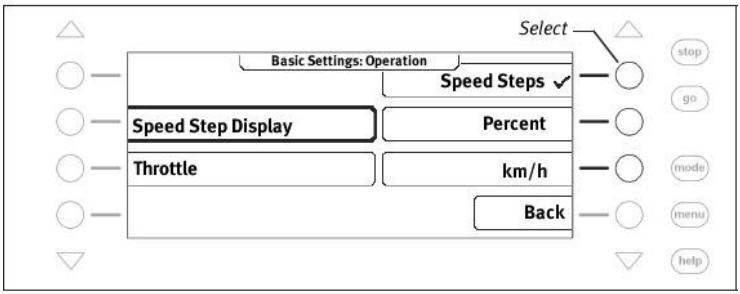
Step 2



Step 3



Step 4



3.1.2 Throttle

The throttle controls on the IB-Control II can be selected to operate like a DC throttle or an AC throttle.

The factory default setting is “AC throttle”.

AC Throttle Mode

The AC Throttle Mode is set up to control locomotives like the AC transformers in 3-rail systems.

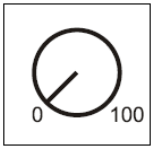


Figure 3.121 Principle of an AC throttle

In this operating mode the speed increases by turning the knob to the right and decreases by turning the knob to the left. When either the maximum speed or the zero speed is reached further rotation in the same direction of the knob has no effect. In this operating mode the direction is switched with a light pressure on the throttle knob.

If the reversing switch is activated while the vehicle is running the vehicle will firstly stop and only then switch the direction over. It depends on the decoder data format if this causes an emergency (Motorola, DCC) or stops using the setup deceleration (Selectrix).

DC Throttle Mode

The DC Throttle Mode controls the locomotives as is common in the 2-rail DC systems.

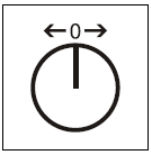


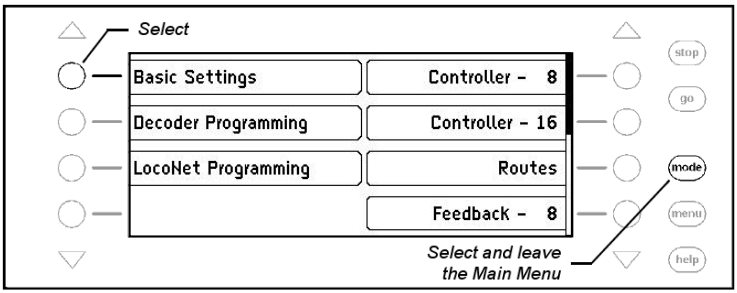
Figure 3.122 Principle of a DC throttle

In DC operating mode a right turn of the control knob, starting from speed step zero, will move the locomotive in a direction. When the control is turned back the speed is reduced until the loco stops. A further turn to the left will cause the locomotive to accelerate in the opposite direction.

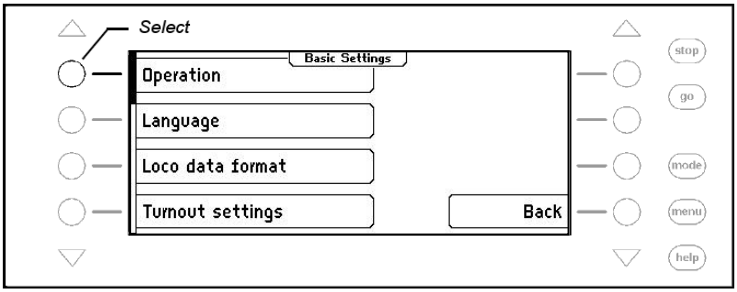
If the maximum speed of the loco is reached further turns in that direction has no effect. In this operating mode a light pressure on the control knob will cause the vehicle to stop. It depends on the decoder data format if this causes an emergency (DCC) or stops using the setup deceleration (Motorola, Selectrix).

Procedure:

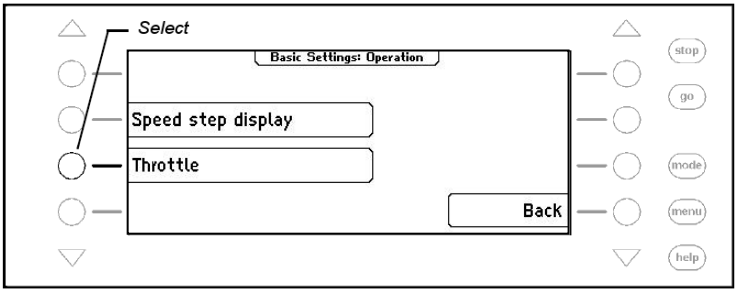
Step 1



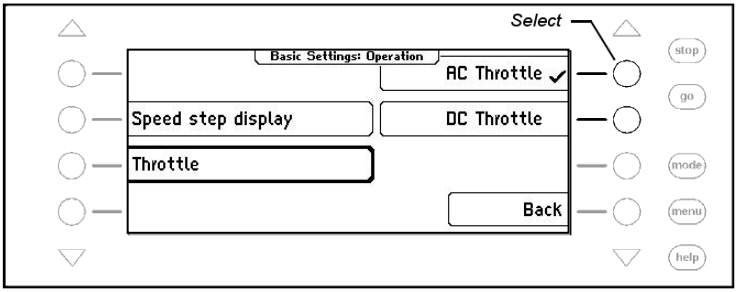
Step 2



Step 3



Step 4



3.2 “Language” Submenu

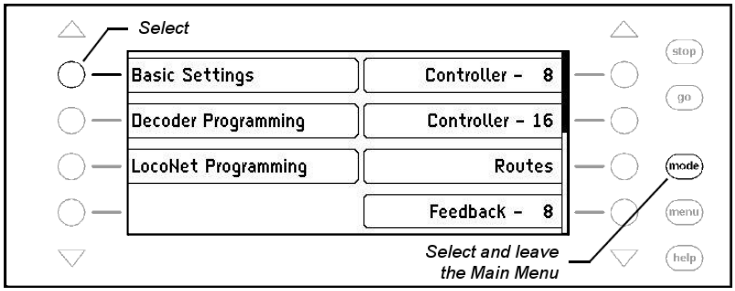
For the language of the text on the display the following languages can be selected:

- German
- English
- French
- Italian
- Dutch
- Swedish
- Spanish
- Portuguese
- Danish

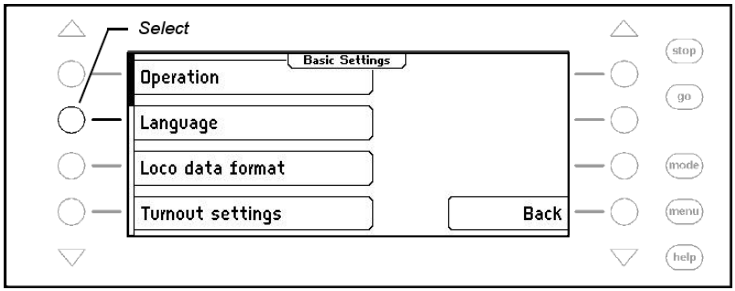
The preset is “German“.

Procedure:

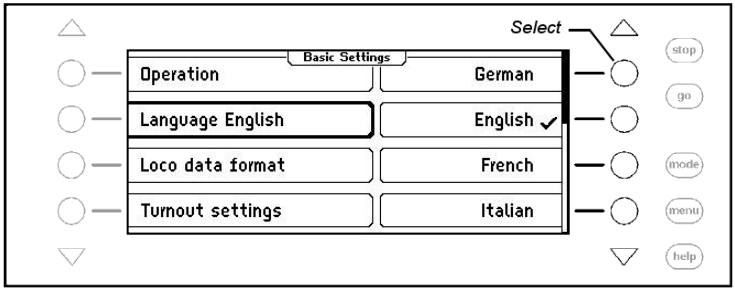
Step 1



Step 2



Step 3

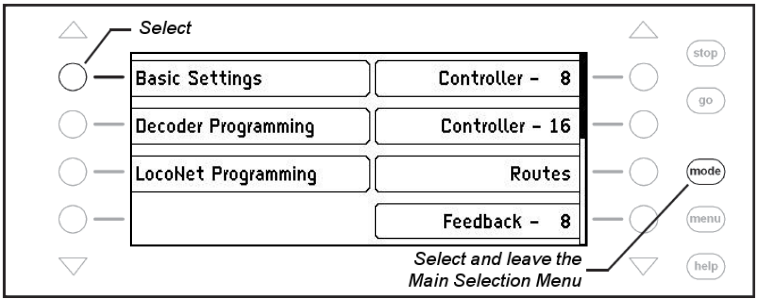


3.3 “Display” Menu

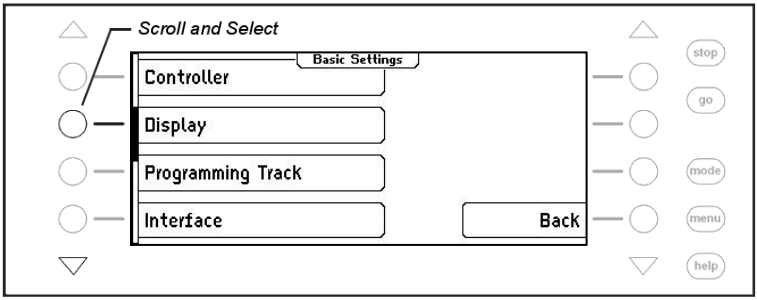
The Display Menu is used to set the brightness and Contrast of the display.

Procedure:

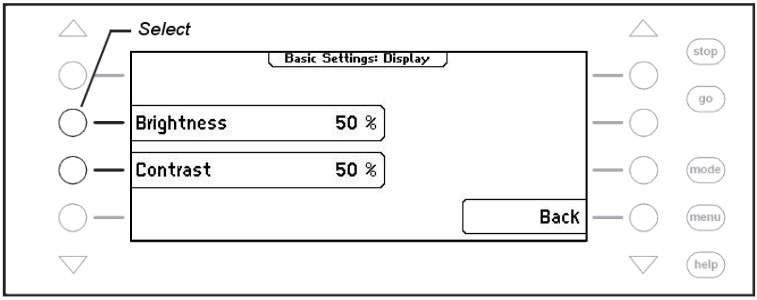
Step 1



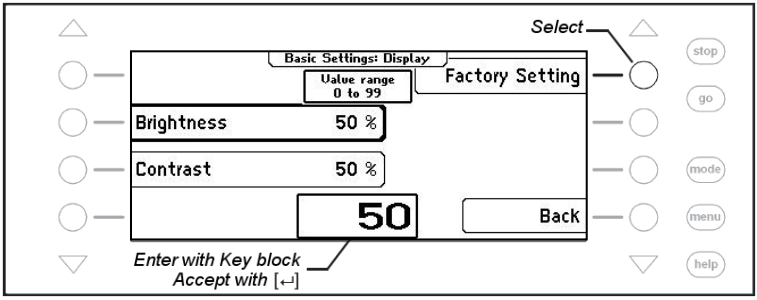
Step 2



Step 3



Step 4

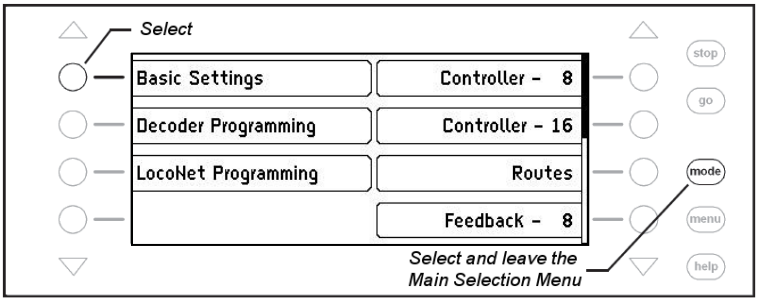


3.4 “Special Options” Menu

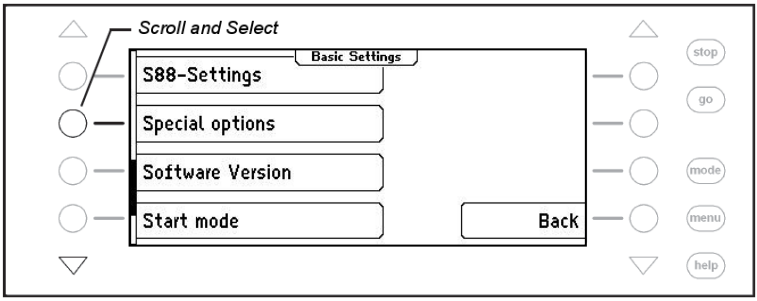
The IB-Control II has various special options which affect the operation of the device and can differ between software versions. Each special option can be selected with an identification number. The individual special options can be obtained in a separate list for the particular software. With later software changes a file containing the relevant explanation is included in the update package.

Procedure:

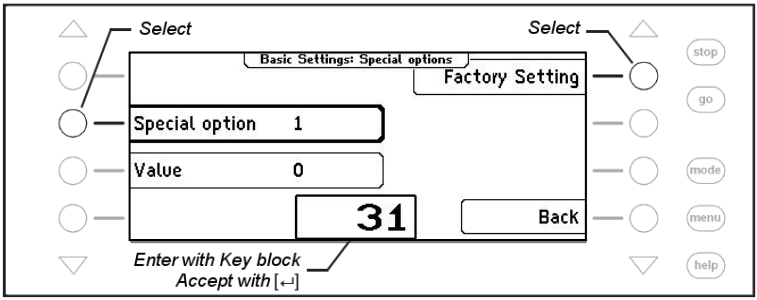
Step 1



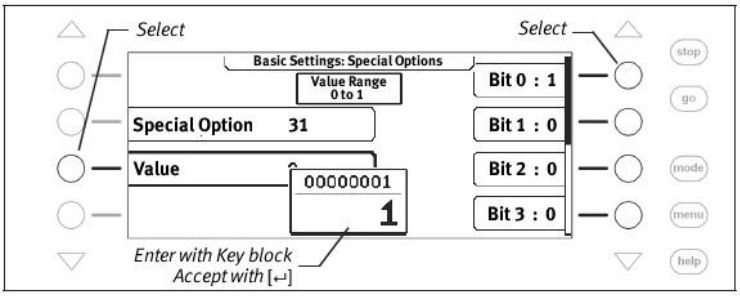
Step 2



Step 3



Step 4



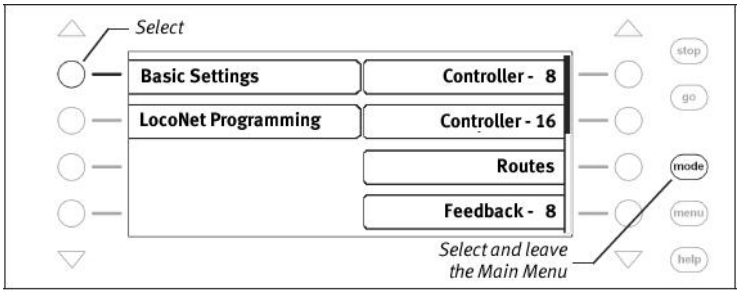
The right display keys can be used to set special option bits to 1 or 0.

3.5 "Software-Version" Menu

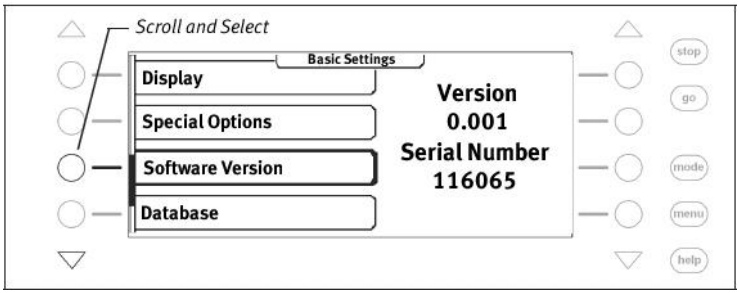
Use this Menu item to find the serial number of your device and the Version number of the System software.

Procedure:

Step 1



Step 2



3.6 "Database" Menu

The IB-Control II has a database in which all user settings for locomotives, turnouts, feedback units, Routes, LISSY/MARCO receivers and booster are saved. The assigned names and symbols for the individual elements are saved. Two memory buffers are available for the active database and for a copy.

The "Database" Menu has the following options:

Make Copy

A copy of the active database is made into the copy buffer.

Swap with Copy

The data is swapped between the active database and the copy buffer. The data from the copy buffer are put into the active data buffer and active data buffer is placed into the copy buffer.

Delete

The active data buffer is flushed. Subsequently all names are replaced with the relevant addresses and basic symbols are used for functions, turnouts and feedbacks.

Demo Database

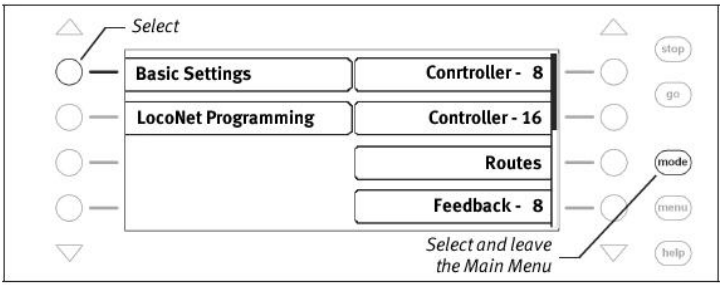
A Demo database with preset values of names and symbols is loaded.

Repair

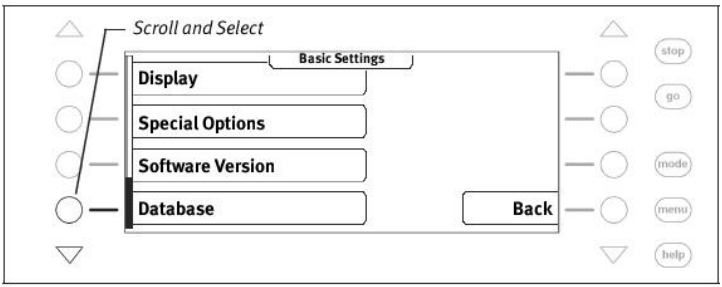
Should the database exhibit errors, e.g. that a locomotive dataset cannot be changed, then this malfunction can be repaired.

Procedure:

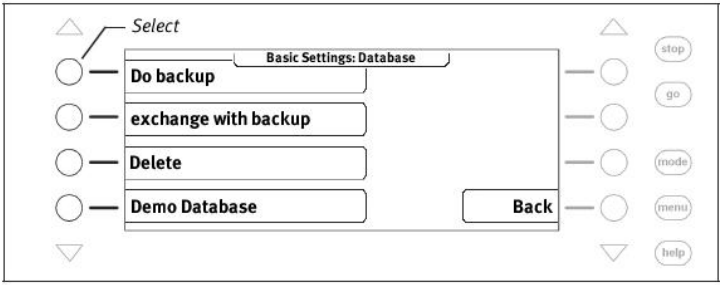
Step 1



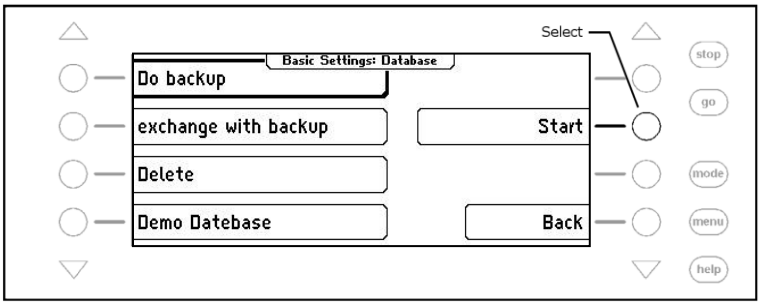
Step 2



Step 3



Step 4



3.7 Transferring a "Database"

Depending on which device the database is being transferred from into the IB-Control II, various prerequisites must be fulfilled:

Transferring a Database from an Intellibox II, or SC7 into an IB-Control II

A prerequisite is that the Intellibox II has the software version from 1.020 - 1.015. The respective update for the Intellibox II can be found on our internet site: www.uhlenbrock.de.

Only one IB-Control II can be connected to the Intellibox II LocoNet.

Before switching on the Intellibox II press and hold the Scroll key at the top-left.

Now turn the Intellibox II power on and release the key only after a few seconds.

After the Start of the Intellibox II the display shows the transfer mode "Data Base Sync mode".

The transfer can now be started by pressing the [GO]-key and takes approx. 25 minutes. This mode can be exited by pressing the [STOP]-key.

After the transfer of the database to the IB-Control II is complete, the Intellibox II power must be switched off.

When next switching on the power the IB-Control II can, be operated using the newly transferred database.

Transferring a database from an IB-Control II to another IB-Control II

When the Digital center is not an Intellibox II or SC7 or it does not have the relevant software version, a database can also be transferred from IB-Control II into another IB-Control II. For that, first connect both devices via a LocoNet cable.

Only these two IB-Control II are then allowed to be connected to the center's LocoNet.

Now separate the IB-Control II with the database that is to be transferred from the center. Before this connection is re-established, press and hold the top-left scroll key (see above

image). Then the LocoNet cable can be re-inserted and after a few seconds the key can be released.

After starting, the IB-Control II is in transfer mode and the display shows “Data Base Sync mode”.

To the transfer process press the [GO]-key and will take approx. 25 minutes. The mode can be exited by pressing the [STOP]-key.

After the transfer of the database to the connected IB-Control II is completed the LocoNet to the center must be disconnected again.

When the LocoNet cable is reconnected the IB-Control II will operate with the transferred database.

Transferring a Database from an IB-Control II to an Intellibox II, or SC7

A prerequisite is that the Intellibox II (or SC7) has the software version from 1.020 - 1.015. The respective update for the Intellibox II can be found on our internet site: www.uhlenbrock.de.

Only one IB-Control II can be connected to the Intellibox II LocoNet.

Disconnect the IB-Control II with the database to be transferred from the center’s LocoNet. Before this connection is re-established press and hold the top-left scroll key (see above image). Then LocoNet cable can be re-inserted and after a few seconds the key can be released.

After starting, the IB-Control II is in transfer mode and the display shows “Data Base Sync mode”.

To the transfer process press the [GO]-key and will take approx. 25 minutes. The mode can be exited by pressing the [STOP]-key.

After the transfer of the database to the connected Intellibox II (SC7) is completed the LocoNet to the Intellibox II (SC7) must be disconnected again.

When the LocoNet cable is reconnected, the Intellibox II or SC7 will operate with the transferred database.

4. The Control Desk

Locomotives can be called up and controlled with a control desk. The IB-Control II has two built-in, independent from one-another control desks. They are located on the left and right side of the device control panel.

Digital decoders with different data formats can be controlled simultaneously.

The Control desks are also operational during programming and while changes are made to the presets.

4.1 Operating Elements

Figure 4.11 The Front view of the IB-Control II

Each control panel has the following elements:

The [stop]-key

The [stop]-key turns the power off to the main line and track sections powered by connected boosters. The “STOP – no track power” message is then shown in the display. This key is used by both control desks.

The [go]-key

The [go]-key turns the power on to the main line and the track sections are powered by connected boosters. It is used by both control desks.

The keys [f0] [f1] [f2] [f3] [f4]

These keys switch locomotive special functions such as Light, Special lighting, Horn or Smoke unit.

The [lok]-key

starts the selection of the wanted locomotive for the respective control desk.

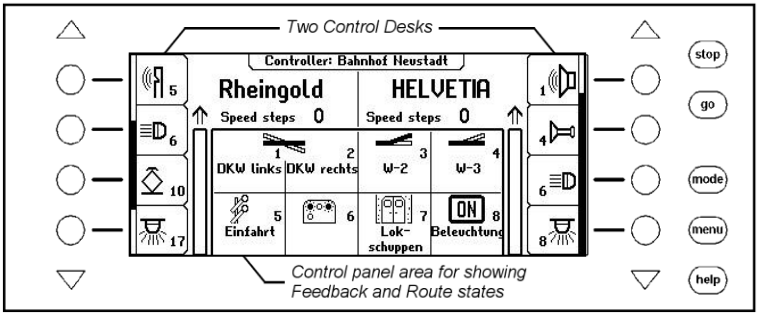
If a vehicle is already selected then pressing the [lok]-key twice will enter the Loco Menu. Here you can build a Multi-traction, assign locomotive to a hand controller or edit locomotive data.

The Throttle knob

The throttle knob is used to change the locomotive speed and direction. The rotating throttle without end stop on the IB-Control II automatically restores the saved speed when a new locomotive is selected.

The Display

The large backlit LCD display always gives you an exact overview of the running status.



The display of the used locomotive, running speed and direction of actually controlled vehicles are shown separately for each controller. The display keys at the sides are assigned with loco special functions. If the controlled locomotive has more than 4 special functions the triangular scroll keys, top and bottom can be used scroll through further functions. If it is possible to scroll up or down the corresponding scroll key is lit up.

The scrollbar diagrammatically shows at which point in the selection range the display keys are.

4.2 Locomotive Addresses and Names

In a digital control system an individual locomotive is selected by an address. This is a sequence of digits which are installed in the individual locomotive decoder for identification.

Each decoder is set to its own address so that the locomotive can be addressed by this particular address.

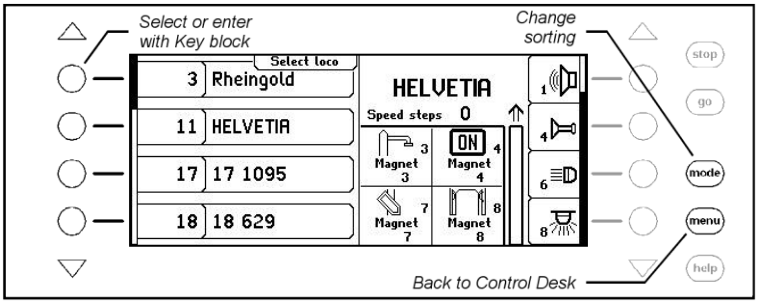
In order to simplify locomotive selection each locomotive can be assigned a name. If the assignment is done once the IB-Control II saves it permanently.

In every new locomotive selection it can be selected from a list by name. Once data have been entered they remain in the IB-Control II permanently. Subsequently each new locomotive selection can be made from the list by using its name.

4.2.1 **Locomotive** selection

If a vehicle is to be controlled with the IB-Control II it must be called under the decoder address or under the assigned name.

Locomotive selection is started by pressing the [lok]-key. The display shows a list of locomotive addresses and names. The desired locomotive is selected with the selection keys. If more than 4 locomotives are available the scrollbar appears and the triangular scroll keys can be used to scroll through the list. The [mode]-key can be used to switch between sorting by locomotive address or by name.



If the locomotive is not on the list its address can be entered numerically. After pressing the digit an input field appears to verify the digit inputs. The [C]-key can be used to delete the last digit and the [↵]-key to confirm the entry.

Note: *If the loco being called up is already being controlled by another throttle control the IB-Control II will inform you with the message: "The selected loco is already under control!". The vehicle can then be controlled with both throttles.*

4.3 Throttle

The throttle is for changing the speed of the locomotive and its direction. The rotary control without endpoints automatically restores the save speed of a newly selected locomotive.

The throttle has two operating modes:

AC Throttle Mode

The AC Throttle Mode is set up to control locomotives like the AC transformers in 3-rail systems.

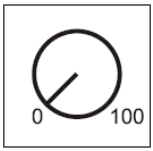


Figure 4.31 Principle of an AC throttle

In this operating mode the speed increases by turning the knob to the right and decreases by turning the knob to the left.

When either the maximum speed or the zero speed is reached further rotation in the same direction of the knob has no effect. The maximum speed or zero speed then remains.

The direction is changed by lightly pressing on the control.

If the reversing switch is activated while the vehicle is running the vehicle will first stop and only then switch the direction over. It depends on the decoder data format if this causes an emergency (Motorola, DCC) or stops using the setup deceleration (Selectrix).

DC Throttle Mode

The DC Throttle Mode controls the locomotives as is common in the 2-rail DC systems.

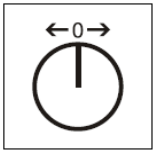


Figure 4.32 Principle of a DC throttle

In DC operating mode a right turn of the control knob, starting from speed step zero, will move the locomotive in a direction. When the control is turned back the speed is reduced until the loco stops. A further turn to the left will cause the locomotive to accelerate in the opposite direction.

If the maximum speed of the loco is reached further turns in that direction has no effect.

In this operating mode a light pressure on the control knob will cause the vehicle to stop. It depends on the decoder data format if this causes an emergency (DCC) or stops using the setup deceleration (Motorola, Selectrix).

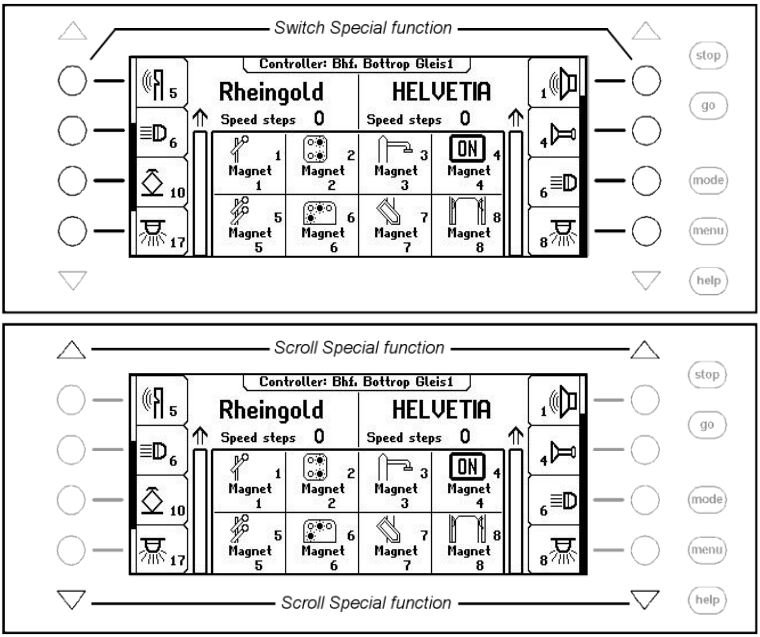
Preset

In the factory default setting the AC Throttle Mode is active. This can be changed in the IB-Control II Basic Settings Menu (See Chapter 3.1).

4.4 Light and Special functions

The function keys beside the throttle control knob can be used to switch the light and special functions f0 to f4 of locomotive and function decoders.

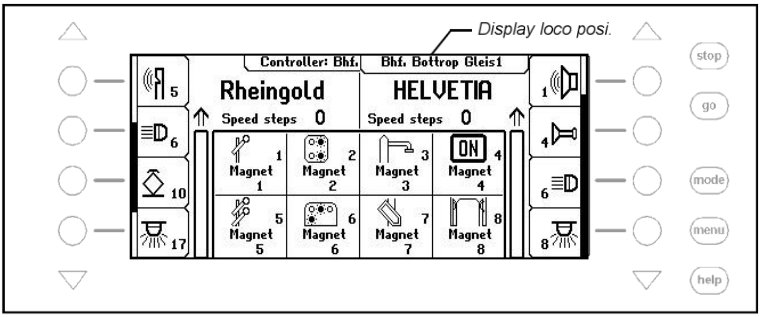
The special functions f0 to f28 (DCC) for a locomotive are shown in the display and can be switched with the selection keys. Active functions are indicated by a tick. If more than 4 functions are available, the triangular scroll keys can be used to scroll through the list.



4.5 The LokPosi Display

The LokPosi Display in conjunction with the LISSY/MARCO System shows the position of a loco. The IB-Control II gets information from the LISSY/MARCO System about which locomotive is at which position on the layout. This information about the location of a locomotive is saved by the IB-Control II. If a locomotive is called up its location is displayed in the LokPosi field. If the loco moves the indication is deleted because the locomotive has departed the last location. If the loco enters another track section that is controlled by a LISSY/MARCO receiver the new location is displayed in the LokPosi field.

The LokPosi field either contains the number of the LISSY/MARCO receiver, at which the loco is located or the name of that track section in the event that the LISSY/MARCO receiver has been assigned a name. How a name can be assigned to a LISSY/MARCO receiver is outlined in Chapter 8.6.



4.6 The Loco Menu

The key sequence [lok] and [menu] or 2x [lok] calls up the Loco Menu for the currently controlled locomotive. Here are the following functions:

- Multi-traction
- Call up last locomotive
- Switch all functions
- Dispatch locomotives
- Edit locomotive data

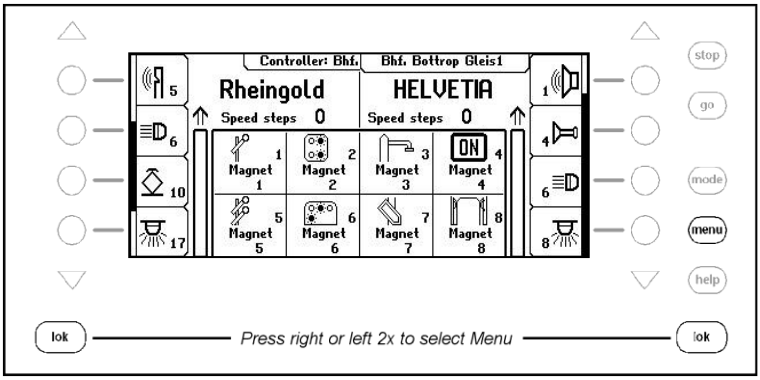
4.6.1 Multi-traction

The IB-Control II can control up to 4 locomotives together with the one controller. A locomotive can be added to a Multi-traction either by its decoder address or its name. A total of up to eight different Multi-traction are possible.

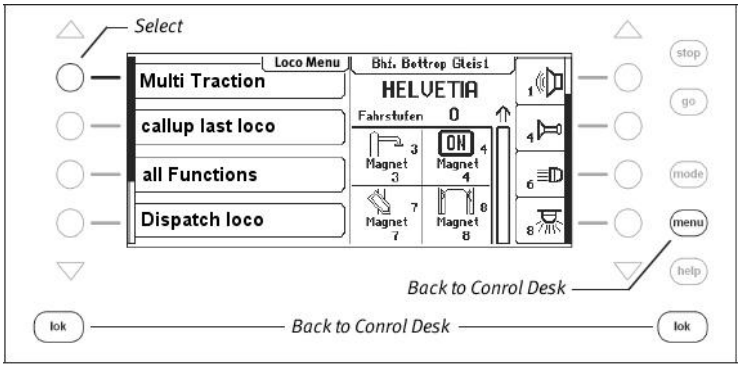
Building a Multi-traction

Note: *The combination of [lok] and [+] keys goes directly into Multi-traction Menu for adding and removing locos.*

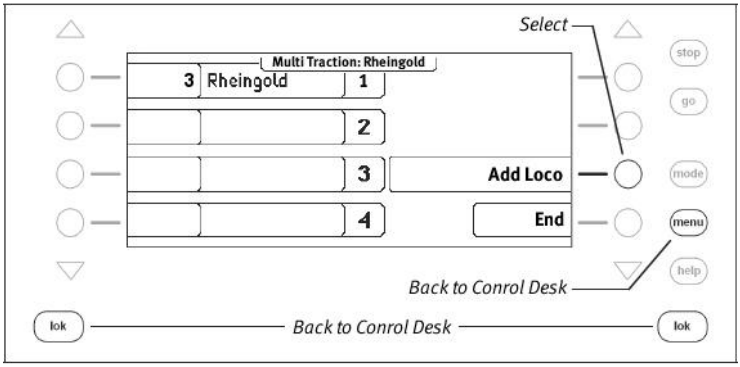
Step 1



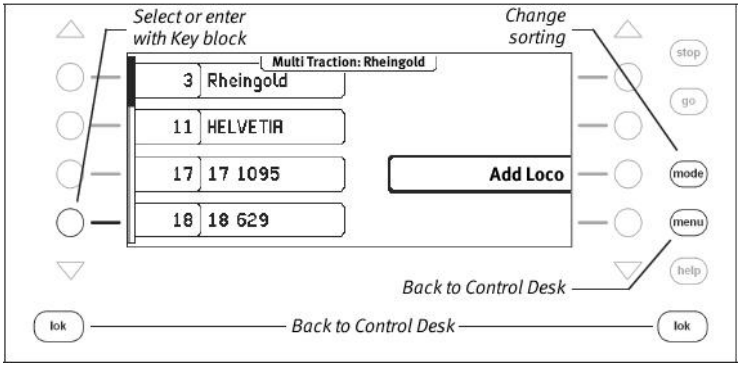
Step 2



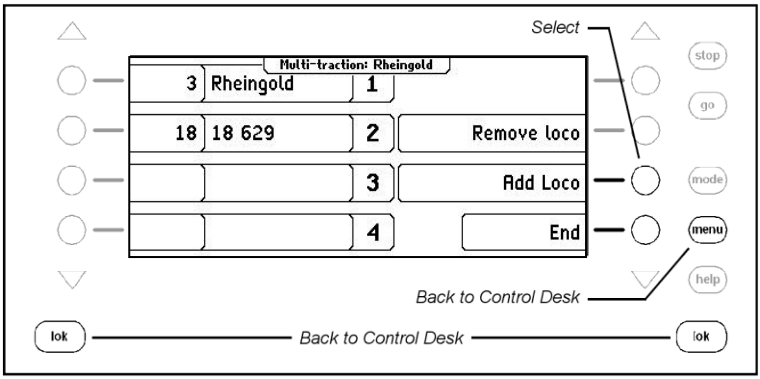
Step 3



Step 4

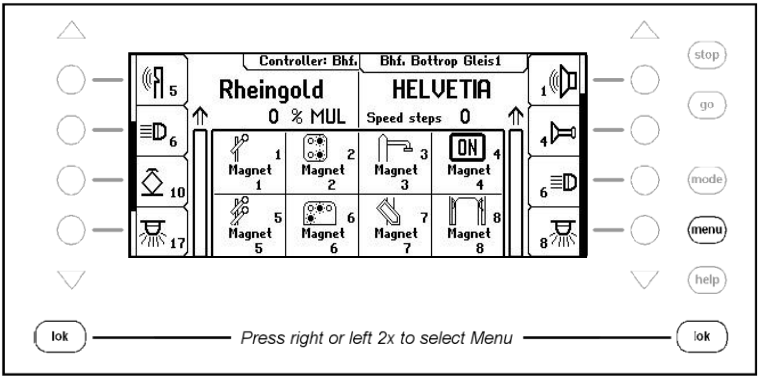


Step 5

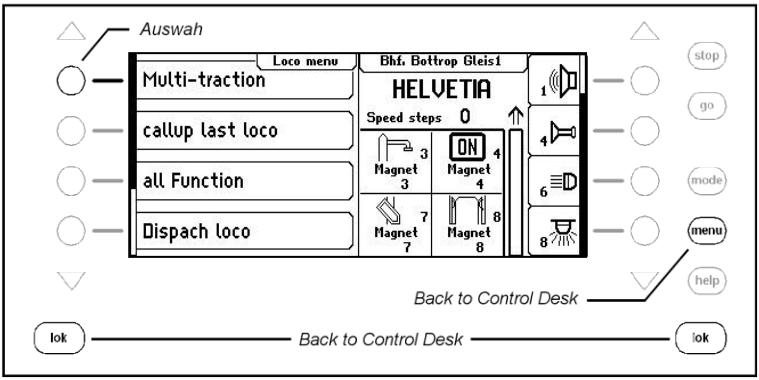


Deleting a Multi-traction

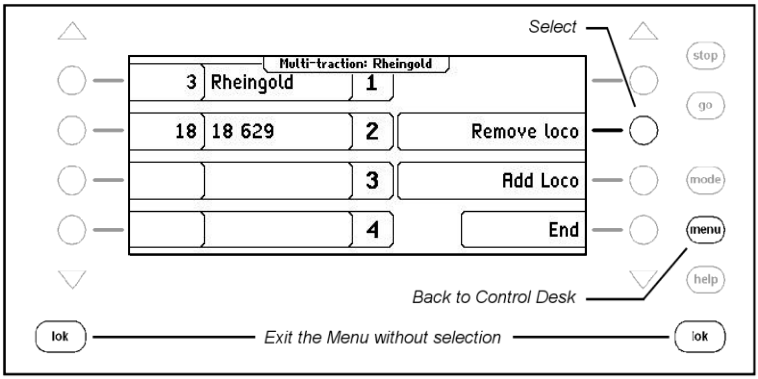
Step 1



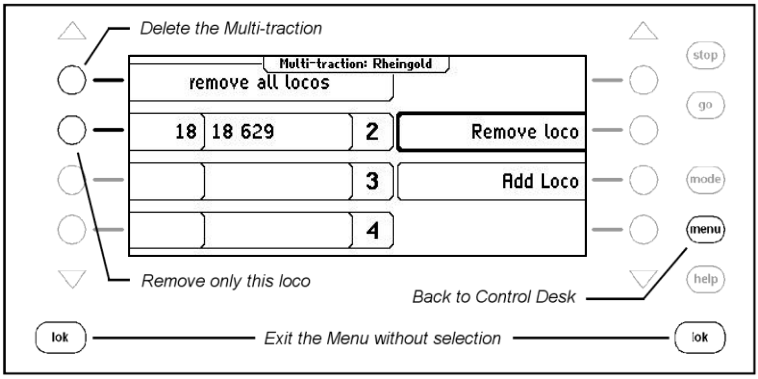
Step 2



Step 3



Step 4



Behaviour of Multi-traction Locomotives

A Multi-traction can only be called up under the address or name of the “base locomotive”.

If a traction locomotive is called under its own address Multi-traction appears in the display in place of the speed indication, but no direction indication. The direction of this locomotive can however be changed so that at the start of the Multi-traction operation all vehicles can run in the same direction.

Note: *The direction can only be changed if the entire Multi-traction is stationery. The speed step must be set to “0” under the address of the base locomotive.*

The special functions of a coupled loco in a Multi-traction can be individually controlled under its own address and independent of the base locomotive.

If locomotives having decoders with different number of speed steps are coupled into a Multi-traction, the group is controlled according to the locomotive with the lowest number of speed steps. If, for example, a decoder with 28 speed steps is coupled with a decoder with 14 speed steps, the decoder with 28 speed steps will change its speed with every notch of the throttle, but the one with 14 speed steps will change only with every second notch. It therefore makes sense to use the locomotive with the least number of speed steps as the base locomotive.

Important: *For trouble-free operation of multiple locomotives in a Multi-traction it must be ensured that coupled locomotives have the same minimum and maximum speed.*

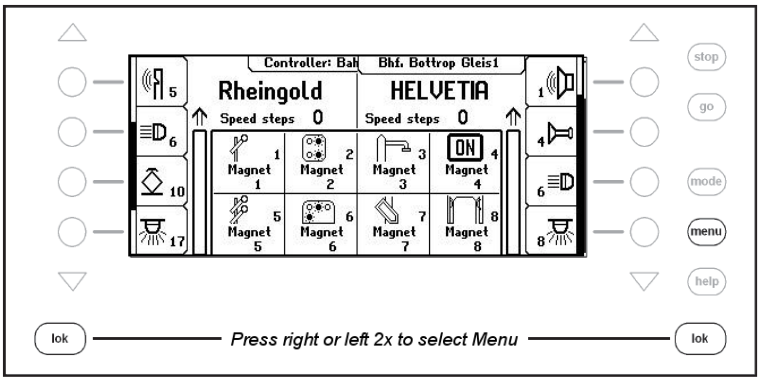
Note: *The setting of the minimum and maximum speeds must be programmed into the locomotive with the appropriate parameters. Details for this are in the particular decoder manual.*

4.6.2 Last called up Locomotive

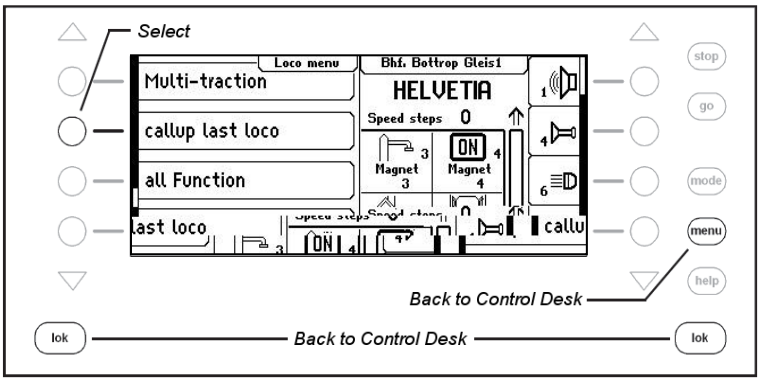
The IB-Control II notes the last 4 locomotives called up by a control desk. The 4 locomotives can be quickly recalled via the Loco Menu.

Procedure:

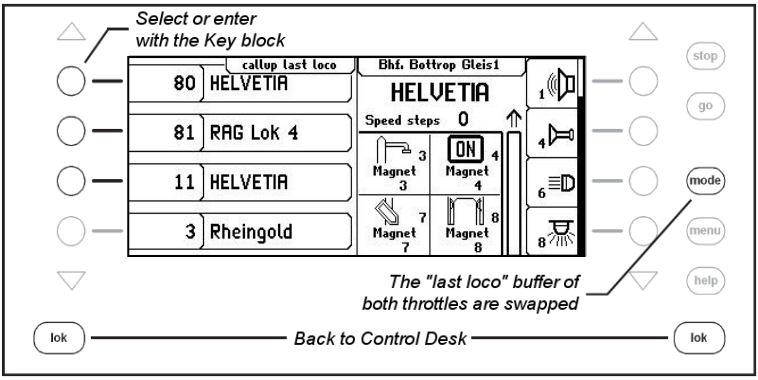
Step 1



Step 2



Step 3

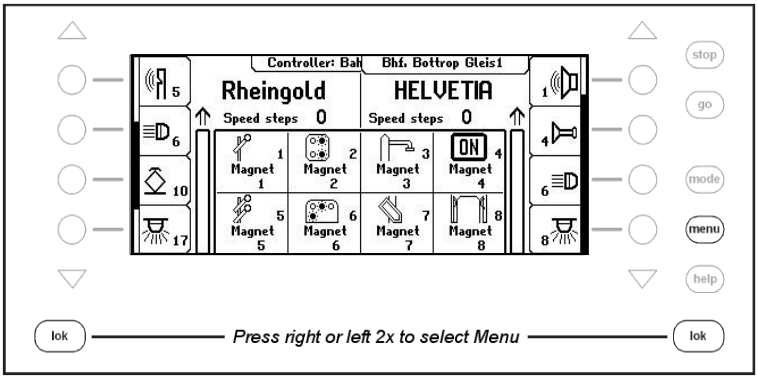


4.6.3 Controlling All Functions

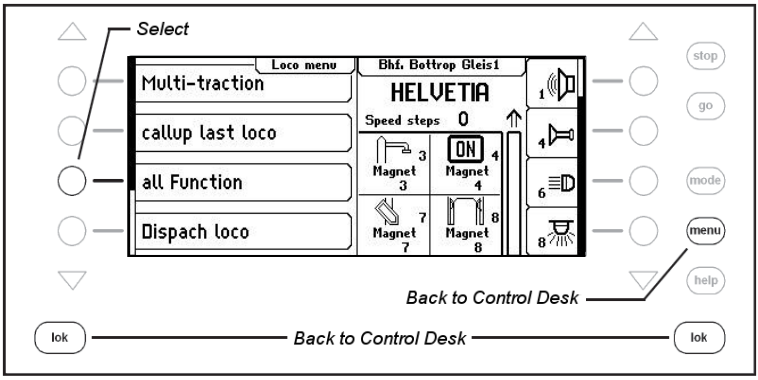
The IB-Control II can control function decoders which can be switched with a function address up to 32767. Directly accessible from the loco control panel are special function light (f0) and special functions f1 to f28. These special functions can be switched with symbols and by the keys beside the display. To switch the higher functions (>28) the Loco Menu must be used. Special functions from f0 to f32767 which are accessible via a locomotive address can be switched from the submenu “All Functions”.

Procedure:

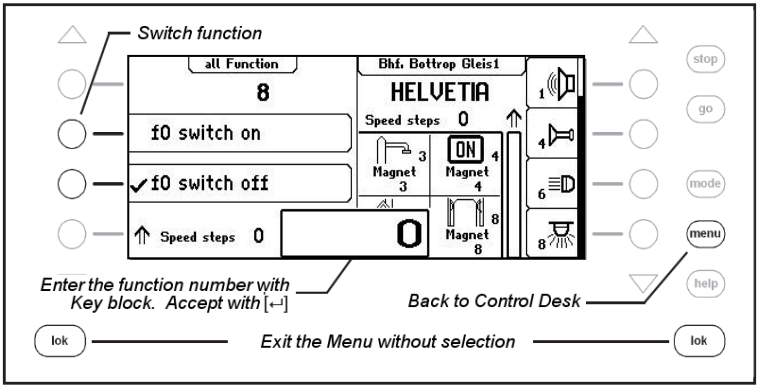
Step 1



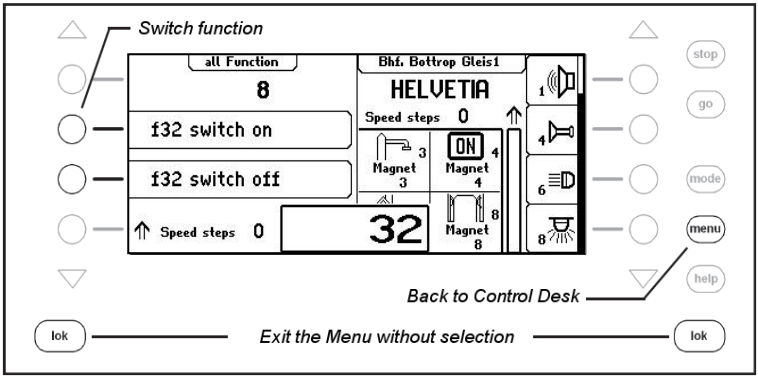
Step 2



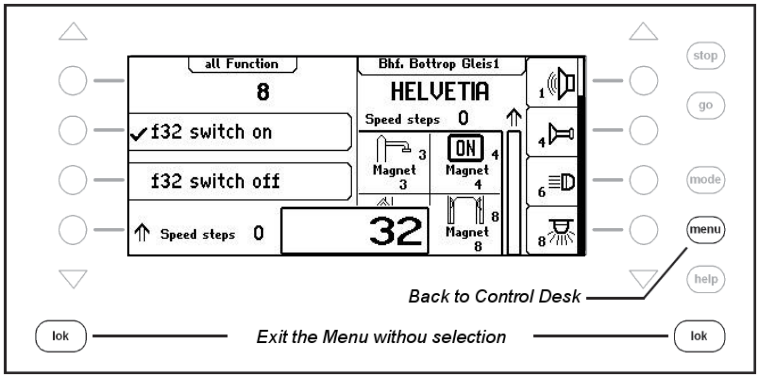
Step 3



Step 4



Step 5



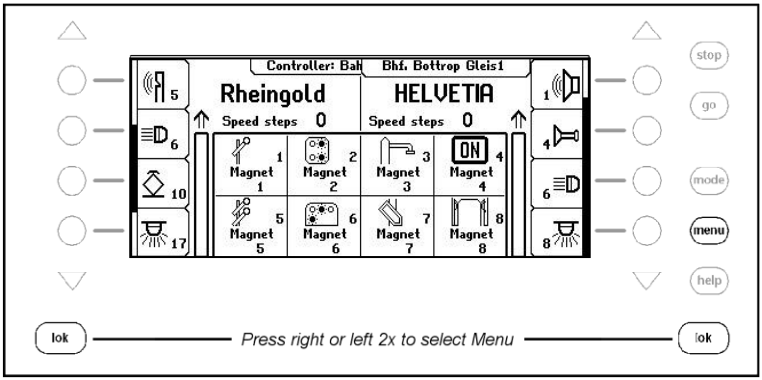
While the “All Functions” Menu is open the locomotive can be controlled by the controller as normal. The locomotive speed and direction are shown in the display.

4.6.4 Dispatching Locomotives

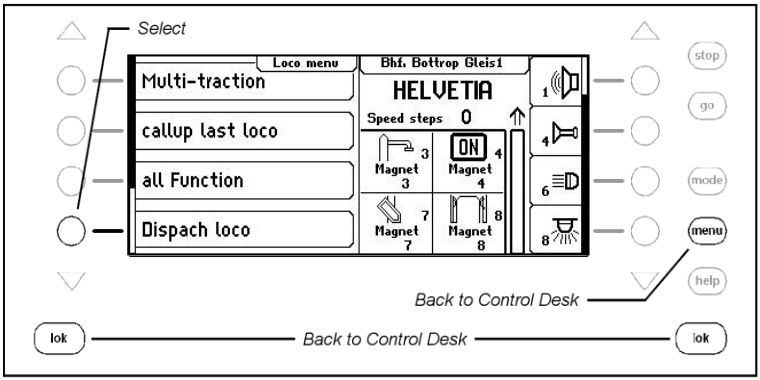
If a vehicle that is being controlled by an IB-Control II controller is to be taken over by a controller which does not have the capability of entering the locomotive address (e.g. FRED hand controller from Uhlenbrock, BT-2 hand controller from Digitrax) the locomotive address must be placed into the dispatch buffer. After that the Hand controllers without an address input can take over the address. The manual for the particular Hand controller will describe the key combination is used to take over the address from the IB-Control II, after it has been “dispatched”.

Procedure:

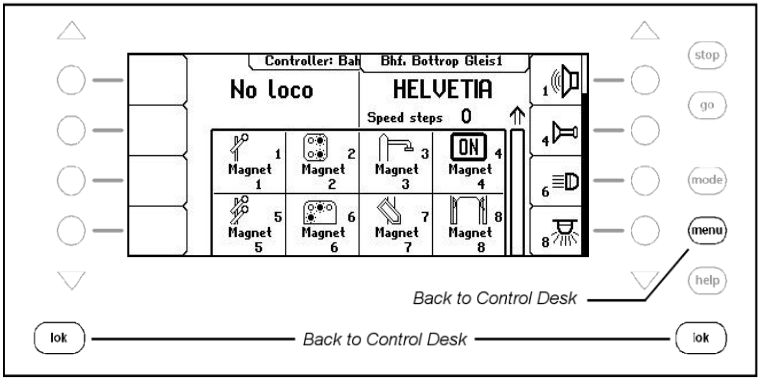
Step 1



Step 2



Step 3



The locomotive (here the “Rheingold”) is now in the dispatch buffer and can be taken by a Hand Controller.

Note: *The key sequence [lok] – [C] – [lok] likewise dispatches a locomotive (no Multi-traction locomotives).*

4.6.5 Edit a Loco dataset

Every locomotive in the IB-Control II has an associated dataset. This can have the following entries:

Change Address

Should a vehicle receive a new address with a new decoder it is simple to quickly change the address without having to discard the dataset or enter a new one.

Set Data format

Every new decoder is firstly addressed by the general data format selected in the Basic Settings (Setting see Chapter 3.3). If desired however each locomotive address can be assigned its individual data format.

Assign Symbols to Functions

The list of special functions in the display can have a maximum of 28 entries (for some DCC decoders). The standard indication “F” for function can be replaced by a symbol that represents the particular function for a better overview. For non-assigned special functions the display can be hidden.

Assign a Name

A name can be assigned to every locomotive address. As soon as a name is assigned for a locomotive it is shown in the display in place of the address. Both the name and the address are used in the Loco selection menu for the throttle controls.

Define Maximum Speed

To display a vehicle speed in km/h at the top speed of the individual locomotive addresses must be entered in the Locomotive database.

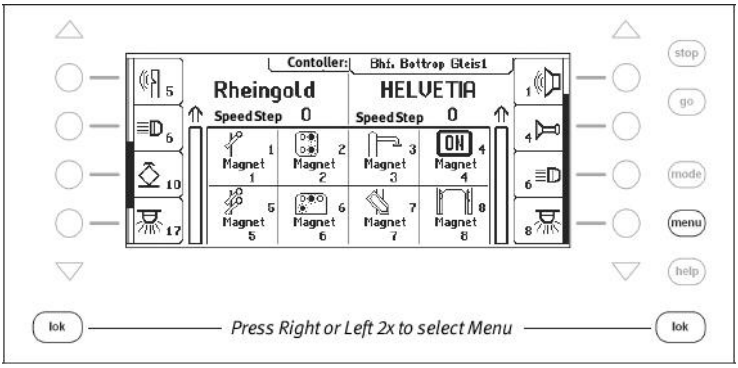
The top speed is shown when a locomotive runs at the top speed step.

The speed display of the intermediate speed steps are calculated in proportion.

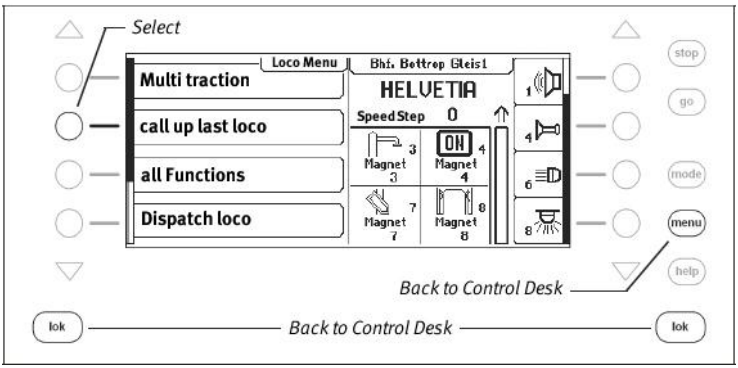
Procedure:

Enter a new Loco dataset

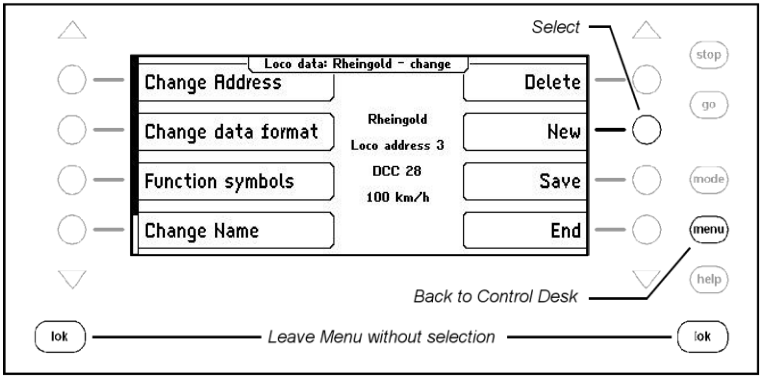
Step 1



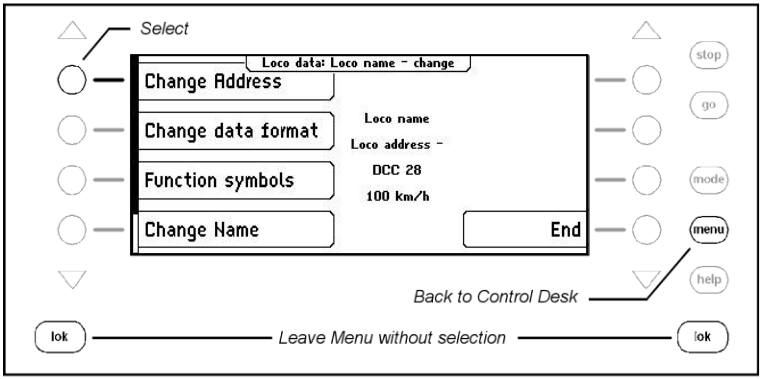
Step 2



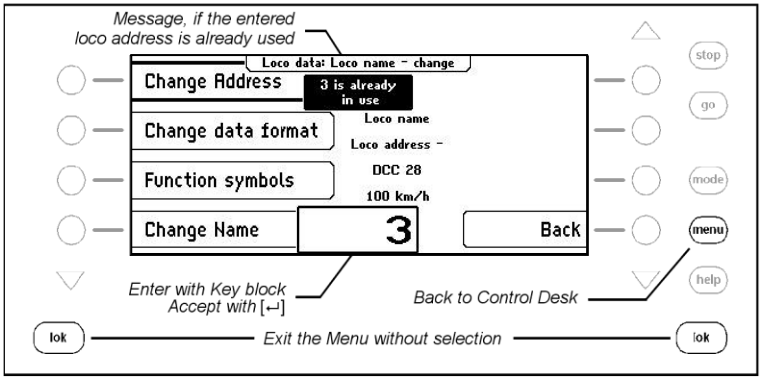
Step 3



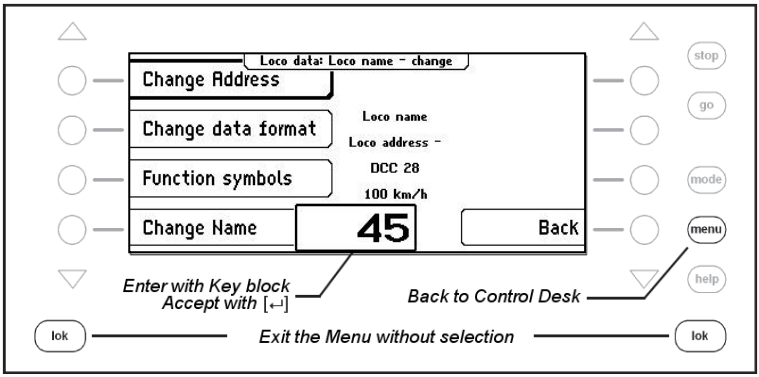
Step 4



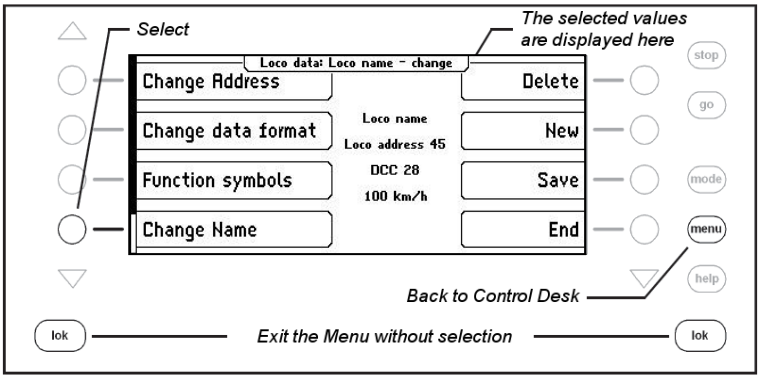
Step 5



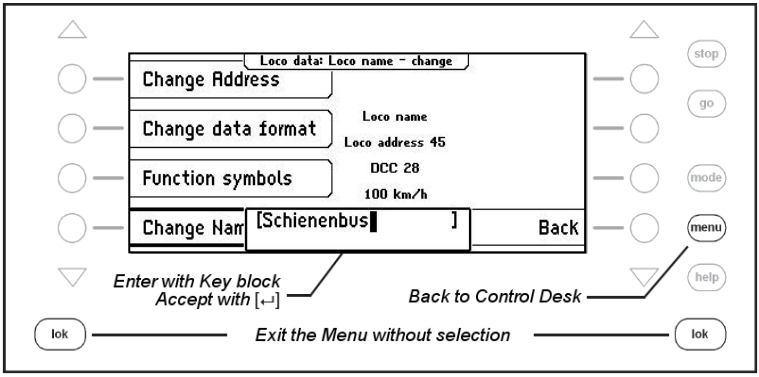
Step 6



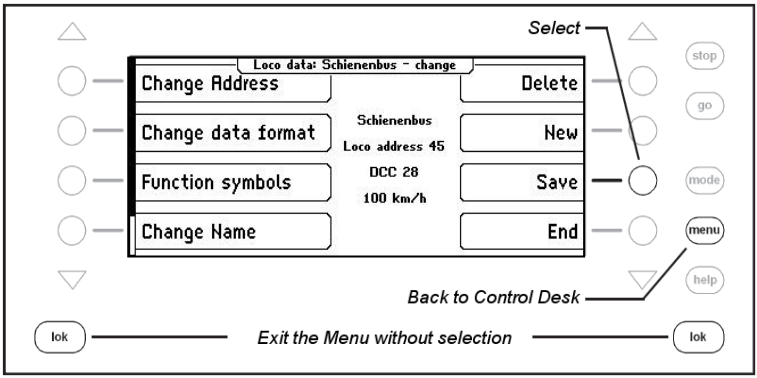
Step 7



Step 8

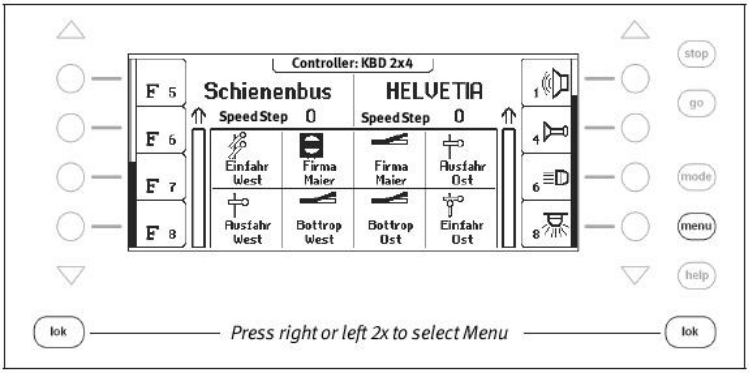


Step 9

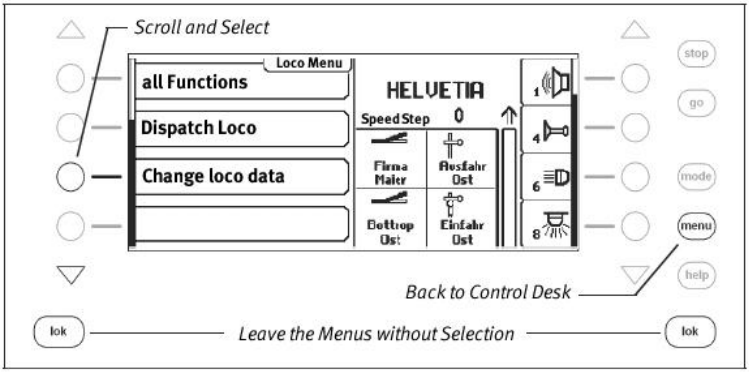


Change Loco dataset
Change Data format

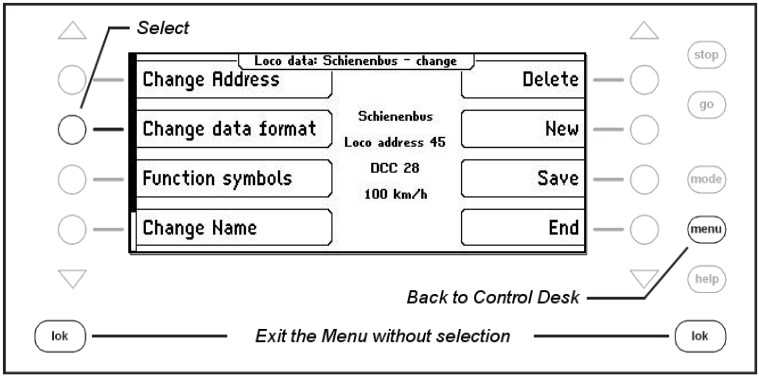
Step 1



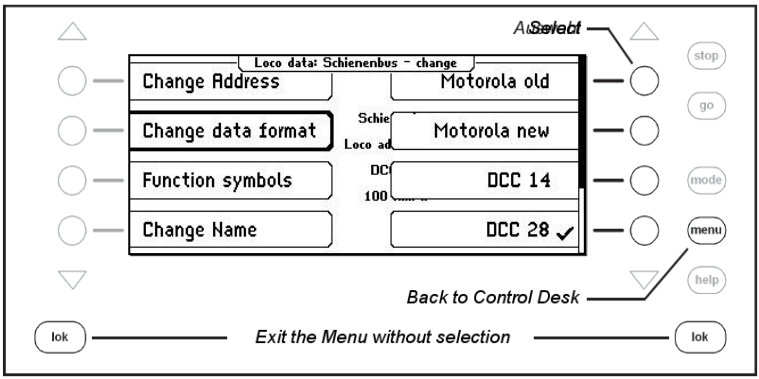
Step 2



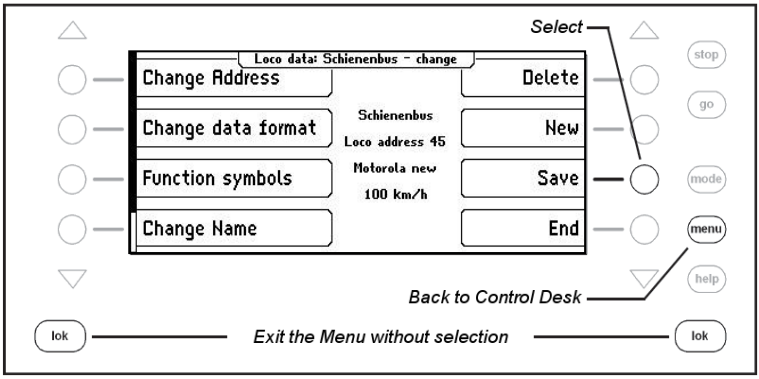
Step 3



Step 4



Step 5



Change Special function symbols

For displaying the special functions various symbols are available.

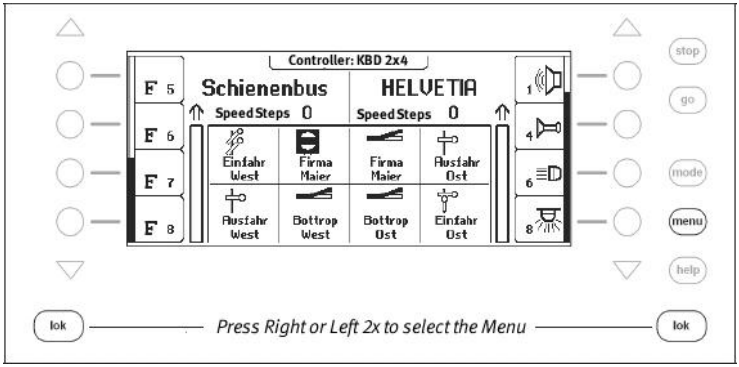
F	Preset: no Symbol
	Light
	Sound
	Bell
	Horn
	Whistle
	Smoke generator
	Power Pickup
	High beam
	Tail Light
	Interior Light

	Driver cabin lighting
	Uncoupler
	Tail Light
	Start/Brake Inertia
	Brake Squeal
	Driver cabin - Rear
	Driver cabin – Front
	Diesel motor
	Doors Opening
	Hook Down
	Hook Up

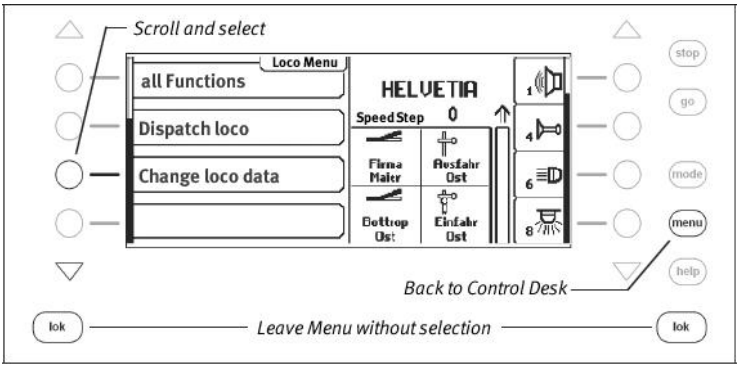
	Interior Light
	Magnet
	Move right/left
	Move up/down
	Conductor Whistle
	Shunting gear
	Telex coupling
	Turn left
	Turn right
	Mute Sound
	Light front and back

Procedure:

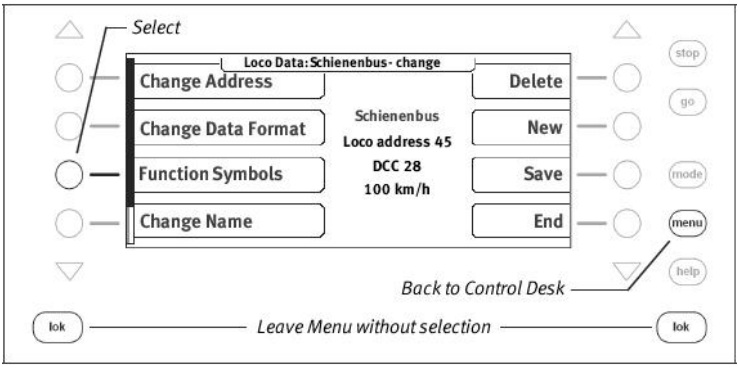
Step 1



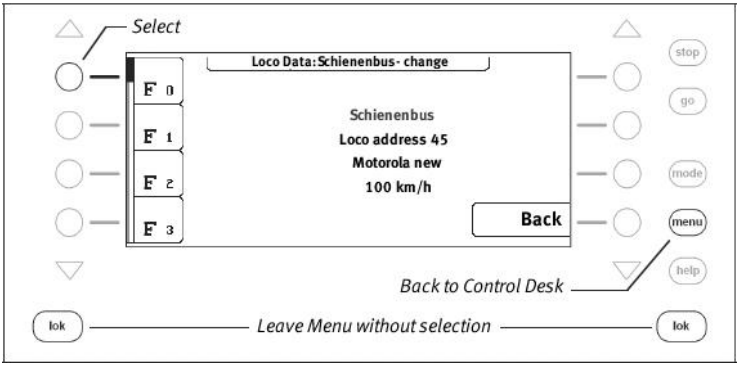
Step 2



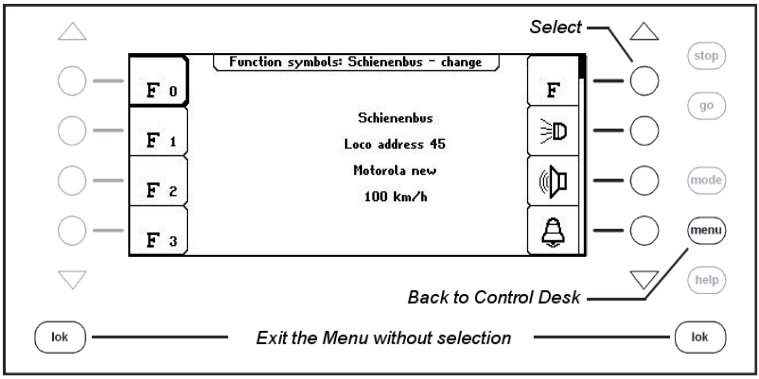
Step 3



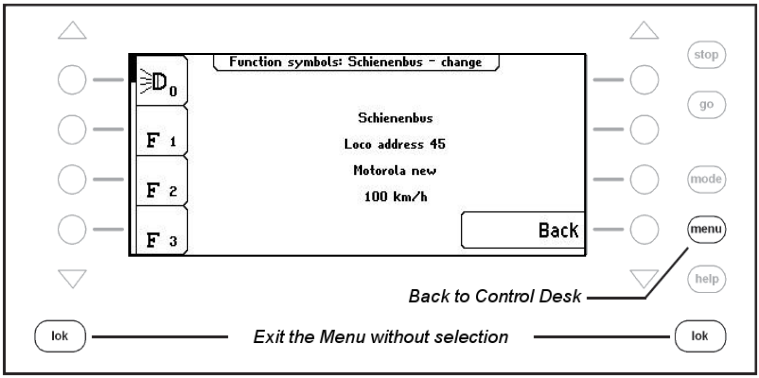
Step 4



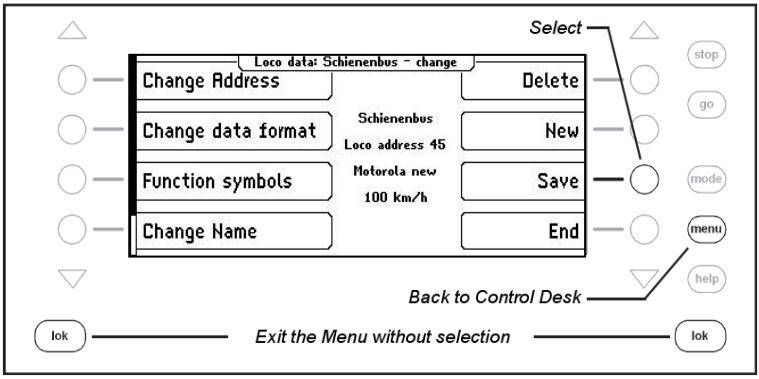
Step 5



Step 6

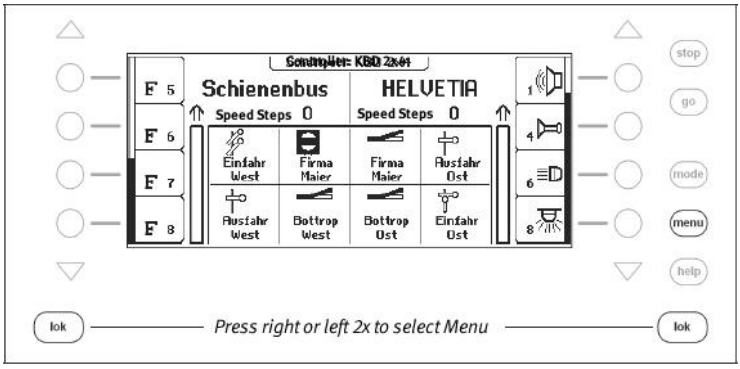


Step 7

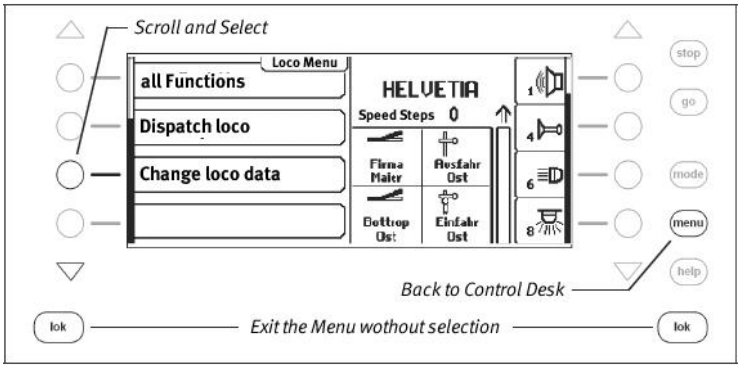


Change Top Speed

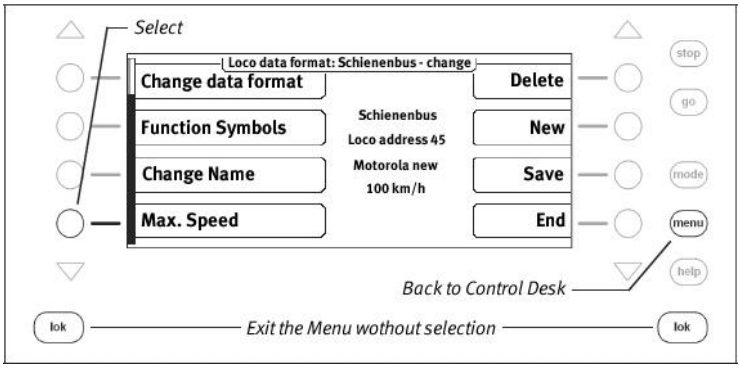
Step 1



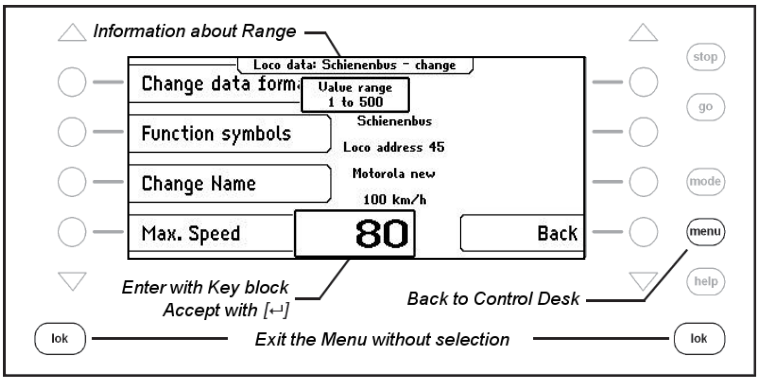
Step 2



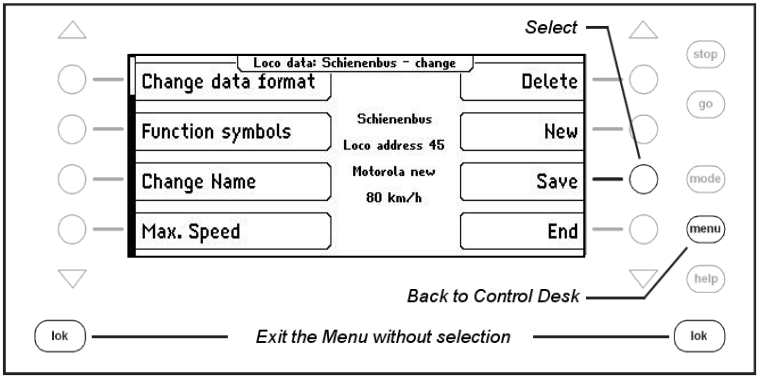
Step 3



Step 4



Step 5

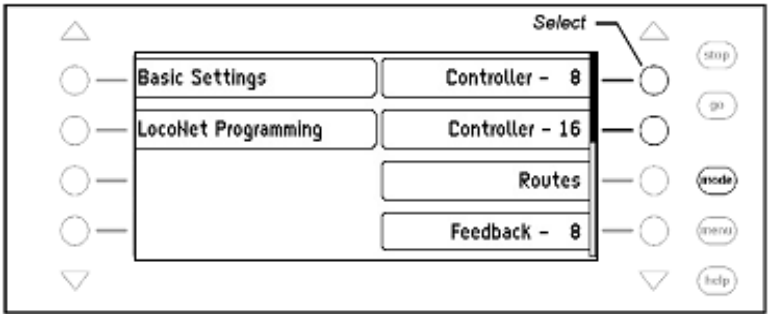


5. The Switch Panel Mode

In a digital system turnouts and signals can also be controlled with an appropriate decoder. These are assigned an individual address just like a locomotive so that the system can identify them.

5.1 Select Switch Panel Mode

The IB-Control II has two Switch Panel modes, the Switch Panel-8 Mode and Switch Panel-16 Mode.



If the [mode]-key is pressed in Control Desk Mode, both modes can be selected from the selection menu with display keys.

In **Switch Panel-8 Mode,** groups of 8 solenoids can be setup according to one's wishes. Each group can be assigned a name.

Each solenoid has two keys from the key block assigned to it. The respective solenoid is switched to red with the red key and to green with the green key.

Each solenoid is represented in the middle of the display with its symbol, address and individual name. How to assign a name and symbol to a solenoid address is outlined in Chapter 5.7.

In **Switch Panel-16 Mode,** groups of 16 solenoids can be set up according to one's wishes. Each group can be assigned a name.

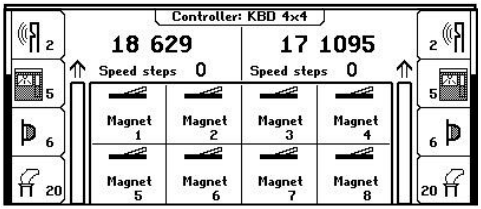
Each solenoid is operated by one key in the key block and each key press toggles the state of the solenoid from red to green or vice-versa.

Each solenoid is represented in the middle of the display with its symbol, address and individual name. How to assign a name and symbol to a solenoid address is outlined in Chapter 5.7.

5.2 Operating a Switch Panel

Switch Panel-8

In the "Switch Panel-8" the operating mode of individual switching functions of the Switch Panel can be activated with the middle key block of the IB-Control II. Without any further input 8 turnouts, signals or switching functions are possible.



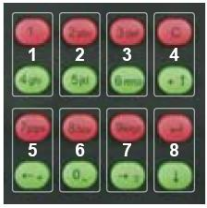


Figure 5.21
Display and key block with its numbering of key pairs in Switch Panel-8 mode

The individual switching functions are triggered by the red keys (rows 1. and 3.) or the green keys (rows 2. and 4.) of the key block.

In the middle part of the display there is information about the actual status of the switch panel. Every solenoid has a symbol which changes according to the state of the solenoid. It shows the state of a turnout or signal.

Switch Panel-16

In the "Switch Panel-16" operating mode individual switching functions of the Switch Panel can be activated with the middle key block of the IB-Control II. Without any further input 16 turnouts, signals or switching functions are possible.

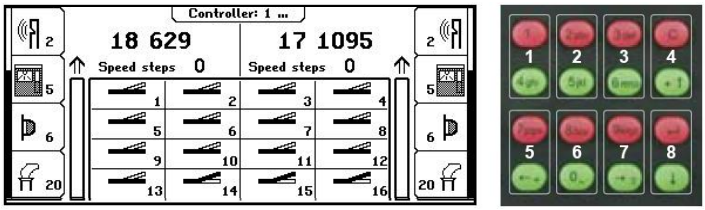


Figure 5.22
Display and key block with its numbering of key pairs in Switch Panel-8 mode

Each solenoid is operated by one key in the key block. Each key press toggles the state of the solenoid from red to green or vice-versa.

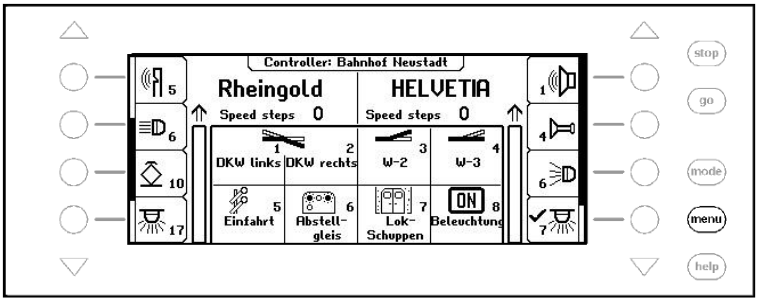
5.3 Select a Switch Panel

Regardless of whether the Switch Panel-8 or Switch Panel-16 mode is active a switch panel can be called up by entering an address with which it starts and has the following 7 or 15 addresses depending on whether it is in Switch Panel-8 or Switch Panel-16 mode.

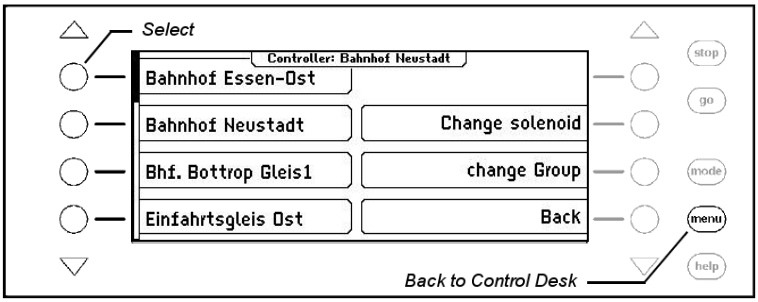
The assignment can be freely specified by the user in either mode. The IB-Control II can store up to 64 groups. Each group has its own name, for example: turnouts for entry route can be assigned to a group and identified with the name Entry Turnouts and always simply called up by that name.

Procedure:

Step 1



Step 2



5.4 Setup and Edit a Switch Panel

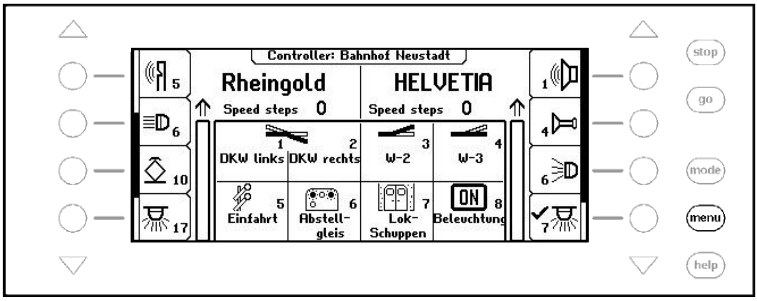
The IB-Control II can administer up to 64 different Switches. Each Switch panel can have 8 or 16 chosen solenoids, turnouts or signals assigned to it. Each Switch Panel is given a name and can be selected with this name. Switch Panels can be newly entered, edited and deleted.

Note: *If the switch panel was setup in Switch Panel-16 mode then only half will be represented in Switch Panel-8 mode.*

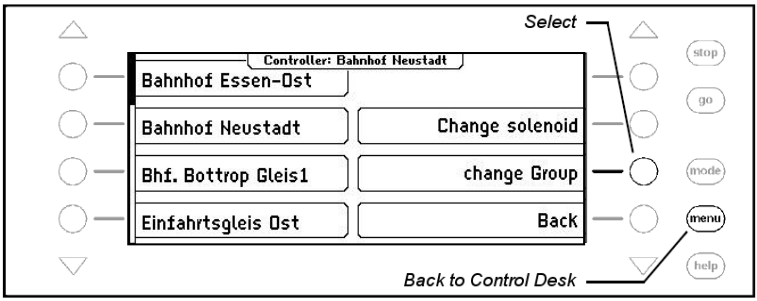
5.4.1 Setup a new Switch Panel

Procedure*:*

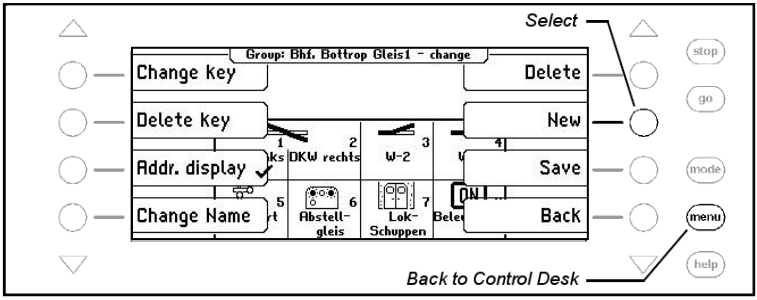
Step 1



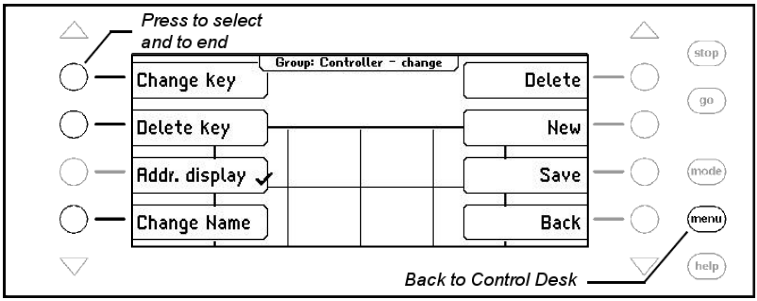
Step 2



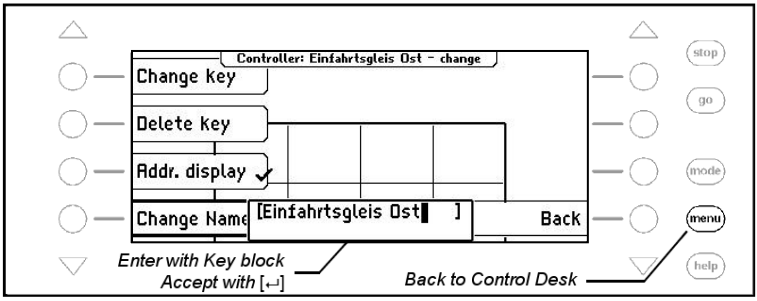
Step 3



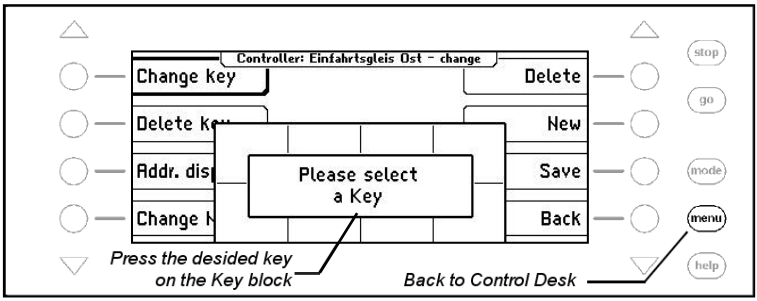
Step 4



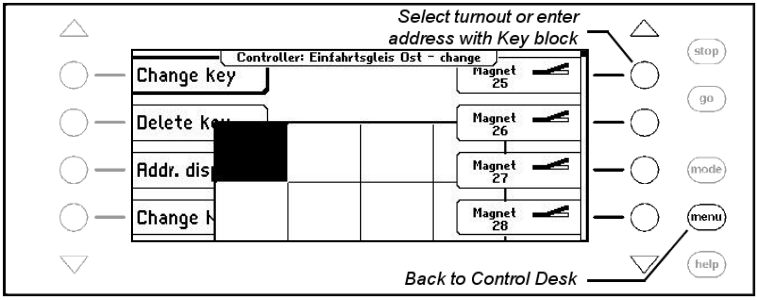
Step 5



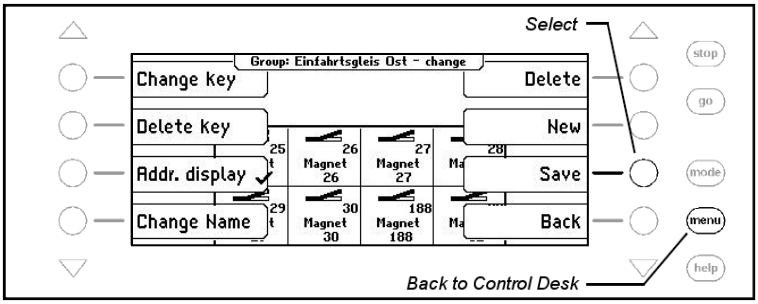
Step 6



Step 7

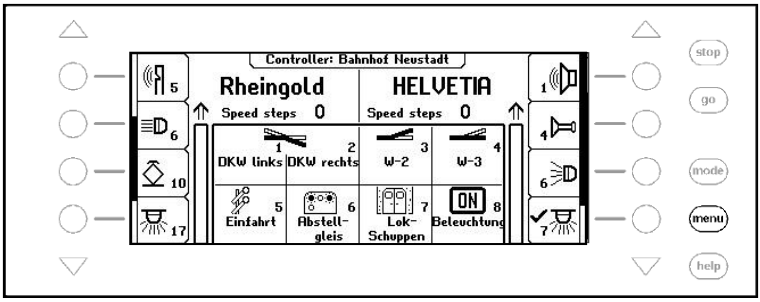


Step 8

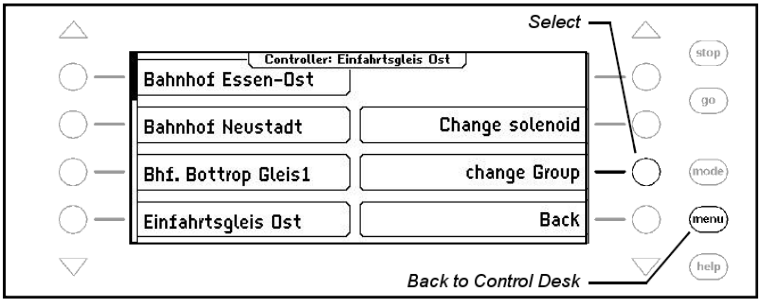


5.4.2 Edit Switch Panel

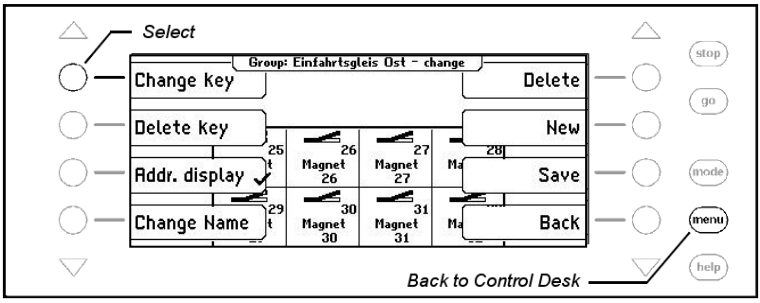
Step 1



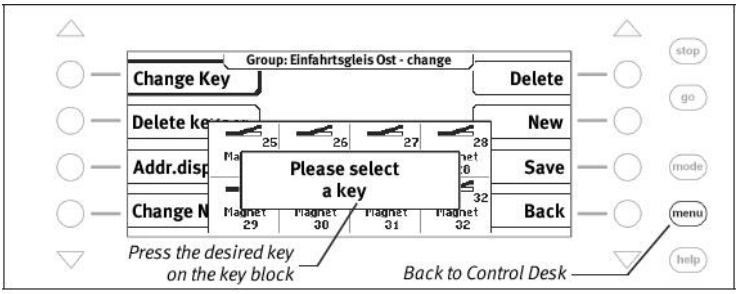
Step 2



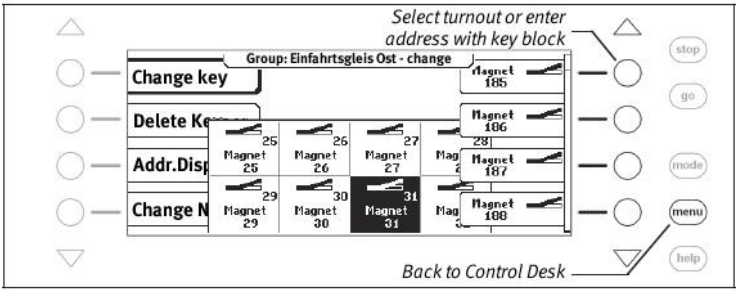
Step 3



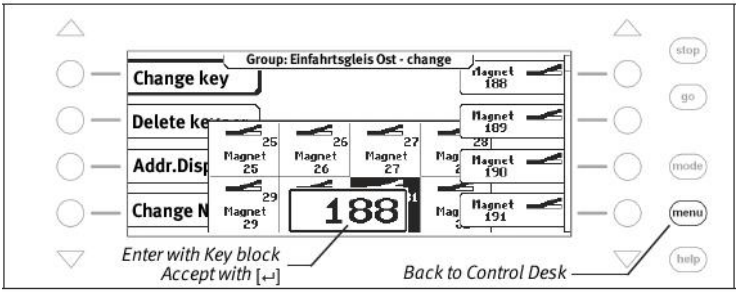
Step 4



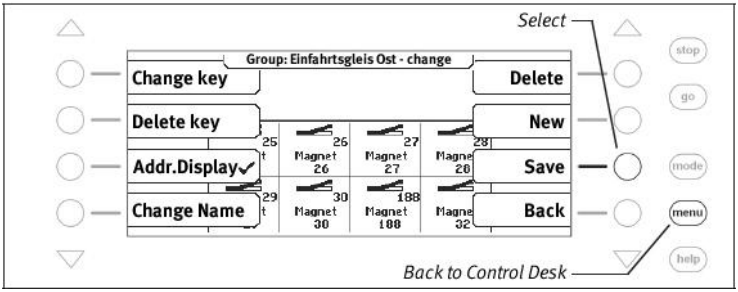
Step 5



Step 6

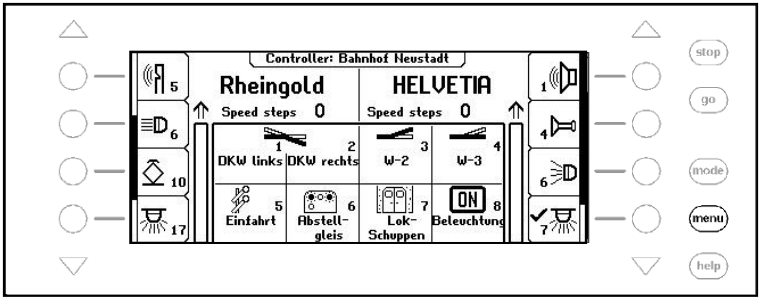


Step 7

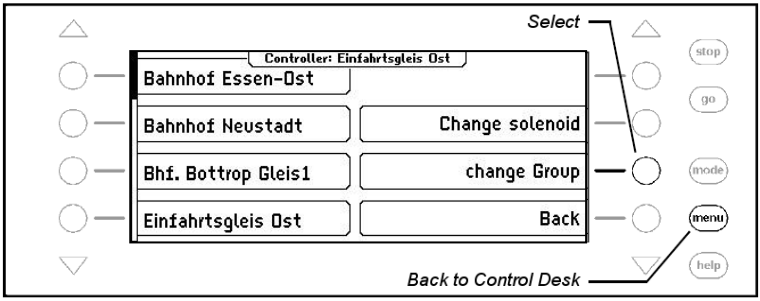


5.4.3 Delete Switch Panel

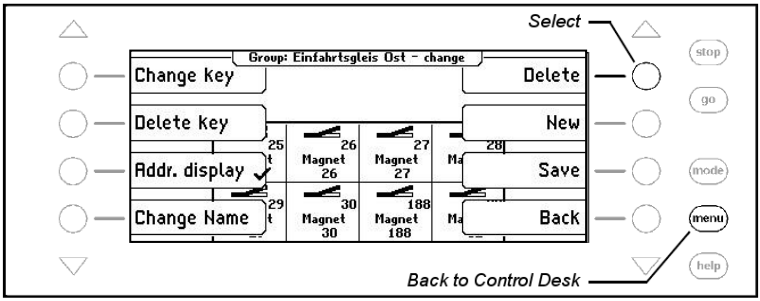
Step 1



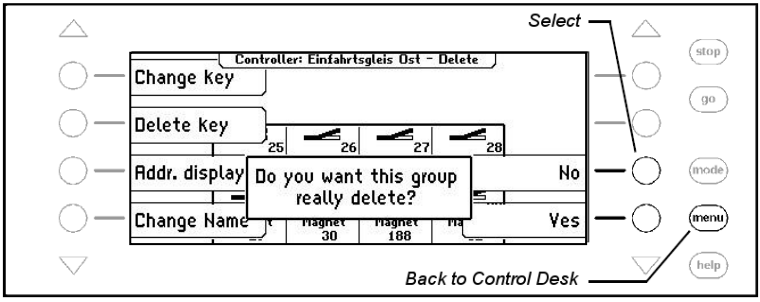
Step 2



Step 3

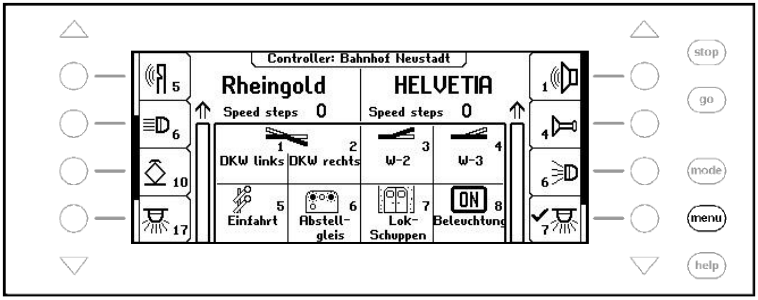


Step 4

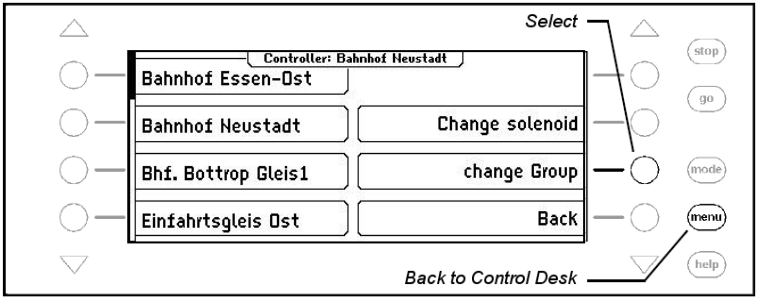


5.4.4 Switch Address Display on/off

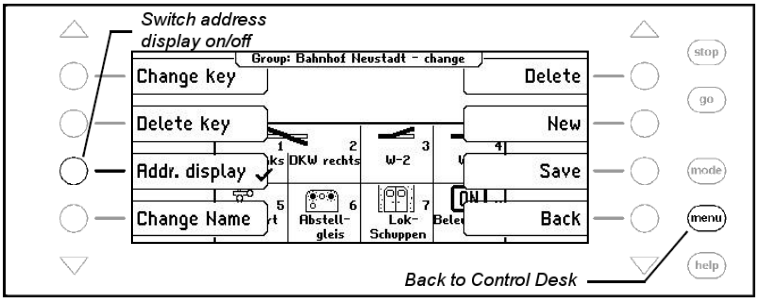
Step 1



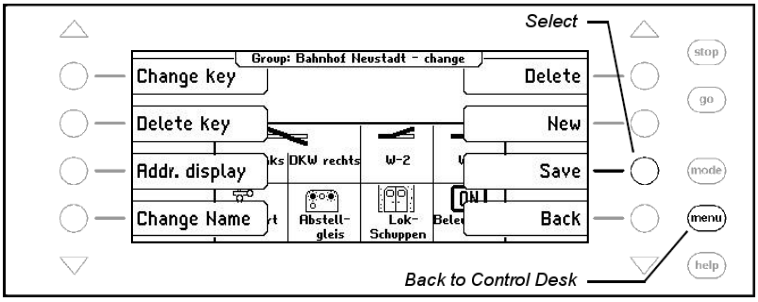
Step 2



Step 3



Step 4



5.5 Set Name, Symbol and Data format of Solenoid addresses

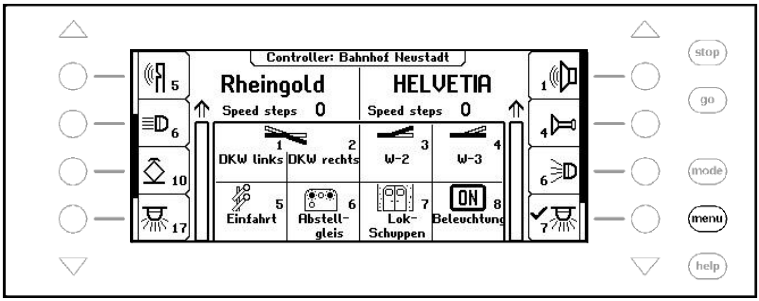
Every solenoid address can have a name, a symbol and an individual Data format assigned to it.

If no individual data format has been assigned for the address the general data format is used.

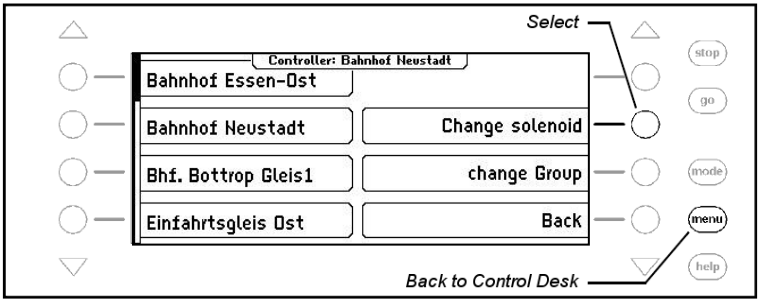
The changes can be made from the “Change Solenoid” Menu.

Procedure:

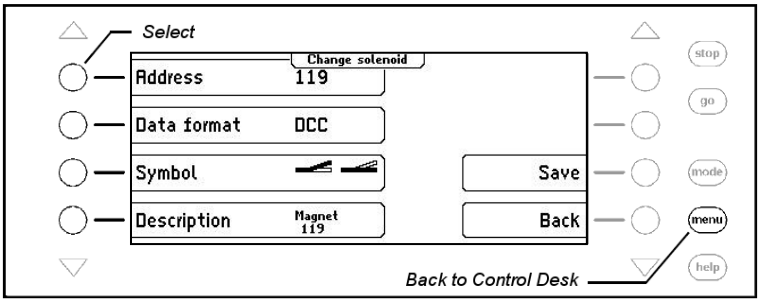
Step 1



Step 2

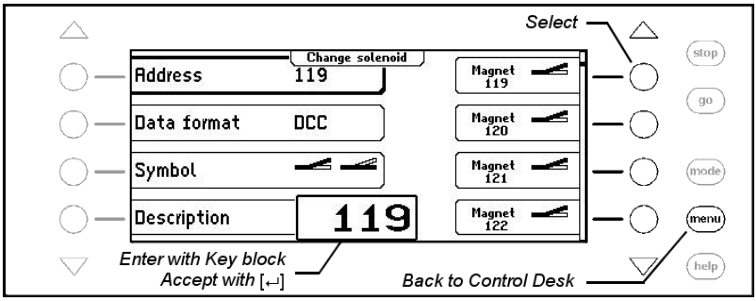


Step 3



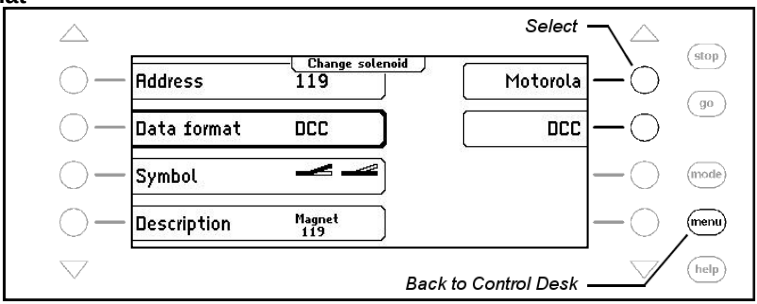
Select Solenoid Address

Step 4



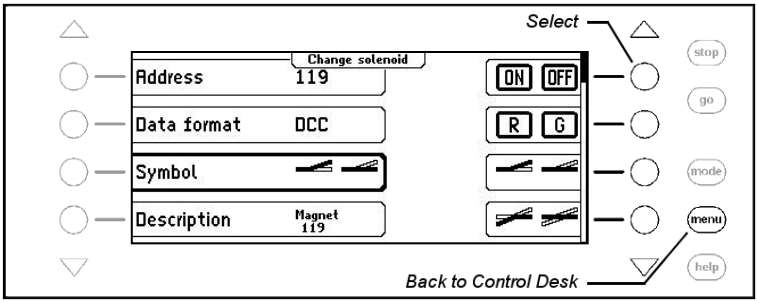
Change Data format

Step 5



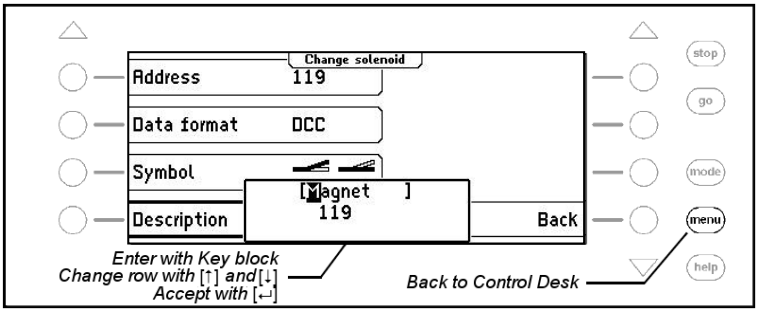
Change Symbol

Step 6



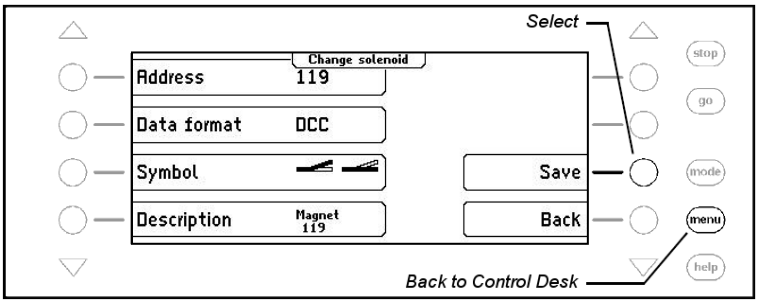
Change Name

Step 7



Save Data

Step 8



6. The Route Mode

In a digital system, turnouts and signals equipped with switch or solenoid decoders, can be individually switched using appropriate input devices.

A particular route such as departing from a station's track 1 usually requires that a sequence of turnouts and signals be switched. These commands can be collected together in route and switched by a single key from the IB-Control II key block or triggered by a feedback.

6.1 Description

These can be switched with a key printing or by detailed feedback. Each route is represented by its individual name in the display.
In route mode you have the possibility without the need for additional devices, to store a sequence of turnout and signal switching commands in a route. These can be switched by pressing a key or a specific feedback message. Each route is represented in the display by its individual name.

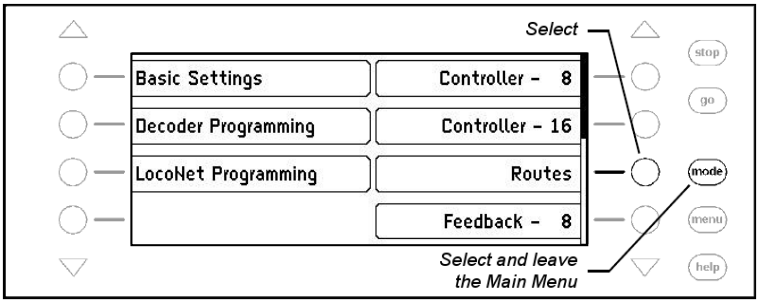
Up to 16 routes can be in a Group and can be switched by the 16 Keys in the Key block. A maximum of 64 groups can be defined.

A total of 80 routes with 24 commands each can be defined in the IB-Control II. Beyond that additional routes can be called which are stored in external devices such as IB-Control II or IB-Switch.

For automatic layout control each route can be assigned a feedback message, so the route can be switched by a running train. This way block sections and shadow stations can be easily implemented.

6.2 Selecting Route Mode

When the [mode]-Key is pressed the Route Mode can be selected from the menu by a display key.

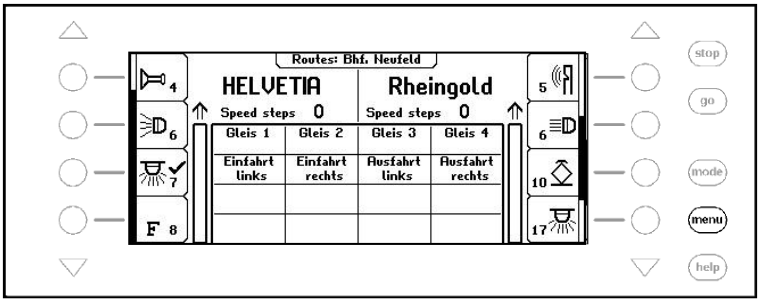


6.3 Selecting a Route Group

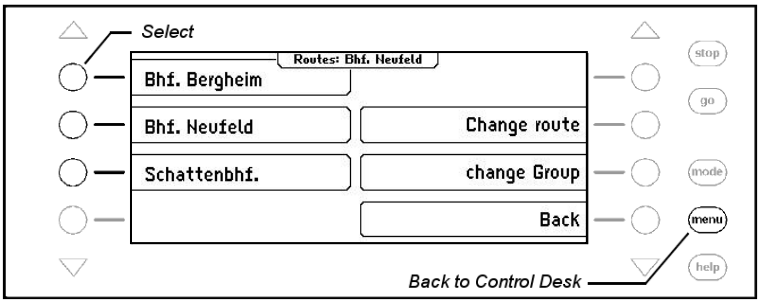
Up to 64 different groups with 16 routes can be defined. Each group is assigned a name by which the group can be selected. In the IB-Control II factory default setting five routes are defined by name.

Procedure:

Step 1



Step 2



6.4 Switching Routes

In Route mode each individual key in the IB-Control II central key block can switch a programmed route. Press the [mode]-Key to select the Route Mode. Now the 16 respective Keys in the middle key field show the routes.

Figure 6.41 Display and Key block with the numbering of the keys in Route Mode

By pressing one of these Keys the respective route is switched.

As soon as the route is selected the displayed name is inverted (white text and black background), until the entire switch sequence in route has been processed by the IB-Control II.

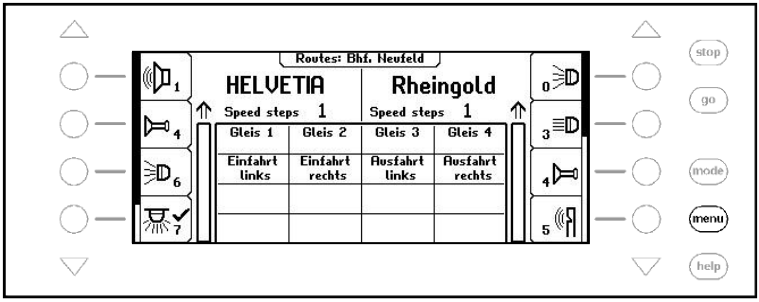
If there is no display for this Key in the selected group then no route has been assigned, or the route was not assigned with a feedback message.

6.5 Entering and Changing Route Groups

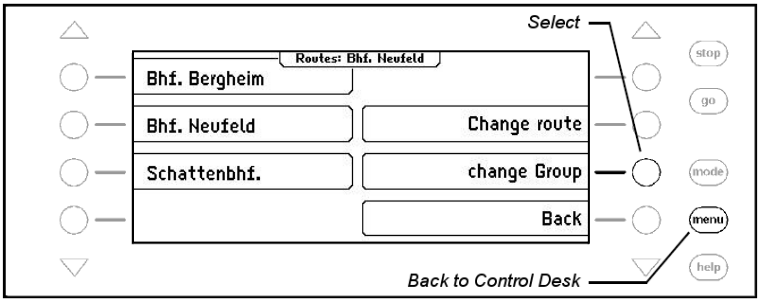
The IB-Control II can administer up to 64 different route groups. Each route group can have a collection of up 16 routes. Every route group has its own name and can be selected by this name. Route group can be newly entered, changed and deleted.

6.5.1 Entering a new Route

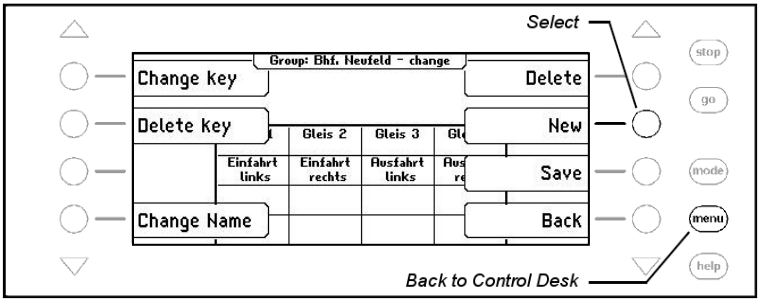
Step 1



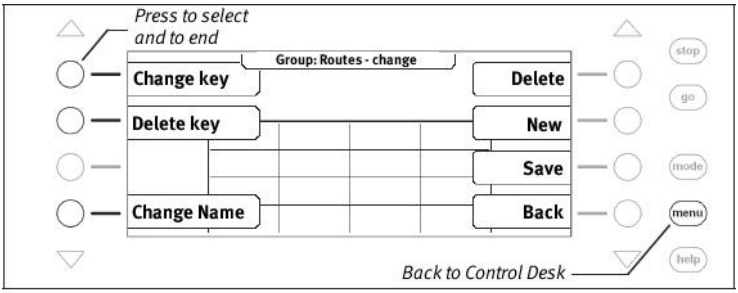
Step 2



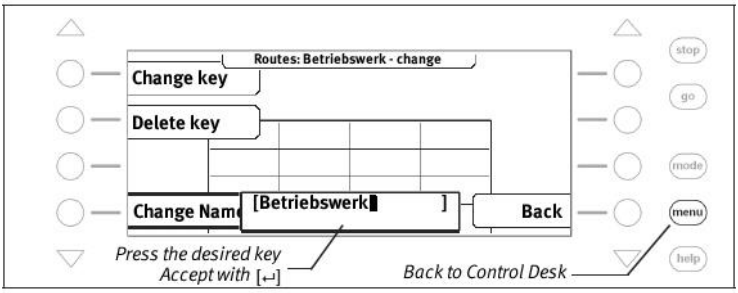
Step 3



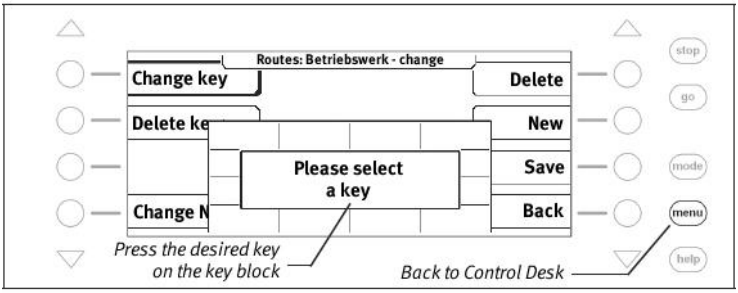
Step 4



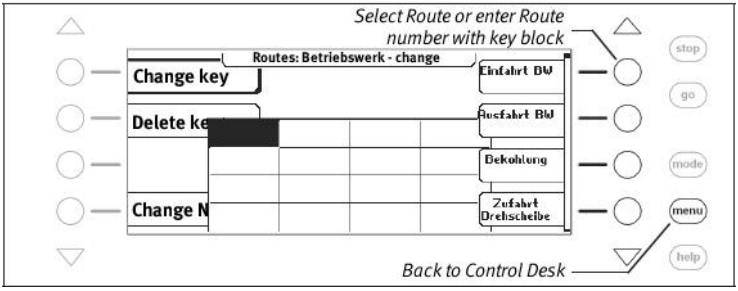
Step 5



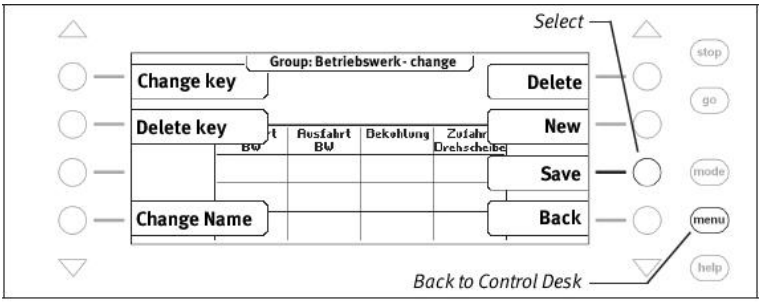
Step 6



Step 7

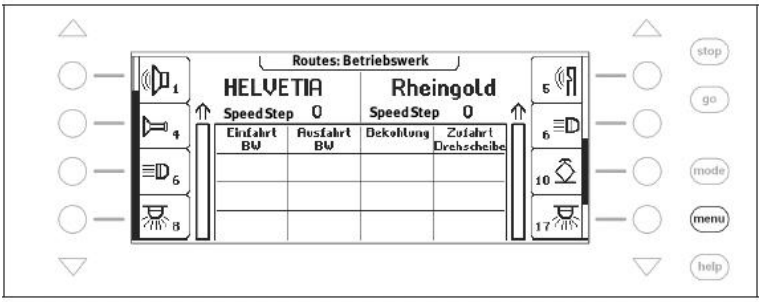


Step 8

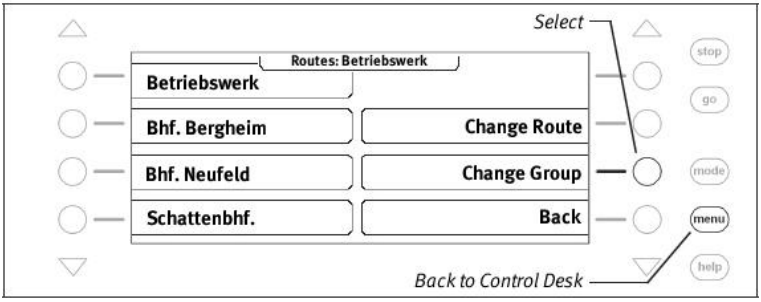


6.5.2 Change a Route Group

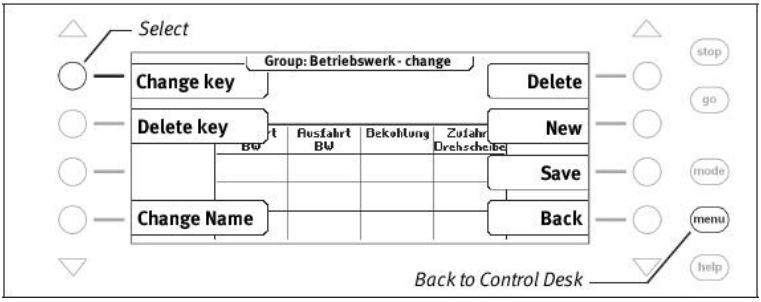
Step 1



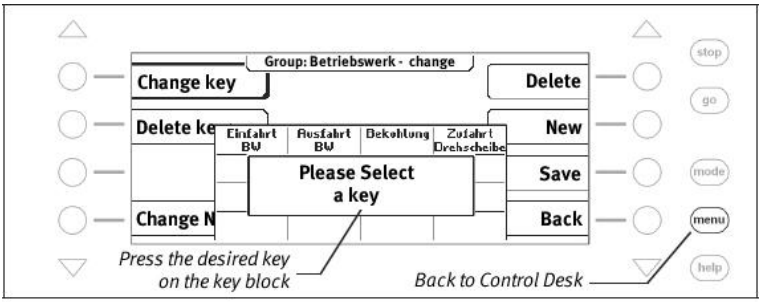
Step 2



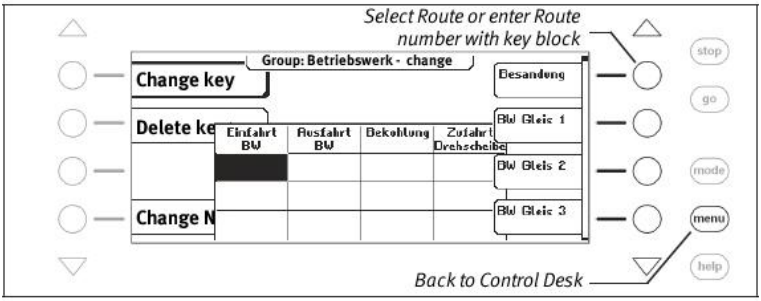
Step 3



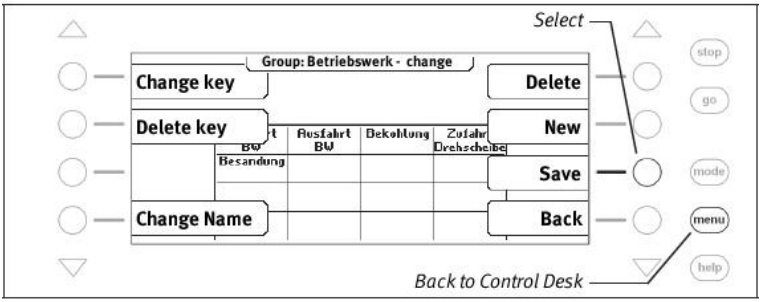
Step 4



Step 5

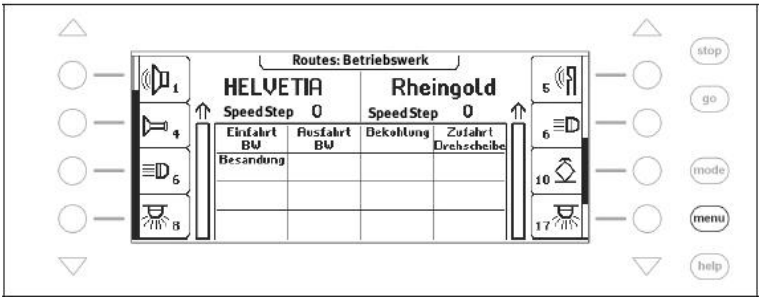


Step 6

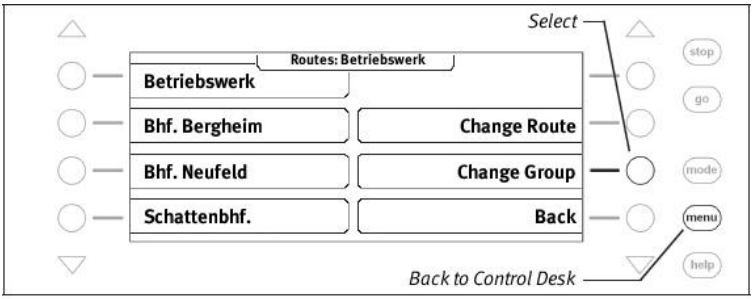


6.5.3 Delete a Route Group

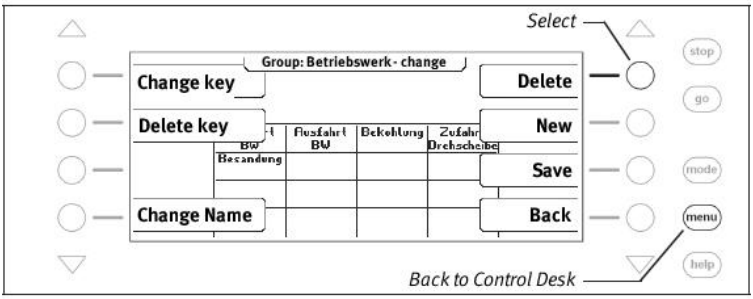
Step 1



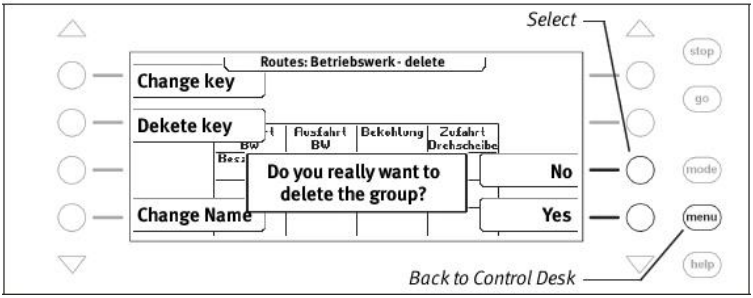
Step 2



Step 3



Step 4



6.6 Programming Routes

Each route in the IB-Control II can contain up to 24 switching commands. One route can call up another route as a sub-route. If a sub-route is called it is completely processed. Then the remaining commands in the route are processed.

In place of switching commands the route can also contain a Pause so that following commands can be delayed.

Routes can also send feedback messages so that routes stored in other devices like IB-Switch can be triggered.

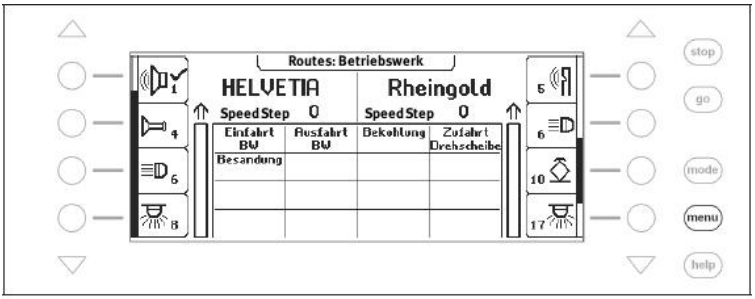
Each route can have its own name so it can be identified more easily. By assigning a feedback address it can be triggered from feedback modules by running trains or manually.

Note: *So that the route can be used it must always be given a feedback address. Otherwise all the contents of the route are invalid and will not be shown in the Menus.*

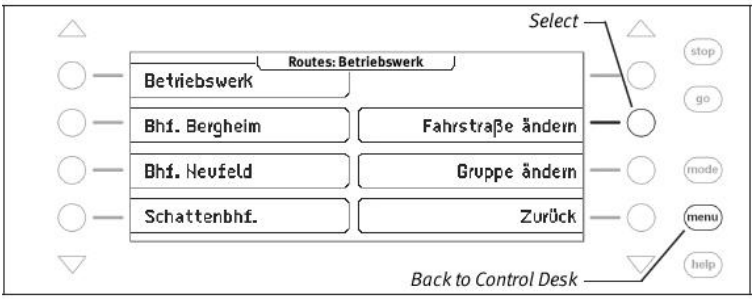
Attention: *If a route is to be activated by the Infrared Remote Control IRIS the route's feedback address must be entered in the IRIS. For this the route in the IB-Control II must be programmed with the feedback status "occupied".*

Procedure:

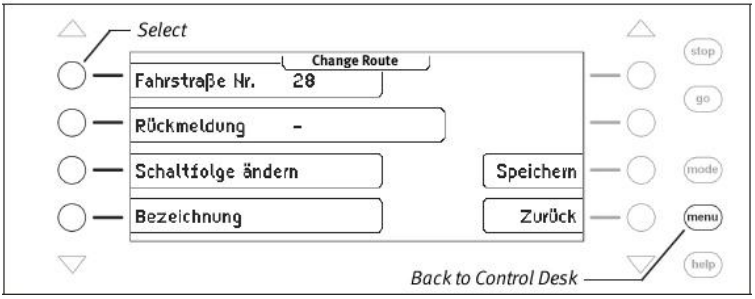
Step 1



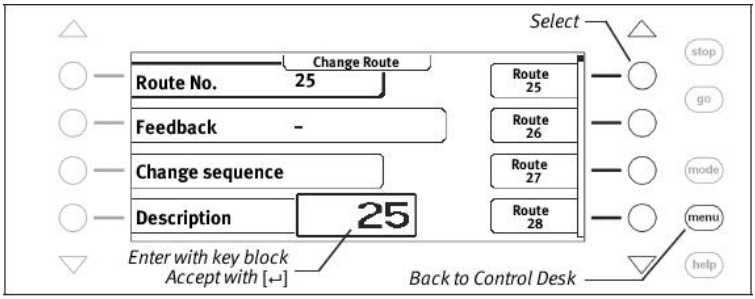
Step 2



Step 3

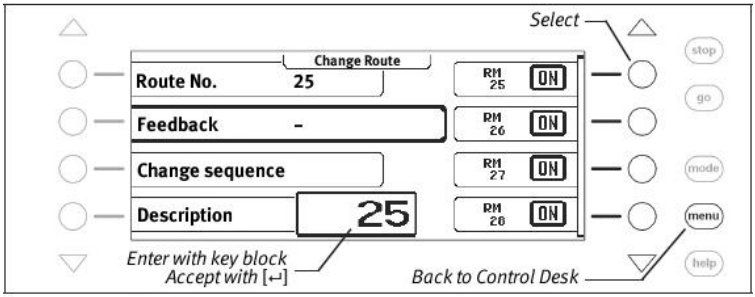


Step 4

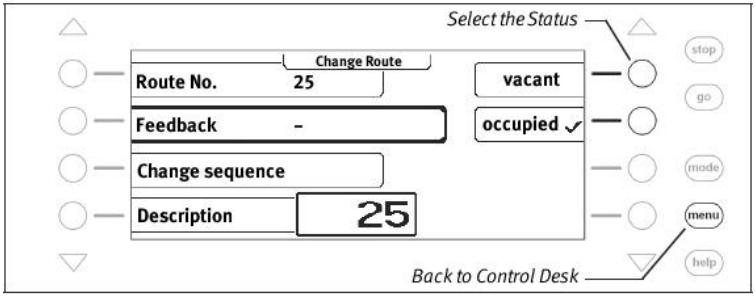


Change the Feedback message with which the route is switched

Step 5

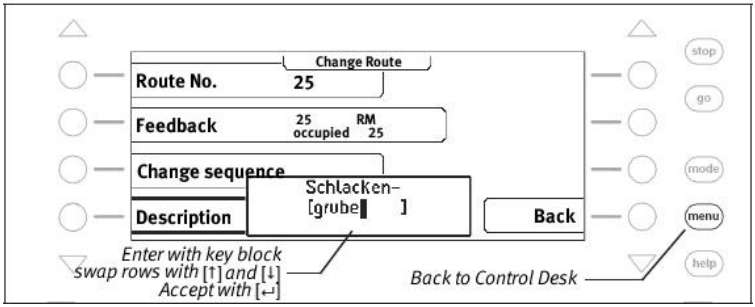


Step 6



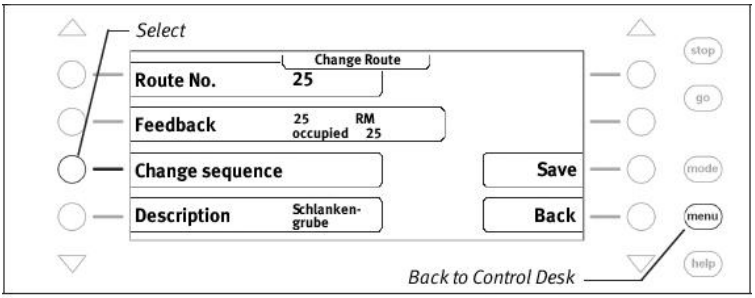
Change Description

Step 7

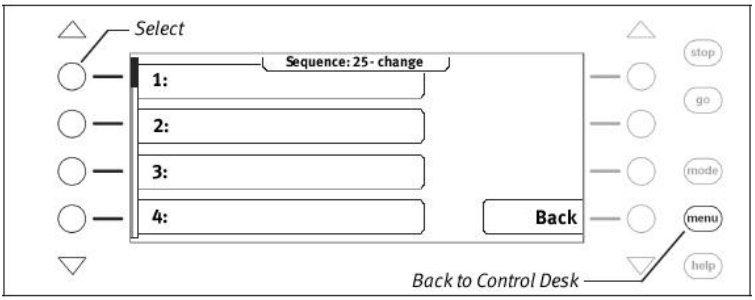


Change Switching Sequence

Step 8

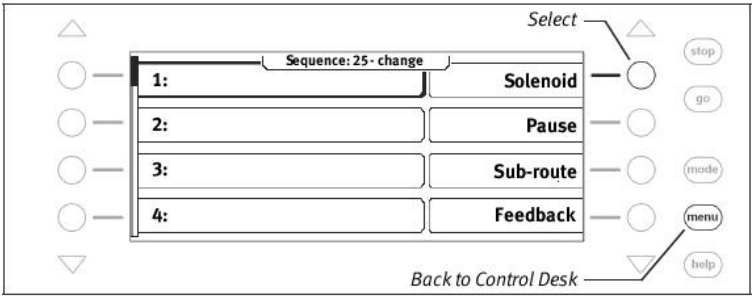


Step 9

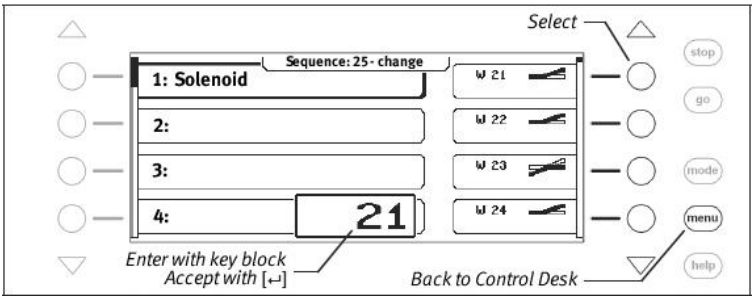


Enter Solenoid

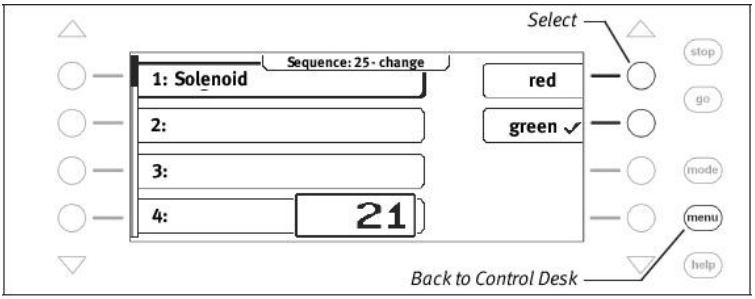
Step 1



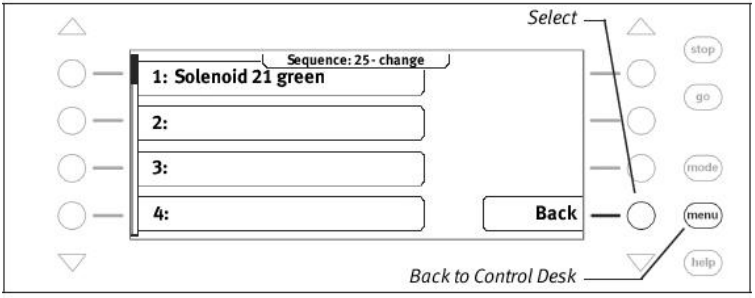
Step 2



Step 3

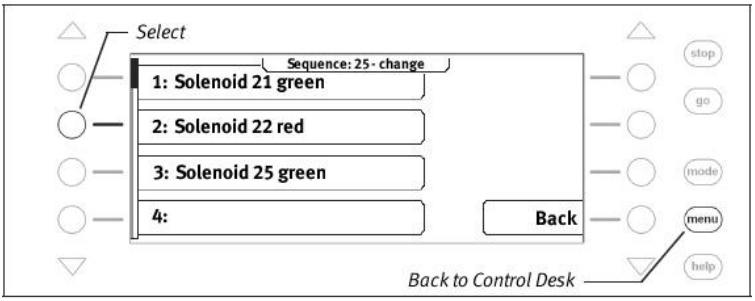


Step 4

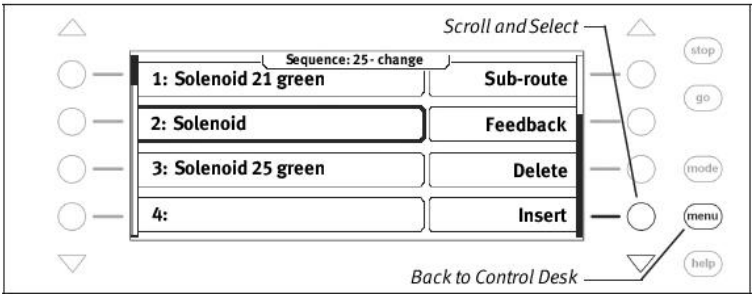


Insert Solenoid

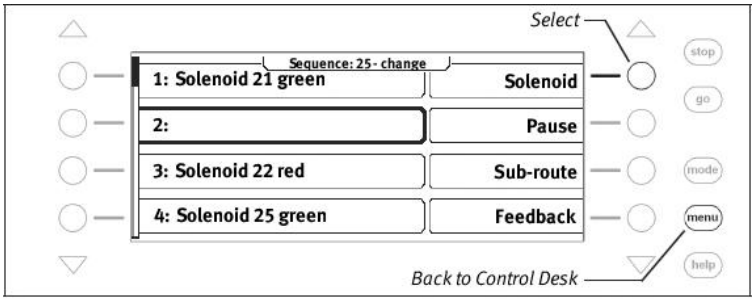
Step 1



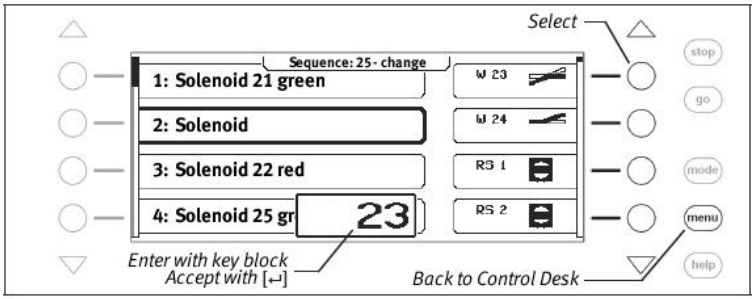
Step 2



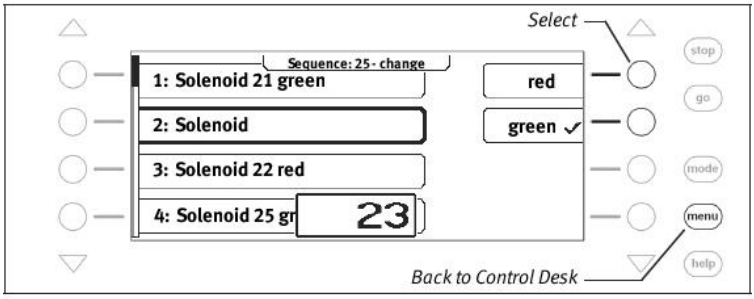
Step 3



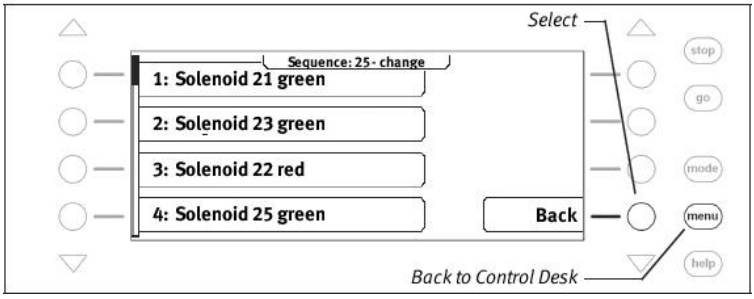
Step 4



Step 5

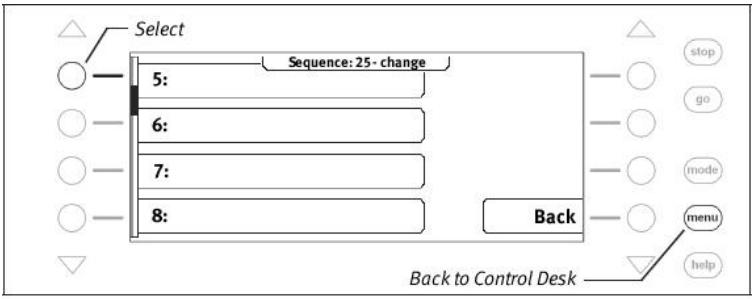


Step 6



Insert Sub-Route

Step 1



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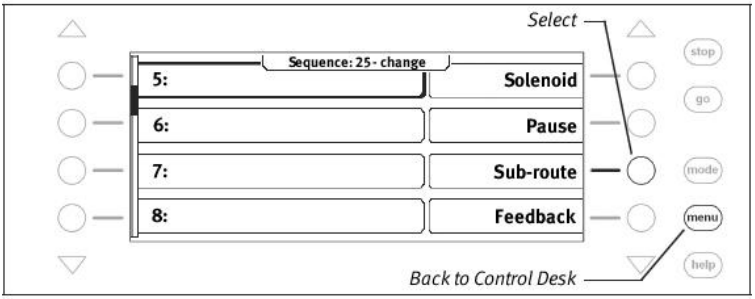
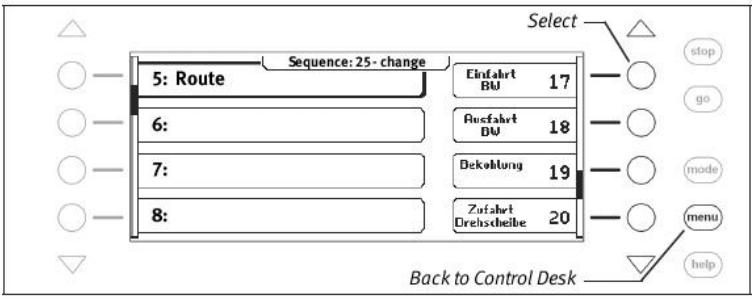
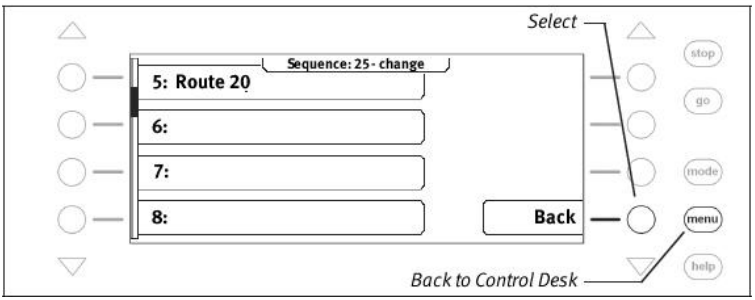


Step 3

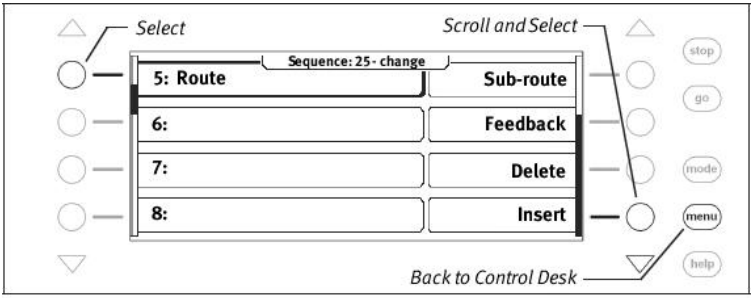


Step 4



Insert Pause in Seconds

Step 1



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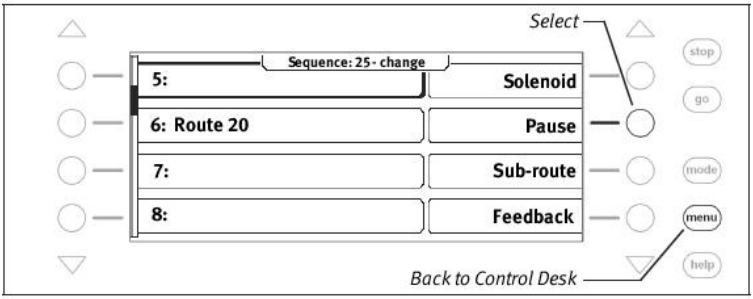

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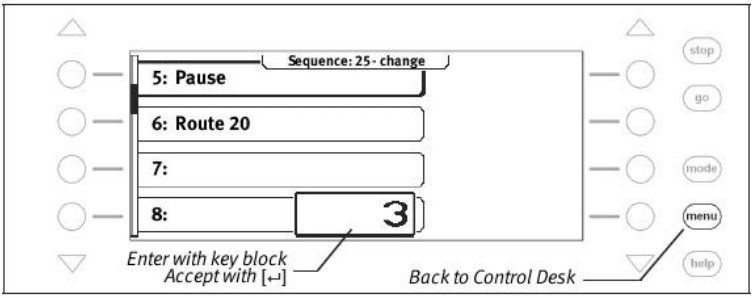
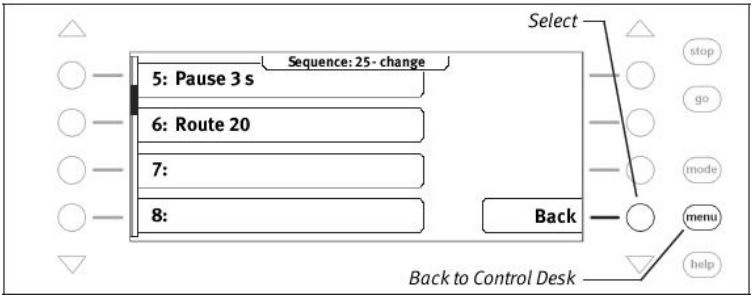
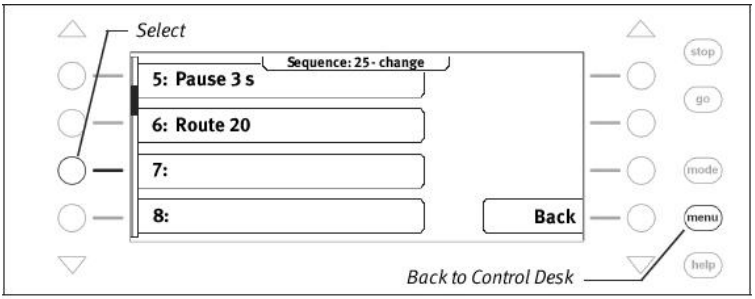


Step 4



Enter Feedback

Step 1



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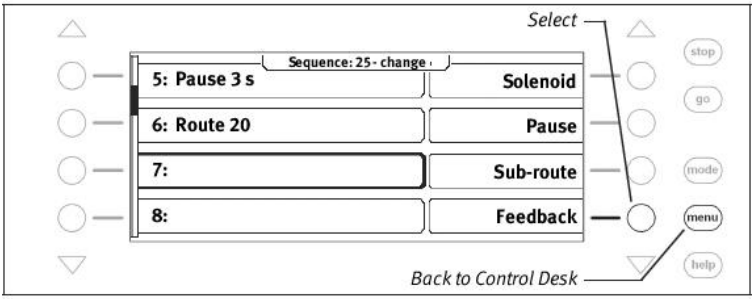

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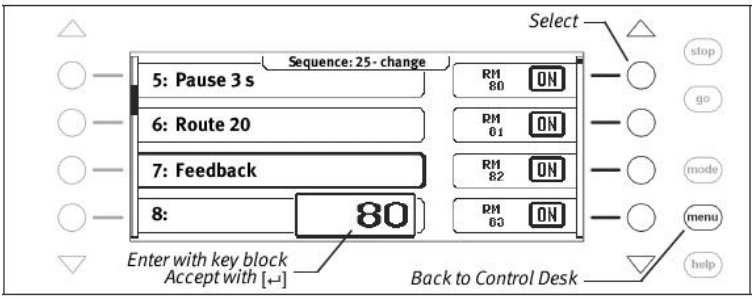

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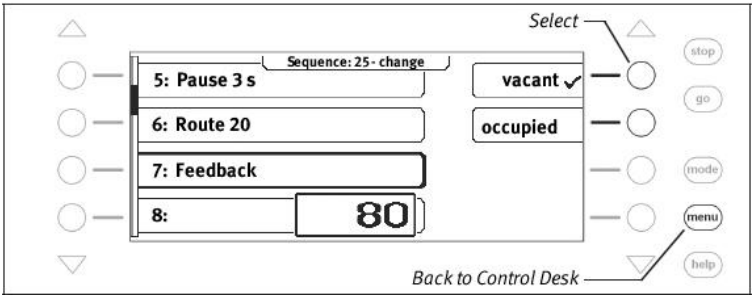
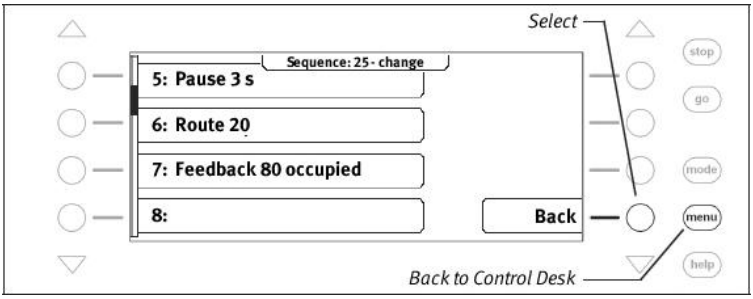


Step 5



Enter locomotive commands

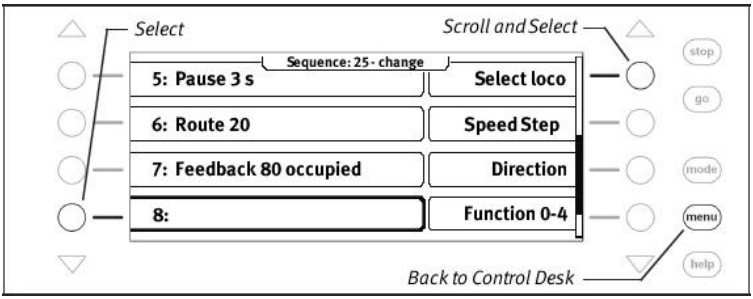
To control a locomotive via a route, the IB-Control II has the following commands available:

Loco Selection: Selects the particular locomotive from the loco list or key pad
Speed Step: Set the vehicle speed in percent 0% - 100%, or emergency stop
Direction: Set the vehicle travel direction (forward - reverse - toggle)
Function 0 - 4: Switch locomotive special function f0 - f4, on or off
Function 5 - 8: Switch locomotive special function f5 – f8, on or off

If a locomotive is to be controlled via a route, then the locomotive must first be selected with the “Select loco” key. The IB-Control II sends all locomotive commands which are implemented to the route. If another locomotive is to receive an instruction in the same route then “Select loco” must be called again.

Note: *if, as in the following example, you wish to control a shuttle section, then you must ensure that the correct loco arrives at the feedback contact that calls up the toggle command for this locomotive.*

Step 1



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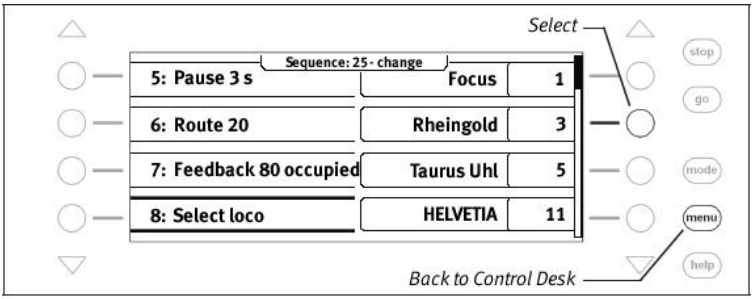

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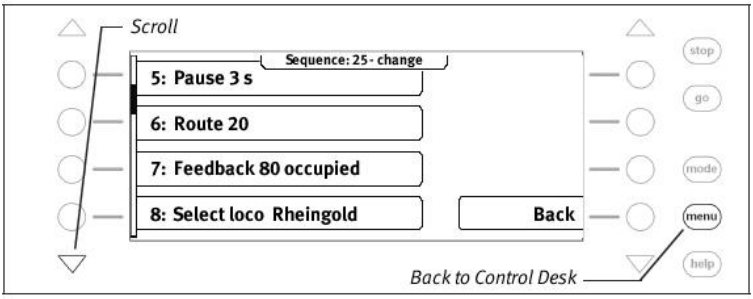

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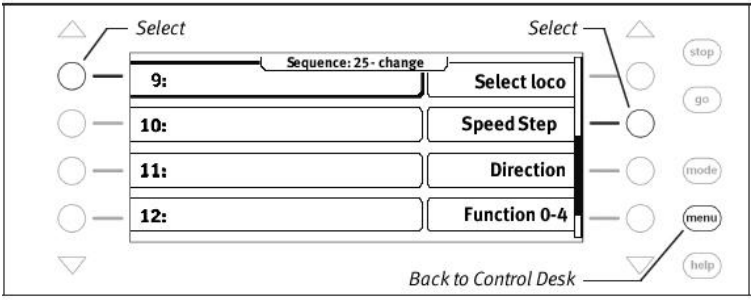
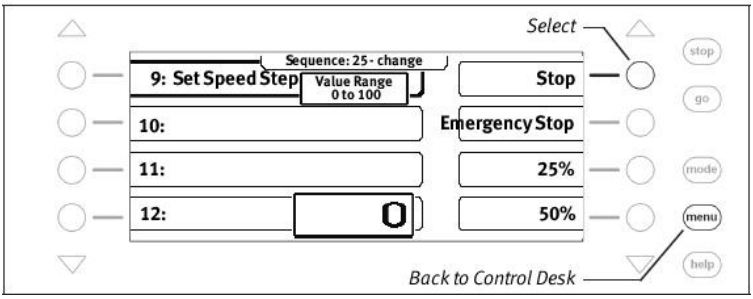
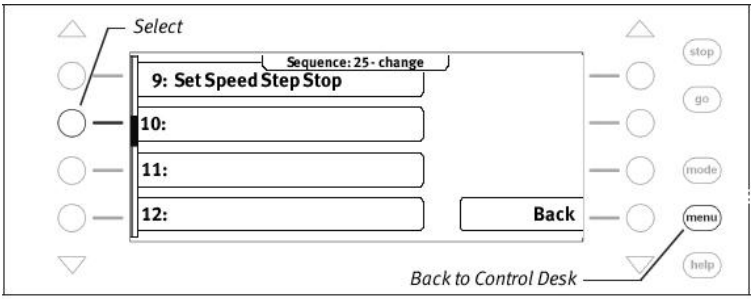


Step 5



Step 6



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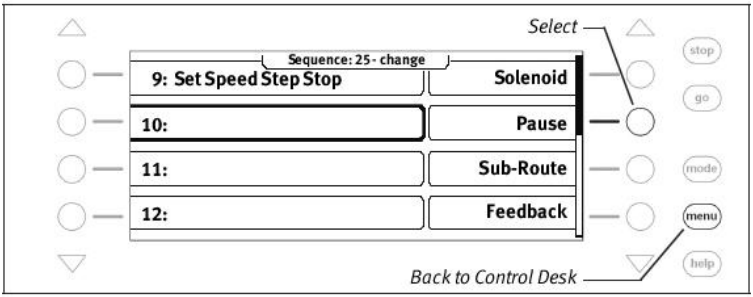
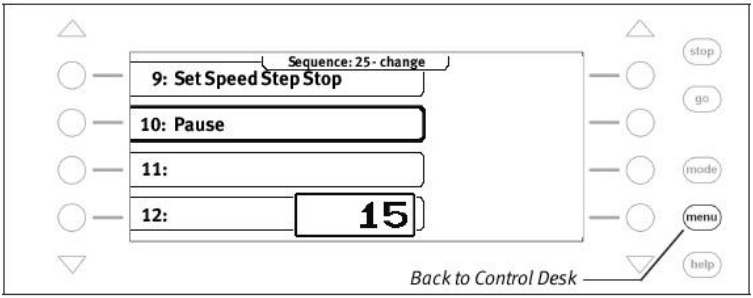


Step 8



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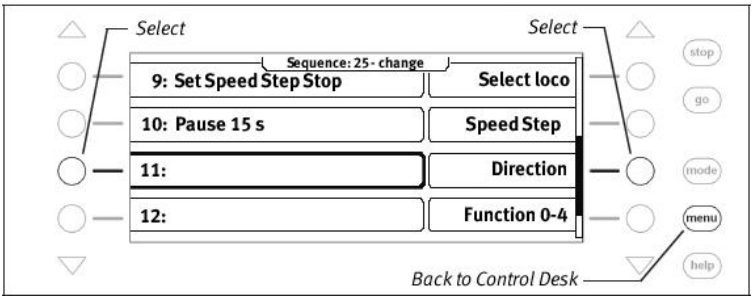

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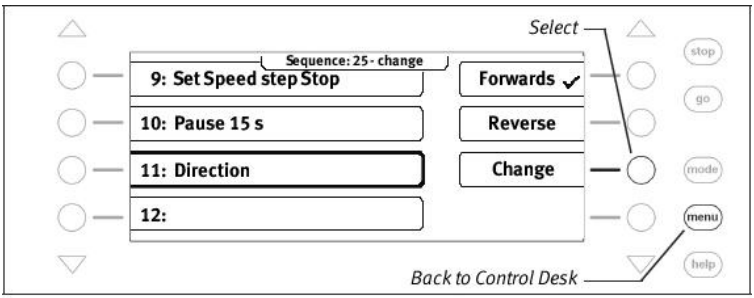
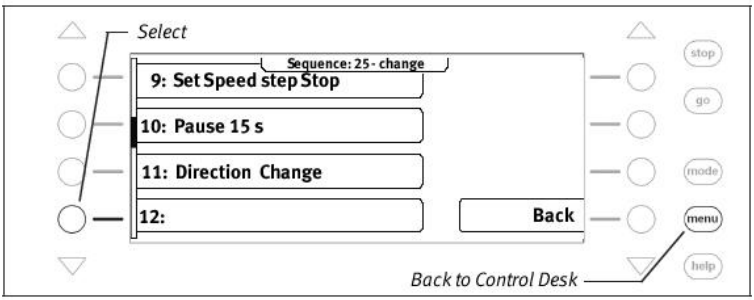


Step 11



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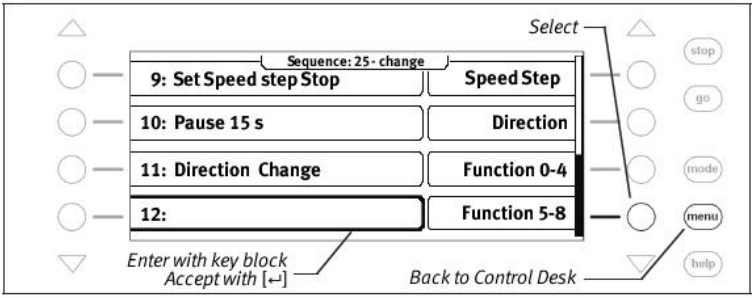
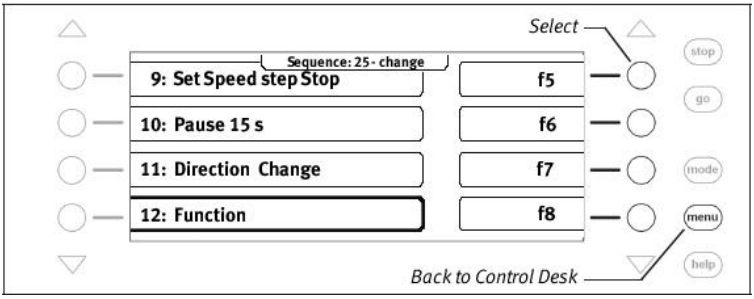


Step 13



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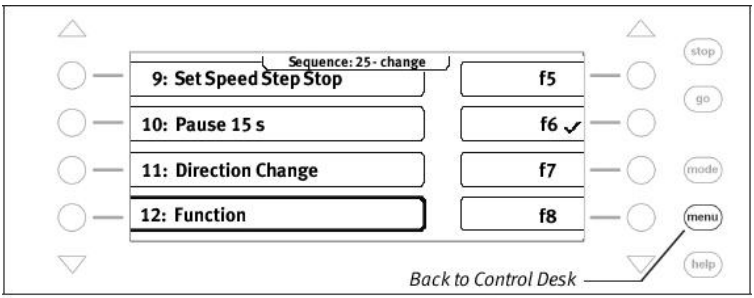

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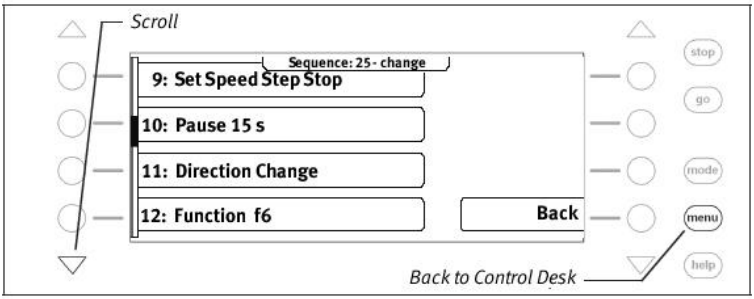

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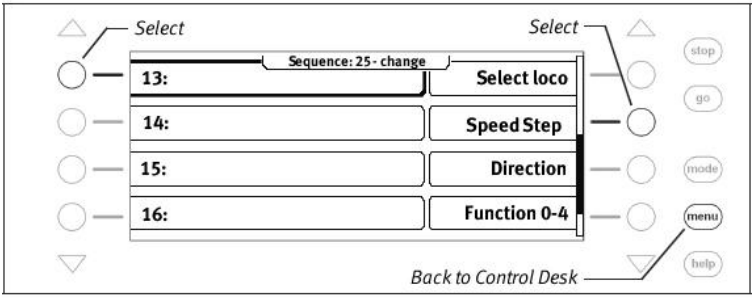
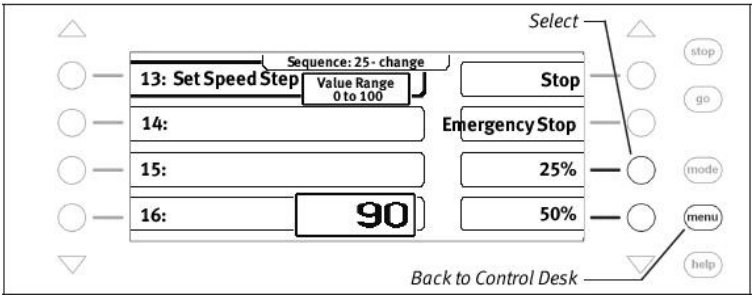


Step 17



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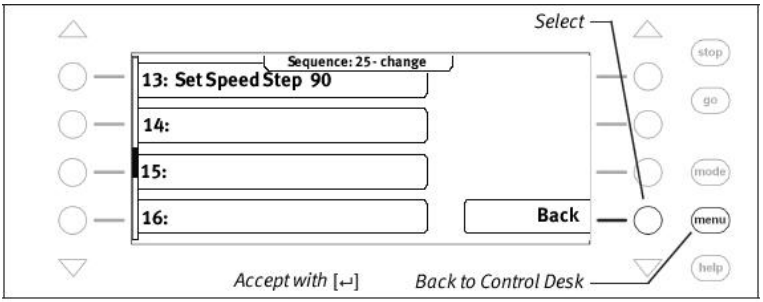
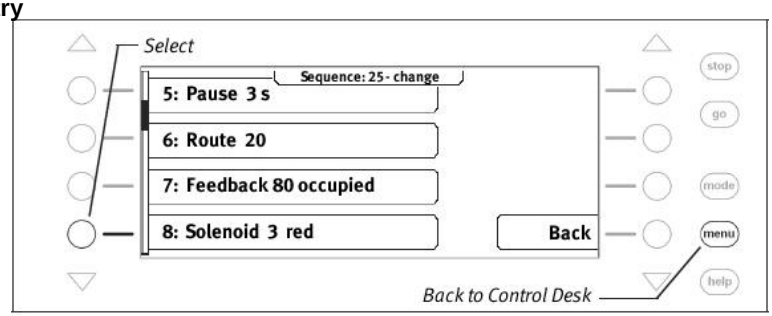
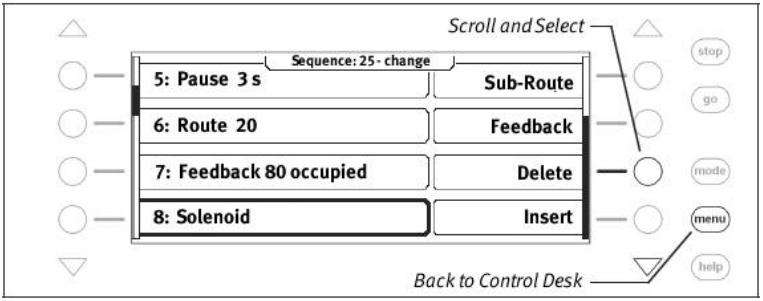


Delete a Route Entry

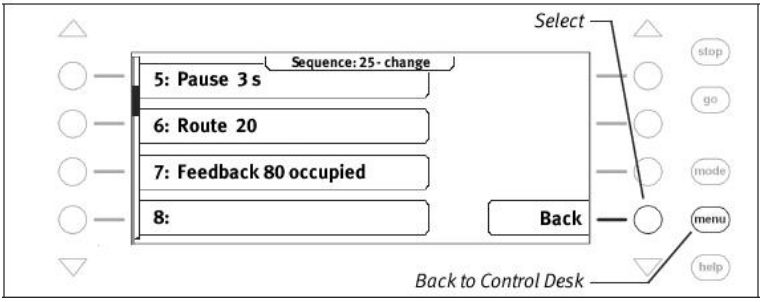
Step 1



Step 2

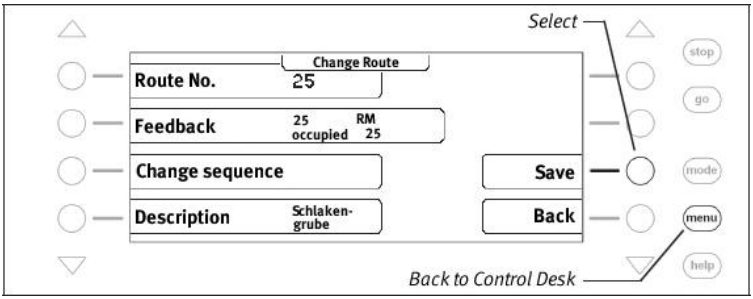


Step 3



Save Route

Step 1



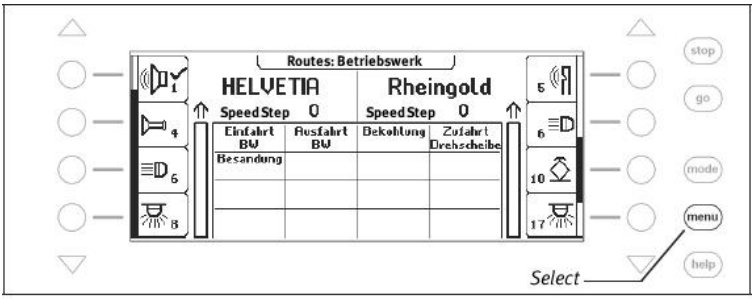
6.7 Using Routes from an External Device

With the IB-Control II you can also trigger routes form an external device such as those stored in an IB-Switch or IB-Control II. For this you must assign the route with a route number higher than 80. If you assign this route with the feedback message that will trigger a route in another device, then the defined route in a group can be assigned to a key on the IB-Control II. With this key you will then activate a route in another device.

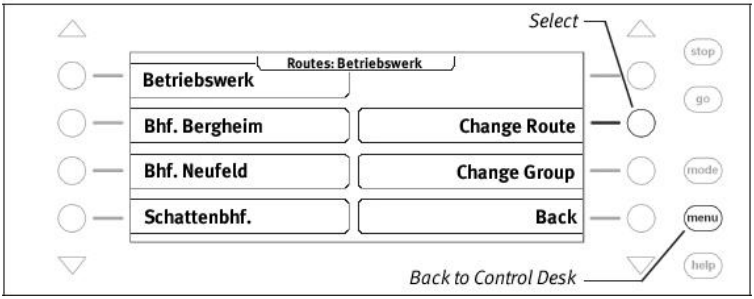
For example a route that is stored in an IB-Switch is to be used and triggered by feedback "250 occupied".

Procedure:

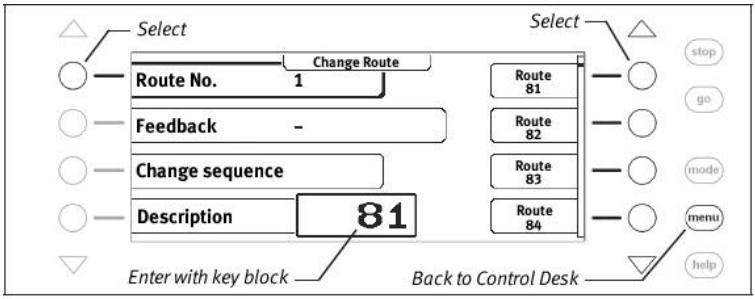
Step 1



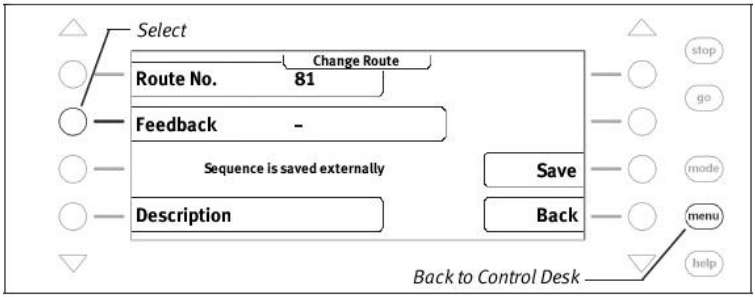
Step 2



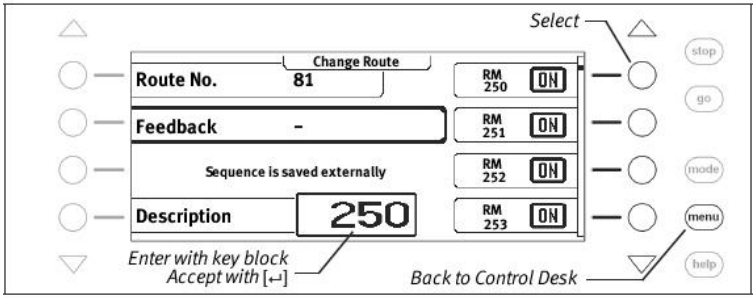
Step 3



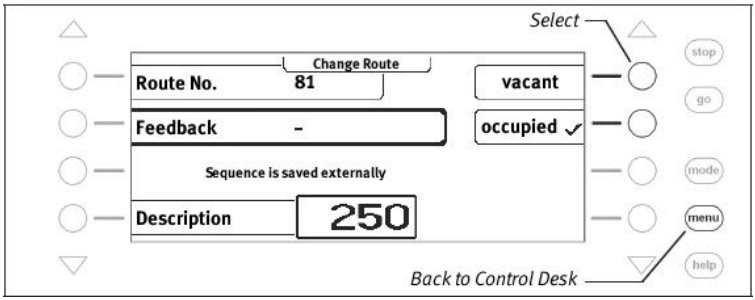
Step 4



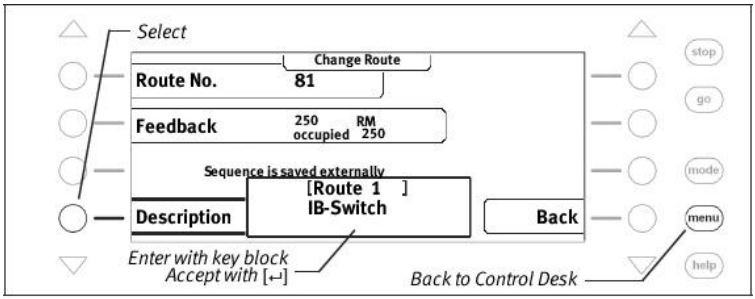
Step 5



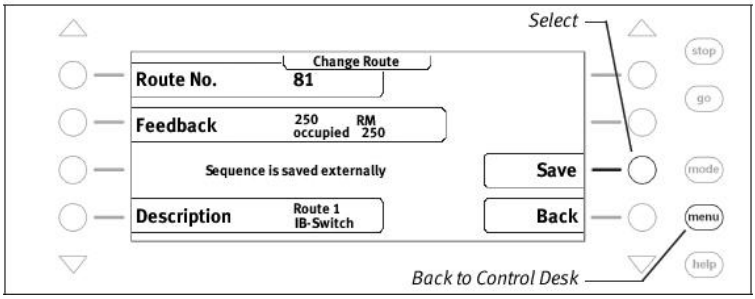
Step 6



Step 7



Step 8



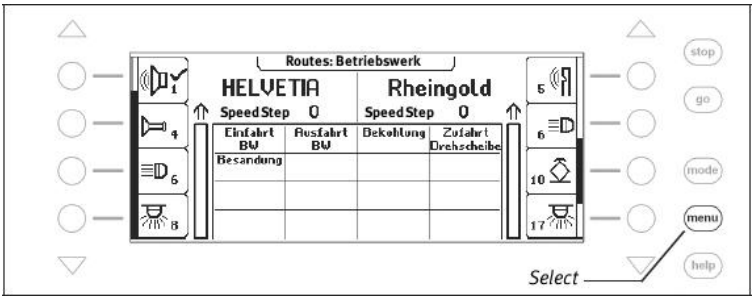
Now route 81 can be assigned to a Key in a group and, in the example, activates the 1. Route in the IB-Switch.

6.8 Automatically activate a Route when the IB-Control II starts up

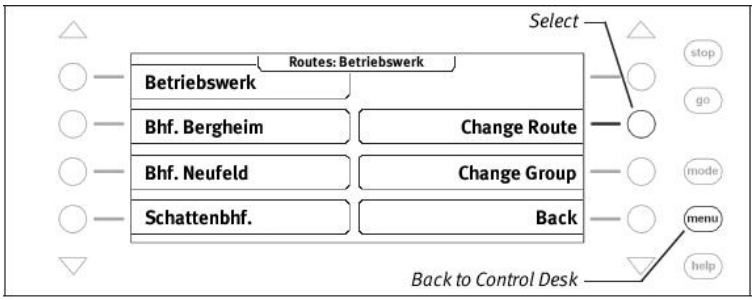
When the power is switched on, the IB-Control II can automatically activate a route, which then runs the switching sequence, when the layout is turned on. For this one of the 80 routes can be assigned as the “autostart” route. In the following example this is to be route 50.

Procedure:

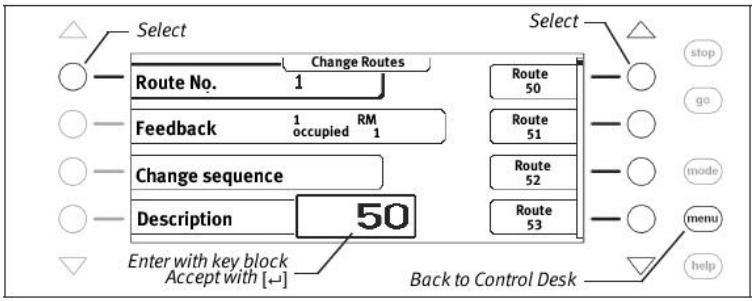
Step 1



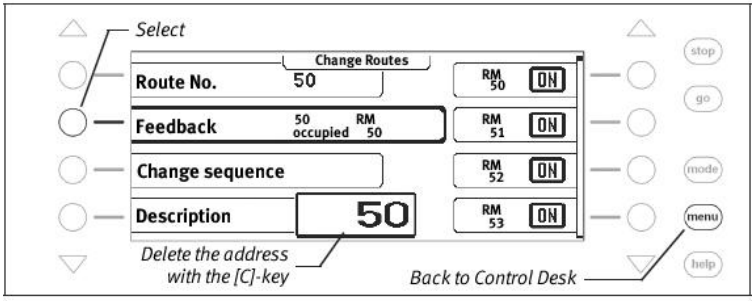
Step 2



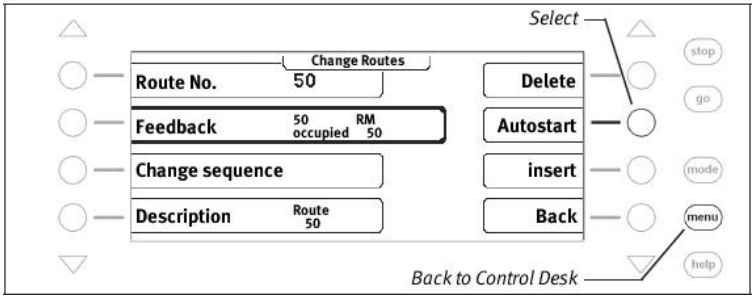
Step 3



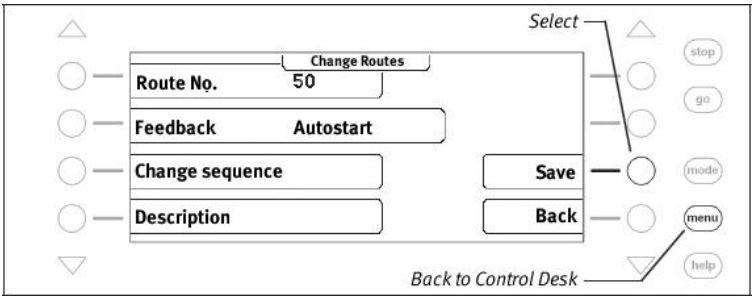
Step 4



Step 5



Step 6



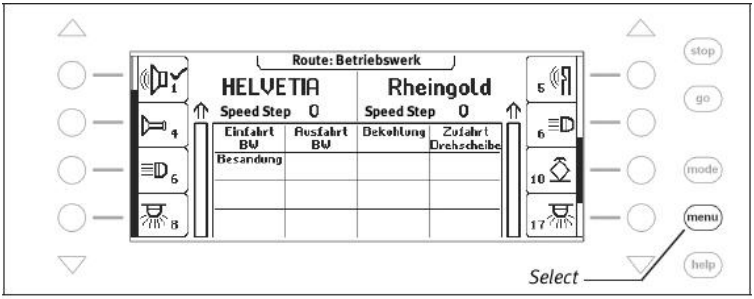
6.9 Processing two or more Routes in succession

Each route in the IB-Control II contains 24 commands. If 24 commands are not enough then commands in the following route can be used.

Example: More than 24 commands are required for the desired switching sequence for route 60. The inclusion of route 61 extends the command range to 48 instructions.

This is how routes 60 and 61 are processed together:

Step 1



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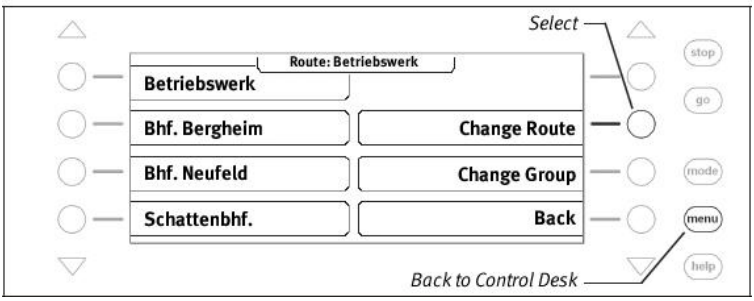
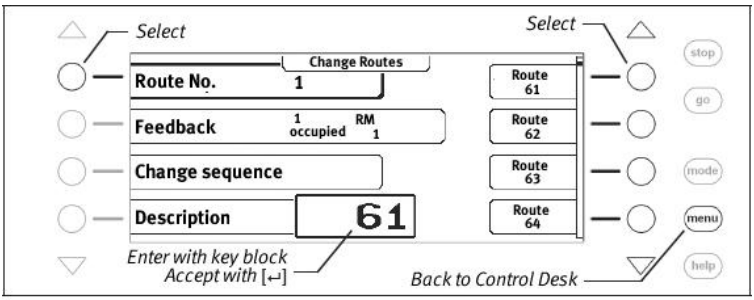
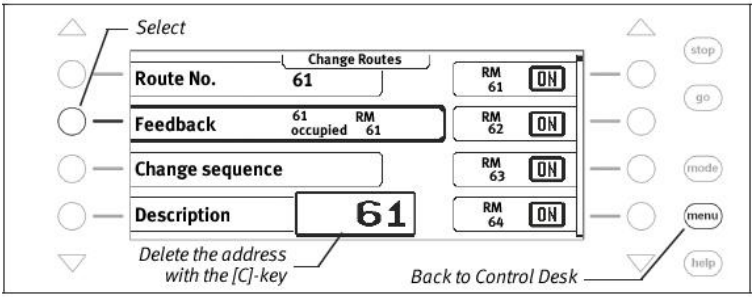


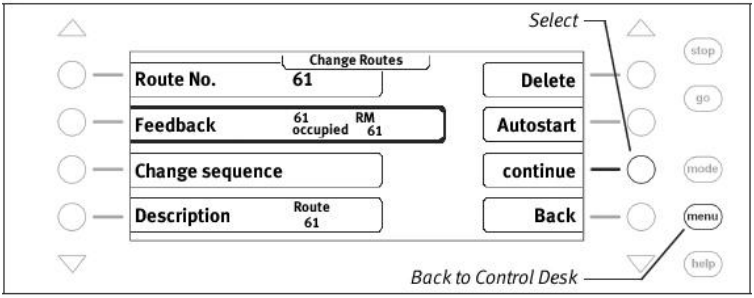
Step 3



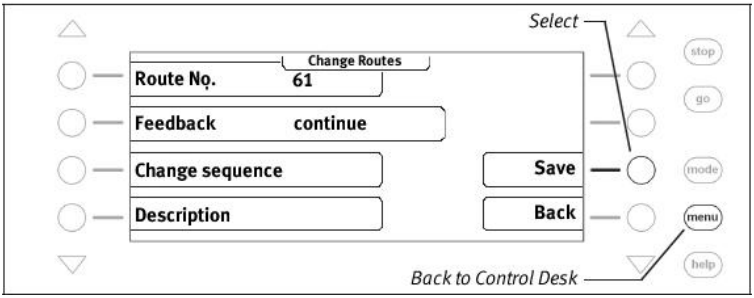
Step 4



Step 5



Step 6



If route 60 is activated now, then all instructions in route 60 are processed and immediately afterwards so are the instructions in route 61.

7. The Feedback Mode

If the model railway layout is to be controlled automatically (e.g. by IB-Switch or Computer control) the controller needs status signals that tell it which sections are occupied by a train. Only then can turnouts and signals be switched to the appropriate state.

LocoNet Feedback Modules or s88 Feedback Modules monitor the track sections and notify Track vacant or Track occupied to the central controller.

So that a train can trigger a switching sequence, the track occupied message is forwarded via the LocoNet to the IB-Control II, or IB-Switch 65800, or via the interface to the computer software, which can then co-ordinate the correct switching sequence.

A total of 2048 feedback inputs can be used.

7.1 LocoNet Feedbacks

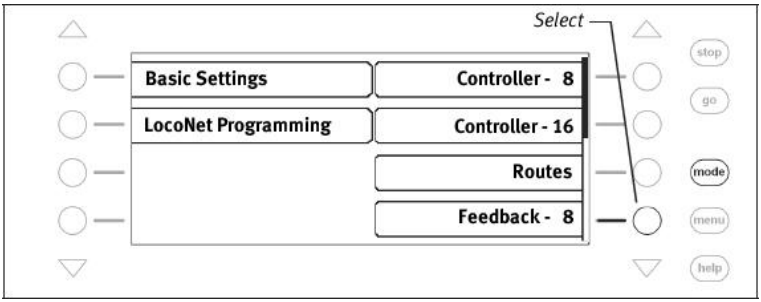
The valid address range for feedbacks is 1-2048, i.e. a maximum 256 feedback modules for 2-Rail with 8 inputs each, or 128 feedback modules for 3-Rail with 16 inputs each, can be connected to the IB-Control II. The Modules can be connected either to the LocoNet-T or LocoNet-B socket of the IB-Control II.

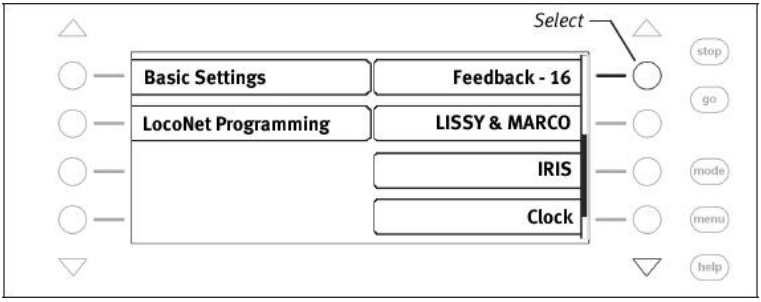
7.2 Selecting a Feedback Module

The IB-Control II has 2 feedback modes, the Feedback-8 Mode and the Feedback-16 Mode.

When the [mode]-key is pressed the respective feedback module can be selected from the selection menu with the display keys.

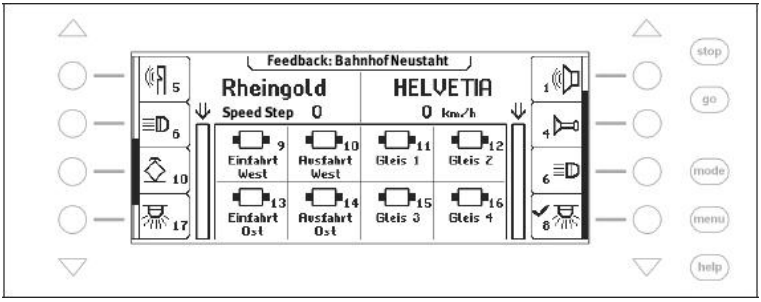
The middle of the display will change to suit the selected Mode.





7.3 The Display

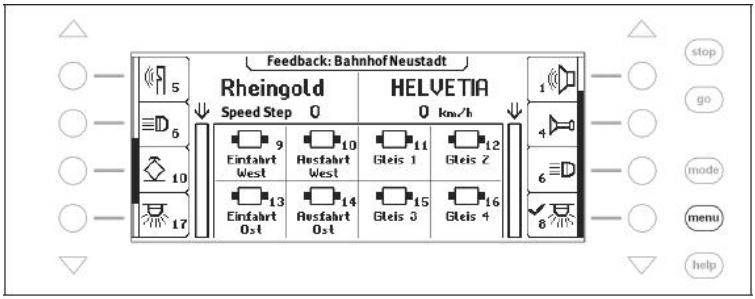
In Feedback-8 mode a group of 8 feedback inputs are shown in the middle part of the display. In Feedback -16 mode the state of 16 feedback inputs can be seen.



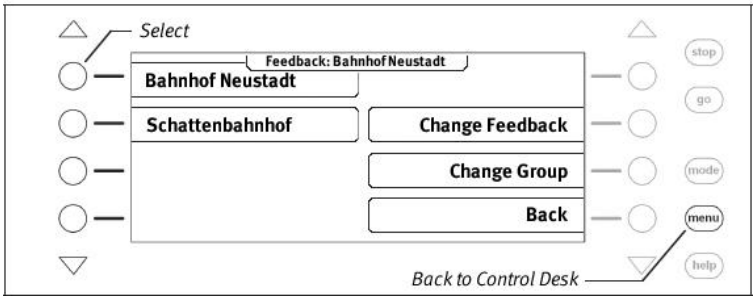
The Groups can be individually compiled and given a name. Each feedback is represented by its symbol, its address and its individual name (only in Feedback-8 Mode) in the middle part of the display.

7.4 Selecting a Feedback Group

Step 1



Step 2



Independently of whether the display was selected for 8 or 16, a group of 8 or 16 feedback can be called by an address which starts the sequence of 8 or 16 following addresses.

Each group however can also have its own assignment. 64 different feedback groups can be saved in the IB-Control II. Each group has its own name. That way you can group the feedback messages from a shadow station and assign that group the name “Shadow station” and it is then always called up by that name.

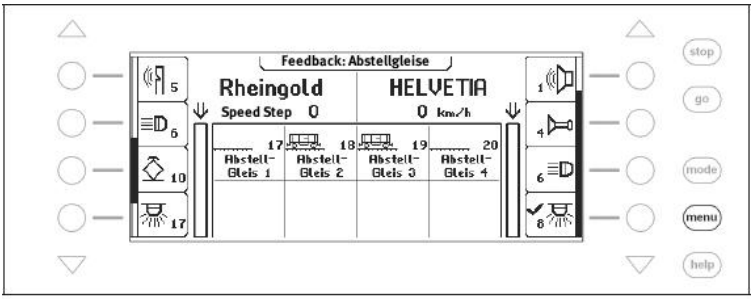
7.5 Adding and Changing Feedback Groups

The IB-Control II can administer up to 64 different feedback unit groups. Each feedback unit group can be a collection of up to 16 desired feedbacks. Each group has a name and can be called up by that name. Feedback groups can be newly entered, edited or deleted.

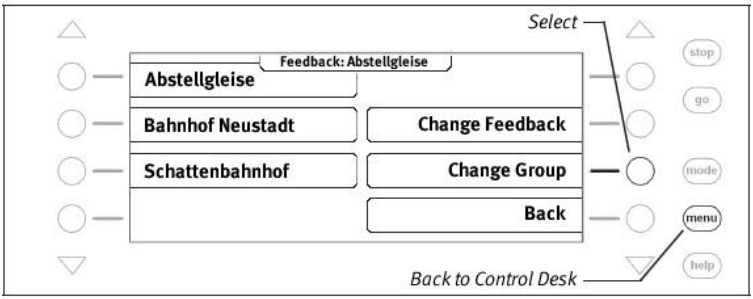
Note: *If a feedback group is setup in Feedback-16 Mode then only half the group will be displayed in Feedback-8 Mode.*

Adding a new Feedback Group

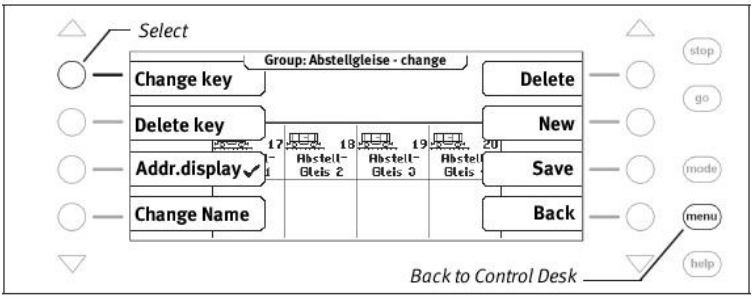
Step 1



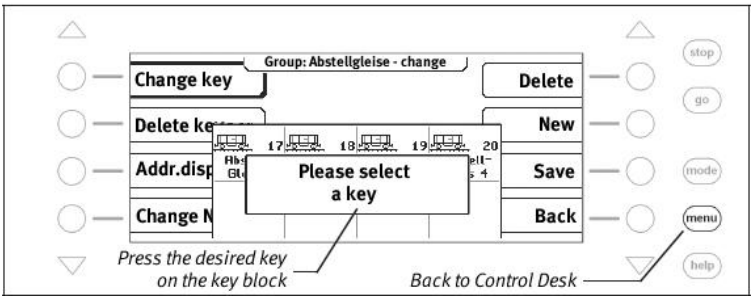
Step 2



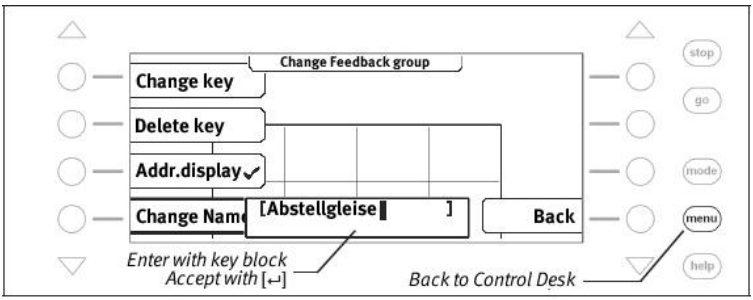
Step 3



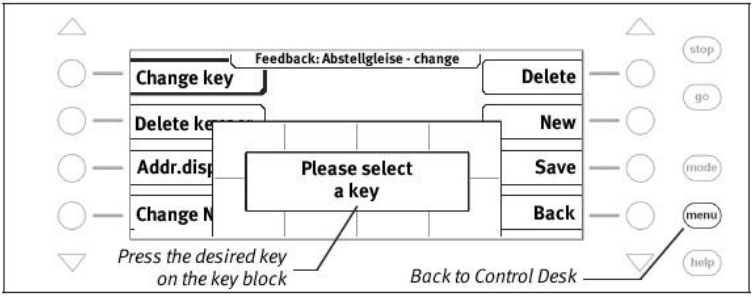
Step 4



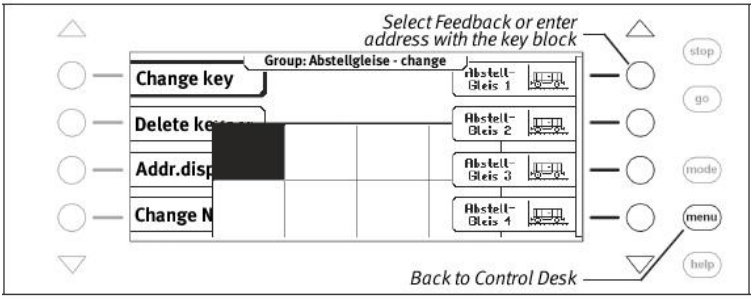
Step 5



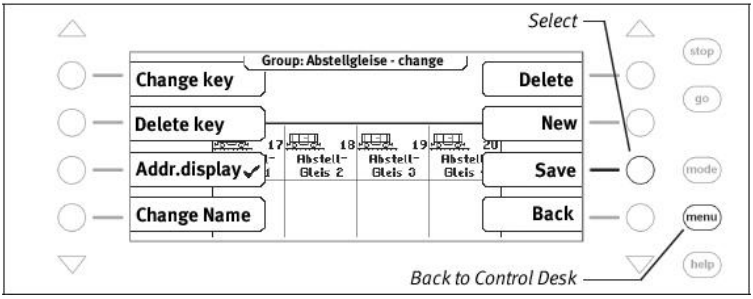
Step 6



Step 7

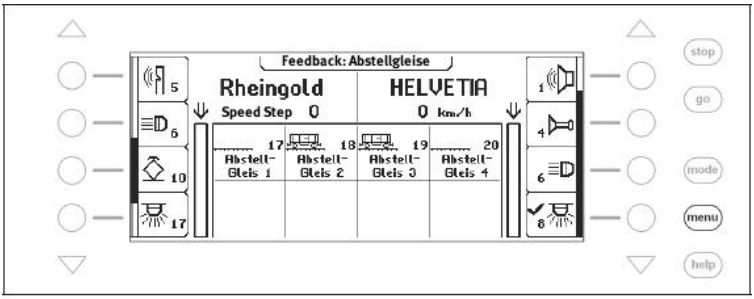


Step 8

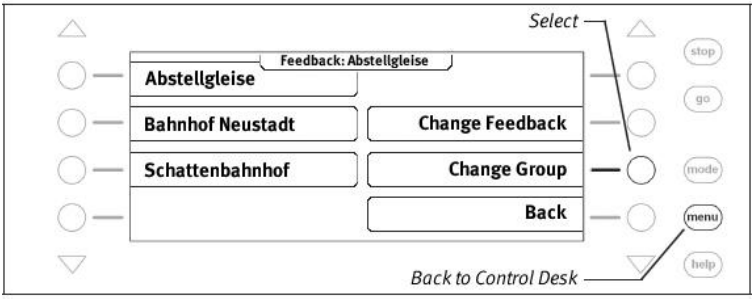


Editing a Feedback Group

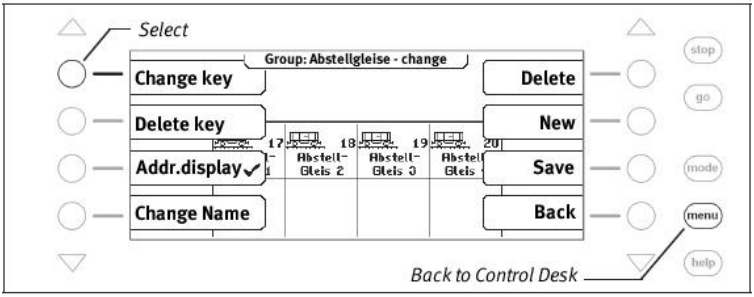
Step 1



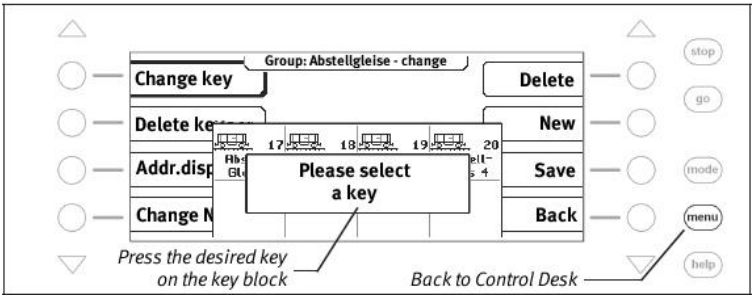
Step 2



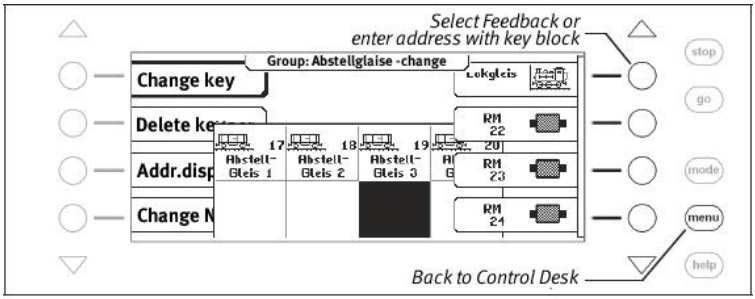
Step 3



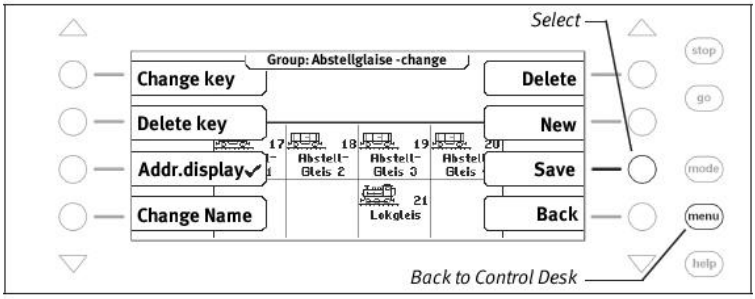
Step 4



Step 5

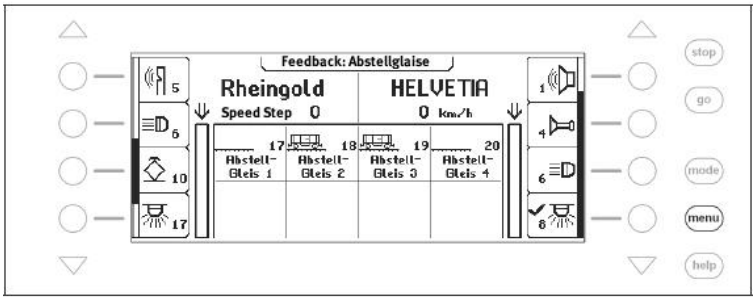


Step 6

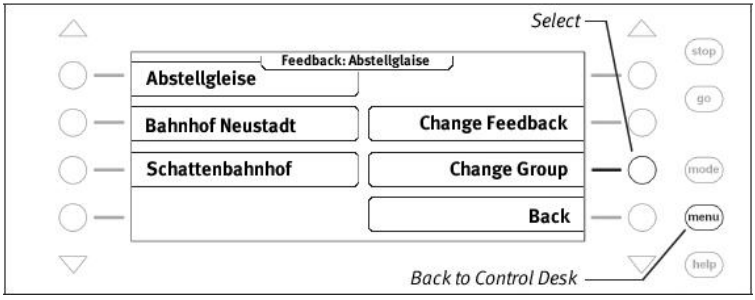


Deleting a Feedback Group

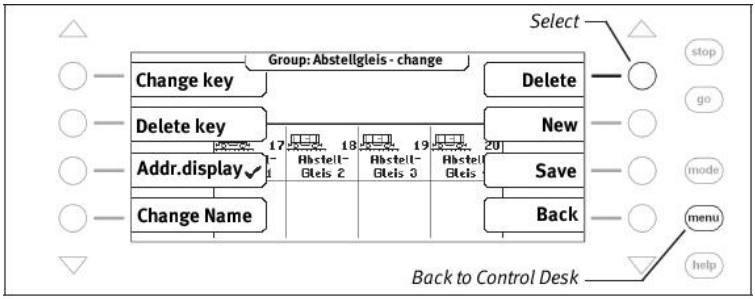
Step 1



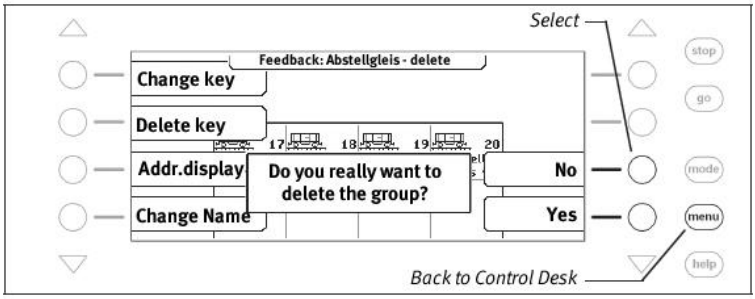
Step 2



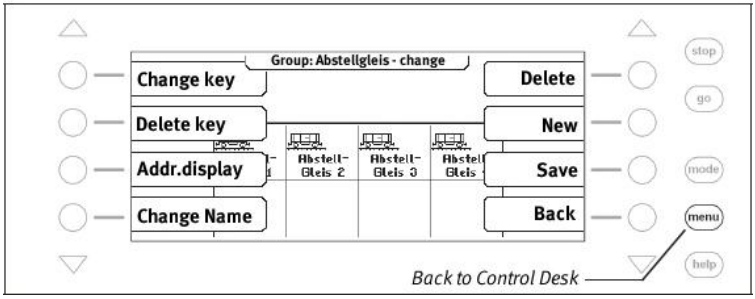
Step 3



Step 4

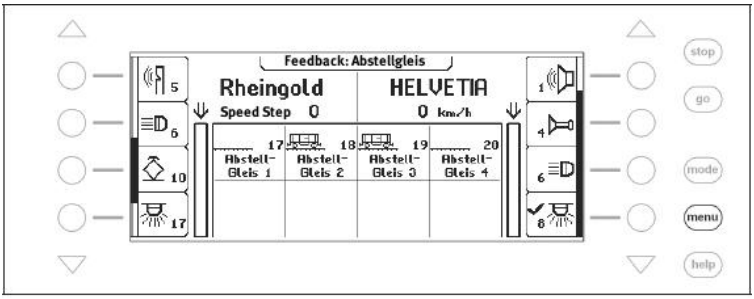


Step 5

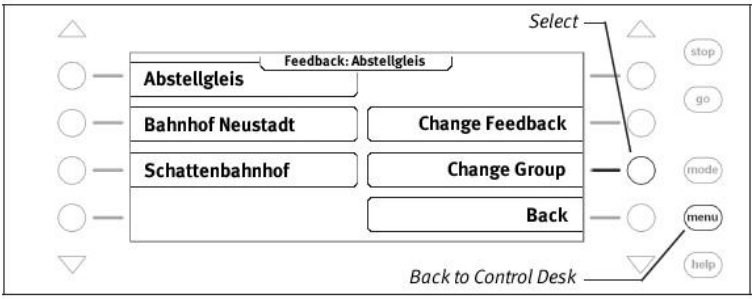


Switching the Address Display on/off

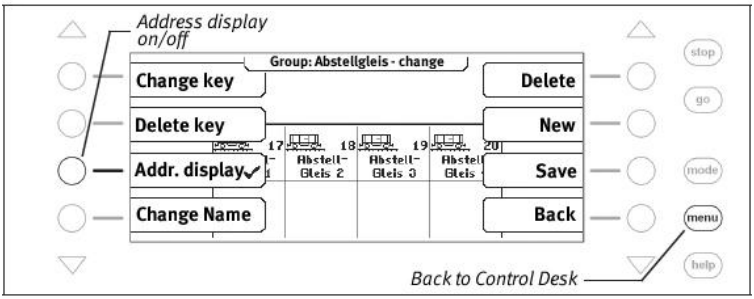
Step 1



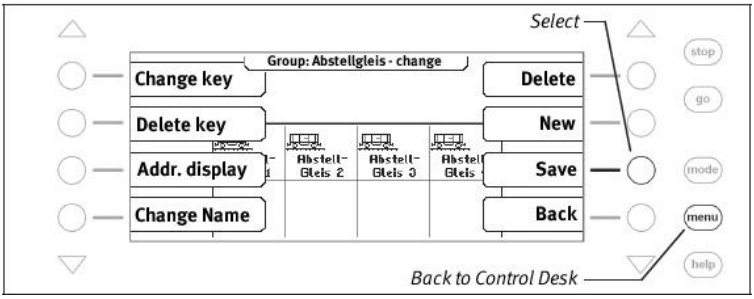
Step 2



Step 3



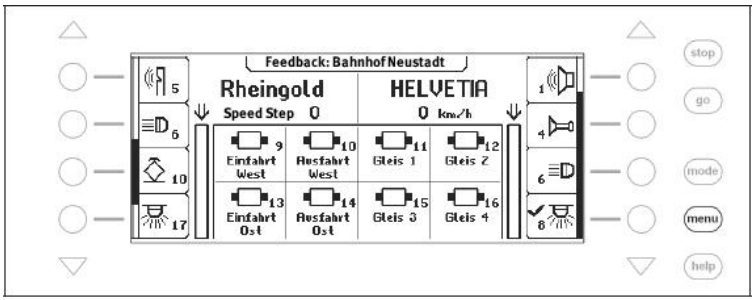
Step 4



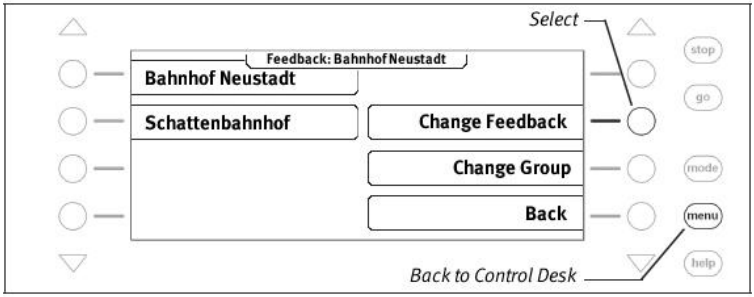
7.6 Setting the Name and Symbol of a Feedback

A name and symbol can be assigned to each feedback address. The assignment can be made from the “Change Feedback” Menu.

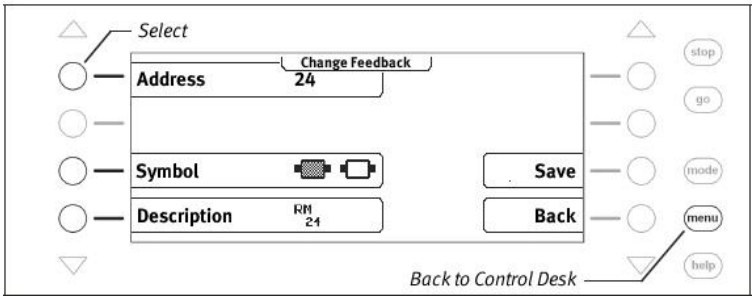
Step 1



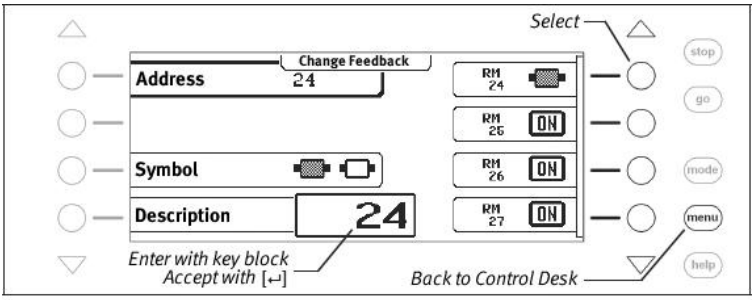
Step 2



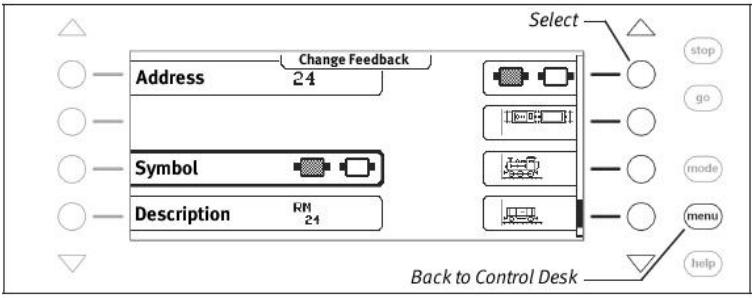
Step 3



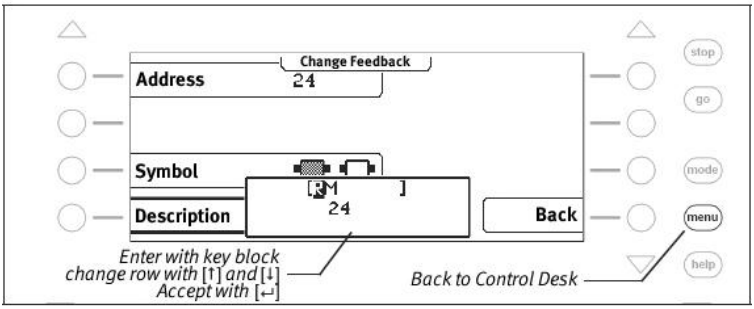
Change Feedback Address



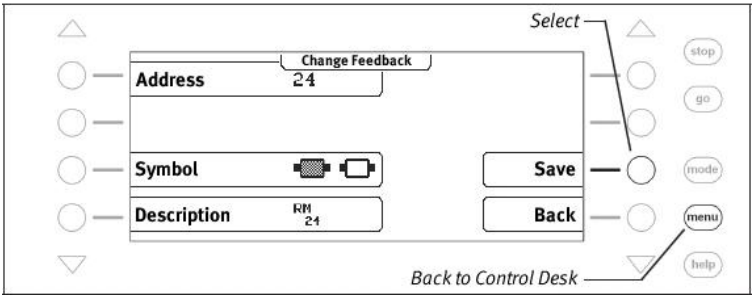
Change Symbol



Change Name



Save Data



7.7 Triggering Feedback Message

In Feedback-8 Mode the key block can be used to send feedback messages for test purposes. When a red key is pressed the track section “occupied” message is sent. Correspondingly the green key sends a track section “vacant” message.

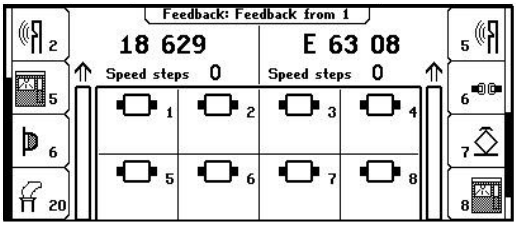


Figure 8.81
The image shows the assignment of the key pairs for the feedbacks that are shown in the display.

8. The LISSY/MARCO Mode

In a digital system every locomotive has its own address and can receive control commands with this address. In order to achieve automatic control of trains on a digital layout, one question is always asked, “At which point on the layout is the locomotive at any time?”

If this question can be answered by a detection system that reads the locomotive address, then nothing further prevents the implementation of an automatic system.

8.1 Description

LISSY/MARCO consists of a tiny transmitter that is fixed under each participating locomotive and sends the locomotive address down to the track via infrared. Sensors are mounted in the track and receive the information and forward it on to the LocoNet. The LISSY/MARCO receivers which are installed at various points in the track on the layout receive the following information:

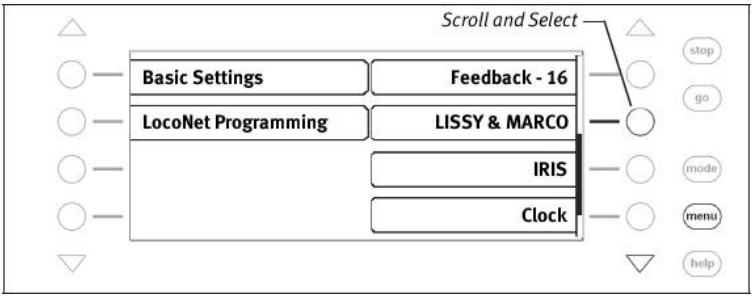
- the address of the passing locomotive
- one of four train categories of the passing locomotive
- the direction of the locomotive at the detection point
- the speed of the locomotive at the detection point

The IB-Control II LISSY/MARCO Mode can display the locomotive address i.e. the locomotive name, train category and direction, or the measured speed at the detection point, in the middle area of the display. Block sections and shadow stations can be monitored with this display. That way you know which locomotive is in which track section at any time.

8.2 Selecting LISSY/MARCO Mode

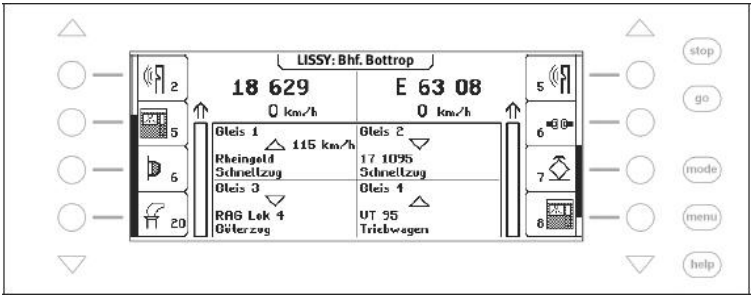
The LISSY/MARCO Mode is selected by pressing the [mode]-key. The Main menu then appears and the LISSY/MARCO Mode can be selected.

The display changes to represent the selected mode.



8.3 The Display in LISSY/MARCO Mode

If LISSY/MARCO Mode is selected the middle part of the display shows the messages from four LISSY/MARCO Receivers:



In each of the four fields, in 4 rows the following is displayed:

- Name of the monitored LISSY/MARCO receiver
- Address of the LISSY/MARCO receiver, direction and train's measured speed
- Locomotive name or address of the detected locomotive
- Name or Number of the recognized train category

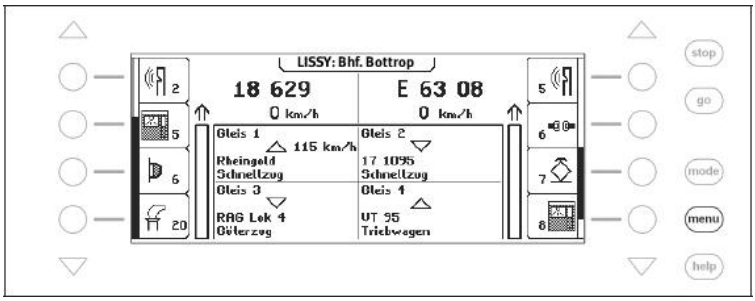
So that the LISSY/MARCO receiver, the locomotive and the train category are displayed by name, a name must have been assigned to the receiver, locomotive and the train category. The assignment of a name to a LISSY/MARCO receiver and the train category is outlined in Chapter 9.6, for assignment of a name to a locomotive address see Chapter 5.6.5.

8.4 Selecting the Displayed Group

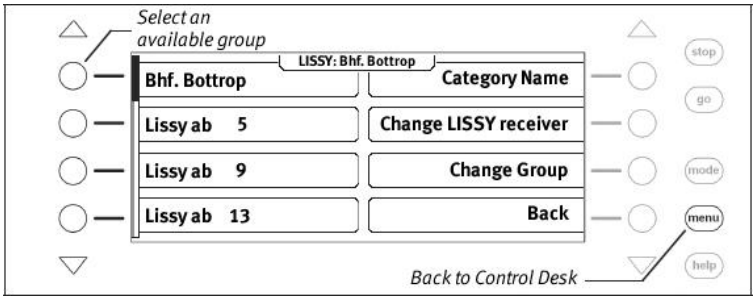
In LISSY/MARCO Mode a group of 4 LISSY/MARCO receivers is displayed. These groups of 4 receivers can be freely defined and assigned a name. The [menu]-key is used to call up the LISSY/MARCO Menu and a different group can be selected to be displayed.

Procedure:

Step 1



Step 2



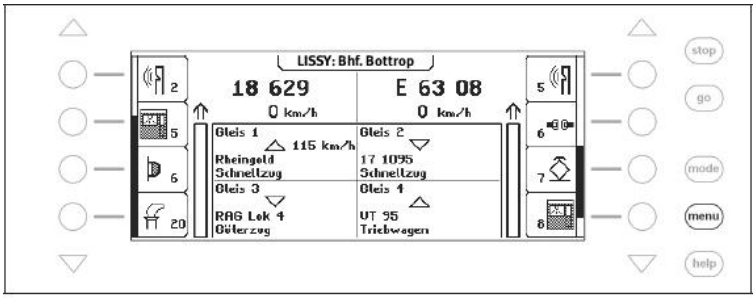
8.5 Adding a new or Changing a Group

The IB-Control II can have up to 64 different LISSY/MARCO Groups. Each Group can contain any four desired LISSY/MARCO Receivers. Every LISSY/MARCO Group is assigned a name and that can be used to select it. LISSY/MARCO Groups can be newly added, edited or deleted.

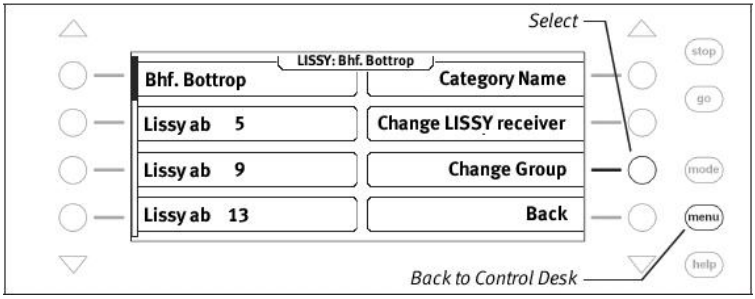
8.5.1 Adding a new Group

Procedure:

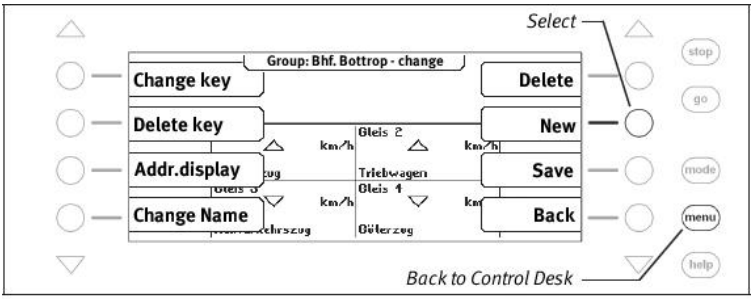
Step 1



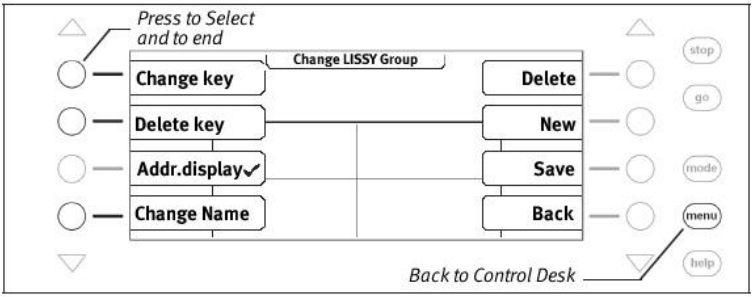
Step 2



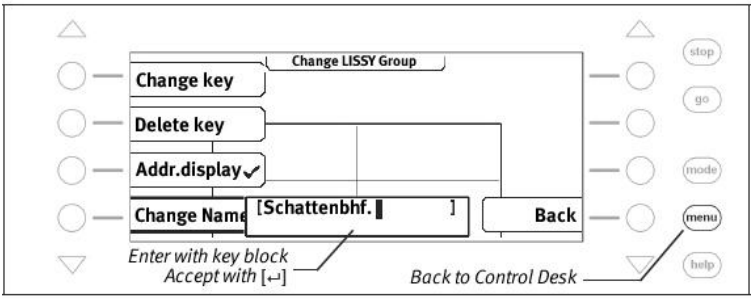
Step 3



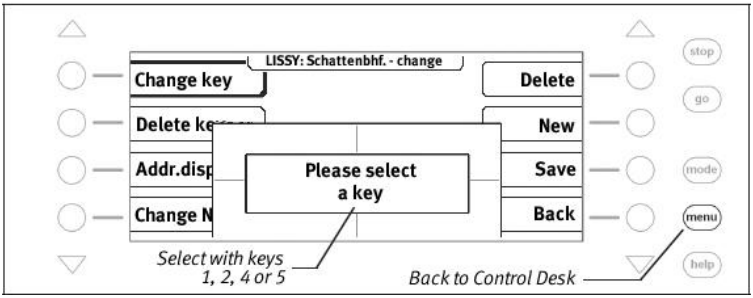
Step 4



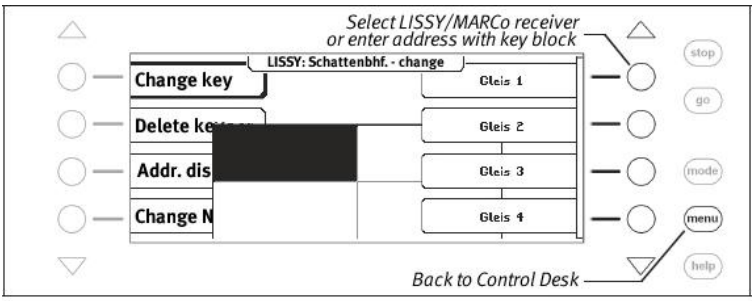
Step 5



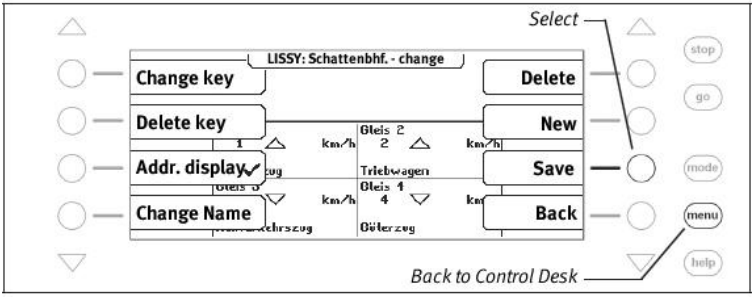
Step 6



Step 7

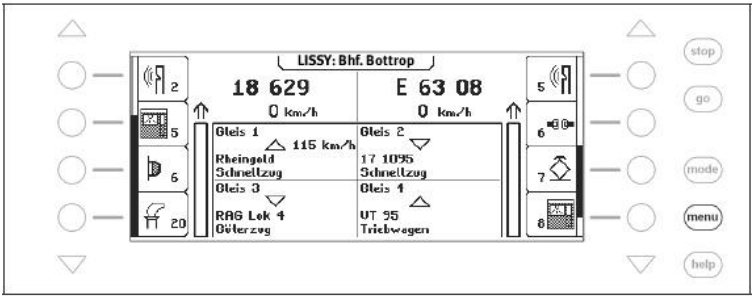


Step 8

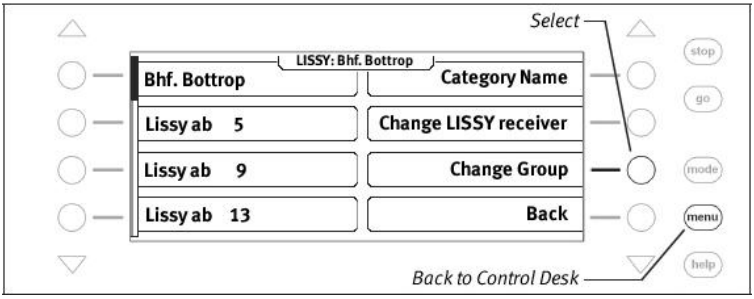


8.5.2 Changing a Group

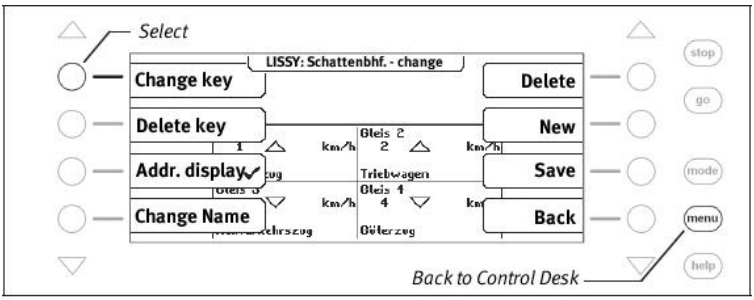
Step 1



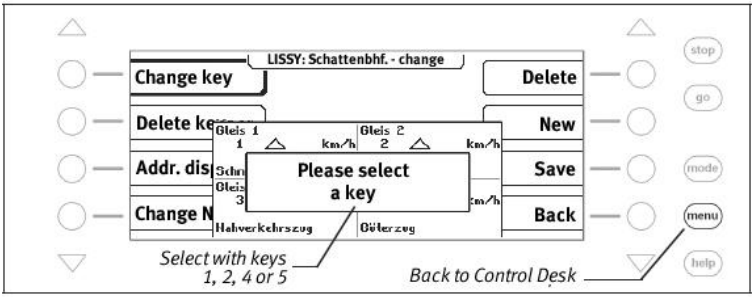
Step 2



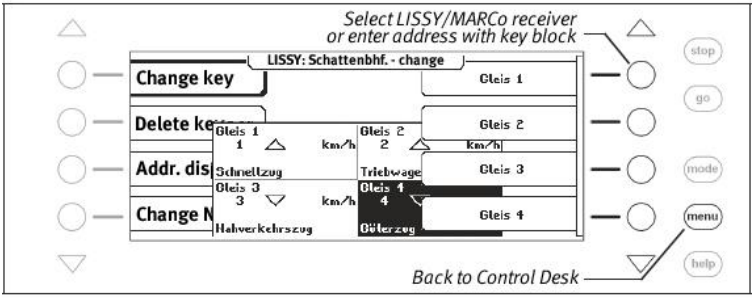
Step 3



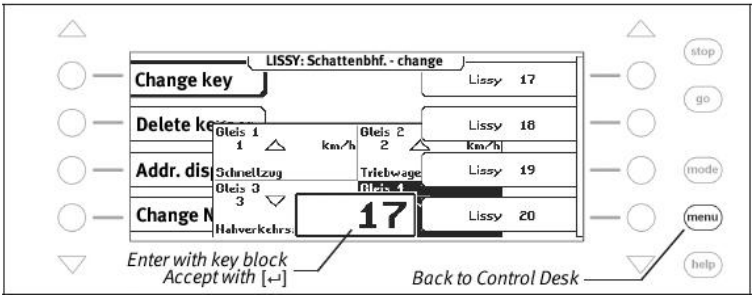
Step 4



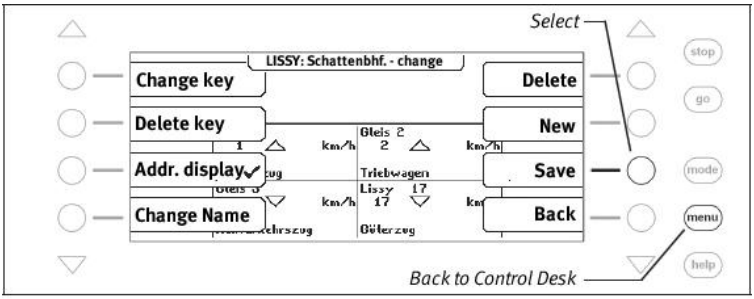
Step 5



Step 6

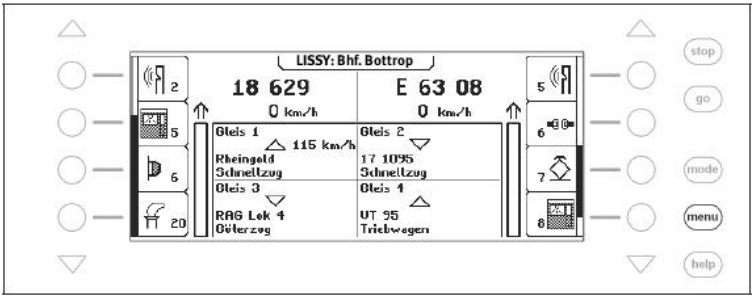


Step 7

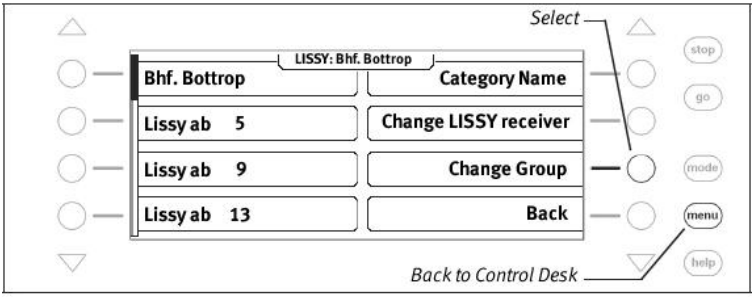


8.5.3 Deleting a Group

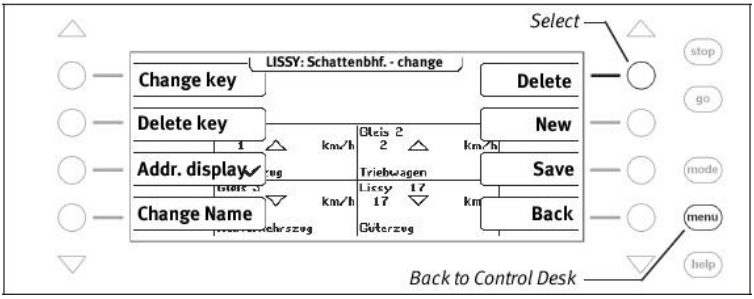
Step 1



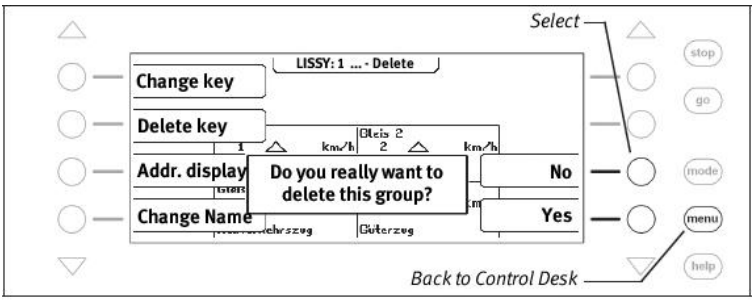
Step 2



Step 3

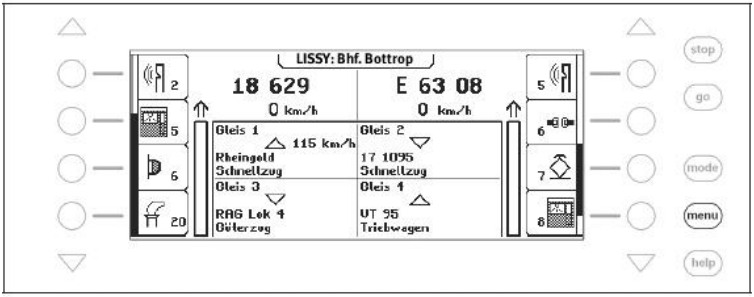


Step 4

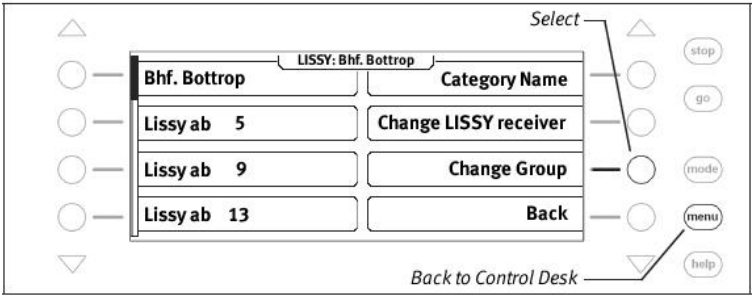


8.5.4 Switching the Address display on/off

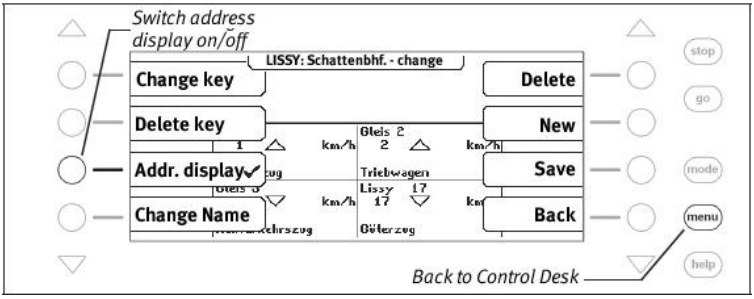
Step 1



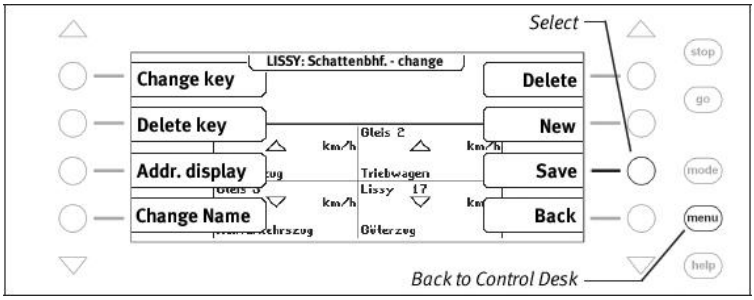
Step 2



Step 3



Step 4

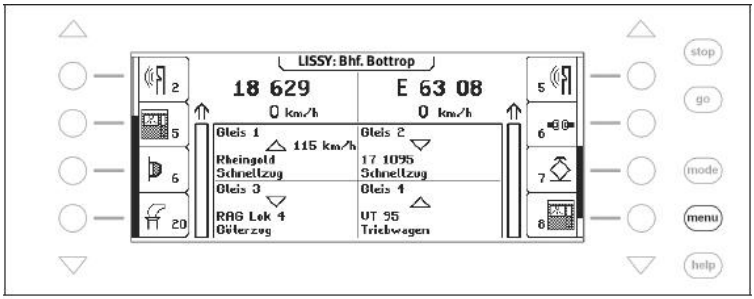


8.6 Assigning a Name to a Train Category and LISSY/MARCO Receiver

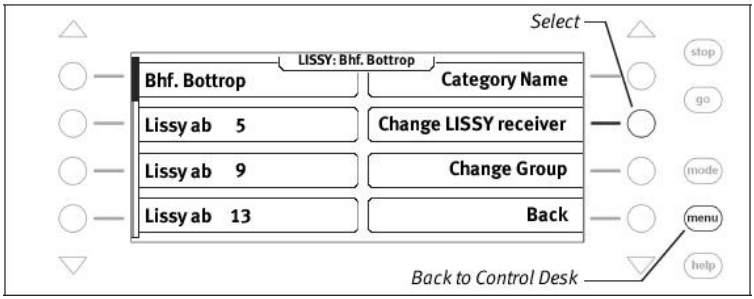
Names can be assigned to LISSY/MARCO receivers and Train Categories so that all LISSY/MARCO messages are readable. The assignment is done from the LISSY/MARCO Menu.

Assigning a Name to a LISSY/MARCO Receiver

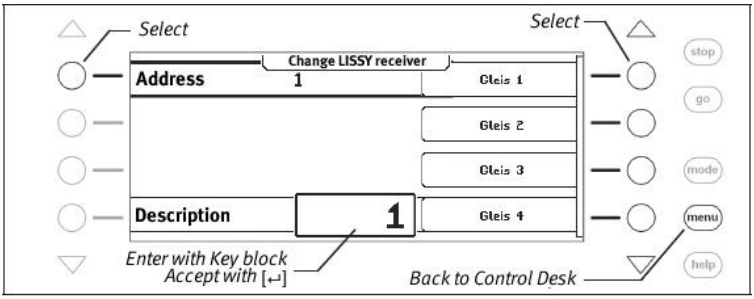
Step 1



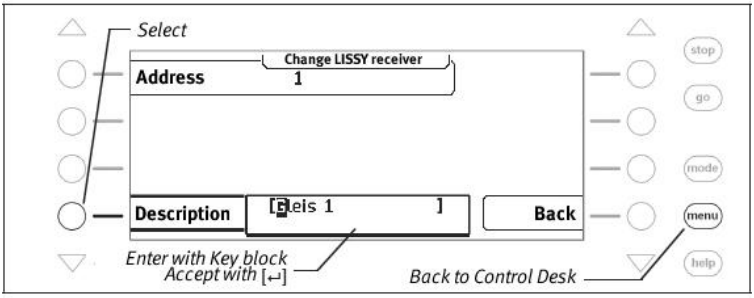
Step 2



Step 3

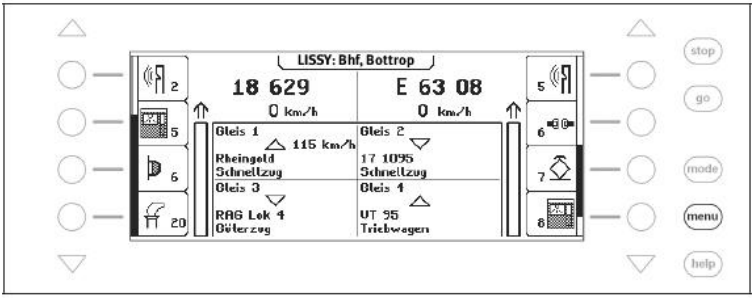


Step 4

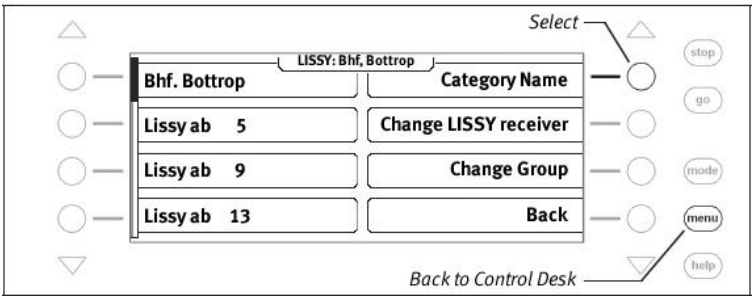


Assigning a Name to a Train Category

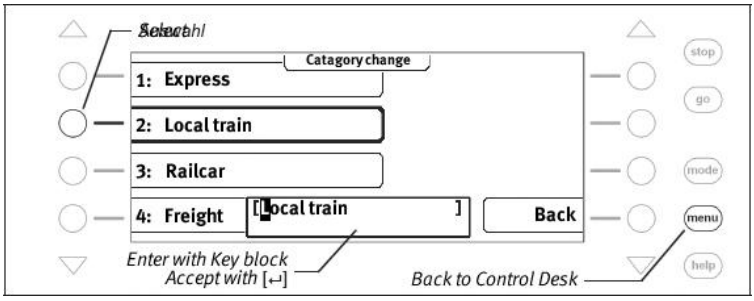
Step 1



Step 2

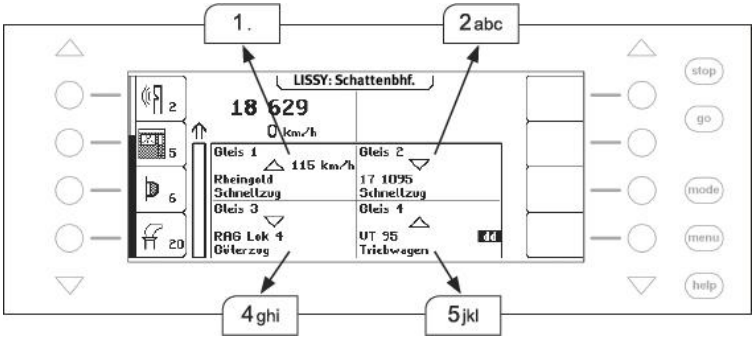


Step 3

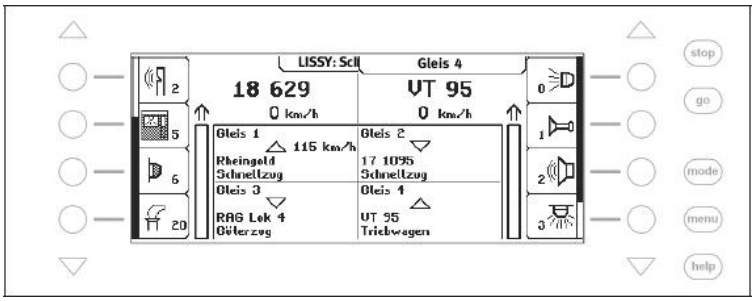


8.7 DirectDrive

Control of a locomotive passing one of the displayed LISSY/MARCO receivers can easily be transferred to a throttle by a simple key press, without having to enter the locomotive address. For this the displayed LISSY/MARCO receivers have been assigned to digits 1, 2, 4 and 5 as shown below:



Select one of the displayed locomotives with one of the digit keys 1, 2, 4 or 5 and it is identified in the display with a "dd". The [←]-key can transfer it to the left controller. The [→]-key can transfer it to the right controller.



9. The Infrared Remote Control IRIS

9.1 Description of the Infrared Remote Control

9.1.1 Function Mode

The IB-Control II Infrared Controller IRIS extends the IB-Control II with a wireless remote control for interiors, with a range of up to 10m.

The IRIS remote control can be used to select all locomotives on a Digital layout and control their direction, speed and special functions. IRIS can switch all solenoids and activate all routes which are stored in an IB-Control II.

IRIS is provided with 4 channels, operable with keys A, B C and D. Each channel can control its own locomotive or solenoid. If for e.g. channel A controls locomotive with address 15 and solenoids 1 to 4 then channel B can control locomotive 20 and solenoids 13 to 16. If the remote control is active, one can quickly switch from one locomotive to another. If a number of players are using different hand controls (up to 4 with an IB-Control II), each can operate on a different channel without affecting the locomotives of the other players, provided they don't have the same address. You can also operate a different set of solenoids selected on each channel. The addresses selected for each channel are saved in the IB-Control II and are still available after switching off and on again. By default channel A, B, C and D are assigned locomotives 1, 2, 3 and 4 respectively. By default all channels control solenoids 1 to 4.

9.1.2 Operating controls

Control LED

The LED blinks as long as a key is being pressed on a remote control.

Selection keys

- Starts the selection of a locomotive address
- Starts the selection of a solenoid address
- Starts the selection of a route
  Activates routes
- Turns track power on and off

Number keys

⓪ to ⑨ To enter locomotive, solenoid and route addresses

Locomotive control

- ⊕ Increases the locomotive speed step-by-step
- ⊖ Decreases the locomotive speed step-by-step
- ⇦ Reverse travels and emergency stop
- ⇨ Forward travels and emergency stop

Special functions

- f0 Special function Light On
- off Special function Light Off
- f1 to f4 Special function f1 to f4
- f+4 Switch over to functions f5 to f8
- f+8 Switch over to functions f9 to f12
- red Switch solenoid round or red
- grn Switch solenoid straight or green

Channel Selector

Ⓐ to Ⓓ Channel Selector keys

9.1.3 Locomotive Control

Selection of transmission channel

Every transmission channel can control locomotive addresses without affecting the other channels.

- The transmission channel is selected with the Ⓐ to Ⓓ keys.

If every channel is programmed with locomotive addresses, it allows rapid changing of the locomotive by simply pressing one of the channel selector keys. If more people want to play on the layout, each player used their own remote control. Select a locomotive by entering the new address.

Entering a Locomotive address

- Press the key
- Enter the desired locomotive address using 0 to 9 keys. The last 4 digits entered will be used as the address.

Note: The selection mode is exited by pressing the key again.

The locomotive address won't take effect until one of the following functions is activated:

f0/off – Light on or off
⊕/⊖ – Speed up or down
⇦/⇨ – Travel direction changed
f1-f4 – Function activated

Example:

- ⓜ+①+ⓕ0
  Locomotive address 1 is selected and the light is switched on.
- ⓜ+①+②+③+④+⑤+⑥+⊕
  Locomotive address 3456 is selected – only the last 4 digits are used for the address. ⊕ increases the speed.
- ⓜ+①+②+ⓜ+ⓕ0
  The channel's Locomotive address is not selected because the ⓜ was pressed again. ⓕ0 switches on the lights in the active locomotive.

Speed Control

With the ⊕ and ⊖ keys the speed of the locomotive is increased or lowered respectively. If the keys are held the speed changes step-by-step until the key is released or the maximum speed has been reached or the locomotive is stopped.

Selecting direction

With the ← and → keys the travel direction is set to reverse or forward respectively. If a key is pressed when the locomotive is in motion it will first do an emergency stop and then move in the selected direction.

Emergency stop

If either of the arrow keys is pressed while the locomotive is running, first an emergency stop will be executed and then it will move off in the selected direction.

Light switching

The locomotive lights can be switched on with the ⓕ0 key and off with the ⓞff key.

Special functions

Keys ⓕ1, ⓕ2, ⓕ3 and ⓕ4 switch function f1 to f4 on and off.

Using the ⓕ+4 "shift" key followed one of the ⓕ1 to ⓕ4 keys will switch f5 to f8. The ⓕ+8 "shift" key does the same for f9 to f12.

If after pressing a "shift" key a key other than a function key is pressed, the shift mode will be cancelled.

The shift mode will automatically cancel if no key is pressed within 10 seconds of pressing either the ⓕ+4 or the ⓕ+8 key.

9.1.4 Solenoid control

Transmission channel selection

4 solenoids (e.g. turnouts) can be switched via each transmission channel without affecting the other channels by using the red/green keys.

A transmission channel is selected key Ⓐ, Ⓑ, Ⓒ or Ⓓ.

If the turnouts are set up on all 4 channels they can quickly switch up to 16 turns by changing channels.

If more people want to play on the layout using individual remote controls then each player uses a different transmission channel. In this case, the turnouts must be accessed by entering the appropriate address.

Entering a turnout address

The solenoid switches are programmed with turnout addresses by setting an address for the left key pair. The other 3 pair will automatically have the next 3 addresses.

- Press the ⌯ key

Key in the desired turnout address, using the numeric keys ⓪ to ⑨. The last four digits will be used as the address.

Note: The selection mode is ended by pressing the ⌯ key again.

- The turnout address will only take effect after one of the following keys is pressed:
  - red – Switches the solenoid with the underlying address to round or red.
  - grn – Switches the solenoid with the underlying address to straight or green.

Example:

- ⌯+①+red1

  The left red/green key pair is programmed to the base address of 1. The other 3 key pairs are automatically programmed to the following 3 addresses. The red1 key switches the solenoid with the selected address (here 1) to round or red.

- ⌯+⑤+⑥+①+②+③+④+red3

  The left red/green key pair is programmed to the base address of 1234, because only the last four digits are accepted. The other 3 key pairs are automatically programmed addresses 1235 to 1237. The red3 key switches the solenoid with the selected address (here 1236) to round or red.

- ⌯+①+②+⌯+red1

  No solenoid address is programmed because the selection mode is cancelled by pressing the ⌯-key. The left red key red1 switches the solenoid with the previously selected address to round or red.

Switching of solenoids

Solenoids are switched by pressing the red or green keys for respective address. If the left red/green key pair was programmed for turnout address 11 then the other three pairs have been programmed to addresses 12, 13 and 14.

red – switches the solenoid to round or red

grn – switches the solenoid to straight or green

9.1.5 Activating a Route

Routes in the IB-Control II are activated by feedback instructions with the “occupied” state. Valid values for route activation in IB-Control II are 1 to 2048. The remote control always sends the “occupied” state. i.e. routes that are to be activated by IRIS must be configured to be activated by an “occupied” message. This must be taken into account when programming the individual routes in the IB-Control II.

- Press the ⇔-key

Enter the feedback address for the desired route with the keys ⓪ to ⑨.

- Press the ⇔-key again to activate the route

Note: *If after entering the digits another key is pressed no route is activated.*

The last four digits are evaluated.

Example:

- ⇔+①+⇔

The route which is called by feedback address 1 “occupied” is activated.

- ⇔ +①+①+①+②+③+④+⇔

The route which is called by feedback address 1234 “occupied” is activated since only the last four digits are evaluated.

- ⇔+①+f0

No route is activated because selection was not terminated with the ⇔-key. f0 switches on the light of the currently controlled locomotive.

9.1.6 Power on/off

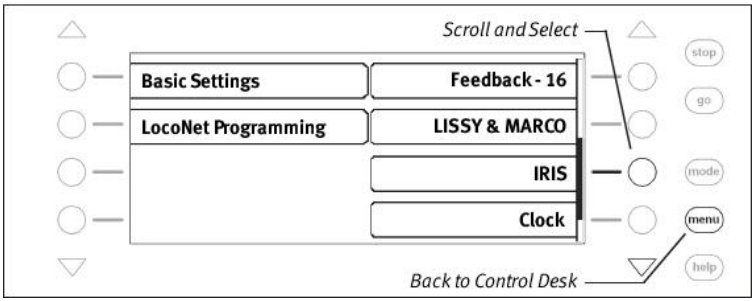
Track power to the layout can be switch on and off with the stop-key.

9.2 IB-Control II Display Mode IRIS

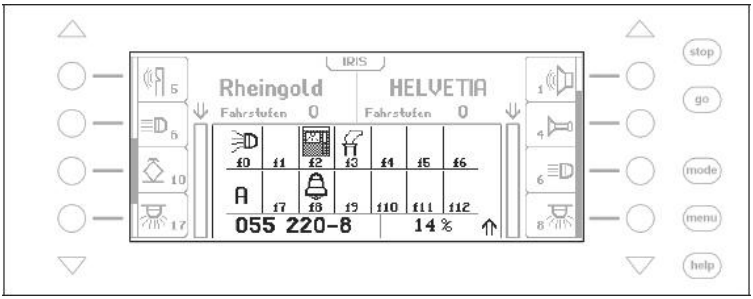
9.2.1 Selecting IRIS Mode

In Control Desk Mode the [mode]-key is pressed and the IRIS Mode can then be selected from the Main Selection Menu.

The middle of the display changes in context with the selection of the mode.

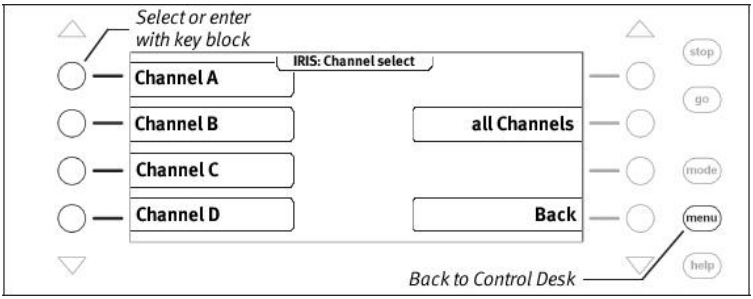


In IRIS Mode the IB-Control II display shows all the activated items of the selected transmission channel, in the middle part of the display.



9.2.2 Selecting the Transmission Channel

If the [menu]-key is pressed in IRIS Mode the selection menu appears for selecting the desired transmission channel.



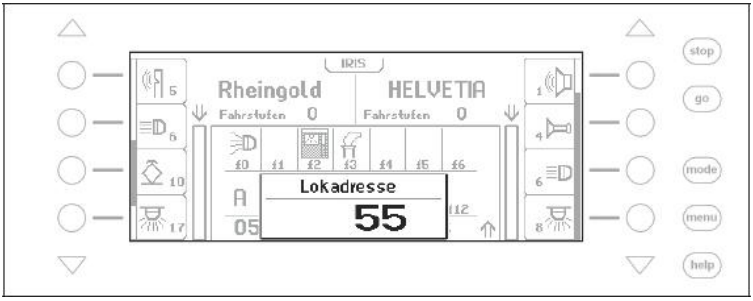
The 1, 2, 3, 4 and 0 keys from the numeric key block can also be used for selecting the IRIS channel to monitor. Where:

Key 1 = Channel A
Key 2 = Channel B
Key 3 = Channel C
Key 4 = Channel D
Key 0 = all channels are monitored

9.2.3 The Displays

Locomotive address

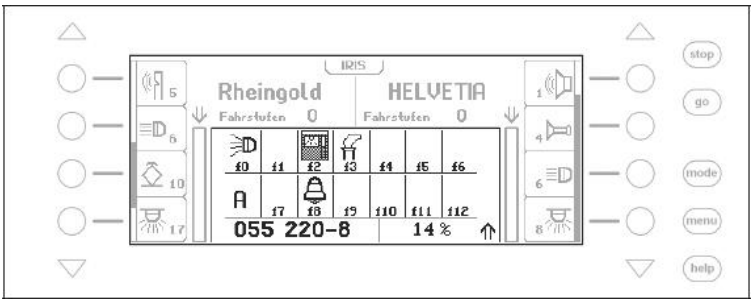
If Ⓜ-key is pressed on the remote control, the IB-Control II shows the locomotive address of the current locomotive of the current transmission channel, in the middle of the display. The data about locomotives controlled by both throttles of the IB-Control II continue to be displayed.



If digits are entered on the remote control in order to change the locomotive the entries can be monitored in the display.

Speed, Direction and Special functions

If the locomotive speed or direction is changed it is shown in the IB-Control II display:

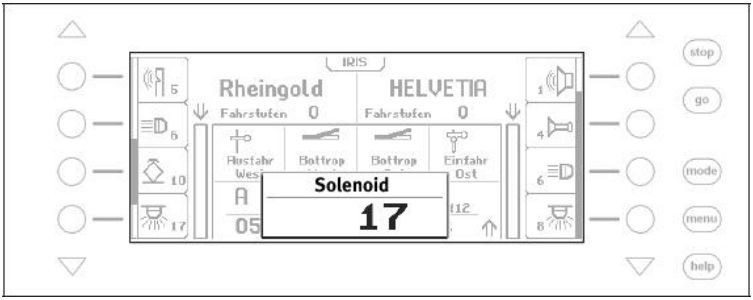


The display shows the locomotive name or if no name is available the locomotive address, and the present speed in percent of the maximum, and the actual direction and state of the special functions f0-f12, of the currently controlled locomotive.

If a special function is switched by the remote control the display shows the symbol for the special function if it is switched on and an empty field when it is switched off.

Turnout Addresses

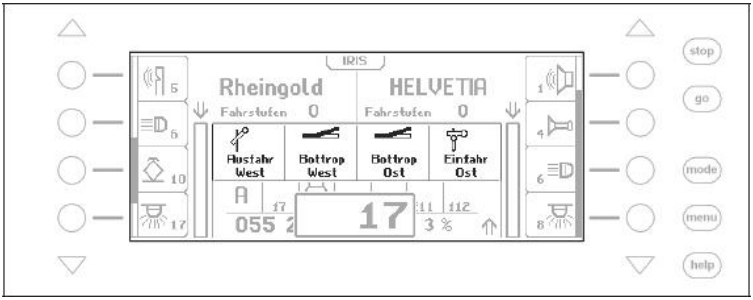
If the -key is pressed on the remote control, the valid turnout address of the left most key pair is shown.



If the turnout address is changed on the remote control the corresponding entries can be seen in the display.

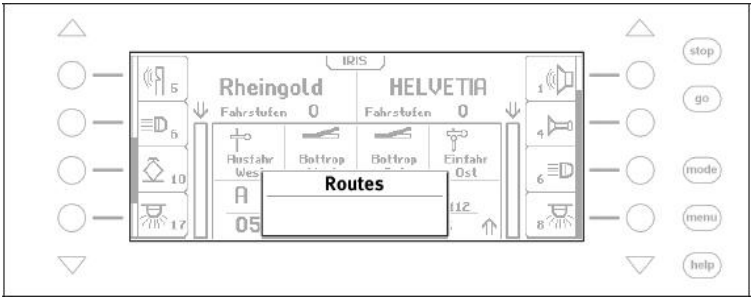
Turnout Status

If a solenoid is switched by remote control the display, for a short time the display shows the status of all four solenoids that currently are controlled by the remote control:



Route addresses

If the -key is pressed on the remote control it is shown on the display:



If subsequently the digits for a route address are entered they can be monitored on the display.

If the entry is complete and the ⊘-key is pressed again the route is switched and the route number disappears after a short time.

NOTE: *Routes are activated by feedback addresses and not by their route number (1-80). Routes which are to be activated from an IRIS must have their feedback address defined with the "occupied" status, since the IRIS and LocoNet IR Modules can only send feedback messages with "occupied" status to activate routes.*

10. Model Time Clock

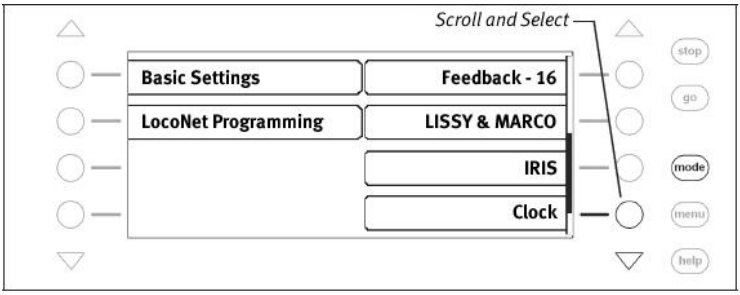
11.1 Description

The IB-Control II has a model time clock which can be displayed in the middle part of the display. It displays the time and weekday. The Model time can be accelerated relative to real time by a factor of 1 to 127.

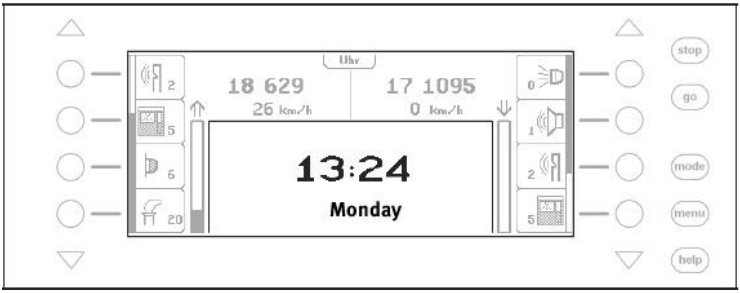
A number of clocks can be connected to the LocoNet and synchronised by a network Synch pulse. For this operating mode the IB-Control II Model clock generates a Master clock to synchronise all other clocks. This way the IB-Control II can synchronise the internal clocks in the Display 63450, IntelliLight 28000 and in the SoundDircetor 38000.

10.2 Selecting the Clock Mode

The Model Clock is selected by pressing the [mode]-key. The Main Menu from which Model Clock is selected will be shown.



The display changes to match the selected mode.



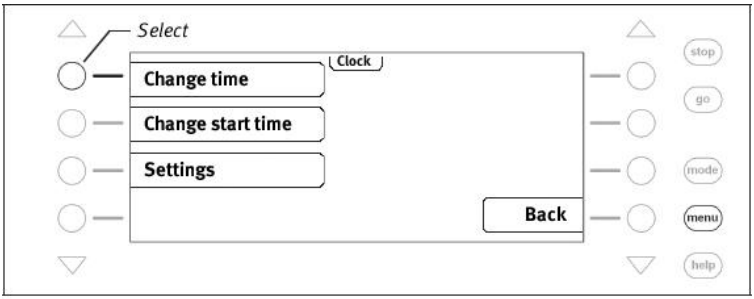
10.3 Clock Settings

To set the model clock the [menu]-key must be pressed. The following settings can be carried out when the Clock Menu appears:

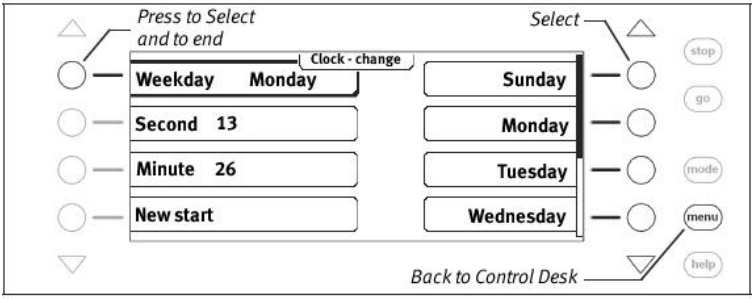
- Time and Weekday
- Time and Weekday when the IB-Control II powers on
- Time acceleration and synchronisation of other clocks (Special Settings)

Procedure:

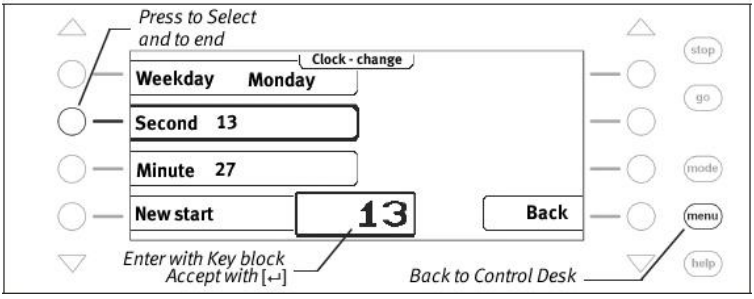
Step 1



Step 2



Step 3



10.3.1 Special Settings

The special settings of the Model Time clock are done under the “Settings” submenu.

Acceleration factor

Here an acceleration factor relative to real time can be specified for the model. A reduction of 1:1 corresponds to real time. A reduction of 1:60 means that in one second of model time one minute has passed (60 seconds). Values between 1 and 127 are possible

Synchronization

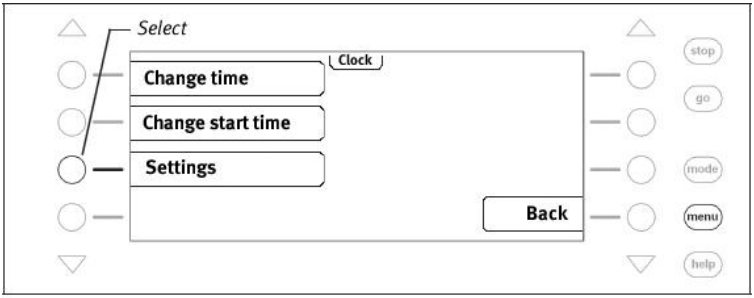
Here the Synchronisation of other model time clocks that are connected to the LocoNet can be switched on and off.

All Synch.Pulse

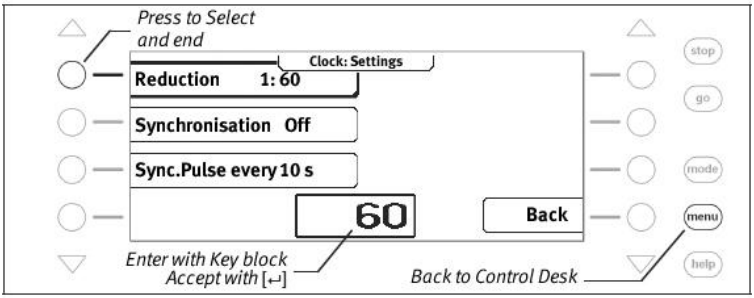
This specifies at what interval a synchronization pulse is to be sent to the model clocks attached to the IB-Control II. Values are permissible between 1 and 127 seconds.

Changing Special Settings

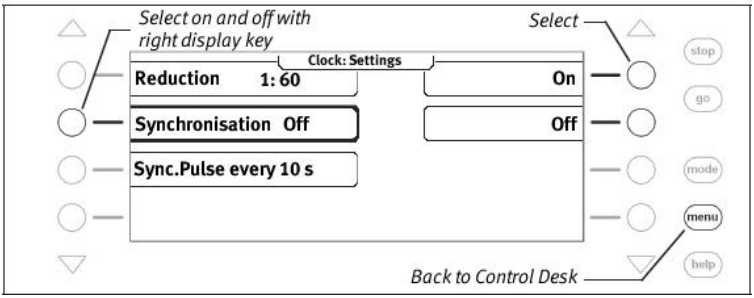
Step 1



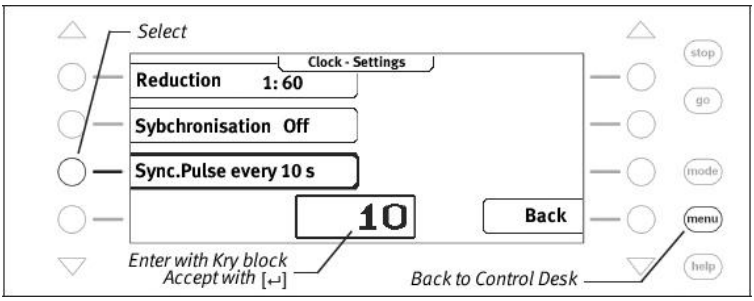
Step 2



Step 3



Step 4


Select
Clock - Settings
Reduction 1: 60
Sybchronisation Off
Sync.Pulse every 10 s
10
Back
stop
go
mode
menu
help
Enter with Kry block
Accept with [↵]
Back to Control Desk

11. LocoNet Programming

The IB-Control II Main Menu has a submenu for programming Uhlenbrock LocoNet modules such as feedback modules or Switch-Control.

The modules are programmed with LocoNet configuration variables (LNCVs for short). These LNCVs determine the settings and function of the module and can have different purposes in different modules.

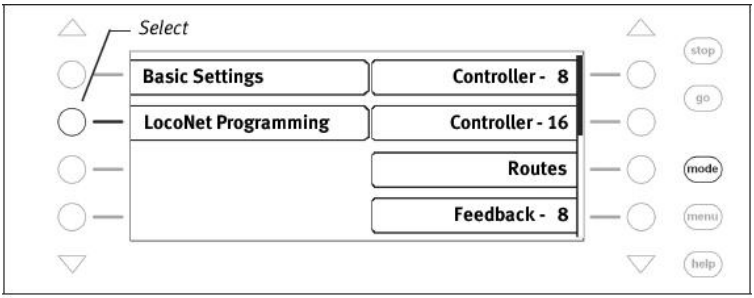
The description of the individual LNCVs and connection of the modules are outlined in the respective manuals.

If a number of the same types of module are used on a model railway layout they need a module address for programming, so that the center knows the module being referred to.

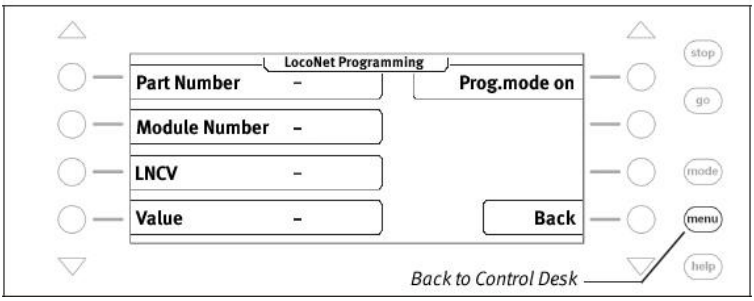
Every new module has a default address assigned to it. This can be obtained in the respective manual. The module address for every module is found in LNCV 0.

To program a LocoNet module, firstly connect it to the LocoNet. Then press the IB-Control II [mode]-key. The following appears:

Step 1

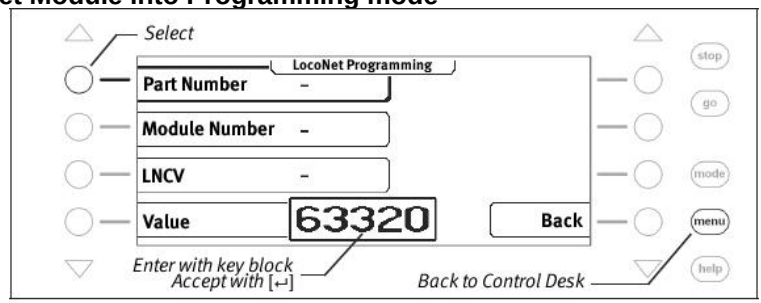


Step 2

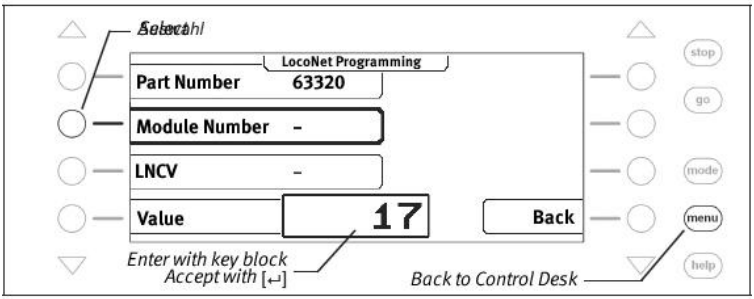


Placing a LocoNet Module into Programming mode

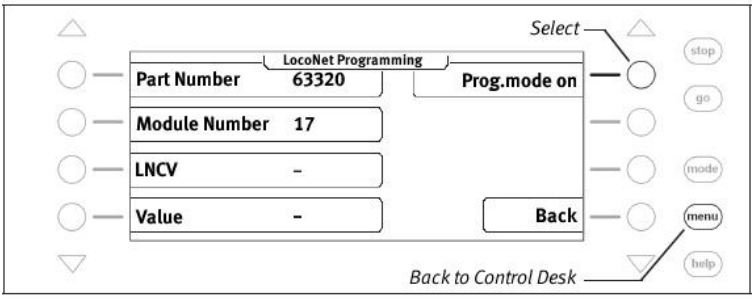
Step 3



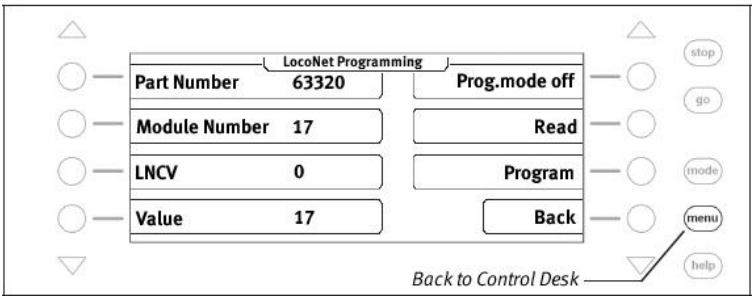
Step 4



Step 5

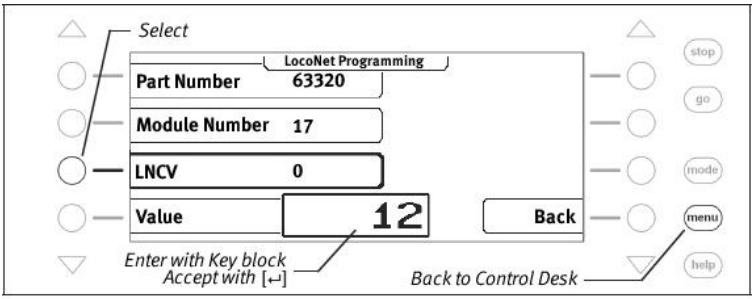


Step 6

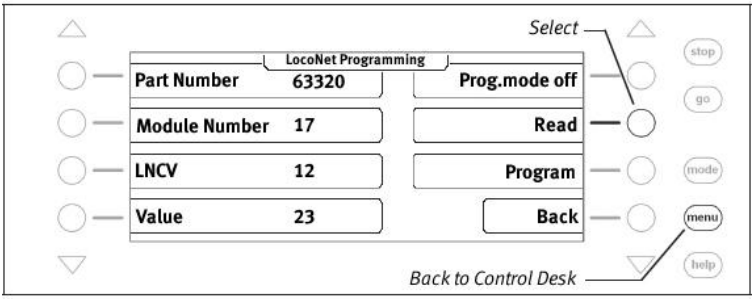


Read an LNCV

Step 1

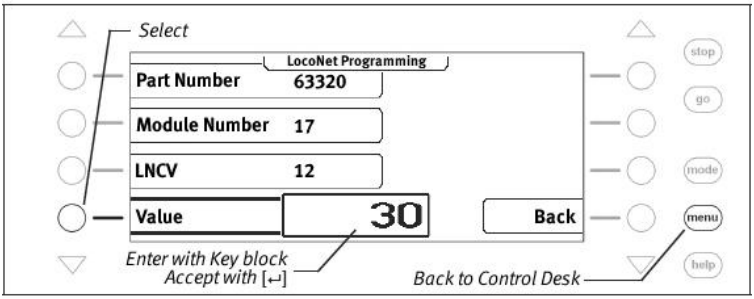


Step 2

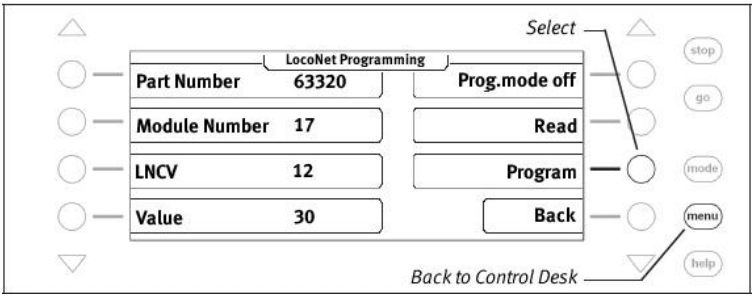


Program an LNCV

Step 1

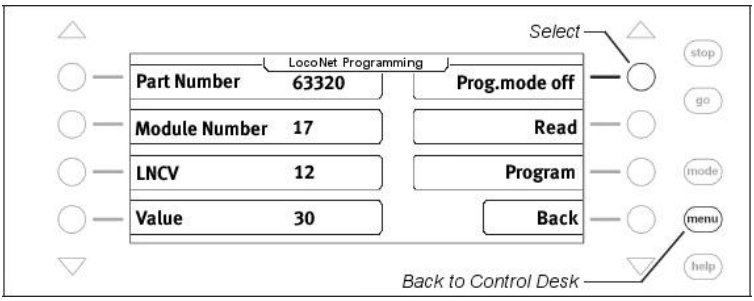


Step 2



Return the Module to Operating Mode

Step 3



12. Software Update

The IB-Control II system software can be updated anytime via the in-built computer interface

Note: *The device does not have to be opened!*

NOTE!

Before the IB-Control II is connected to the PC the driver software for the interface must be installed. Otherwise the PC system may malfunction.

To install the driver software read the Pdf file “USB-driver.pdf” in the Installation CD.

Preparing the Hardware

- Supply the IB-Control II with power from a transformer.
- Connect the IB-Control II computer interface with the computer’s USB socket.
- Disconnect IB-Control II from the layout LocoNet.

Preparing the Software

The software update is available with the new software either from your dealer or you can download the files from the internet www.uhlenbrock.de

Method

- Switch the IB-Control II off for 5 seconds and back on again.
- Start the program “IB II Winupdate.exe” and follow the instruction on the screen.

Controlling the Software Version

Under “Software-Version” Menu in the Basic Settings you will find the new version number of the system software.

Procedure:

- *Press the [mode]-key*
- *Selection key “Basic Settings”*
- *Scroll to “Software Version” entry with the scroll key*
- *Selection key “Software Version”*
- *This displays the Version number of the system software and the IB-Control II serial number*
- *Pressing the [menu]-key to return to the Control Desk*

Appendix

List of Special options

Special Option No. 872

StartUp-Time

The time determines when the IB-Control II starts when the power is switched on. Since it does a data exchange with the digital center this special option should be set to a value suited to the center used. If a number of IB-Control II are used with a center then the StartUp times should be staggered gradually.

Sensible values are (max. 255):

Center	first IB-Control II	second IB-Control II	third IB-Control II
Intellibox I / TC	35	55	75
Intellibox II / SC7	75	95	115
Intellibox Basic	65	85	105
IB-COM	55	75	95

Special Option No. 874

Pause at the zero position for DC controller in steps of 10ms.
Factory setting = 50 (0.5 s)

Special Option No. 877

Selection time for a character input while entering a name, in 10ms steps.
Factory default = 100 (1s), max. 255 (2.55s)

Uhlenbrock digital

Our contact details for you:

When you have questions we are here for you!

Internet: FAQ's can be found on www.uhlenbrock.de

E-Mail: service@uhlenbrock.de

Hotline: +49 (0)2045 8583-27, Wed from 16:00 to 18:00 and

Mon - Tue - Wed - Fri from 14:00 to 16:00

Premium- **+49 (0)900 1858327 When it is urgent ...**

Hotline: Mon. - Fri. 10:00 – 16:00
costs (98cent/min for fixed network, mobile is substantially more expensive)

Service: In the event of a defect please send the device to us with proof of purchase and a short description of the fault.
Before you call us please have the following handy for your call: Serial Number of your IB-Control II, Version number of the IB-Control II system software System and this manual.

Our catalogue is available for 3.50 Euro from your dealer or direct from us by sending 5.00 Euro in stamps.

All our Products have a two year warrantee.

We reserve the right to change this manual at any time

Authors: Dr.-Ing. T. Vaupel, D. Richter

Translated by Wolfram Steinke

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