MRCE ES64U2

ELECTRIC LOCOMOTIVE

Release Version 1.0

1 Background

1.1 ES64 U2

The Siemens ES64U2 is an electric locomotive from the second generation of the Euro-Sprinter family. It uses the alternating current systems standard in Europe, and is currently one of the most modern and highest performance locomotives for European passenger and freight operations.

It is in service in Austria with ÖBB as Class 1016. The ÖBB assigned the protected name Taurus to Class 1016 (and later to the Classes 1116 and 1216); since then all ES 64 U+ series are widely known in as 'Taurus' locos.
The ES 64 U2 can also operate on 25 kV 50 Hz AC. It is operated by ÖBB as Class 1116, by Deutsche Bahn AG as Class 182 and as a hire locomotive from Dispolok.

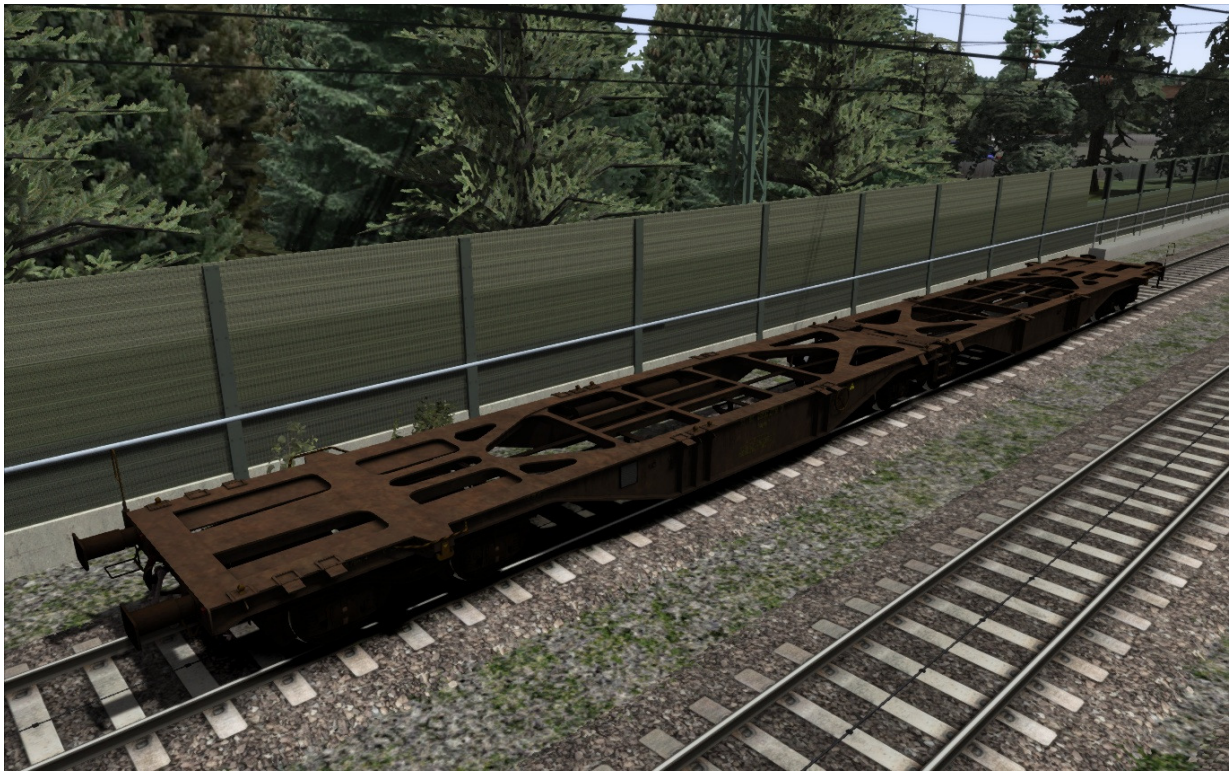
1.2 Design & Specification

Unit Weight	86 tonnes
Vehicle Length	63ft 3in (19.28m)
Vehicle Width	9ft 10in (3.00m)
Power Collection	AC 25kV Overhead Electric via Pantograph
Vehicle Power	6400 kW
Design Speed	230km/h
Build Date	2000-2004

2 Rolling Stock

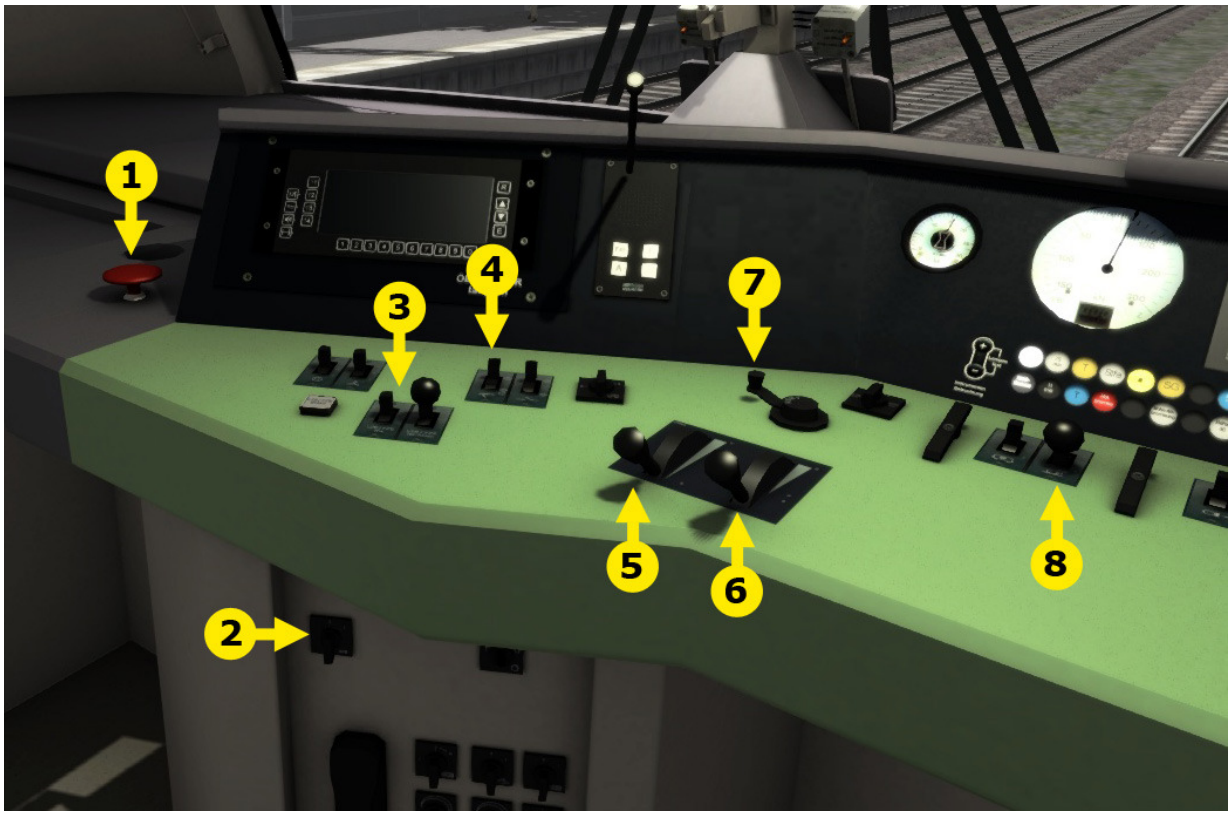
2.1 MRCE ES64 U2

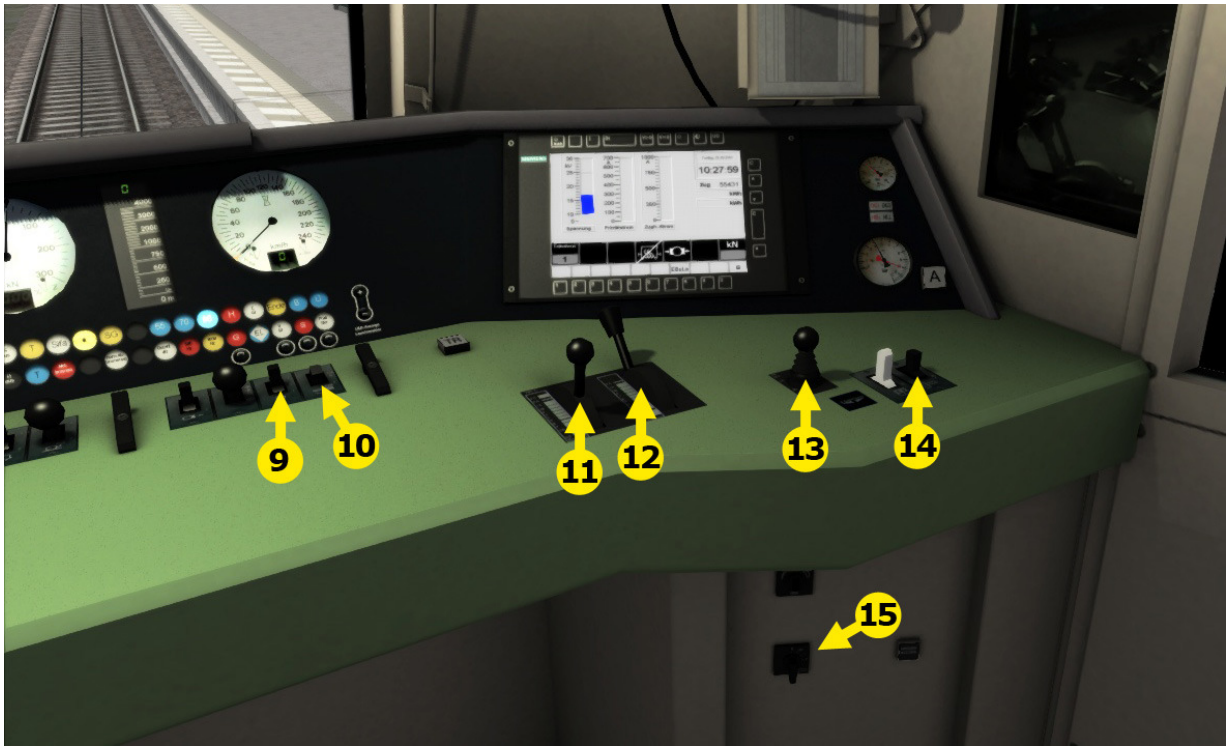
2.2 SGGRSS Wagon



3 Driving the ES64 U2

3.1 Cab Controls





Main console	
1	Emergency Brake
2	AFB switch
3	PZB
4	Pantograph
5	AFB Speed
6	Throttle
7	Direction Control
8	Sander
9	Headlights
10	Cab and Timetable Lights (L/Shift+L)
11	Train Brake
12	Dynamic Brake
13	Locomotive Brake
14	Horn Tone
15	Wipers

3.2 AFB Speed Control

The AFB function is similar to the cruise-control function in a road vehicle where a required speed is set by the driver and the vehicle will achieve and maintain that speed by automatically accelerating and braking as needed.

- Move the throttle lever to 0
- Set a target speed with the Cruise speed (AFB) lever or by pressing Y or C. You will see an orange needle on the speedometer which indicates the selected speed
- If LZB is active, it will limit the maximal speed you can set.
- Switch the cruise control on with the AFB switch or use press Shift-A.
- Move the throttle lever to the desired tractive force target (a black needle indicates it on the Tractive/brake force dial).
- You can also change the target speed and the target max force whilst the cruise control is enabled.

3.3 LZB

LZB is a cab signaling and train protection system.
LZB is enabled automatically when the train passes a LZB start sign, B and Ü lights will indicate this.
The distance bar and the numbers above it (the numbers only appear if the distance is above 4000 meters) indicate the distance to the next speed limit, or red signal, or the next LZB block.
The automatic control gets enabled when you enable the AFB. You can set the maximal speed lower than LZB permits with the AFB speed setting lever. If you want to travel at maximal speed that LZB permits, just set the lever to maximum.

3.4 SIFA

Sifa is a driver vigilance alerter system that can be switch on and off by pressing Ctrl-Shift-S. By default it is disabled. When acitvated, the Sifa light under speedometer will illuminate. You then have 30 seconds to acknowledge by pressing Q.

3.5 PZB

The PZB function is similar to the UK AWS function. By default it is disabled.
The following keyboard controls are used for operation:

Function	Keyboard
Activate/Deactivate	Ctrl-Shift-S
Acknowledge	Page Down
Release	End
Override	Del

You can set the mode with Ctrl-7 (decrement) and Ctrl-8(increment) to 55,70 or 85

PZB mode	**1000hz**	**500hz**	**Restricted mode 1000hz**	**Restricted mode 500hz**
85 (fast trains with strong brakes)	Lower the speed to 85 km/h in 23 seconds	To 45 km/h in 153 metres	45 km/h	25 km/h
70 (medium)	To 70 km/h in 26 seconds	To 35 km/h in 153m	45 km/h	25 km/h
55 (freight)	To 55 km/h in 34 seconds	To 25 km/h in 153m	45 km/h	25 km/h

Restricted mode: gets enabled, when your speed is below 10 km/h for 15 seconds, or if you stop. Restricted mode is indicated by alternately flashing 70 and 85 lights.

4 Scenarios

4.1 Training: MRCE ES64 U2 Taurus - Expert Controls Tutorial

A tutorial on operating the MRCE ES64 U2 Taurus with expert controls.

- Rating: Easy
- Duration: 10 minutes
- Scenario Type: Tutorial

4.2 Training: MRCE ES64 U2 Taurus - Simple Controls Tutorial

A tutorial on operating the MRCE ES64 U2 Taurus with expert controls.

- Rating: Easy
- Duration: 10 minutes
- Scenario Type: Tutorial

4.3 [ES64] Nightrun to Harburg

You are taking over a container service at Uelzen and you will bring this train to Harburg where the scenario ends. Weather conditions are good, there´s not much traffic this night, so no interrupts or delays are to be expected.

- Rating: Medium
- Duration: 45 minutes
- Scenario Type: Career

4.4 [ES64] Going south

You are taking a freight service from Luneburg down to Celle. It is snowing and there might be some yellows and reds along the way to the south.

- Rating: Hard
- Duration: 65 minutes
- Scenario Type: Career

5 Acknowledgements

RailSimulator.com would like to thank the following people for their contribution to the development of the MRCE ES64 U2.

Beta Testing Team
HRQ Studios

