

ZDSimulator



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How to start: ZDSimulator Launcher

This guide will teach you how to launch the game, configure routes and scenarios, and customize game settings.



[ZDSimulator Launcher: How to start](#)

ZDSimulator has two ride modes:

1. Scenario mode
2. Free ride

Scenario mode

Riding according to the scenario:

1. choosing a route;
2. choosing a direction; (forward or backward)
3. selecting an existing scenario;
 - after selecting a scenario, the start time, locomotive, number of wagons, direction and season of the year are set according to the scenario.
4. click '**Start simulator**'.

Free ride

In free ride:

1. choosing a locomotive;
2. choosing the type of train (passenger or freight)
3. we enter the number of wagons in the composition;
4. choosing a route, departure station from the list, and direction of travel (forward or backward)
5. click '**Start simulator**'.


Other settings

In the Graphics tab, you can adjust the simulator window to match the screen resolution and computer bit depth.

Game tutorials

Braking Control in ZDSimulator

This paragraph will cover the different types of brakes, key factors to consider, and how to control them. It consists of a video part and a text part.

 [ZDSimulator: Brakes \(part 1\)](#)

Specifically, we will discuss several key topics.

Locomotive and train brakes

Locomotive break - breaks only the locomotive

Train break - breaks both the locomotive and the entire train

To turn them on, you need to open the faucet under them.

Braking is performed using the braking 2 position;

To lock the brakes in the hold 2 position;

The brakes are charged in the charging position.

Pressure gauges

There are few gauges:

- Main reservoir
- Brake line (trains)
- Equalizing
- Locomotive brake cylinders

Electro Pneumatic brake

The EPT is activated by a toggle switch on the control panel, and the warning light lights up.

The EPT is controlled by a pressure gauge in the brake cylinder of the locomotive


Braking is performed using the braking 1 position;

To lock the brakes in the hold 1 or hold 2 position;

The brakes are charged in the charging or release position.

How to perform braking in ZDSimulator

In this paragraph, we will explore how the braking system works using a freight train as an example and demonstrate how to control a train in the game.

 [ZDSimulator: Brakes \(part 2\)](#)

Train and locomotive brakes

To start, open the disconnecting valve

Pay attention on pressure gauges:

- Locomotive brake cylinders
- Main reservoirs
- Main brake pipe
- Equalizing reservoir

As the locomotive lever is pressed (J), the pressure in the cylinders will increase.

Train brake:

There are provisions:

- Charging
- Train service
- Hold (1)
- Hold (2)
- Brake (1)
- Brake (2)
- Emergency

The braking process

1. Discharging the air
2. The brake is released when the initial pressure is exceeded by 0.4 kgf/cm².
3. Between releasing the brakes and the subsequent braking, it is necessary to wait 1 minute to fill the brake line with air

Braking is performed using the braking 2 position;

To lock the brakes in the hold 2 position;

The brakes are charged in the charging position.

To perform braking in game:

1. Press ' 4 times
2. After the release step, press ; 2 times
3. To release brake, press ; 3 times, and after charging the line to charging pressure, press ' once

The train's braking force is controlled using the F1 menu.

Railroad Lights and Signals Explained

This paragraph explains the key aspects of railroad signals and traffic lights, how they function, and their importance in train control. We'll explore different signal types, their meanings, and how they ensure the safe operation of trains.

 [ZDSimulator: Railroad Signals Explained](#)

Traffic lights

The checkpoint is located on the stage

Entrance traffic light allowing entry to the station

Exit traffic light allowing exit from the station to the stage

A locomotive traffic light is installed in the cabins of the locomotives

Locomotive traffic light, duplicates the reading of the traffic light ahead on the railway track

Signals

- Red: prohibits movement
- Yellow: allows movement at a speed of no more than 60 km/h, the next traffic light is red
- Green: the next traffic light is permissive

Signals in front of the station

- 2 Yellow signals: follow the deviation on the switch, the speed is 40 km/h, the next traffic light is red
- 2 Yellow signals, the upper one is flashing: follow the deviation on the switch, the speed is 40 km/h, the next traffic light is permissive

Maneuver signals:

- Blue: prohibits maneuver
- White: allows you to make maneuvers

Maneuvers instructions

The following emergency situations are used to create maneuvers:

#77 - Divert maneuver path. Syntax:

<inclusion track>__77__1__<delay>__<track1>;<track2>;<offset>

The command deflects the main track from track1 to track2 by the offset width in meters

#78 - reset the rejected path to the main one. Syntax:

<inclusion track>__78__1__<delay>__<track1>;<track2>

The team resets the diverted track back to the main track from track1 to track2. The reset tracks should include the tracks on which the shunting route needs to be cancelled.

#79 - turn on white at shunting traffic lights. Syntax:

<switch-on track>__79__1__<delay>__<traffic light number1>,<traffic light number2>

The command turns on the white on the shunting traffic lights, the numbers of which are listed in the command. If the traffic light numbers are not specified, the command will turn on the white on any shunting traffic light within a radius of 50 m from the locomotive. After performing the shunts, the command must be turned off to turn off the white on the traffic lights, by turning on command 79 state 0 (<switch on track>__79__0__<delay>)

By entering the command "track 1" in the console we can see the trajectory of the main path and its deviations. nerves were used

An example of creating an exit for a train at the Kyiv-Pass station on the Kyiv - Shevchenko route:

In the scenario, we write the track of the beginning of the maneuvers 24, run the scenario, the tip on the left at the top of the screen shows that we appeared on track 23, that is, 1 less than we wrote for the start. In other routes and places, the difference may be different, always check. In the [troubles] section, we write the following:

-23 77 1 0 21;28;7.5

Explanation: on track 23, enable command 77, state 1, delay 0, from track 21 to track 28, deviate the track by 7.5 meters. (Track numbers with a minus are triggered during shunting, without a minus - during train operation).

-23 77 1 1 22;28;7.5

Explanation: in the same place, on track 23, turn on command 77, state 1, delay 0, from track 22 to track 28, deviate the track by another 7.5 meters. When we first entered command 77, we deviated the track from the main track by 7.5 and got onto the track leading to a dead end opposite the depot, the second time we deviated, we got onto the depot tracks. *The delay of 1 second is so that the commands do not overlap each other at the same time.*

-22 79 1 70 M11, M13

Explanation: when entering track 22, turn on the white light on the shunting traffic lights M11 and M13 after 70 seconds.

-12 78 1 0 21;28

Explanation: when entering track 12, reset the deflected tracks from track 21 to track 28 back to the main track, along which we will travel with the train.

-12 79 0 0

Explanation: in the same place, on track 12, turn off all the white ones on the shunting signals. If you don't turn them off, then when driving with the train, at all stations the signals with the inscriptions M11 and M13 will be white.

An example of uncoupling and entering the depot at Vyazma station on the Moscow - Vyazma route.
Upon arrival at the final station Vyazma we stop at track 4666

4666 51 1 60

Explanation: On track 4666, turn on command 51 after 60 seconds to turn on the white light at the exit traffic light.

4666 79 1 0 M34, M31, M21

Explanation: on track 4666, turn on the white light at shunting traffic lights M34, M31, M21.

4666 77 1 0 4673;4688;-7.5

Explanation: on track 4666 turn on the deviation of the main track from track 4673 to 4688 by 7.5 meters to the left. On track 4673 there is an arrow leading to the track to the left of us, track 4688 is at the end of the route.

-4675 78 1 0 4673;4688

Explanation: after uncoupling from the train, shunting work began, now the track numbers for switching on commands must be entered with a minus sign. When entering track 4675, command 78 resets the deviated route from track 4673 to 4688, along which we just drove to the main one, in order to enter a new shunting route from scratch.

-4675 77 1 0 4636;4688;-7.5

Explanation: on track 4675, command 77 introduces a new shunting route from track 4636 to 4688 at -7.5m from the main one. From track 4636 to 4688, we capture the entire route from the beginning to the end of Vyazma station and shift it by 7.5 from the main one. We will travel along this route until entering the depot.

-4675 77 1 1 4636;4651;-7.5

Explanation: there, on track 4675, our deviated shunting route is also deviated by -7.5 meters from track 4636 to 4651 to enter the depot. On track 4651 there is a switch leading from the main track to the depot.

-4676 0 0 0 DSP: We stop, change the cabin and go to the depot

Explanation: on track 4676 we inform the driver about the need to stop, change the cabin and go to the depot.

-4639 0 0 0 Leave the locomotive here and secure it with hand brakes. Scenario over.

Explanation: On track 4639 we report the completion of the scenario.

Emergency situations

To enter an emergency situation, Num Lock must be enabled. To enter, press the **Ctrl** key and, while holding it down, type the emergency situation number on the additional numeric keypad (which is under Num Lock), then release Ctrl and the situation will be enabled.

Example: press Ctrl, press and release 1, press and release 6, release Ctrl – situation #16 “Traffic light out” will be activated

N o.	Name	Inclusion type
1	Turn onto a side track	on/off
2	Self-oscillation of the contact network	on/off
3	Rail breakage after 1500m	on
4	Rail break after 750m	on
5	Voltage drop in the CS	on
6	Increased voltage in the CS	on
7	Car at the crossing	on
8	Man on the tracks	on
9	Trackmen in 1000m	on
10	Wagon on the tracks at 1500m	on
11	Wagon on the tracks at 750m	on
12	The appearance of the "yellow shield" sign	on
13	The appearance of the sign "beginning of a dangerous place"	on
14	The appearance of the sign "end of dangerous place"	on
15	The axle box overheating indicator is on	on/off
16	The traffic light went out	switch
17	Traffic Light Red	switch
18	Traffic light yellow	switch
19	The traffic light is green	switch
72	Normal operation of traffic lights	16,17,18,19 = 0
20	EPC is not restored	on/off
21	No code	on/off
22	Code of KZh	switch
23	Code Yellow	switch
24	Code Green	switch
73	Normal operation of ALSN	21,22,23,24 = 0
25	Crane No. 395 inflates	on/off
26	Slow pressure drop in TM	on/off
27	Rapid pressure drop in TM / blowdown from tail / emergency stop valve trip	on/off
28	Release the brakes	on/off
29	Loss of EPT	on/off
30	Spontaneous braking of wagons	on/off
31	Shutting off the end valves at the head of the train	on/off
32	Low brake pressure	on/off
33	Lighten the fog	on
34	Strengthen the fog	on
35	Low coefficient of adhesion	on/off
36	Longitudinal push backwards	on
37	Longitudinal forward thrust	on
38	Lateral push	on
39	Resetting a departing train	on
40	Increase the speed of the departing train by 20 km/h	on
41	Reduce the speed of the departing train by 20 km/h	on
42	Sparking in the chassis of an oncoming train	on/off
43	To the meeting of the International Military-Public Cooperation (IMPC)	on
44	Sign "prepare to lower TP", in 1000m	on
45	Sign "lower TP" after 1000m	on

46	Sign "raise TP" in 1000m	on
47	Firecracker explosion	on
48	Signalman with a yellow flag	on
49	Signalman with a red flag	on
50	Man showing stop sign	on
51	Exit/route traffic light white	on/off
52	Knock of the slider	on/off
53	Speedometer drive break	on/off
54	Call on the radio station	on
55	Plan angle	on
56	Angle in plan on adjacent track	on
57	Closed entrance traffic light	on/off
58	Closed exit traffic light	on/off
59	Unclear traffic light indication	on/off
60	Sparking of our train's chassis	on/off
61	Reduce rain	on
62	Increase rain	on
63	Cuts on the front pantograph	on/off
64	Cuts on the rear pantograph	on/off
65	Distorted CS support after 1000 m	on
66	Invitation signal	on/off
67	Signal sign "Whistle"	on
68	Departure of wagons towards each other	on/off
69	Give delete	on
70	Freezing/ Cork TM	on/off
71	Turn on the traffic light	on/off
72	Normal operation of traffic lights	16,17,18,19 = 0
73	Normal operation of ALSN	21,22,23,24 = 0
74	Overshoot of tap 395 due to contamination between the mirror and the valve	On/Off
75	No voltage in the CS	On/Off
76	Closed route traffic light	On/Off
77	Divert the maneuver path	just a script
78	Resetting the deviated path to the main one	just a script
79	White on the shunting traffic light	On/Off

User Guide & Controls

How to Train Properly

For proper training, you need to select a locomotive, route, set the start time, and launch the simulator. Depending on the speed of the train, choose a "passenger", "express", or "high-speed" scenario. During the drive, try to adhere to the schedule as accurately as possible. The "Passenger" scenario is the most difficult in terms of the number of malfunctions and emergency situations. For beginners, it's recommended to train without a scenario (Mode "None").

To set a jumper, you need to press the "Add Jumper" button (crocodile icon in the upper left corner). If the button is lit, jumper mode is active; then click once with the left mouse button on one terminal, then drag the pointer to the second terminal and release the left mouse button; to remove the jumper, press the crossed-out crocodile icon in the upper left corner. In active machine room mode, you first need to click with the left mouse button on the desired cabinet, after which its contents will become visible. If the cabinet content is grayed out, the cabinet is closed with a door controlled by safety locks. After performing operations with components of such a cabinet, the door must be closed by clicking with the left mouse button on the cabinet door in the left/right corner. To extinguish a fire, hover the cursor over the flame and click the left mouse button. To replace a fuse, hover the cursor over the required fuse and click the left mouse button.

The element number is entered using the numerical keypad when Num Lock is on. Before entering the number, press and hold the Home/End key, release it after entering, and at this point, the malfunction is activated. Check the diagrams that come with this manual for the element numbers.

Key Assignments and KLUB Commands

П – input track number;
Л – input train and driver data;
К – input commands;
І – change the brightness of the indication block light;
БК – turn off the red light;
ПМП – switch between shunting and train operation;
F – change the ALSN frequency;
Up – input data;
>0< - reset the entered data;
0, 1, 2, 3, 4, 5, 6, 7, 8, 9 – numeric keypad;
К 2 – change the brightness of the indication block light;
К 4 – fix the stop time;
К 45 - number of the active cabin;
К 46 - check the active set;
К 80 – display the pressure in the brake pipe;
К 81 – display the pressure in the brake cylinder;
К 122 – pressure in Pask;
К 123 – pressure in kg/cm²;
К 799 – movement with closed automatic block;
К 800 – cancel commands K799 and K809;
К 809 – movement with PAB;

Console commands

~ – toggle the console
Quit – Exit;
Speed <speed> set the current speed;
D <1> - disable derailling, **<0>** - enable;
Goto <track> - move to the specified track;
Elem <element number> get information about the scheme element;

Using the console will significantly help in developing your own scenarios;

Reduktor <pressure*10> - change the charging pressure of the reducer. Input the pressure;

bstrack <track number> - starting track of the side path;

betrack <track number> - ending track of the side path;

bshift <offset*10> - offset of the side path, changes are applied after input;

proj_angle <angle/10> - angle of the projector's tilt onto the path;

Key Assignments for locomotives

Assignment for a generic locomotive

Right mouse button – turn on/off the engine compartment, rear wall of cabin No.2;

Left mouse button – insert/remove jumper, turn on/off automatic train control (ATC), jamming/isolating relay/contact, replacing fuses, opening/closing pneumatic valves, extinguishing fires;

F1 – toggle train brake cylinder pressure, active forces on the train, track profile;

F2 – show/hide warnings (speed limits);

F3, F4 – show/hide scheme;

F5 – recovery after derailment;

Insert – trigger a random fault from the list after a random interval between 0-20 minutes; **Ctrl-Insert** – trigger a random fault from the list immediately;

Home-<element number>*** - break in the given scheme element;

End-<element number>*** - "ground" in the given scheme element;

Page Up-<element number>**** - forcibly close this element;

Delete – cancel all malfunctions and recover from fire consequences;

Ctrl-Delete – cancel all faults and enable everything correctly;

[/] – clockwise/counterclockwise rotation of conditional valve No.254;

; / ' – clockwise/counterclockwise rotation of conditional valve No.395;

B – horn;

Space – whistle;

X – sand release;

Z – emergency brake button;

M – VK button and KZh/RBS/Anti-slip reset;

← – move left in the cabin;

→ – move right in the cabin;

↓ - return to the center of the cabin;

Shift-↑ - move forward in the cabin;

Shift-↓ - move backward in the cabin;

Shift-H / H – turn on/off headlight;

Shift-N / N – turn on/off EPK autostop;

Shift-L / L – open/close combined valve;

**Shift-\ / ** – cabin and instrument lighting;

TAB – tape stretch;

Ctrl + Left mouse button – jam the electro-pneumatic valve (EPV);

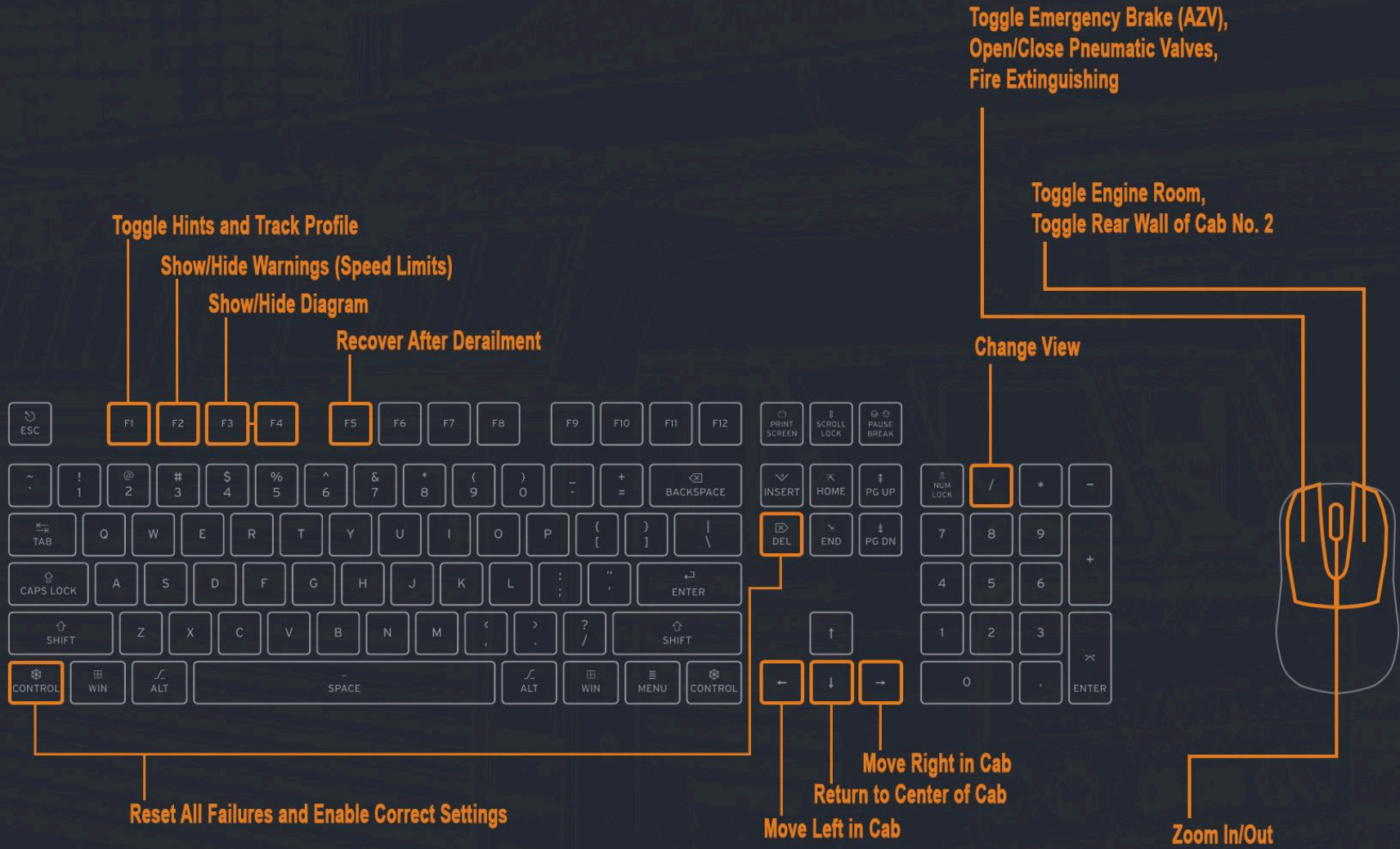
Mouse wheel – zoom in/out;

Ctrl + Mouse wheel – look higher/lower in the cabin;

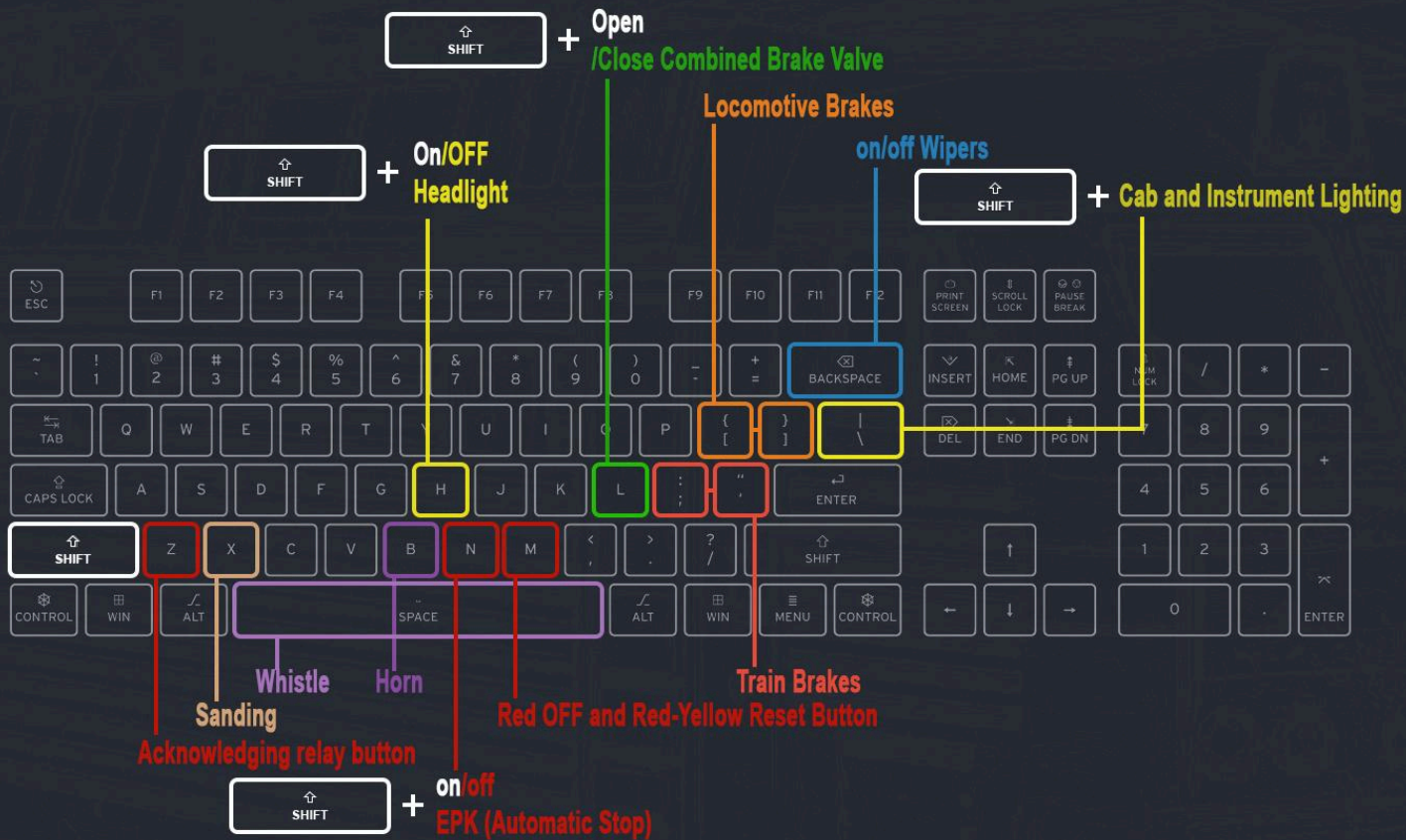
NumPad / - change view;

Shift-BackSpace / BackSpace – turn on/off wipers;

Interface Button Assignment



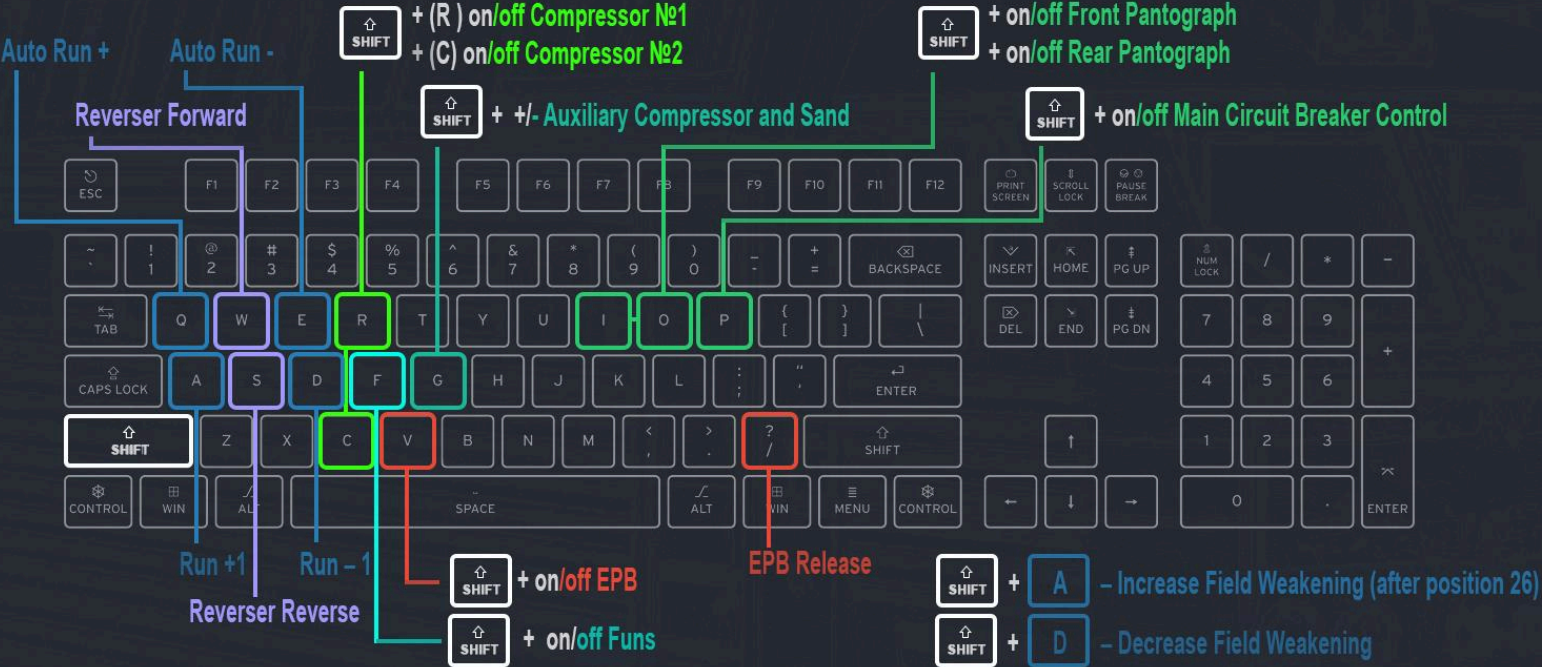
Function of Control Buttons for All Locomotives



Assignment for locomotives ChS4, ChS4T, and ChS4 KVR

Shift-P / P – turn on/off the switchgear "Control GV" (Main switch);
Shift-I / I – turn on/off the switchgear "Front Pantograph";
Shift-O / O – turn on/off the switchgear "Rear Pantograph";
Shift-G / G – rotate clockwise/counterclockwise the switchgear "Auxiliary Compressor and Sandboxes";
Shift-R / R – turn on/off the switchgear "Compressor №1";
Shift-C / C – turn on/off the switchgear "Compressor №2";
Shift-F / F – rotate clockwise/counterclockwise the switchgear "Fans";
Shift-V / V – turn on/off the switchgear EPT (Electro-Pneumatic Brake);
Shift-T / T – rotate clockwise/counterclockwise the switchgear "Emergency Set"; **W** – reverser forward;
S – reverser back;
A – controller +1;
Q – controller +;
D – controller -1 and set to 0;
E – controller -;
Shift-A – increase field weakening;
Shift-D – decrease field weakening;
Ctrl-A – maneuvering acceleration;
Ctrl-D – maneuvering deceleration;
/ - "release EPT (electrical-pneumatic brakes)" button;
Shift-Y / Y - turn on/off the switchgear "Shutters";

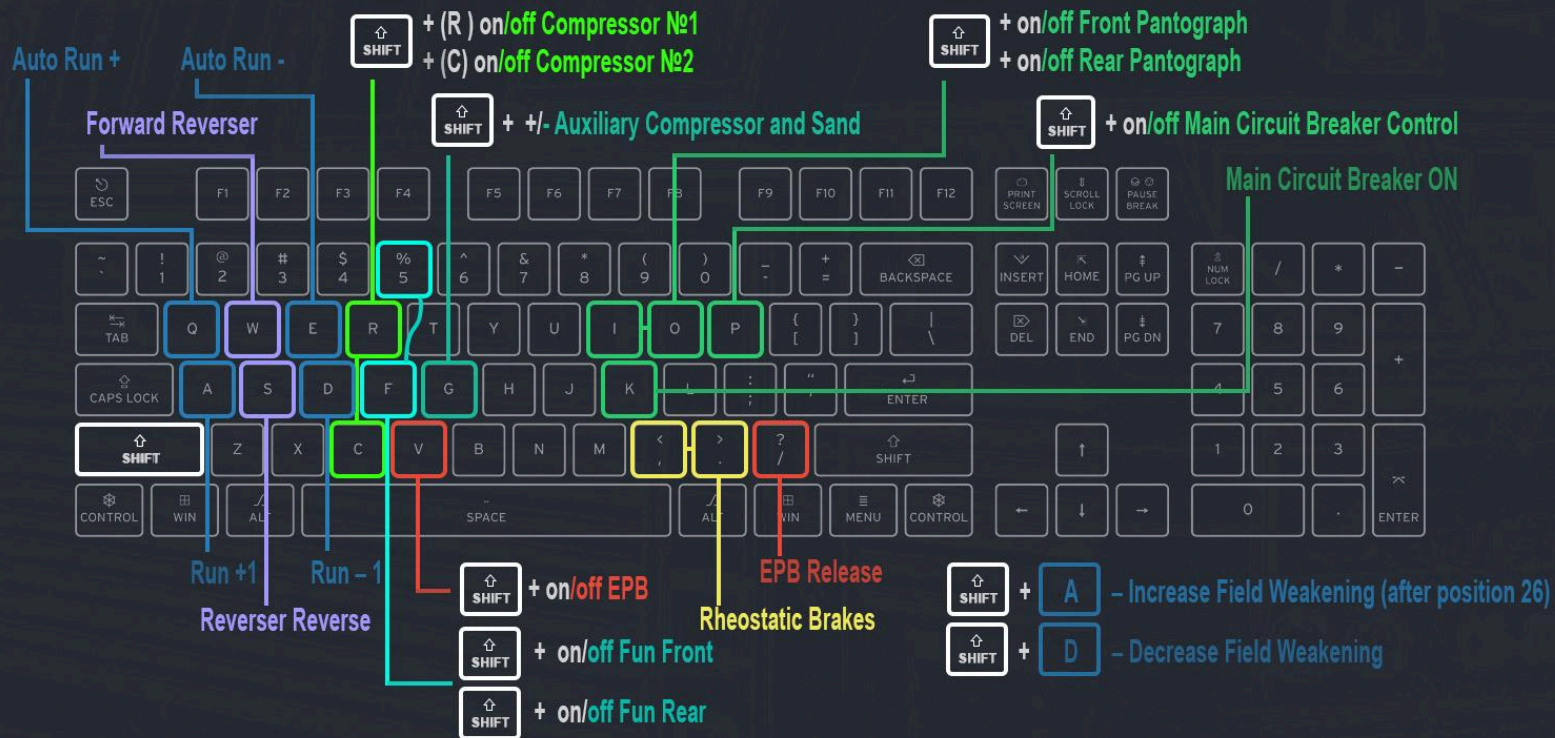
Button Assignment for ChS4, ChS4t and ChS4KVR Locomotives



Assignment of keys for locomotive ChS8

Shift-P/P– enabling/disabling the “GW control” package;
K- button sch. No. 369 for turning on the HW;
Shift-I / I– switching on/off the “Front pantograph” bag;
Shift-O/O– switching on/off the “Rear pantograph” package;
Shift-G/G– switching on/off the package "Auxiliary compressor"
Shift-R/R- switching on / off the package "Compressor P";
Shift-C / C– switching on/off the “Compressor Z” package;
Shift-5 / 5– clockwise / counterclockwise rotation of the “Fans - P” bag;
Shift-F / F– clockwise / counterclockwise rotation of the “Fans - Z” bag;
Shift-V / V– enabling/disabling the EPT package;
Shift-T/T– clockwise/counterclockwise rotation of the “Emergency dial” bag;
W– Forward Direction Reverser;
S– Reverse Direction Reverser;
A– controller +1;
Q– controller +;
D– controller -1 and setting to 0;
E– controller -;
Shift-A– increase field weakening;
Shift-D– reduce field weakening;
Ctrl-A– shunting set;
ctrl-d- shunting discharge;
/- EPT release button;
backspace– checking the rheostatic brake
< / >- control of the rheostatic brake controller

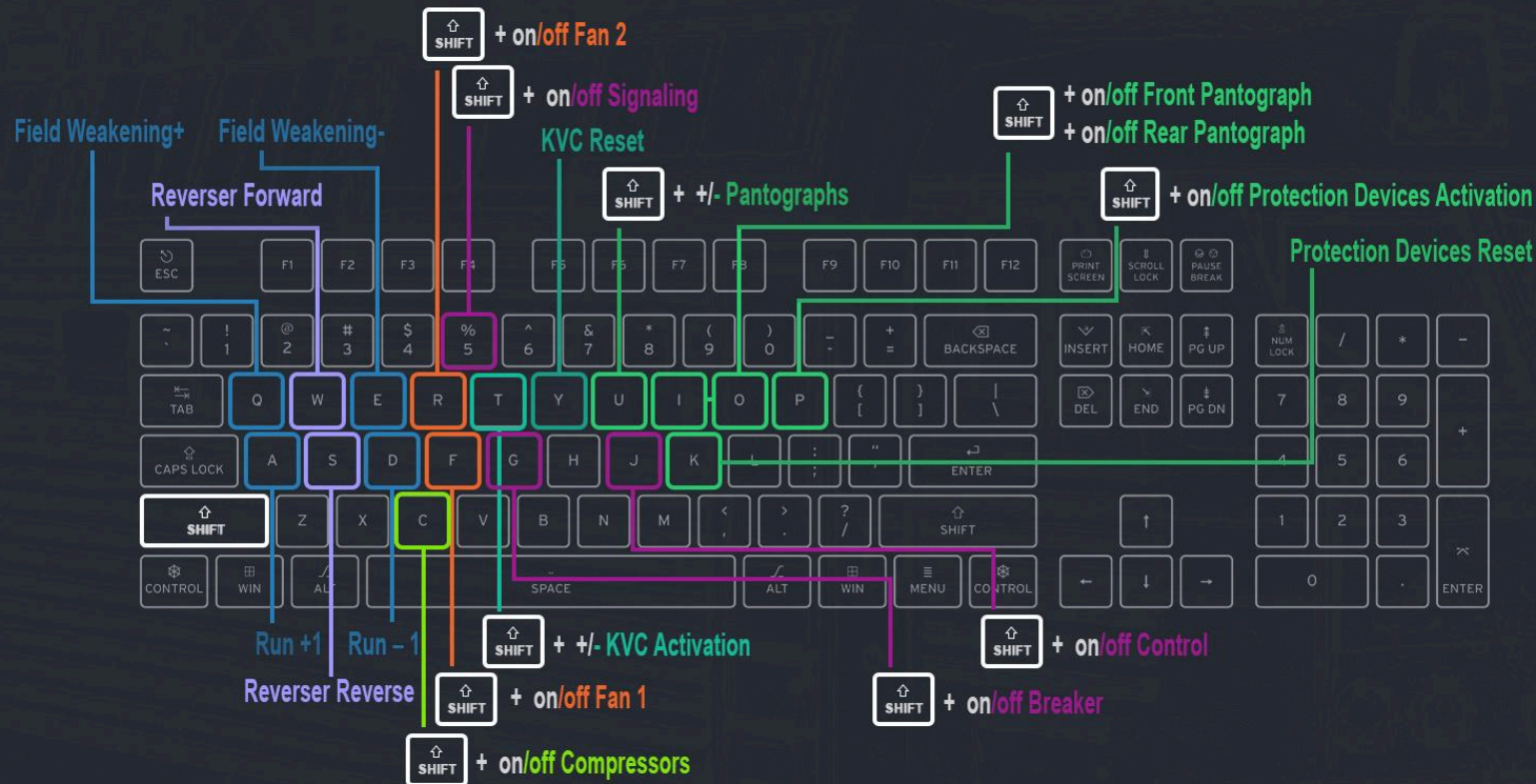
Button Assignment for ChS8 Locomotives



Assignment of keys for locomotive VL82M

Shift-P/P– turning on/off the toggle switch “Turn on protection devices”;
K- toggle switch "Return of protection devices";
Shift-U/U– turning on/off the toggle switch “Pantographs”;
Shift-I / I– turning on/off the “Front pantograph” toggle switch;
Shift-O/O– turning on/off the “Rear pantograph” toggle switch;
Shift-F / F– turning on/off the “Fan 1” toggle switch;
Shift-R/R– turning on/off the “Fan 2” toggle switch;
Shift-C / C– turning on/off the “Compressors” toggle switch;
Shift-T/T– enabling/disabling the toggle switch “Enable CVC”;
Y- toggle switch "Return KVC";
Shift-J / J– turning on/off the “Control circuit” toggle switch;
Shift-G/G– turning on/off the toggle switch – toggle switch “Turn off BV”;
Shift-5 / 5– turning on/off the “Alarm” toggle switch;
W– Forward Direction Reverser;
S– Reverse Direction Reverser;
A– controller +1;
D– controller -1 and setting to 0;
Q– field weakening +;
E– field weakening –;

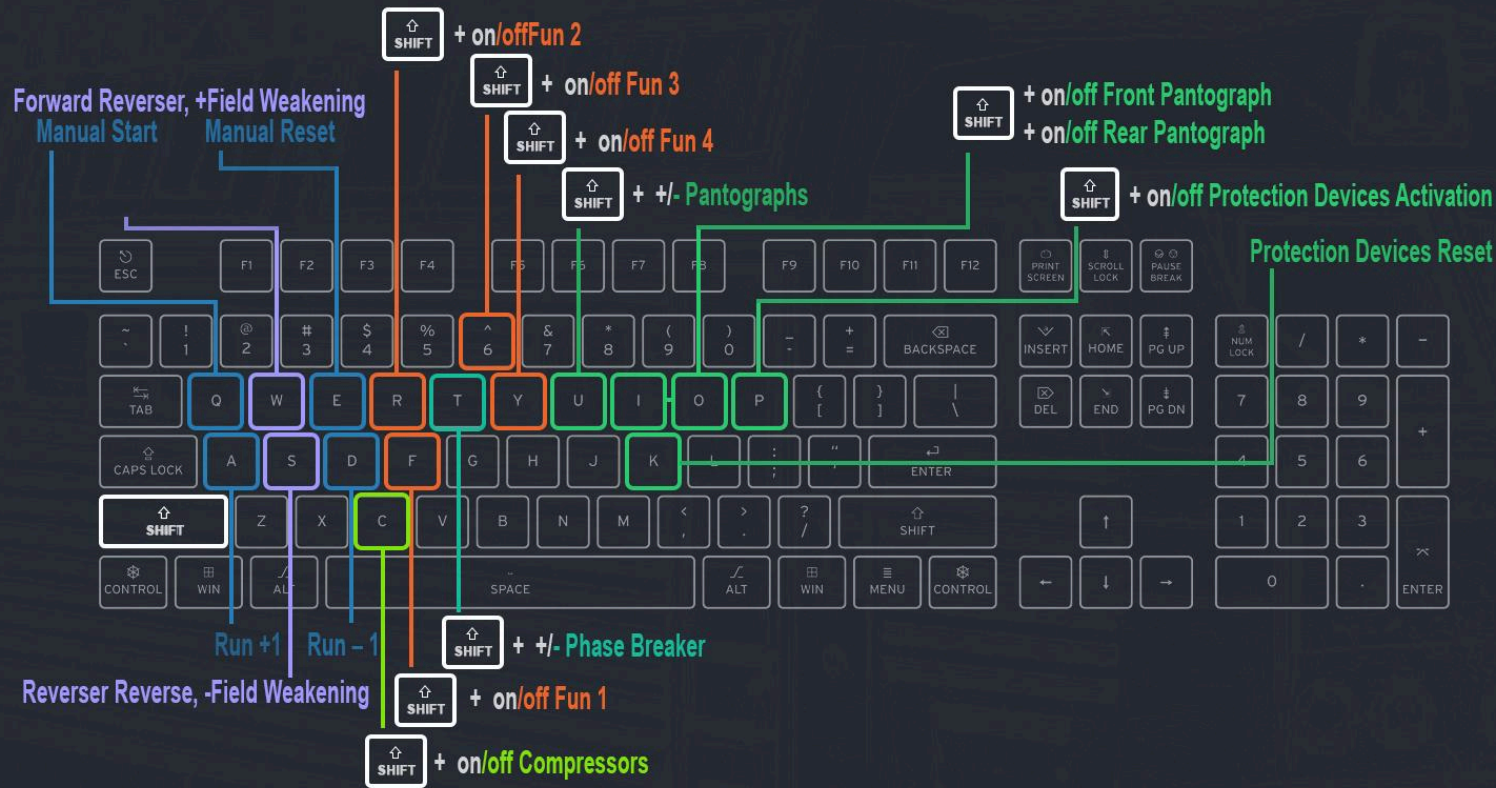
Button Assignment for VL82 Locomotives



Assignment of keys for locomotive VL80T

Shift-P/P– turning on/off the toggle switch “Turn on protection devices”; **K**- toggle switch "Return of protection devices";
Shift-U/U– turning on/off the toggle switch “Pantographs”;
Shift-I / I– turning on/off the “Front pantograph” toggle switch;
Shift-O/O– turning on/off the “Rear pantograph” toggle switch;
Shift-F / F– turning on/off the “Fan 1” toggle switch;
Shift-R/R– turning on/off the “Fan 2” toggle switch;
Shift-6 / 6– turning on/off the “Fan 3” toggle switch;
Shift-Y / Y– turning on/off the toggle switch “Fan 4”;
Shift-C / C– turning on/off the “Compressors” toggle switch;
Shift-T/T– turning on/off the “Phase splitter” toggle switch;
Shift-J / J– turning on/off the “Control circuit” toggle switch;
Shift-5 / 5– turning on/off the “Alarm” toggle switch;
W– Forward Direction Reverser, increase the field weakening;
S– Reverse Direction Reverser, reduce the field weakening;
A– controller +1;
D– controller -1;
Q- RP controller;
E- RV controller;
Ctrl-Q- FP controller;
ctrl-e- PV controller;
Ctrl-A- AB controller;
ctrl-d- controller 0.

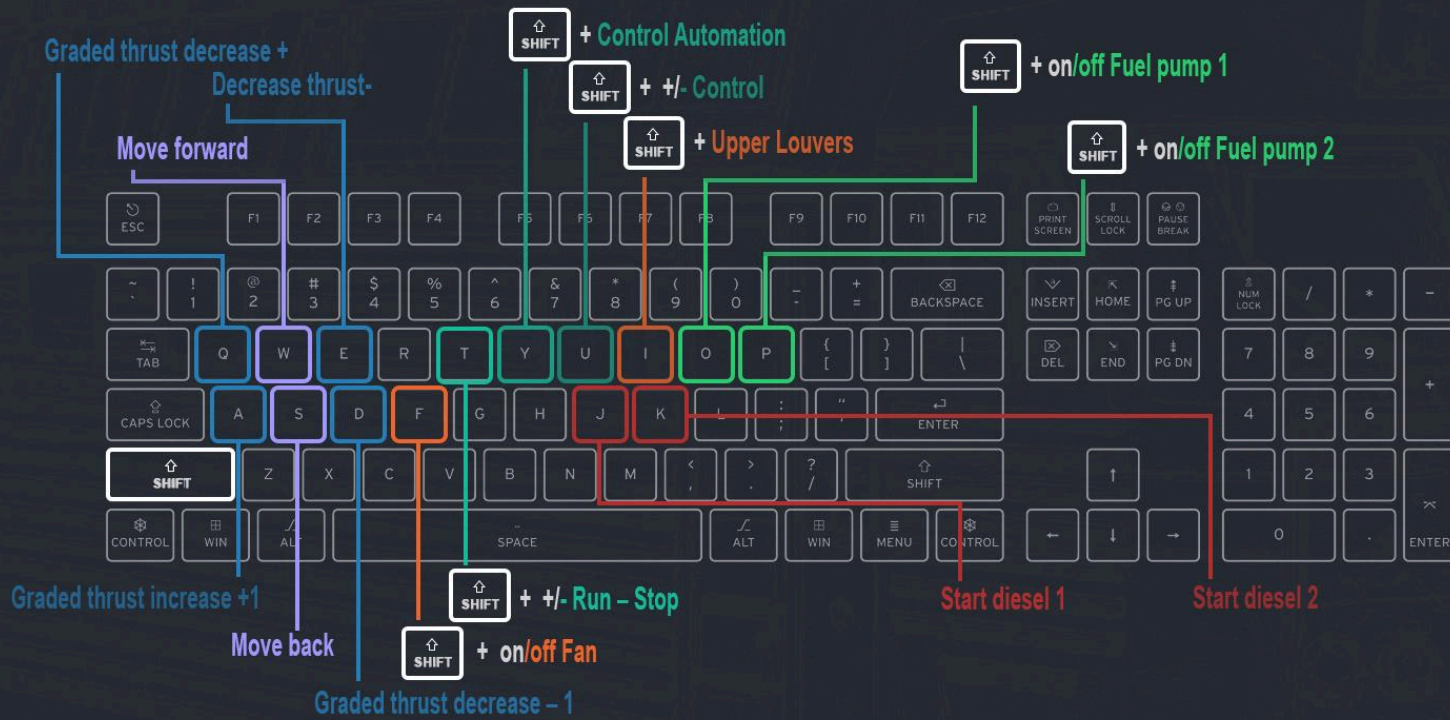
Button Assignment for VL80t Locomotives



Assignment of keys for locomotive 2M62

Shift-O/O– turning on/off the “Fuel pump 1” toggle switch;
J– diesel start button 1;
Shift-P/P– turning on/off the “Fuel pump 2” toggle switch;
K– diesel start button 2;
Shift-T/T– turning on/off the toggle switch "Movement-parking";
Shift-U/U– turning on/off the toggle switch “Diesel locomotive control”;
Shift-F / F- refrigerator fan
Shift-I / I- top blinds
Shift-Y / Y– automatic control
W- reverse forward;
S- reversing back;
A– controller +1;
D– controller -1;
Q– controller +;
E– controller -;

Control keys 2M62



Assignment of keys for locomotive 2TE10U

Shift-O/O– turning on/off the “Fuel pump of section 1” toggle switch; **J**– diesel start button of section 1;

Shift-P/P– turning on/off the “Fuel pump of section 2” toggle switch;

K– diesel start button of section 2;

Shift-T/T- enable/disable the "Transitions" toggle switch;

Shift-Y / Y– turning on/off the toggle switch “Diesel locomotive control”;

Shift-U/U– turn on/off the “Movement” toggle switch;

Shift-f/f– turning on/off the toggle switch “Idle speed of section 1”;

Shift-R/R– turning on / off the toggle switch “Idling 2 sections”;

W- reverse forward;

S- reversing back;

A– controller +1;

D– controller -1;

Q– controller +;

E– controller -;

Assignment of keys for electric train ED4M/ED9M

Shift-O/O– raise/lower the pantograph;

Shift-P/P– switching on/off BV/GV;

W- reverse forward;

S- reversing back;

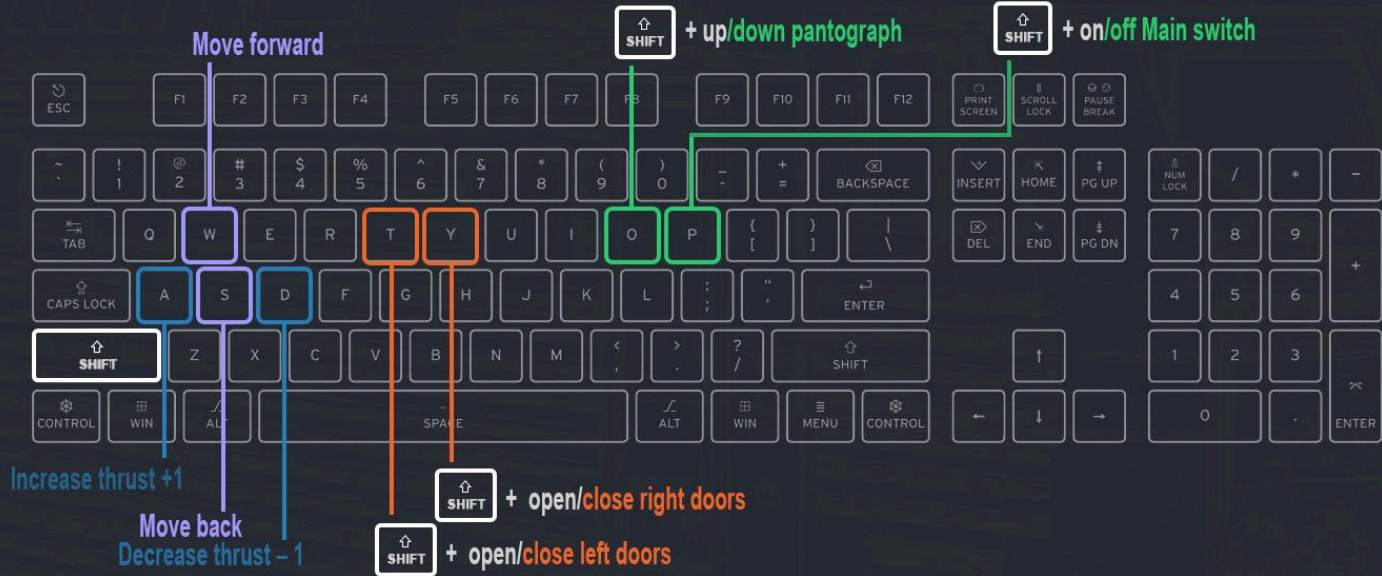
A– controller +1;

D– controller -1;

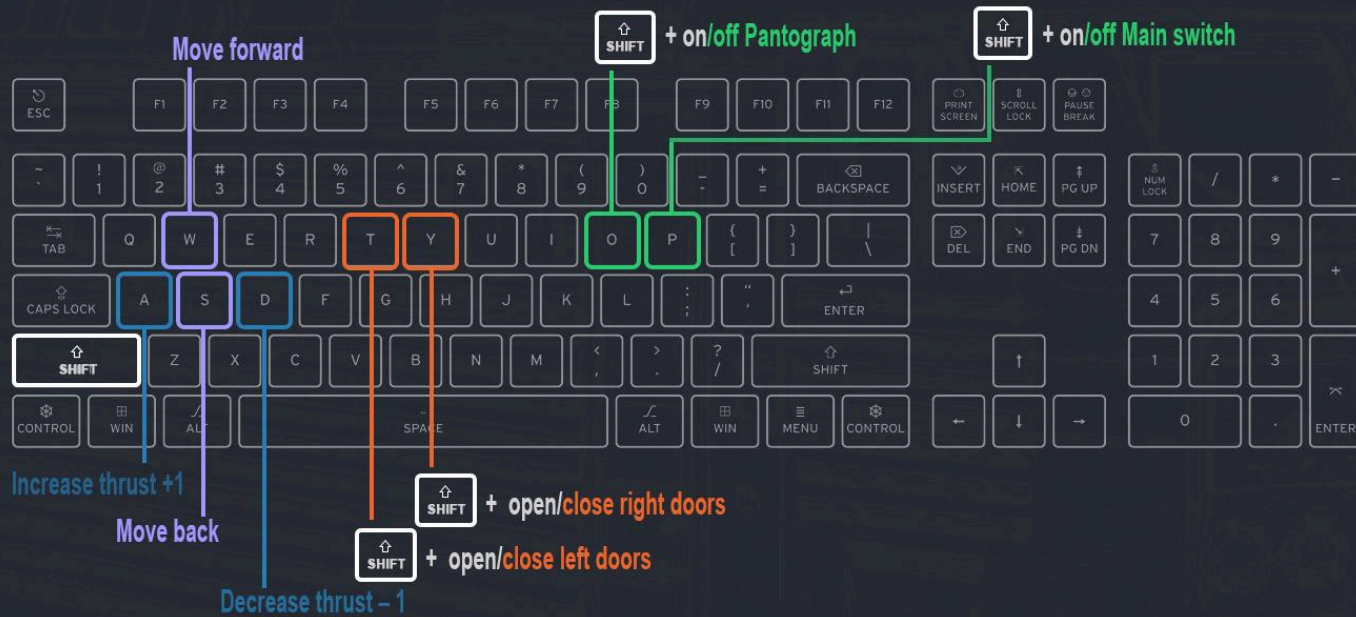
Shift-T/T– open/close left doors;

Shift-Y/Y– open/close right doors;

ED4m electric train control keys



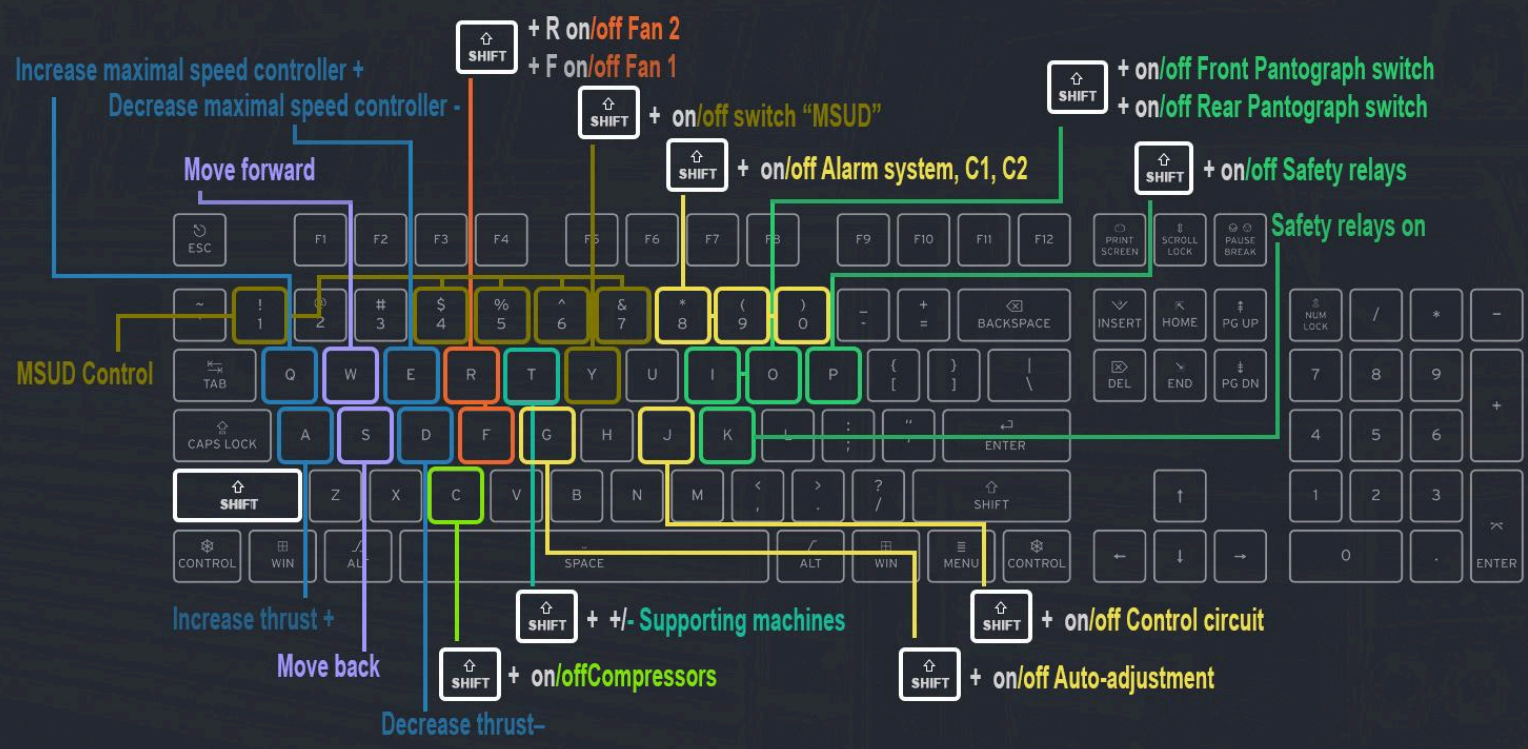
ED9m electric train control keys



Assignment of keys for locomotive 2ES5K

Shift-P/P– turning on/off the toggle switch “Turn on protection devices”; **K**- toggle switch "Return of protection devices";
Shift-I / I– turning on/off the “Front pantograph” toggle switch;
Shift-O/O– turning on/off the “Rear pantograph” toggle switch;
Shift-F / F– turning on/off the “Fan 1” toggle switch;
Shift-R/R– turning on/off the “Fan 2” toggle switch;
Shift-C / C– turning on/off the “Compressors” toggle switch;
ctrl-c- "Compressors" button
Shift-T/T– turning on/off the “Auxiliary machines” toggle switch;
Shift-J / J– turning on/off the “Control circuit” toggle switch;
Shift-G/G– enable/disable the toggle switch "Auto regulation";
Shift-Y / Y– turning on/off the “MSUD” toggle switch;
Shift-8/8– turning on/off the “Alarm” toggle switch;
Shift-9/9– turning on/off the toggle switch “Alarm C1”;
Shift-0 / 0– turning on/off the “Signal C2” toggle switch;
W– Forward Direction Reverser;
S– Reverse Direction Reverser;
A– Forward controller;
D– Controller Back;
ctrl-d– set the controller to 0;
Q– increase the maximum speed regulator;
E– reduce the maximum speed regulator;
1..0, "+", "-" – MCUD control keys;

2ES5K electric train control keys



Assignment of keys for locomotive ChS7

Shift-P/P– on/off BV

Shift-I / I– switching on/off "Front pantograph"

Shift-O/O– switching on/off "Rear pantograph"

Shift-R/R– switching on/off "Compressor 1"

Shift-C / C– switching on/off "Compressor 2"

Shift-F / F– clockwise / counterclockwise rotation of the "Fans" bag

Shift-V / V– EPT on/off

W– Forward Direction Reverser

S– reversing back

A– controller +1

Q– controller +

D– controller -1

E– controller –

Shift-A– increase field weakening;

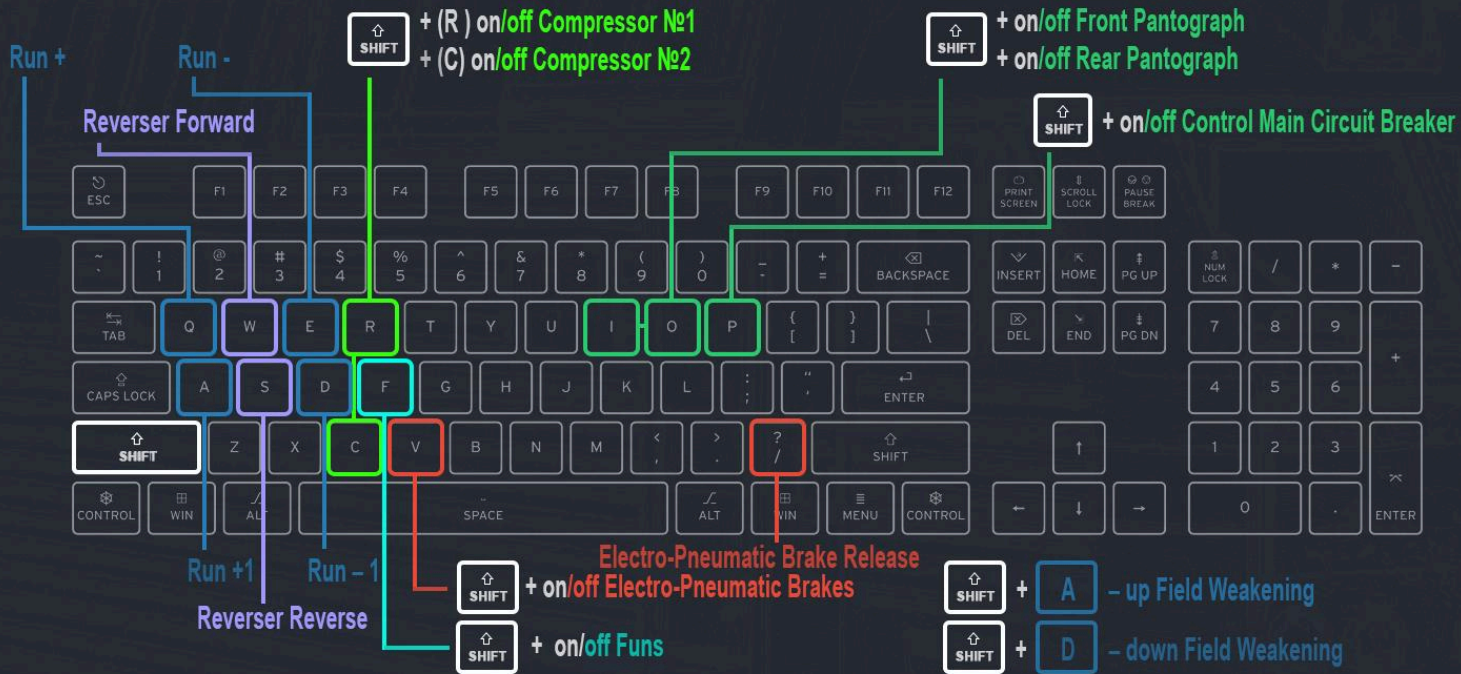
Shift-D– reduce field weakening;

/- EPT release button;

T– Reset SP - S

Shift-Y / Y– open/close blinds

Button Assignment for ChS7 Locomotives



Assignment of keys for locomotive TEP70/TEP70BS

Shift-P/P– switching on/off the toggle switch “Fuel pump”/Diesel locomotive control;

K– diesel start button;

Shift-U/U– switching on/off the toggle switch “Diesel locomotive control”/General control;

W- reverse forward;

S- reversing back;

A– controller +1;

D– controller -1;

Q– controller +;

E– controller -;

Assignment of keys for locomotive ChS2K

Shift-P/P– on/off BV

Shift-I / I– switching on/off "Front pantograph"

Shift-O/O– switching on/off "Rear pantograph"

Shift-R/R– switching on/off "Compressor 1"

Shift-C / C– switching on/off "Compressor 2"

Shift-F / F– turn on/off "Fans"

Shift-V / V– EPT on/off

W– Forward Direction Reverser

S– Reverse Direction Reverser

A– controller +1

Q– controller +

D– controller -1

E– controller –

Shift-E– button for resetting positions to 0;

Shift-A– "Shunts +" button;

Shift-D– button "Shunts -";

/ – EPT release button;

Assignment of keys for electric train EP1M

Shift-8/8– turning on/off the “Alarm” toggle switch;
Shift-Y / Y– turning on/off the “MSUD” toggle switch;
Shift-U/U– turning on/off the toggle switch “Blocking VVK”;
Shift-I / I– turning on/off the “Front pantograph” toggle switch;
Shift-O/O– turning on/off the “Rear pantograph” toggle switch;
Shift-P/P– turning on/off the toggle switch “Turn on protection devices”; **K**- toggle switch "Return of protection devices";
Shift-T/T– turning on/off the “Auxiliary machines” toggle switch;
Shift-C / C– turning on/off the “Compressors” toggle switch;
Shift-F / F– turning on/off the “Fan 1” toggle switch;
Shift-R/R– turning on/off the “Fan 2” toggle switch;
Shift-7 / 7– turning on/off the “Fan 3” toggle switch;
Shift-G/G– enable/disable the toggle switch "Auto regulation";
Shift-V / V– EPT on/off
W– Forward Direction Reverser;
S– reversal of HNS;
A– Forward controller;
D– Controller Back;
J– Relay return;
Q– increase the maximum speed regulator;
E– reduce the maximum speed regulator;
1..0, "+", "-" – MCUD control keys;

Assignment of keys for locomotive VL11M

Shift-P/P– turning on / off the toggle switch “Turning on BV-1”; **K**- toggle switch "Return BV-1";

Shift-U/U– turning on/off the toggle switch “Pantographs”;

Shift-I / I– turning on/off the “Front pantograph” toggle switch; **Shift-O/O**– turning on/off the “Rear pantograph” toggle switch; **Shift-F / F**– turning on/off the toggle switch “Low fan speed” and “High fan speed”; **Shift-C / C**– turning on/off the “Compressors” toggle switch;

W– Forward Direction Reverser;

S– reversal of HNS;

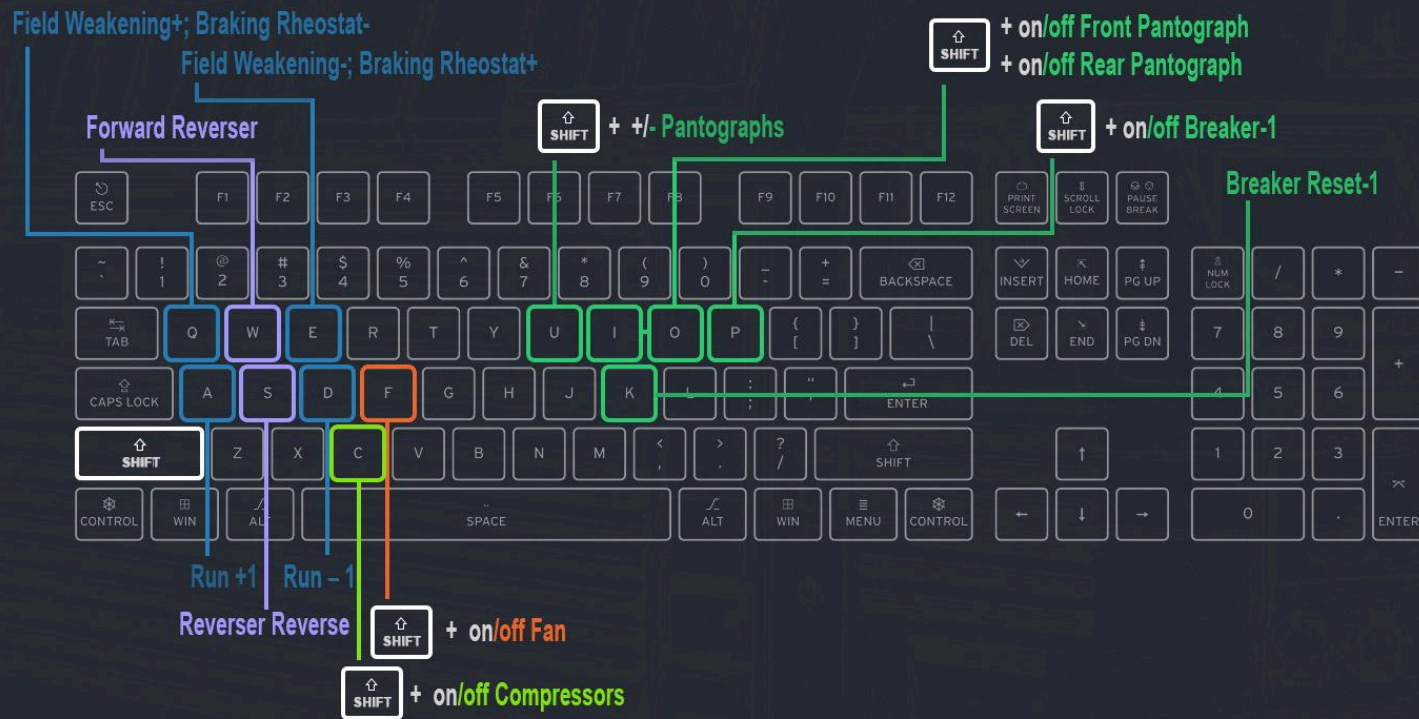
A– controller +1;

D– controller -1;

Q– field weakening controller + and rheostat -;

E– field weakening controller – and rheostat +;

Button Assignment for VL11M Locomotives



Assignment of keys for VL85

Shift-P/P– turning on/off the “Main switch” toggle switch;
K- toggle switch "Return protection";
Shift-U/U– turning on/off the toggle switch “Blocking VVK”;
Shift-I / I– turning on/off the “Front pantograph” toggle switch; **Shift-O/O**– turning on/off the “Rear pantograph” toggle switch; **Shift-F / F**– turning on/off the “Fan 1” toggle switch;
Shift-R/R– turning on/off the “Fan 2” toggle switch;
Shift-6 / 6– turning on/off the “Fan 3” toggle switch;
Shift-Y / Y– turning on/off the toggle switch “Fan 4”;
Shift-C / C– turning on/off the “Compressors” toggle switch;
ctrl-c- "Compressors" button
Shift-T/T– turning on/off the “Phase splitter” toggle switch;
Shift-J / J– turning on/off the “Relay return” toggle switch;
Shift-G/G– enable/disable the toggle switch "Auto regulation";
Shift-5 / 5– turning on/off the “Alarm” toggle switch;
Shift-9/9– turning on/off the toggle switch “Alarm C1”;
Shift-0 / 0– turning on/off the “Signal C2” toggle switch;
W– Forward Direction Reverser;
S– reversal of HNS;
A– Forward controller;
D– Controller Back;
Q– increase the maximum speed regulator;
E– reduce the maximum speed regulator;

Assignment of keys for TEM18DM

K– diesel start button;

Shift-R/R– turning on/off the rheostatic brake (works only up to 40 km/h); **Shift-T/T**– enable/disable the toggle switch "transitions";

W- reverse forward;

S- reversing back;

A– controller +1;

D– controller -1;

Troubleshooting

Unable to launch the simulator

If you can't launch the simulator, please try:

1. Running the program with administrator permissions (right-click on ZDSimulator icon and choose run as administrator from context menu)
2. If you have an NVidia GeForce graphics card try installing original drivers from nvidia.com
2.1 If you have a ATI Radeon graphics card, try installing original drivers from amd.com
3. If you have either NVidia GeForce or ATI Radeon installed with integrated graphics cards, in some versions of Windows you need to specify which card you are going to use (right-click on the ZDSimulator icon and choose the right video card from the context menu).
4. If you have an integrated graphics card or other, in the Graphics settings of ZDSimulator tick "Compatibility Mode" and try launching the game, some locomotives and routes should work.

Have no sound

If there is no sound in the simulator, it is necessary to reduce Hardware sound acceleration.

Way No. 1:

Start -> Control panel -> Sounds and audiodevices -> Loudness Tab, the lower tab "Recording quality" -> move the top slider under "Hardware acceleration" one division left and press "Apply". After that try to start ZDSimulator again and if the sound doesn't appear, try decreasing sound hardware acceleration one division more.

Way No. 2

Start -> Run -> write "dxdiag" and press "Ok" -> Sound Tab -> move the Slider under "Level of sound hardware acceleration" one division to the left and then press "OK". After that try to start ZDSimulator again and if the sound doesn't appear, restart "dxdiag" and decrease sound hardware acceleration one division more.