

RABe 523 Electric Multiple Unit



1 THE RABE 523 ELECTRIC MULTIPLE UNIT.....	2
1.1 Overview	2
1.2 Design & Specification	2
1.3 Driving the RABe 523 EMU	2
2 CABIN CONTROLS	3
2.1 Additional Keyboard Controls	3
2.2 Integra Signum Safety System	5
2.3 Zub Safety System	5
2.4 V-Controller Lever and Speedometer Indicator	6
2.5 Windscreen Wipers Control	6
3 ROUTE DISPLAY SYSTEM	7
3.1 Route Display System Codes	8
3.2 Vehicle Numbering	9
4 OTHER INFORMATION.....	10
5 ACKNOWLEDGEMENTS	11

1 The RABe 523 Electric Multiple Unit

1.1 Overview

The SBB RABe523 is an electric multiple unit of the Stadler Flirt range, built by Stadler Rail. These trains are used for regional and local passenger services.

The FLIRT (Flinker Leichter Innovativer Regional-Triebzug) is designed with a low floor section for accessibility and is equipped with air suspension. The FLIRT trainsets are known for their fast acceleration, high braking power and low weight. The ends of the carriages rest on Jacobs bogies. The RABe 523 trainsets are 4 car units and have 20 first class seats and 161 second class seats.

1.2 Design & Specification

Introduced	2004
Number Range	523 001 – 523 077
Wheel Arrangement	Bo' 2' 2' 2' Bo'
Weight	120 tonnes
Length	74m
Power	2,000kW
Max Speed	160km/h

1.3 Driving the RABe 523 EMU

Learning to drive the train takes a little time to learn. To introduce you to the key driving elements we have provided a tutorial scenario to teach you the basic operations. We strongly suggest you complete this tutorial scenario before trying any of the other scenarios.

The tutorial scenario can be found in the Career tab of the Drive menu in Train Simulator and is called [RABe 523 SBB] Train Tutorial.

2 Cabin Controls

Refer to the illustrations on page 4

1	Train Brake	18	Instrument Dimmer Switch
2	Reverser	19	Train Doors Indicators
3	Combined Throttle and Dynamic Brake	20	Speedometer (Km/h)
4	V-Controller (cruise control speed set)	21	Brake Cylinder Pressure Needle
5	V-Controller Speed Indicator	22	Brake Pipe Pressure Needle
6	Headlight Controls	23	Main Reservoir Pressure Needle
7	Pantograph Lever (raise/lower pantograph)	24	Air Brake Indicator
8	Windscreen Wipers Switch	25	Handbrake Control Buttons
9	Safety System Acknowledge Switch and Indicator	26	Sander Button
10	Horn	27	Wheel Slip Indicator Lamp
11	Cab Light Switch	28	Vigilance System Indicator (system off by default, press SHIFT + keypad ENTER to toggle on and off)
12	Parking Brake Indicator Lamp	29	Wing Mirror Open/Close Foot Control
13	Traction and Dynamic Braking Effort Indicator	30	Route Display
14	Catenary Voltage Indicator	31	Route Forward/Back Selector Buttons
15	Halt Request Indicator	32	Route Entry Numeric Keypad
16	Zub Warning System Display	33	Route Entry Confirm/Cancel Buttons
17	Vigilance Reset Pedal	34	Opening Windows

2.1 Additional Keyboard Controls

L – Toggle Cab Light On / Off	Y – Increase V-Controller Speed
I – Increase Instrument Lights	C – Decrease V-Controller Speed
SHIFT+I – Decrease Instrument Lights	V – Increase Wiper Switch Position
Q – Integra Safety System Acknowledge	SHIFT+V – Decrease Wiper Switch Position
N – Open/Close Wing Mirrors	SPACE BAR – Horn Low Tone
F – Free Zub Safety System	B – Horn High Tone



Refer to controls list on page 3

2.2 Integra Signum Safety System



You are alerted by the Integra safety system when you pass a distant signal (Vorsignal) that is displaying a warning. The safety system acknowledge lamp will illuminate yellow accompanied by an audio tone. You must turn the acknowledge switch immediately to the right otherwise the emergency brakes will be applied automatically. Once pressed there will be six further lamp flashes and two audio beeps to remind you that you are driving under a distant signal caution. An Integra safety system alert will also be activated when you pass a main signal (Hauptsignal) displaying Aspect 6 (Short Journey – Expect Obstruction).

2.3 Zub Safety System



You are alerted by the Zub safety system when you pass a distant signal (Vorsignal) that is displaying a warning. The Zub display will show the target speed in km/h that you must achieve before reaching the next main signal where the target speed restriction will begin. If the distant signal is warning of a danger (stop) signal ahead then the target speed will be zero and the display will show "0".

After passing a main signal at the required target speed the Zub display will be updated to show "8888" accompanied by two audio tones. This denotes that the speed is now being monitored.

When passing signals displaying a clear aspect the Zub display will be updated to show "----" to denote the line ahead is clear. This will again be accompanied by two audio tones.

2.4 V-Controller Lever and Speedometer Indicator



The RABe 523 is equipped with automatic speed control. The desired maximum speed for the line ahead should be selected using the V-Controller Lever and this will be indicated by the moving V-Controller Speed Indicator on the Speedometer. Speed selection can be made in 5 km/h increments from 5 to 160 km/h. Changes to the selected speed can also be made using the “Y” and “C” keys on the keyboard.

This system makes use of the power provided by the driver's throttle selection and cannot exceed this level. The driver must gradually increase the throttle when starting to move the train.

2.5 Windscreen Wipers Control



The windscreen wipers switch has four positions. Off, Intermittent, Slow and Fast. On the keyboard use key “V” to increase and both keys SHIFT and ”V” together to decrease the current setting.

3 Route Display System



The RABe 523 in Train Simulator comes equipped with a sophisticated destination system that allows you, as the train driver, to manually update and change the route displayed on the vehicle display boards.



The display boards are controlled via this interface. There are 14 keys the driver can interact with to input a route.

Keys 0-9 are used to enter a 3-digit destination numeric code that corresponds to the route you wish to display throughout the train. A list of valid codes is provided in the section below.

After entering a 3-digit code, you can either press the “E.” (enter) key to confirm your code or press the back arrow key to clear your entry, allowing you to correct or enter a new code.

There are also next (Weiter) and previous (Zurück) keys that allow you to cycle through all available routes without entering codes.

3.1 Route Display System Codes

	Route	Destination Numeric Code		D (Destination Letter)
RE	Luzern	201		A
RE	Arth-Goldau	202		B
RE	Brunnen	203		C
RE	Erstfeld	204		D
RE	Göschenen	205		E
RE	Airolo	206		F
RE	Biasca	207		G
RE	Bellinzona	208		H
RE	Milano	209		I
RE	Lugano	210		J
RE	Chiasso	211		K
S20	Locarno	212		L
S20	Giubiasco	213		M
S20	Bellinzona	214		N
S20	Castione-Arbedo	215		O
S20	Biasca	216		P
S20	Airolo	217		Q
S10	Bellinzona	218		R
S10	Lugano	219		S
S10	Chiasso	220		T
S8	Schaffhausen	221		U
S8	Kreuzlingen	222		V
S8	Romanshorn	223		W
S8	St.Gallen	224		X
S11	Wil	225		Y
S11	St.Gallen	226		Z
S1	Baar	227		a
S1	Luzern	228		b
S2	Erstfeld	229		c
S2	Zug	230		d
S2	Brunnen	231		e
S2	Arth-Goldau	232		f
S3	Brunnen	233		g
S3	Luzern	234		h
S18	Luzern	235		i
S18	Sursee	236		j
S8	Olten	237		k
S8	Sursee	238		l
	Nicht Einsteigen	239		m
	Blank Display	240		n
	Unloaded			u

3.2 Vehicle Numbering

If you wish to make use of the RABe 523 in your own scenarios, it is possible to customise the destination displays for both AI and player services.

In order to pre-configure a specific destination, the correct running number must be entered into the vehicle properties window. This number consists of a 9-digit value containing both numbers and a letter.

The 9-digit value is arranged like so: **VVVVVVUD**

VVVVVVV	= the Multiple Unit number
U	= identifies the coach type and must be set correctly for each coach in order for the train to function as intended
1	= ABt First Class Driving Coach
2	= Bt Second Class Driving Coach
3	= B Centre Coach (with pantograph)
4	= B Centre Coach
D	= the Destination Display (the destination letter as shown in column D above)

Use “**u**” to configure any coach as unloaded, which will remove passengers from the interior. This is useful for coaches that are placed in sidings that are not in service.

The code used to configure the ABt driving coach in the image above for an “RE Erstfeld” service, would be: 52307301D (*where “D” is for RE Erstfeld*)

4 Other Information

This document is provided as a guide to Rivet Games' RABe 523 add-on for Train Simulator, a product provided for entertainment purposes.

There is more information on this product at www.rivet-games.com along with links to detailed reference material.

If you do notice errors in this document, please let us know at support@rivet-games.com.

Please give feedback on the Rivet Games forums: forums.rivet-games.com.

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5 Acknowledgements

We would like to thank SBB for their assistance in developing this product and for permission to use their branding.

We also wish to thank the Dovetail Games third party partner team and beta testers for their help and support.