

# Magnets, Paths & Signals

Here you can learn everything about the built in signaling system!

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# Configuring Magnets

Magnets are the core component of ZnDs MTCS system (similar to ETCS). MTCS is a system made for controlling trains and using autodrive.

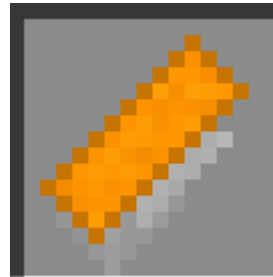
## Placing magnets:

Magnets can be placed on these tracks:

- [Straight Track \(0°\)](#)
- [Straight Track \(11°\)](#)
- [Straight Track \(18°\)](#)
- [Straight Track \(45°\)](#)

To add a magnet to one of these tracks simply rightclick your track with the **Magnet [Railway Part]** item.

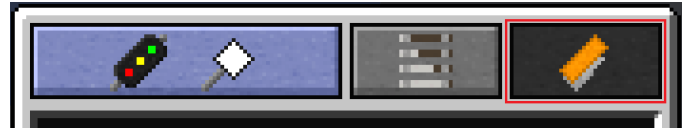
***Tip:*** Copying magnets with a Railway Worker's Tool also copies the magnets config. To avoid problems with the configuration always use freshly placed, not copied, magnets.



## Configuring magnets:

1. Rightclick while holding your Signaller's Tool
2. Click on the Magnet symbol

You may now configure the magnet according to your



# Linking Signals to Magnets

Signals do not have any effect on your train if they are not linked to a track magnet.

To link a signal to a track magnet you once again need your [Signaller's Tool](#).

1. Rightclick while holding your Signaller's Tool
2. Click on the Signal symbol
3. Exit the menu (press **ESCAPE**)
4. Press **SHIFT & RIGHTCLICK** your signal  
It should now say:  
*zoranodensha - Linking signal...*
5. Press **SHIFT & RIGHTCLICK** your magnet  
It should now say:  
*zoranodensha - Linked*



# Creating Paths

Paths are used to tell trains where to go. If an autodriving train is configured with a path it tries to follow this path until there is no more path of this name found in the next signal.

## Preparation:

Make sure that all of your switches are put in the right position for the path you are configuring. This cannot be changed after the track is selected with your Signaller's Tool.

## Creating a Path:

1. Rightclick while holding your Signaller's Tool
2. Give the path a name (box under **Destination**)
3. Close the menu again (press **ESCAPE**)
4. **SHIFT+RIGHTCLICK** every junction on the path  
(Only select switches and crossings, as selecting Straights and Curves does not have any effect)  
It should now say:  
**zoranolensha - Added track to path**
5. **SHIFT+RIGHTCLICK** the origin signal to add the finished path to this signal



## Selecting a Path:

Simply type `/setdest {insert path name}` in the chat. The MTMS-Display should then display upcoming speed limits and your train (if autodrive is turned on) should begin driving.

# Types of Signals

Whether you are building a high speed train, tram line or regional service, signals are one of the essentials which everyone of these needs.

Since ZnD v0.9.1 ZnD has its own signals built in, but since v0.10. you can expand these standard signals with signalpacks.

## Settings:

### Signal Settings:

These settings are common among all signals, even signals from signalpacks.

Values: 0 = "off", 1 = "on"

Name:	Function:	Default
Post Offset L/R	Offsets a signal to the left or right. -1 = offset to the left, 0 = centered on base, 1 = offset to the right	1
Load Chunks	Loads chunks which a selected path crosses	0
Redstone Mode	Control the signal with redstone	0
One Way	Trains can pass the signal only in one direction	0

### Path Settings:

Values: 0 = "off", 1 = "on"

Name:	Function:	Default
Big Black Box	Path name	--
Default	Sets Path as the signals default path D = Path set as default	--
Shunting	Lets a train pass the signal even if S = Shunting turned on	--

Name:	Function:	Default
Speed	Sets the Paths vMax	40/--
Route	Sets the paths nickname	--
Duplicate	Duplicates a path and all of its settings (apart from "Deafult")	----- -----
Delete	Deletes a path from the signal. This CANNOT be undone!	----- -----

# Default Signals:

- Block Signal
- Distant Signal
- Tunnel Signal
  
- Dwarf Signal
  
- Tram Signal:

# Good to know:

## Tram Signal:

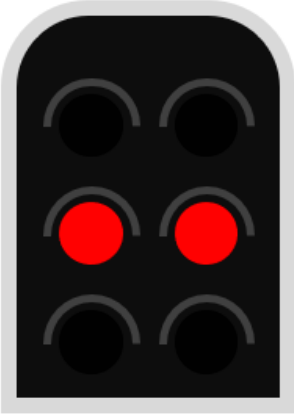
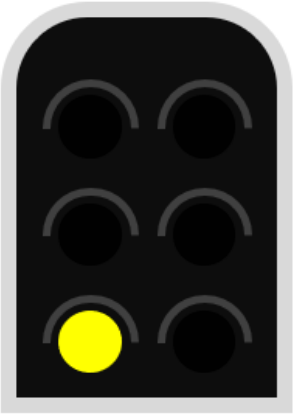



Setting the Route Setting to L or R Displays a \ or / instead of | when the path is selected:  
L = \,  
-- = |  
R = /

# Default Signs:

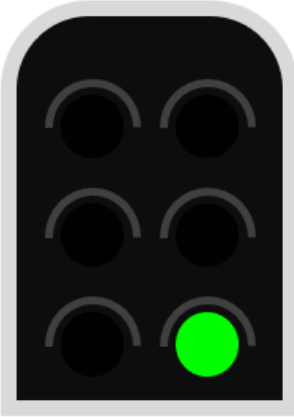

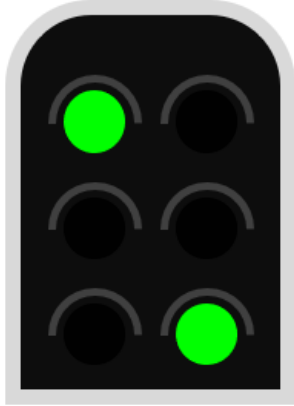

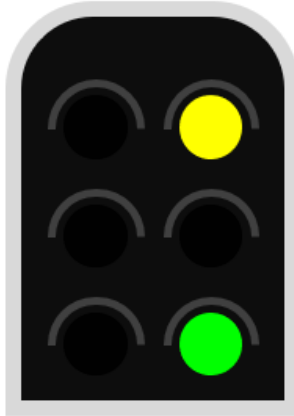
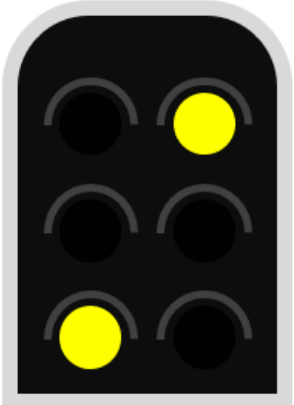
- Speed Limit Sign
- MTCS Flag Signal

# Signal Aspects

This is an overview of how the default signalling system that comes with Zora no Densha works.

Main Signal Aspect	Distant Signal Aspect	Indication	Meaning
		STOP	Stop before the signal - passing is not permitted.
		CAUTION	Proceed at normal speed. Expect the next signal to be displaying <b>STOP</b> .
		EXPECT SLOW	Proceed at normal speed, prepared to do 40 km/h at the next signal.



Main Signal Aspect	Distant Signal Aspect	Indication	Meaning
		<b>CLEAR</b>	Proceed at normal speed. Expect the next signal to be at worst a <b>CAUTION</b> .
		<b>HIGH SPEED</b>	Proceed at normal speed. At least 3 blocks ahead are unoccupied. The next signal is at worst a <b>CLEAR</b> or <b>EXPECT SLOW</b>
		<b>CLEAR SLOW</b>	Proceed at 40 km/h, unless indicated otherwise. The next signal will be displaying a proceed indication, at worst a <b>CAUTION</b> .
		<b>CAUTION SLOW</b>	Proceed at 40 km/h (unless indicated otherwise). Expect the next signal to be displaying <b>STOP</b> .

Main Signal Aspect	Distant Signal Aspect	Indication	Meaning
		<b>SUSTAINED SLOW</b>	Proceed at 40 km/h (unless indicated otherwise), prepared to do 40 km/h at the next signal.