*The firmware:* This submenu displays the current version of firmware used by the Controller, the SmartBox, and the SD card

If the firmware version on the SD card is more recent (has a higher number) than the throttle and/or the command station, then both the Controller and SmartBox can be updated to match the SD card by selecting the "Update" box for either component. You can search for the latest firmware and load it into the system by using "Station Mode", provided your system has an internet connection. You can also download firmware updates to a PC by going to the PIKO Webshop and saving them on the SD card and then inserting the SD card into the SmartBox.

The image database: This submenu shows the system's image database as well as the database currently available on the SD card.
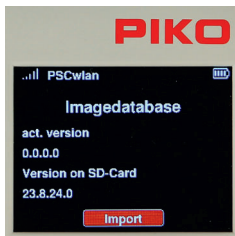
If the database on the SD card is newer than that of your system, then the newer database can be downloaded via the "Import" command.

Search online: This menu lets you search online for firmware updates. To search online, the command station's Wi-Fi setting must be set to Station Mode. (see Settings menu 8 "SmartBox settings", -> Wi-Fi settings).

If you begin an online search without activating Station Mode, a message will appear on the display saying "SmartBox not in StationMode".

If your update is successful, a message will appear saying "Updates are being downloaded". The updates will be saved to the SD card and displayed in the "Firmware" menu, where they can be installed.
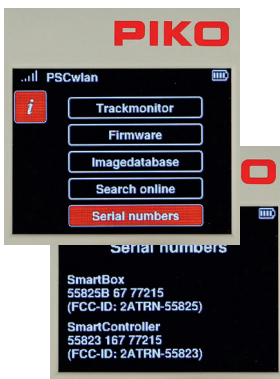
The serial numbers: This submenu shows the serial numbers of the **PIKO SmartBox**$_{wlan}$ (55825B) and the **PIKO SmartController**$_{wlan}$ (55823). This information is useful for service purposes.

3.8.8 Settings menu of the SmartBox (command station)

To set parameters for the SmartBox, press button 8 while in the Settings menu or navigate to this field and activate it with the OK button.

The first menu option deals with the general settings of the SmartBox. Highlight it (if it is not already highlighted) and confirm your choice by pressing the OK button. This will take you to it's submenu.

The submenu contains settings for the Main track connection port, assign-ment options for the three SmartBox buttons, SD card settings, and in the case of a StartSet SmartBox, the option to enter an activation code to upgrade to the full version.

The track settings:
This submenu lets you set the maximum output current to the main track. It is set in 10mA increments up to two full Amps (value 200), in the first field.

To set the output current, first highlight the field using the "up" or "down" navigation buttons and the confirm with the OK button. Entered the desired value using the keypad. The maximum number is 200. Incorrect entries cannot be deleted, they can only be overwritten.

In order to activate the CutOut feature (blank interval in the DCC signal) required for RailCom® appli-cations, navigate to the "RailCom" line and confirm it with the OK button (green field). Pressing the OK button again switches the field off.

If you want RailCom Plus®-enabled rolling stock to be registered automatically, the "RailCom+ registra-tion" field must be turned back on, i.e. green.

Since RailCom Plus® registration must assign new decoder addresses (if necessary), the first address can be entered under "Adr Offset" from which all new addresses will be assigned in ascending order.

The "Standard DCC" field lets you set the number of DCC speed steps (14, 28, 128) that the command center will automatically assign to new locomotives. Pressing the OK button scrolls one entry forward.

Once all the settings are complete, highlight the "Save" field and save your settings with the OK button.

TIP: By saving, you can easily have the SmartBox send a new RC+ SessionID. If an RC+-capable vehicle has not registered directly, or RC+ has been switched off here, it will now be prompted to do so again.

To exit the menu, press the "back" button.

The key settings:
This menu allows you assign functions to the three SmartBox accessory buttons.

You can choose between three functions for buttons I and II.

1. Main track on (send power to the main track)
2. FastConnect (quick connection with a SmartController)
3. No function

The Stop button has two options:

1. Power off (power to the main track must be switched on again using another button or a Controller)
2. Power off / on (power to the main track can be switched off and on again using this button)

To set the desired function of a button, first navigate to the corresponding button and select it with the OK button.

Then, highlight the desired function for the button in the settings menu. Finally, confirm your choice with the OK button.
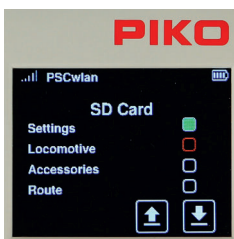
You may exit the menu using the "back" button.

The SD card settings:
This submenu lets you manage some of the SD card's data.

Each field is used to specify which data should be saved or read, both for writing to the SD card and for reading from the SD card.

To do this, navigate to the desired field and activate it (solid green field) or deactivate it with the OK button.

Settings: This field deals with the SmartBox settings.

Locomotive: This field deals with all available locomotive data sets.

Accessory items: This field deals with all available records of accessory items.

Route: This field deals with all available data records of routes.

Each of the desired SD card options can be highlighted using the OK button. The "up" arrow lets you read the SD card setting while the "down" arrow lets you write settings to the SD card.

The SD card's yellow LED flickers while reading or writing.

This menu can be exited using the "back" button.

The activation code inputs:

This field is only activated if the connected SmartBox comes from a digital StartSet. If the SmartBox does not come from a StartSet, this field will be grayed out and cannot be selected.

If the SmartBox comes from a digital starter set, then "55825A" will be displayed in the start screen of the Controller along with a text stating "Start-Set".

This SmartBox can be upgraded to a full-fledged version via a paid upgrade. This upgrade can be purchased from PIKO dealers or the PIKO web shop. An activation code will be generated after the purchase that is entered into the fields of this menu using the "telephone keypad" and then saved using the "Save" field. If the SmartBox and Controller are restarted, the full range of functions becomes available.

This menu can be exited using the "back" button.

This concludes the general setting options of the SmartBox. You can now switch back to the SmartBox settings menu using the "back" button.

The Wi-Fi settings:

The next menu in the SmartBox settings lets you chose the desired Wi-Fi settings for your SmartBox.

To get to this menu, select "Wi-Fi settings" and confirm it with the OK button.

The Wi-Fi settings submenu is available for selection in this window.

"Max. Wi-Fi signal transmission power"

"AccessPoint mode" (the SmartBox creates its own Wi-Fi network)

"Station mode" (the SmartBox is integrated into an existing Wi-Fi home network)

Just like the controller setting, the "max. Wi-Fi signal transmission power" can be set here in a range from 0 (low) to 10 (maximum).

By finally saving via the "Save" field, the entered value is saved and you switch directly back to the WLAN settings menu.

In order to set up the system's self-contained Wi-Fi network, the "AccessPoint mode" needs be activated. This is the factory default setting. The necessary settings can be entered in the next submenu, which can be selected by highlighting it followed by pressing the OK button.

By highlighting the "AccessPoint-Mode" field and then pressing the OK button, the corresponding field can be activated (green field) or deactivated.

The next line lets you enter or change the name of this Wi-Fi network by using the "telephone keypad" method you are already familiar with.

The line with the "Wi-Fi / lock" symbol can be selected here to enter the Wi-Fi password. The subsequent "OK" button will open the input field, where the password you type in will automatically appear in the field as a series of hyphens. If you want to leave this input field without making any changes, first delete the hyphen with the "left" navigation key and only then leave this field by using the "back" key. If, on the other hand, a password of at least 8 characters needs to be assigned, it can be entered using the "telephone keypad" followed by confirmation with the OK button.

The factory password is "abcd1234".

Once all required entries have been made, they are saved by selecting the "Save" symbol and entering the four-digit PIN followed by the OK button.

If you want to integrate the SmartBox into an existing Wi-Fi home network (to check for online updates), then Station Mode must be activated.

This is found in the Wi-Fi settings menu and confirmed by pressing the OK button.

In the following window, the required entries can be made using the same procedure as "AccessPoint mode", where the name of the desired Wi-Fi network and its password must be entered here.

If these settings were saved using the "Save" icon and the SmartBox was then restarted, it is now integrated into the Wi-Fi network.

This menu can be exited using the "back" button.

System response to a lost connection:

The next menu in the SmartBox settings lets you decide how your SmartBox will respond to a loss of connection with one or more SmartControllers.

To access this menu, navigate to the "Behavior if the connection is lost" field and select it with the OK button.

Once on the menu, select the desired fields using the "up" or "down" navigation keys and highlight the desired field (field will turn solid green), or deactivate it with the OK Button.

If a throttle loses its connection during train operation and the field in the "Stop locomotives" line is activated (solid green field), all trains on the layout are stopped. If this selection was not made and there is another throttle connected to the command station, then nothing will happen.

The next options are used to specify whether only the track itself should be shut off or whether the SmartBox (track and Wi-Fi) should be shut off if the last Controller loses its connection to the command station. In the later case, the SmartBox can be reactivated using its I button. If none of the options are selected here, the whole system will remain in operation even if no Controller is connected to the command station (This is useful for a shop window layout).

Once the desired entries have been made, they are saved by selecting the "Save" symbol and the menu can be exited with the "Back" button.

Pressing the "back" button again returns you to the main menu.

3.8.9 Limiting access to individual controller menus (child safety lock)

To secure individual areas of the Controller from unauthorized access, these areas can be locked in such a way that they can only be accessed by entering a four-digit PIN.

To do this, press key 9 on the keypad while in the settings menu, or navigate to this field and activate the menu with the OK button.

In the following display, the areas that should be limited-access can be selected using the navigation keys and then locked or opened with the OK button.

A small lock symbol will now appear in the respective field.

Once all the areas to be locked have been selected, you exit this window by using the "back" button and then entering the four-digit PIN followed by the OK button.

In the main menu, the locked areas are now displayed with the small lock symbol.

If a locked area is selected during operation, the PIN for operating this area must be entered and confirmed with the OK button. This locked area can be operated until it is exited. To call it up again, you will need to enter the PIN.

4. RailCom Plus®

The **PIKO SmartControl**_wlan_ is RailCom Plus® compatible,which lets RailComPlus decoder-equipped rolling stock to automatically register with the system when they are first placed on the track (Programming track or Main track). Their names, function symbols, and images load automatically into the system without the need of programming. Depending on the model and decoder type, an original PIKO image, a RailCom®-generated image, or the RailCom® question mark will be displayed on screen. Any image from the PIKO image database can be entered later in the editing mode.

If the decoder's address already exists in the system, a message will appear on the display saying "Locomotive address already assigned. New address". The **PIKO SmartControl**_wlan_ will automatically assign a new decoder address, which is then programmed directly into the decoder. The number from which these new addresses will be assigned (address offset) can be set in the Settings menu (see Chapter 3.8.8 "Settings menu of the SmartBox (command station") - the track settings).
The factory-set address offset number is 1000.

"RailCom" and "RailCom Plus" can be activated or deactivated in this menu.

If a RailCom Plus®- equipped piece of rolling stock does not registered automatically, then see the "tip" in chapter 3.8.8.

NOTE: If a PIKO SmartDecoder 4.1 (firmware version, with CV7 set between 28 and 35) was entered into this command station and was deleted again, you will need to reset the decoder by programming CV8 to a value of 1.
This allows the decoder to register via RailCom Plus®.
Then program CV96 to a value of 1 to reactivate extended function mapping.

5. Technical data

a. PIKO SmartBox~wlan~ (Command Station 55825)

- Voltage supply: plug-in power supply - input: 100-240 V 50 Hz, output: DC 16 V / 2,25 A
- Max. load main track output: 2 A
- max. load programming track output: 250 mA
- WLAN: 2.4 GHz – 2.483 GHz range, maximum transmission power: 100 mW
- Dimensions: 144 x 96 x 30mm - 7" x 3.8" x 1.2" inches

b. PIKO SmartController~wlan~ (hand held throttle 55823)

- High-resolution 40x30mm (1.6"x1.2") TFT display
- WLAN: 2.4 GHz – 2.483 GHz range, maximum transmission power: 100 mW
- Battery: Lithium Ion 3.7V / 1400mAh
- Dimensions: 189 x 79 x 37mm - 7.4" x 3.1" x 1.5" inches

EU Declaration of Conformity

PIKO Spielwaren GmbH hereby declares that this product complies with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address: https://www.piko.de/konformant

FCC Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement 55823 **PIKO SmartController**~wlan~

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels. The highest SAR value for the device as reported to the FCC is 0.68 W/kg when placed next to the body or on hand with a minimum of 0 mm separation from the body.

FCC Radiation Exposure Statement 55825 **PIKO SmartBox**~wlan~
This equipment complied with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

6. safety warnings

- Read and follow the instructions carefully before use
- Always treat your **PIKO SmartController**_{wlan} with care! The device contains sensitive electronics, so take care to protect it from vibration or impact.
- This device is not a toy and is not suitable for children under the age of 14! It can be operated by children under competent adult supervision.
- Never insert the connection cable into a socket!
- Regularly inspect the power cord for any damage. If any damage is found, do not use it until it is repaired!
- In the event of a power outage, the track voltage is switched off automatically. You can resume operation by pressing the "STOP" button.
- Only connect accessories intended for this device.
- Only put the **PIKO SmartControl**_{wlan} system into operation if you are absolutely sure that there are no short circuits or wiring errors.
- Clean the device regularly and protect it from accumulating excessive dust.
- Protect the device from moisture and humidity.
- Only intended for use in closed rooms, no outdoor use!
- Unauthorized manipulation of the hardware or software will void the warranty.
- Keep this manual in a safe and handy place.

7. FAQs

At this point we would like to refer you to the FAQ page on our website. You can find it in the PIKO web shop at www.piko-shop.de/?a=faq. There you will find the latest information on using the **PIKO Smart-Controller**_{wlan} system as well as detailed video tutorials. If you get stuck, you will also find a contact form at the bottom of the website.

8. Technische Hotline

For technical questions about PIKO products, you can reach us on our technical hotline at

+49 3675 8972 55

Tuesdays from 4 p.m. to 6 p.m (Germany time)

Thursdays from 4 p.m. to 6 p.m (Germany time)

You can also send us a fax at +49 3675 8972 50
or send an email at hotline@piko.de.

Or write us a letter:
PIKO Toys Ltd
Lutherstrasse 30
96515 Sonneberg
Germany

PIKO model trains –

for every layout!

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