
2020
TSW
TRAIN SIM WORLD®
EAST COASTWAY
PS4
dovetail GAMES

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Contents

An Introduction to East Coastway

Brighton, now a famed seaside resort, had its main railway station built between 1839 and 1840 in preparation for the arrival of the new London and Brighton railway. Its expansive twin-shed roof houses a number of platforms, and marks the gateway for many as the start of a summer holiday. With the opening of the full line down to Brighton, it became the first seaside town to be served by rail.

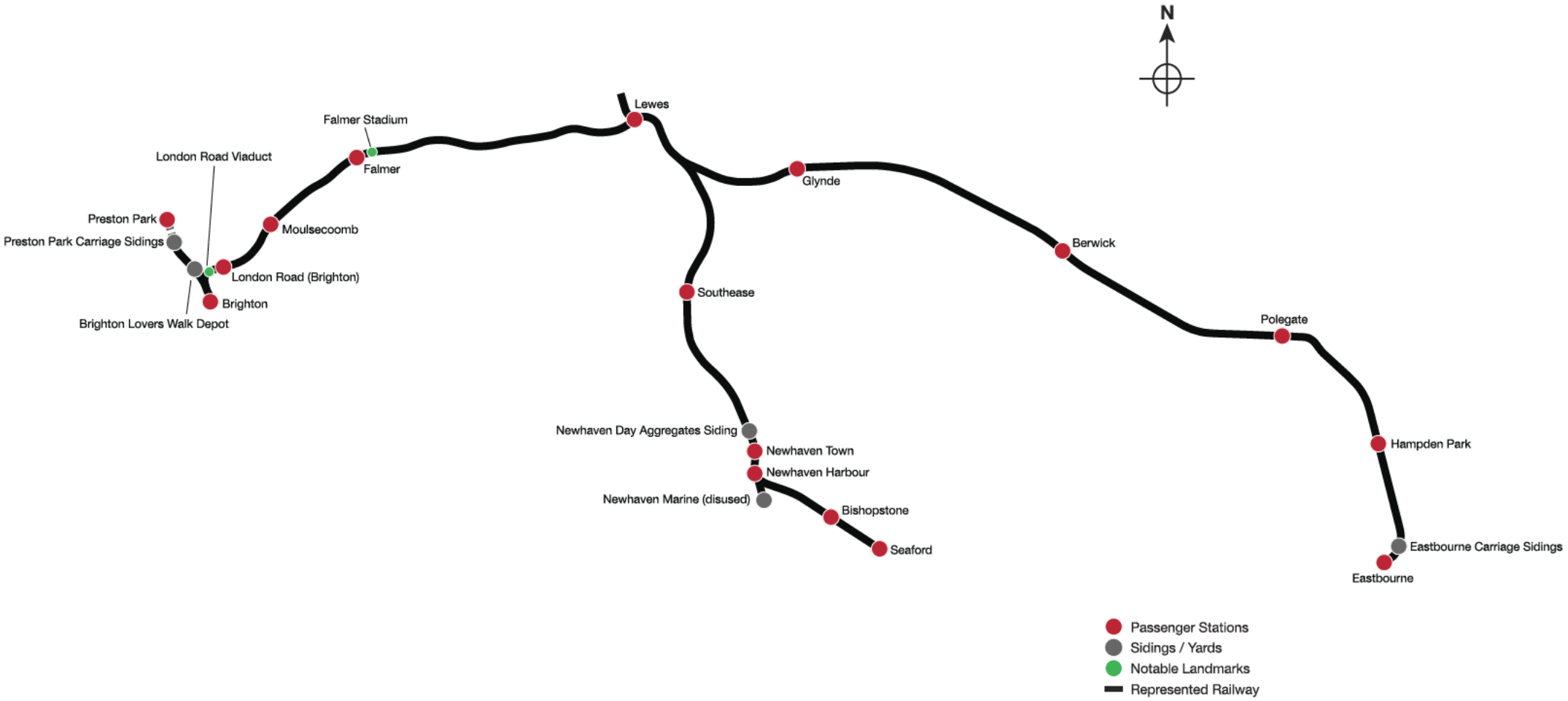
As popularity grew, so did the desire to extend railway lines along the south coast. The Brighton, Lewes and Hastings Railway was established in 1844 to build a line east out of Brighton station, with the first destination of Lewes being reached 2 years later. The most striking feature of the line was an impressive viaduct over the valley adjacent to Brighton, which still stands to this day and offers a spectacular view of the seaside town.

The railway was soon extended via Polegate, where a station and railway triangle was built to serve Eastbourne. A branch from the main line was also built and connected to Lewes so services from London could bypass reversing at Brighton. As all these changes were happening, stations such as Lewes and Eastbourne had to be rebuilt, re-sited and expanded until finally becoming as they are today.

Another branch would be built from just beyond Lewes and head down to Seaford. This branch was opened in 1864 and served the channel port of Newhaven, where ferries operate shuttle services to and from Dieppe, France. Newhaven is renowned amongst train enthusiasts for its Marine station, which spent years in disarray yet still received the occasional “ghost train” until it was officially closed to be turned into an aggregate siding.

Today, services on the East Coastway are operated by Southern, with 6 trains per hour operating between Brighton and Lewes, 2 of which terminate there, another 2 head to Seaford, and the final 2 make their way to Eastbourne. Additionally, services from London join the line at Lewes, making for additional traffic between there and Eastbourne.

East Coastway Route Map & Key Locations



An Introduction to the BR Class 377/4

The British Rail Class 377 is part of the Electrostar family, which itself is the most common type of train in the UK since privatisation with over 480 trainsets produced. The Class 377 was ordered to replace aging rolling stock on the Southern network, and the bulk of the fleet comes in the form of the Class 377/4, which was a slight evolution of the Electrostar design featuring improved headlights. A total of 74 Class 377/4s were built between 2004 and 2005, and they operate across Southern's third rail network, including the East Coastway.

Quick Start Guide: BR Class 377/4

1. Enter the Forward Driving Cab (the cab you will be driving from) and press the Aux On button.
2. Enter the rear cab (the opposite end of where you'll be driving from) and check the following:
    a. Master Key is out.
    b. Combined Throttle & Brake is in the Step 3 position.
    c. Reverser is Off.
    d. The Safety Systems Isolation Switches Panel (secondman's side) are set as ISO for the following:
        i. AWS
        ii. DSD
        iii. Vigilance
        iv. DRA
    e. The Safety Systems Isolation Switches Panel are set as Normal for the following:
        i. Traction Interlock
        ii. Pass Comm

        iii. Emergency Brake Supply
        iv. MITRAC
    f. Set the taillights to On and ensure no headlight position is set. Visibly check that taillights are displaying correctly.
    g. All cab access doors and windows are closed, and interior lights are switched off when leaving the cab.
3. Enter the forward cab (the driving position) and check the following:
    a. Master Key is On.
    b. Reverser is in the Neutral position.
    c. Combined Throttle & Brake is in the Step 3 position.
4. If you wish to run with AWS enabled:
    a. On the Safety Systems Isolation Switches Panel (secondman's side), move the AWS switch to Normal.
5. If you wish to run with DSD enabled:
    a. On the Safety Systems Isolation Switches Panel (secondman's side), move the DSD and Vigilance switches to Normal.
6. If you wish to run with DRA enabled:
    a. On the Safety Systems Isolation Switches Panel (secondman's side), move the DRA switch to Normal.
7. Sit in the driver's seat.
8. Move the Reverser to the Forward position
9. If you enabled AWS:
    a. The AWS alarm will be sounding, press the AWS Reset Switch to clear it.
10. If required, set the Instrument Lights to On.
11. Move the Combined Throttle & Brake to the Step 1 position until you're rolling, then apply additional throttle as required. Train speed can then be managed by careful use of the Combined Throttle & Brake.

Stopping at Stations in the BR Class 377/4

1. On approach to the station, you should always manage your speed appropriately. The timing of the brake applications will need to be timed properly to ensure a smooth and stable stop. As such, you will need to think and act well ahead. Begin approximately 1 mile from the station by moving the Combined Throttle & Brake to Step 2. Note this 'braking point' distance is influenced by numerous factors, such as the current speed of the train, the weight of the consist, the current grade and the conditions of the rails – it will be necessary for you to adjust your braking point accordingly.
2. The aim is to apply sufficient brake pressure once and only adjust it once you reach the start of the platform. As a general rule, you should always aim to be at no more than 25 mph (40 km/h) depending on the platform length. For short platforms, you should aim to be at no more than 15 mph (24 km/h) when you reach the start of the platform. Avoid fanning (moving the handle back and forth) the Combined Throttle & Brake handle.
3. As your speed reduces below 7 mph, move the Combined Throttle & Brake to Step 1 to reduce the brake pressure in preparation for the stop. This will prevent the wheels locking up and causing the train to judder.
4. Once the train has reached a full stop, move the Combined Throttle & Brake to the Step 3 position to secure the train.

Passenger Door Controls

In Train Sim World, you can control the passenger entry and exit doors on each side independently i.e. either left side or right side. A simple method of control has been implemented for the included trains. Simply hold the left D-Pad to call up the menu and select on which side of the train you wish to lock/unlock the doors.

On the included BR Class 377/4 you can also directly interact with the passenger saloon doors with the appropriate door controls in the driver's cab. Follow the instructions below:

1. When stopped at a station, make note of the platform side of the train.
2. Move the Combined Throttle & Brake lever into the Step 3 position to secure the train.
3. In the real world, the guard or driver would depress both the Door Open and All Release buttons at the same time. However, in Train Sim World, we have simplified this process and you can either press Door Release or All Release to open the passenger saloon doors. Press the appropriate door release buttons for the side of the train you noted in step 1.
4. Once the doors are open, and you have DRA activated, click the DRA button to remind you that the doors are open.
5. Note that both Door Close Interlock lights extinguishes to advise you that the control interlock is now disabled, and the system will prevent you from applying power.

6. Once loading is complete, press the Door Close Interlock button to close the doors. Once all doors are closed, the Door Close Interlock light will light up to advise that the Door Control Interlock system is ready and control input is enabled.
7. If you have a proceed signal indication, you can now click the DRA button and begin applying power.

Enabling Driver / Train Protection Systems

By default, all trains start with all Driver/Train Protection Systems disabled. You can enable them by following either the Quick Start Guide or the instructions below:

All available systems can be enabled from the Safety System Isolation Switches Panel located in the window well of the secondman’s side of the driving cab. Simply move the appropriate switch from ISO to Normal.

The BR Class 377/4 EMU is equipped with AWS, TPWS, DRA and DSD. As standard, TPWS and AWS are combined and there is only one switch. However, TPWS has a separate isolation feature that is designed for shunting/depot movements. You can find this temporary isolation switch below the Safety Systems Isolation Switch panel.

Also note, that the DSD has a Holdover switch that you can use to temporarily withhold DSD alerts whilst shunting or coupling.

An Introduction to the BR Class 66

In 1996, the privatisation of British Rail reached freight operations, and the previously grouped divisions such as Mainline Freight, Load-Haul and Trans-Rail were due to be sold to new private owners. Wisconsin Central Transportation Systems opted to buy a majority of the divisions in one go, quickly taking charge of no less than 93% of UK rail freight operations. After consulting with the public, the new freight operating company (FOC) was named English Welsh & Scottish.

Naturally, by taking over such a significant portion of operations, EWS inherited a lot of locomotives, many of which were, at least from their point of view, ageing and proving expensive with more frequent maintenance. EWS sought to introduce a new freight locomotive for the UK, one that would be more powerful, more reliable, and more cost effective; they turned to an already-in-service design, the Class 59, as the basis for their new fleet.

EMD designed the Class 59 in the 1980s as a UK-compatible derivative of the SD40-2, and despite a handful only being built, the private companies that owned them were impressed with their powerful performance. EWS approached EMD about ordering a new fleet, and EMD offered an upgraded iteration of the Class 59; same bodyshell, but different engines and traction motors, plus the addition of self-steering bogies to reduce wear.

EWS were impressed, and ordered 250 locomotives which were to be built in London, Ontario, Canada. Initially, the new fleet were to be classified as the BR Class 61 under TOPS, but this was later changed to Class 66. The first Class 66 arrived on UK soil in June 1998, and deliveries continued consistently until December 2001.

The Class 66 fleet proved to be a success, EWS owned such a majority of the freight market that the new locomotives could be seen practically anywhere, on everything from spoils trains to container freight, aggregate duties and engineering works. As they were the prime culprit, in many enthusiasts' eyes, for the withdrawal of countless British-built locomotives, the Class 66 became known as "The Red Death", however they were warmed to enough at least to warrant a nickname, the "Shed", owing to their shed-like roof profile. Nevertheless, the Class 66's reliability and versatility has been key to a competitive rail freight market.

Freightliner, GB Railfreight and Direct Rail Services would also go on to ordering the Class 66 in bulk from the late 1990s to 2015, by which point stringent emission regulations put a cap on the class, and the final locomotive, 66 779, was delivered in February 2016 and named 'Evening Star', sporting a nostalgic BR Green livery. Despite the last being built however, a total of 455 Class 66 locomotives have been delivered to the UK over the past 19 years; a resounding achievement for rail freight operations in the UK.

The EWS-bound Class 66 fleet was first seen of course in the Red and Yellow EWS livery, with the stylistic "Beasties" logo depicting the heads of a lion (England), dragon (Wales) and stag (Scotland). In 2007, Deutsche Bahn purchased EWS and assumed control of all operations.

Quick Start Guide: BR Class 66

1. Enter the leading cab
2. The Master Key of the Class 66 is in fact the reverser lever itself, it can only be inserted or removed when the handle is in the neutral position. To insert the Master Key click on the reverser control housing (the part that the handle is inserted to).
3. The brake control on the Class 66 is a Proportional control. This means you apply and release the brake by adding or removing air in the system. Moving the Automatic Brake handle forward increases the air in the system and thus the force of the brake increases, moving it backward, releases the air from the brake and thus reduces the force. Press and hold the Automatic Brake control forward until the Brake Pipe Control gauge reads 3.4 bar.
4. If the Parking Brake is applied, denoted by the Dowty indicator on the control desk, press the button to release it.
5. Press the Engine Start button to start the engine.
6. The train starts with all safety systems disabled, to activate them, locate the controls in the right-most cabinet behind the driving position. The train is fitted with Automatic Warning System (AWS), Train Protection and Warning System (TPWS) and Driver Vigilance Device (DVD). The relevant controls will therefore become enabled upon activating the system.
7. On enabling the AWS system, this will also enable the TPWS system as both systems are interlinked. A self-test will commence, and you will need to acknowledge the alert to proceed. Press the Q key on your keyboard to do so.
8. On enabling the DVD system, you will hear an alert periodically that you will need to acknowledge using the Q key. If you do not react quickly enough, the train will commence an emergency brake application.
9. Set your headlights to the correct running mode, Day Mode during daylight hours from 8am until 8pm; Night Mode during twilight and evening hours from 8pm to 8am

or where it is necessary to improve visibility for users of the railway and trackside signage.

10. Ensure all cab doors are closed, including the rear cab.
11. To move your train, simply move the reverser to the forward position, release the brake by moving the Automatic Brake control backward until the Brake Pipe Control gauge reads 5 Bar. Move the power controller to notch 1. As the train begins to move, you can then select any other power notch, ensuring you do not exceed the Maximum Permitted Speed.

Checking Fuel Levels & Refuelling the BR Class 66

A fuel gauge (1) is located on both sides of the exterior of the locomotive, as is the Fuel Filler Cap (2). See the image below.

Refuelling the locomotive can be achieved by following these instructions:

1. Stop the locomotive at an appropriate fuelling point.
2. Move the Reverser into the Off position and remove the handle.
3. Move the Proportional Brake Lever (PBL) to increase the brake pressure above 4 Bar (58 PSI) to secure the train.
4. Fully apply the Handbrake.
5. Leave the loco via the nearest door to the fuelling point.
6. Locate and remove the Fuel Filler Cap which is located on either side of the loco's fuel tanks.
7. Pick up the Fuelling Hose from the Fuelling Point and insert it into the Fuel Filling Pipe.
8. Return to the Fuelling Point and activate the control to begin refuelling.
9. Watch the Fuel Gauge and wait for the fuel tanks to fill to the full level.
10. Remove the Fuelling Hose and replace it into the Fuelling Point receptacle.
11. Replace the Fuel Cap.

The locomotive is now refuelled.

Managing Heavy Freight in the BR Class 66

Power Delivery

Heavy trains require careful management of the locomotive's driving controls to ensure the train is well under control. It is essential that you are fully familiar with the driving controls, the sequence they should be operated in, the locomotive's power characteristics and braking performance. You also need to have a good understanding of how your train will behave given certain environmental factors, such as in wet conditions and for downhill or uphill grades. Knowing the route your train is expected to take including all appropriate maximum permitted speed limits, signals, signs and appropriate hazards will also stand you in good stead. Finally, knowing the total length and weight of your consist will help guide you on how much power/brake to apply.

Getting the Train Moving

1. Begin by releasing the train brake with the Proportional Brake Lever (PBL) and wait until the Brake Cylinder reads 1 Bar (14.5 PSI) – then move the throttle handle to the On position.
2. As the brakes begin to fully release, the locomotive will "take the strain". If the locomotive does not move, increase the throttle handle's position slightly until the locomotive begins to creep forward.
3. Once in motion, wait for the speed to build to 10 mph (16 km/h). Once above 10 mph, move the throttle control to notch 5.
4. Be aware of the locomotive's transitions through the field diverts (a complex system that enables the locomotive to reach higher speeds) as this can result in a change to the locomotive's handling.
5. As the locomotive's speed increases don't be tempted to keep adjusting the throttle. Always set the throttle once and wait until the train stabilises with the new power setting before then increasing or reducing power. This takes a lot of practice and experience to get right, but you will get a feel for the locomotive and its handling characteristics.

Slowing/Braking

1. In the same way as you would for stopping a passenger train, the timing of the brake applications will need to be timed properly to ensure a smooth and stable stop. With heavy freight trains, however, you need to be particularly mindful of the consist weight behind you as the stopping distance is greatly increased by the weight of your consist and you need to decide at what distance you need to begin braking. Thinking and acting well ahead will stand you in good stead. It is always better to over-brake your train than under-brake. Always begin your brake application by applying a reduction of 1 Bar (14.5 PSI) with the PBL. Note this 'braking point' distance is influenced by numerous factors, such as the current speed of the train, the weight of the consist, the current grade and the conditions of the rails – it will be necessary for

you to adjust your braking point accordingly. This takes a great deal of practice to get right.

2. The aim is to apply sufficient brake pressure once and only adjust it once you are within sighting distance of your intended stop. As a general rule, you should always aim to be at no more than 25 mph (40 km/h) by the time you are within 500 yards (457 metres).
3. Move the PBL and reduce further to around 2 Bar (29 PSI).
4. As your speed reduces below 7 mph (11 km/h), move the PBL to reduce the brake pressure to 1 Bar (14.5 PSI) in preparation for the stop. This will prevent the wheels locking up and causing the train to judder.
5. Once the train has reached a full stop, move the PBL to above 4 Bar (58 PSI) to secure the train.

Reference Section
Safety Systems: Automatic Warning System (AWS)

The Automatic Warning System is used to provide indications in the cab based on the upcoming conditions on the line. Alarms sound in the cab when approaching aspects other than green or when approaching some other fixed reason for ensuring the driver is forced to acknowledge their location and situation such as some diverging junctions.

How to Use

As you approach a signal you will observe you go over a yellow “ramp” in the “four foot” (in between the rails), this is an AWS Magnet.

If the signal aspect you are approaching is GREEN, the magnet will be energised and you will hear a clear bell/tone in the cab, you need take no further action.

If the signal aspect you are approaching is not green, the magnet will not be energised, and you will hear an alarm in the cab. You must acknowledge this by pressing the AWS Reset Switch within a couple of seconds or the train brakes will apply.

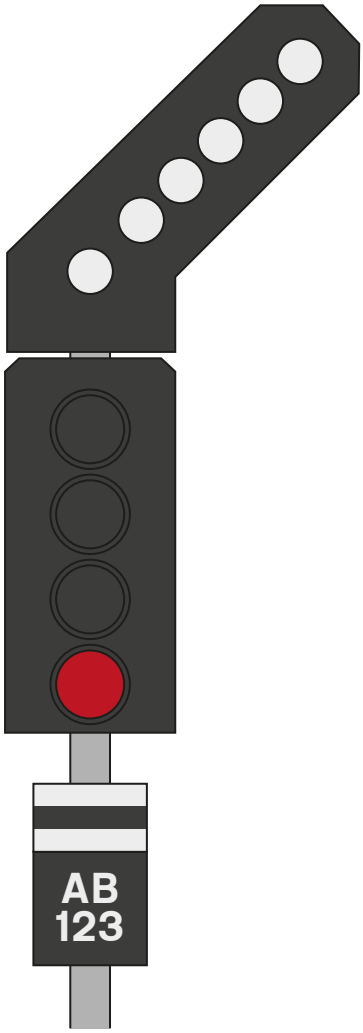
Note: Unlike some European systems there are no speed restrictions monitored with this system, it is left entirely to the driver to ensure that they will not pass a red signal and the AWS is used to provide repeated warning and driver acknowledgement of the upcoming situation on the line.

There are also fixed AWS Magnets that are permanently energised which will always cause an alarm in the cab usually because of something ahead on the line, and some AWS magnets may only trigger when the train is routed in a specific direction.

In simplistic terms, if the alarm goes off, acknowledge it and understand why it went off then react accordingly.

British Signalling Reference

British colour light railway signals consist of one or more physical components or modules that form the basis of advising the driver on the state of the route ahead. These components are:



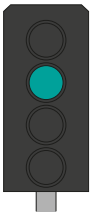
◄ Junction Indicator (also known as a feather)

◄ Main Aspect (this example shows a Four-Aspect type)

◄ Signal type identifying plate

◄ Signal identification plate

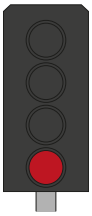
Main Aspects: Colour Light



◄ **Clear**
Proceed into the next block.

◄ **Advanced Caution**
Proceed into the next block. Expect the next signal to be at Caution.

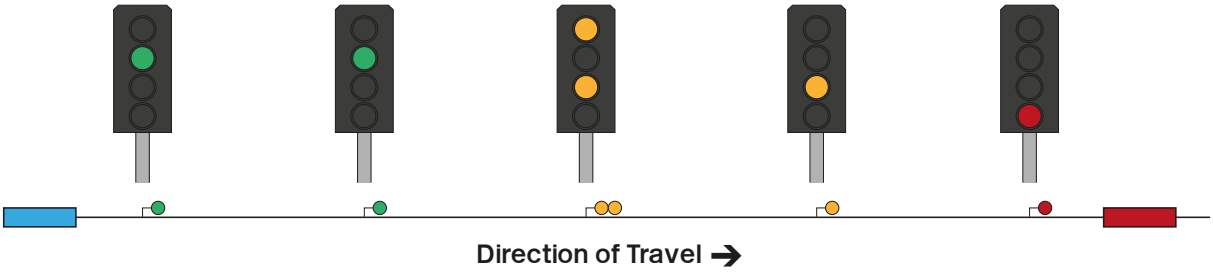
◄ **Caution**
Proceed into the next block. Expect the next signal to be at Stop.



◄ **Stop** You must not proceed beyond this signal; the next block is occupied.

The examples above show the appropriate aspects for four-aspect block signalling. For three-aspect signalling, these signals cannot display the Advanced Caution aspect but are able to show the other three. For two-aspect signalling, these can only display the Clear and

Stop aspects (except distant or fixed aspect signals). The sequence of displayed aspects runs from left to right as shown in the example below:



In the above diagram, if you are the blue train, the five signals spaced between you and the red train would follow the sequence as shown in this example. They also form a protection barrier between you and the red train. The empty space between each signal is called a block. Essentially, there are four empty blocks between you and the train in front. The distance between you and the train you are following is important as it provides you with enough distance in order to bring your train to a complete stop when travelling at the maximum permitted speed of the line.

For a three-aspect signalling system, the number of blocks would be reduced to three blocks. This means there is less braking distance between you and the train in front since three-aspect signals are incapable of displaying the Advanced Caution aspect. So, you can form the conclusion that the greater the number of main aspects a signal can display, the greater the distance between you and the train ahead and the greater the overall braking distance.

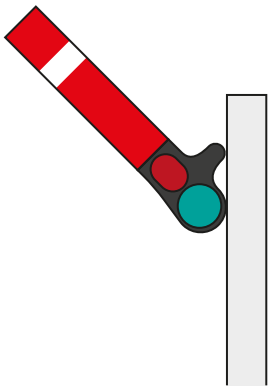
Typically, four-aspect signals are used where line speeds would be in excess of 100 mph (161 km/h). However, there may be instances where the line speed is lower but additional protection is required. For example, due to a junction with a preceding steep downhill section and therefore greater distance required for braking of heavier trains.

Additionally, each buffer stop (the end of the track as found at the end of sidings or at a terminus station) is regarded itself as a Stop signal and therefore signals further back up the line would display the appropriate aspects.

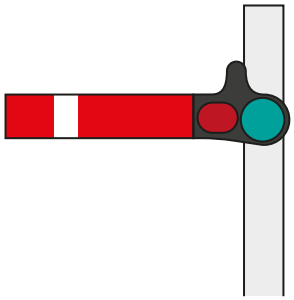
Co-Acting Signals

Co-acting signals are smaller versions of the main aspect signals and give both short and long-distance sighting of a signal. A co-acting signal repeats the exact same aspect of the main aspect and are always the same type (colour light or semaphore) as the main signal.

Main Aspects: Semaphore (Home)



◄ **Clear** Proceed into the next block.



◄ **Stop** You must not proceed beyond this signal; the next block may be occupied.

The examples above show the appropriate aspects for Upper-Quadrant signals (UQ), i.e. the signal arm raises into the upper quadrant of an arc in order to display its Clear aspect. Lower Quadrant (LQ) signals are those that drop downwards but the meaning between each type is identical. For a Clear aspect, you should regard any indication that is at a 45-degree position and, for a Stop aspect, those indications that are at a horizontal position. Note that these signals are essentially only capable of displaying two aspects and you should regard them as such when considering speed and braking effort.

Reacting to Main Aspect Signals

Clear

Continue at the maximum permitted speed for your train or for the route that has been set. If the train is fitted with AWS, a clear bell or tone will sound as you pass over the magnet that is situated on approach to the signal.

Advanced Caution

For lighter trains that have good braking, you should continue at the maximum permitted speed and look out for the next signal which is likely to be at Caution. If you are in a heavy train, are travelling at or just below 125 mph (201 km/h) or are descending a steep grade, you should begin braking as soon as you see the aspect with a 14.5 PSI (1 Bar) reduction with the Driver's or Train Brake. If the train is fitted with AWS, a warning horn or tone will sound, as you pass over the magnet, that you must acknowledge.

Caution

All trains should be braking once this signal is in sight. If your speed is such that you are unlikely to stop before the next signal, increase your braking effort to 29 PSI (2 Bar) to further reduce your speed. The aim is to reduce your speed to around 25 mph well in advance of the Stop signal ahead. If the train is fitted with AWS, a warning horn or tone will sound, as you pass over the magnet, that you must acknowledge.

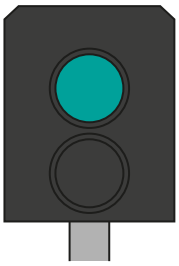
Stop

All trains must stop in advance of the signal. If the train is fitted with AWS, a warning horn or tone will sound, as you pass over the magnet, that you must acknowledge.

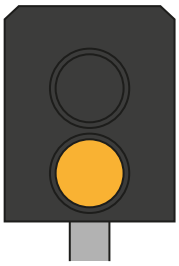
It is important that you bring your train to a stop as close to the signal as possible but ensure that you can safely read the displayed aspect from your seated position. Do not stop so close to the signal that you need to adjust your driving position in order to read the signal aspect. Also, do not stop so far away from the signal which would result in an extended distance to cover before passing the signal. This may result in the rear of the train occupying the rear-most signal block and impacting the safe movement of trains behind you.

Once you have come to a complete stop, it is considered good practice to move the Driver's or Train Brake into the full-service position to secure the train.

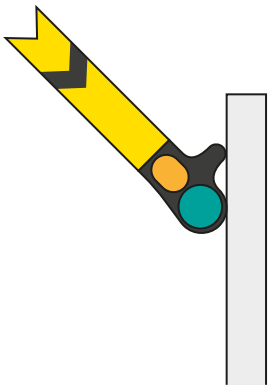
Distant/Related Aspects



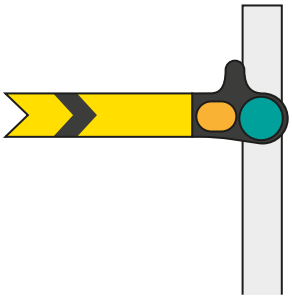
◄ **Proceed** The next signal is displaying a clear aspect.



◄ **Caution** Expect the next signal to be displaying a Stop aspect.



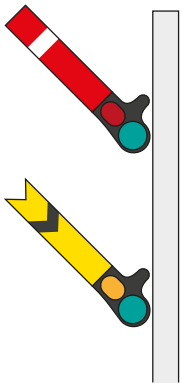
◄ **Proceed** The next signal is displaying a clear aspect.



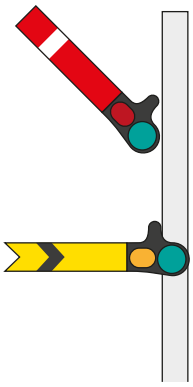
◄ **Caution** Expect the next signal to be displaying a Stop aspect.

Distant signals, sometimes referred to as Related Signals, essentially provide advanced warning of the aspect being displayed on the next block signal (the signal it is related to). You are not required to take any action at distant signals, but they can be useful for providing extra braking distance when you have a heavy or fast train.

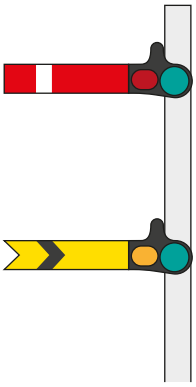
Combined Main Aspect & Distant Semaphore Signals



◄ **Clear**
Proceed, both this signal's block and the next block are clear.



◄ **Caution**
Proceed, this signal's block is clear but the next signal's block is occupied. Be prepared to stop short of the next signal.

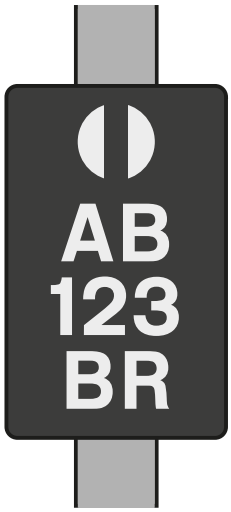


◄ **Stop** You must not proceed beyond this signal; the next block is occupied.

Identifying Signal Types

Most colour light signals carry identification plates that aid the driver in understanding how they should regard the indication the signal is displaying. Understanding how to read the identification plate can be useful in determining what type of signal is providing you with instructions or guidance.

The identification plate is typically mounted to the post that carries the main signal aspect head. However, due to placement or clearance issues such as when signals need to be placed on the ground in stations, the identification plate may be mounted on top of the signal head. The identification plate can be broken up into three dedicated sections:



◄ The upper part of the identification plate employs a form of code that advises the driver on what type of signal is deployed. In this instance, a three-aspect banner repeater signal.

◄ The alphanumeric characters **AB 123** are the signal's area code and the signal number in that area.

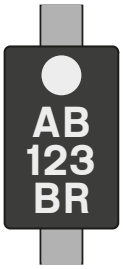
◄ The suffix characters further advise what type of signal is deployed. In this instance, the letters BR mean Banner Repeater.

Here are some additional signal ID plates that are commonly used:

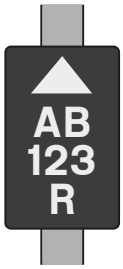
◄ Signals that carry no type identification are called Controlled Signals. This means the signal is directly controlled by a signaller or controller.

◄ The horizontal black band signifies that this is an automatic signal that sets its aspect based on the passage of trains and not by a signaller.

◄ With the word "SEMI" added, this advises that this signal is semi-automatic and can be controlled by a signaller if required.



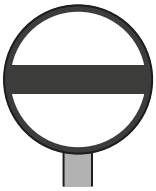
◄ Slightly different to the three-aspect Banner Repeater shown in the example above, the solid circle and "BR" suffix signifies this is a two-aspect Banner Repeater.



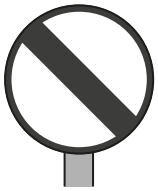
◄ The white triangle signifies that this is a distant signal and can sometimes be displayed with or without the triangle or the "R" (Repeater) suffix, but never both.

◄ The "CA" suffix indicates that this signal is a co-acting signal.

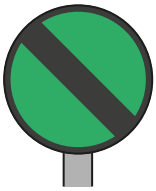
Banner Repeater Aspects



◄ **Caution** Expect the next signal to be displaying a stop aspect.



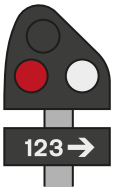
◄ **Proceed** The next signal is displaying a clear or caution aspect.



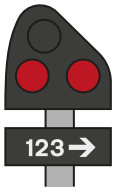
◄ **Clear** The next signal is displaying a clear aspect.

Banner Repeater signals should be treated in exactly the same way as Distant/Repeater Signals. These signals are often used where visibility of the main signal is reduced or obstructed.

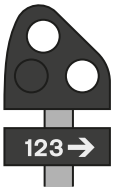
Position-Light Aspects



◄ **Stop** The line ahead may be obstructed, do not proceed beyond this signal without permission.



◄ **Stop** The line ahead may be obstructed, do not proceed beyond this signal without permission.



◄ **Proceed** at caution toward the next train, signal or buffer stop, and be prepared to stop short of any obstruction.

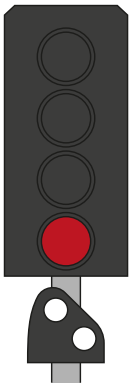
Semaphore Position Aspects

◄ **Stop** The line ahead may be obstructed, do not proceed beyond this signal.

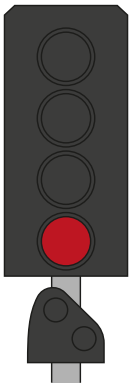
◄ **Proceed** at caution toward the next train, signal or buffer stop, and be prepared to stop short of any obstruction

Call On / Proceed on Sight

If the position-light is affixed below a main aspect signal, there may not be any indication provided as these indicators are incapable of displaying a red Stop aspect in the same way that Position-Lights do (above). If this indicator is unlit, you should always obey the main aspect. Typically, the position light below the main signal would be lit if movement authority is granted where the main aspect cannot provide an indication other than Stop (for example if the line ahead is occupied when coupling to vehicles in a station or siding). For these signals, you need to regard the signal as one indication even though there may be multiple aspects displayed:

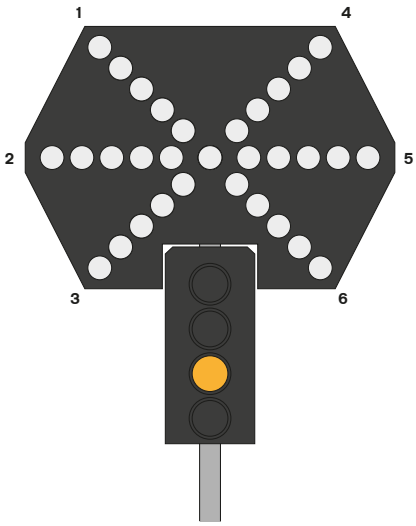


◄ **Proceed at Caution** toward the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



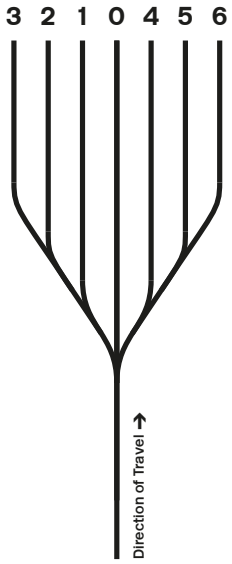
◄ **Stop** You must not proceed beyond this signal; the next block is occupied.

Junction & Route Indicators: Colour Light

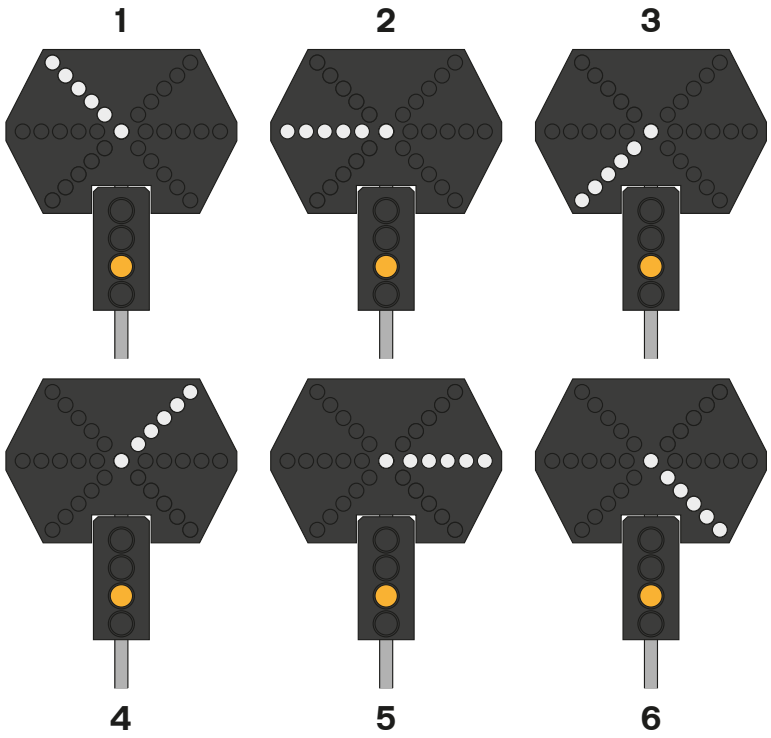


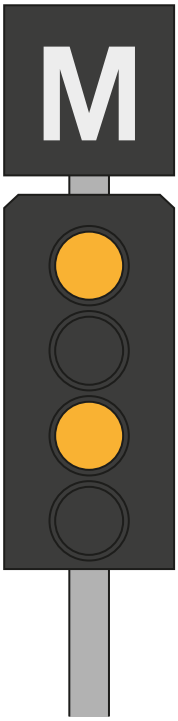
◄ The junction indicator can display up to 7 possible indications for each of the possible routes you can take. The guidance provided by this indicator is not easily understood as routes 2 and 5 seem to imply you'll be taking a sharp left and right turn and routes 3 and 6 imply you will be turning completely around – something that's not possible with trains!

Instead of reading these indicators in a literal fashion, you need to regard these indicators as a form of code with each of the routes, 1 through 6, having a different meaning as shown in the image below.



◄ The straight-ahead route (0) would normally have no indication displayed on the junction indicator and only the main aspect would be shown. Where a route is set to the first diverging route (1), the indicator for this route would be lit forming an upper-left diagonal line. Each of the routes would always be formed of a single white line to indicate the set route:



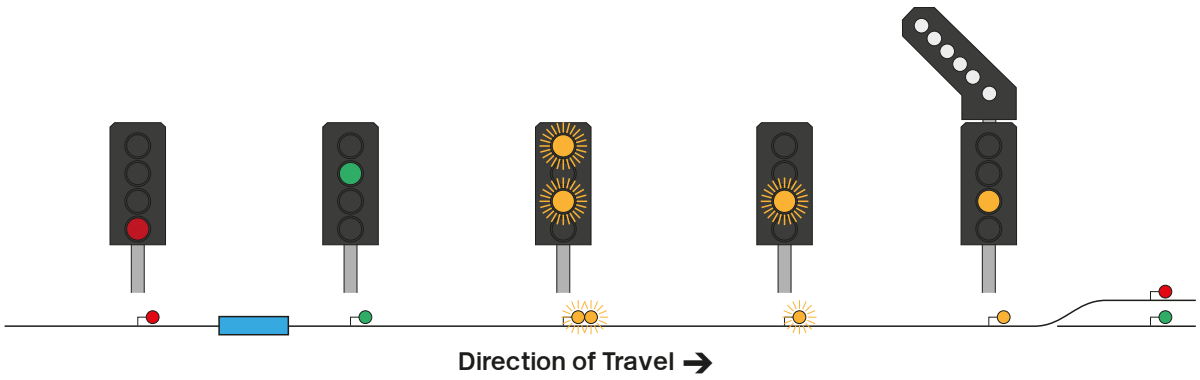


◄ The theatre route indicator style works in exactly the same way as a junction indicator but provides the routing notification via alphanumeric characters. The example shown here shows an ‘M’ indication, usually relating to Main or, that your train is being routed via the main line. Some other possible indications are provided below:

#	Numbers usually relate to platform or siding numbers.
M	Usually relates to Main Line, combinations can also include DM for Down Main and UM for Up Main.
R	Usually relates to Relief Line (a line that runs alongside or near to main running lines and provides additional capacity). Combinations can also apply.
G	Usually relates to Goods Line (a line that runs alongside or near to main running lines that’s exclusively used by freight trains). Combinations can also apply.
A	All alphabetic characters can be displayed and usually relate to a station, town or area that the routing is heading toward. For example, an ‘S’ indication would imply a routing toward Swindon or could be advising of a Slow Line routing. Route knowledge of these indications is essential as different indications can imply different meanings.
S	Usually relates to Slow Line (a line that has a lower permanent speed limit than that of the main lines). Combinations can also apply.
F	Usually relates to Fast Line (a line that has a higher permanent speed limit than that of the main lines). Combinations can also apply.
X	Usually relates to a route that requires a reversing manoeuvre such as accessing a goods unloading point in a siding. Combinations can also apply.

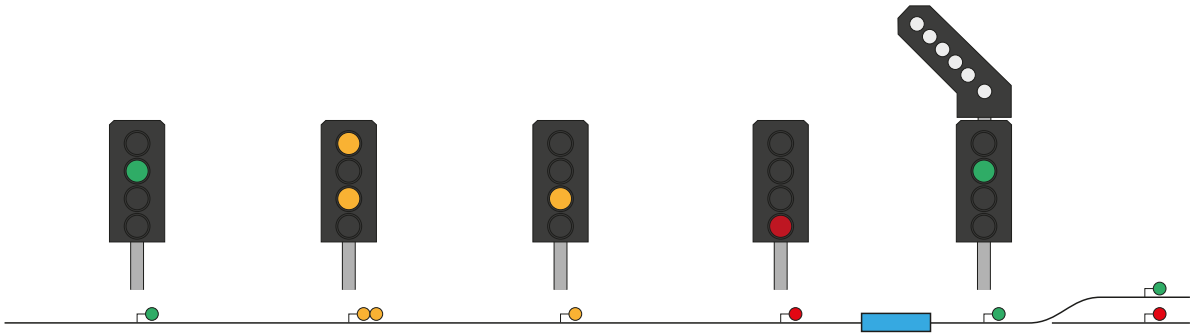
Flashing Aspects

When approaching a junction, you will find the sequence of signals to be slightly different in that the Advanced Caution and Caution aspects will flash (modern-day routes only).



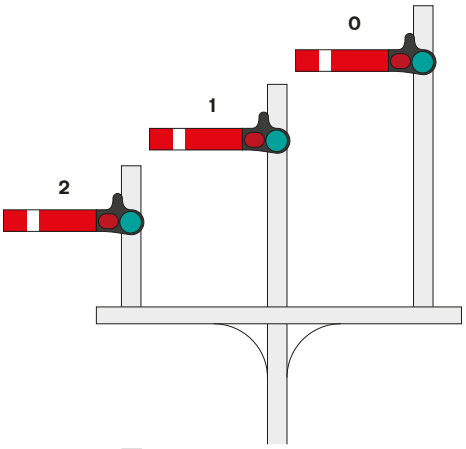
The flashing aspect itself should be treated in exactly the same way as its non-flashing counterpart (they have the same meaning). However, the difference is that the junction signal itself will only display the next degraded meaning for the diverging route’s signal (shown in red above) and all preceding flashing aspects will all degrade in sequence from

the junction signal, irrespective of the aspect displayed on the junction signal. Junction signals typically employ approach control. This essentially means that all signals in advance of the junction will display a fixed pattern whilst you are approaching them and it is not until you are within a set distance from the junction signal that its aspect will improve (provided that the route ahead is also improved) as shown in the next example.

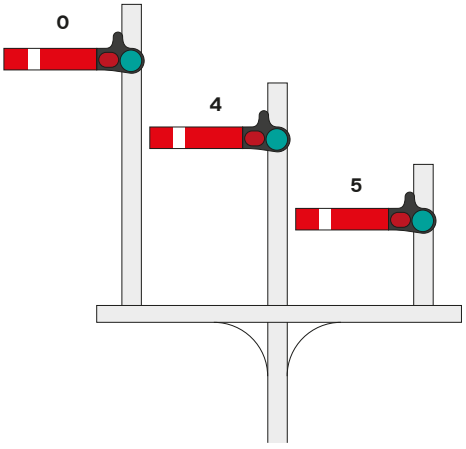


Note that now your train is in the approach block of the junction signal, the aspect has now improved to Clear as the proceeding signal on the diverging route is now also at Clear.

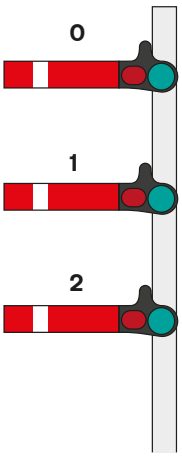
Junction & Route Indicators: Semaphore



◄ Unlike colour light junction indicators, the semaphore signal uses a cascaded or “stepped” style to aid in readability. The taller signal relates to the straight-ahead route (or primary route) with the lower signals relating to the diverging routes as shown in the previous diagram.



◄ For routes 4 and 5, a mirrored stepped style signal is used to aid in readability.



◄ Junction semaphore signals can also be “stacked”. These are read in exactly the same way as the “stepped” type.

Railway Signs

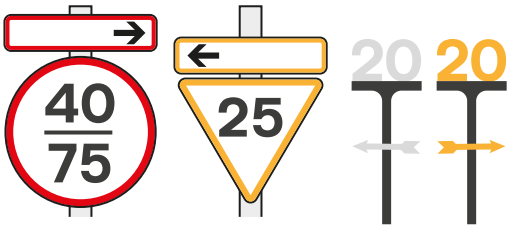
Maximum Permitted Speed

◄ The modern style of maximum permitted speed sign which, in this instance, requires you to not exceed 25 mph (40 km/h).

◄ The signs can also be stacked to show differential limits. The bottom limit is always the higher limit and applies to passenger and mail/parcel trains and light locomotives. All other trains must obey the top limit.

◄ The “Morpeth Board” advises the driver that the maximum permitted speed will decrease ahead. You should begin to slow to match this new speed before you reach the new limit ahead.

◄ Warnings about reductions in differential speed limits can also be provided in the Morpeth Board.



◄ All speed-related signs can also display an arrow that advises to which line this sign applies to.

◄ The older “cut-out” style of maximum permitted speed sign, can either be in white or yellow and essentially should be regarded in exactly the same way as modern signs.

◄ Cut-out style signs also follow the same convention as their modern counterparts.

◄ The cut-out style signs are a little hard to read but can also advise of similar reductions in speed. However, they were not widely used, and you should not rely on sighting such a sign and instead rely on route knowledge to navigate speed limits.

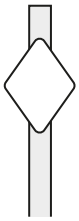
◄ This also applies to cut-out style signs.

Whistle Boards

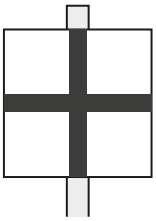
◄ The modern variant of the whistle board at which the driver must make a clear single loud tone on the horn if between the hours of 7:30 am and 11:30 pm. At some sites, particularly at crossings it will be necessary to use a loud two-tone horn. Between the hours of 11:30 pm and 7:30 am, drivers must use discretion in use of the horn and should use a low tone except when required to warn other users of the railway of your approach, loud tones can therefore be used for this purpose.

◄ Cut-out signs also follow similar rules but can be of varying type and can simply be a board with the word “Whistle” on it. The driver must use a sustained blast of the horn/whistle to be clearly heard. For both these signs, and the modern counterparts, you should always confirm those on the railway ahead have seen and heard your approach. When in doubt, you should make consecutive sustained blasts of the horn/whistle.

Coasting & Crossing Boards

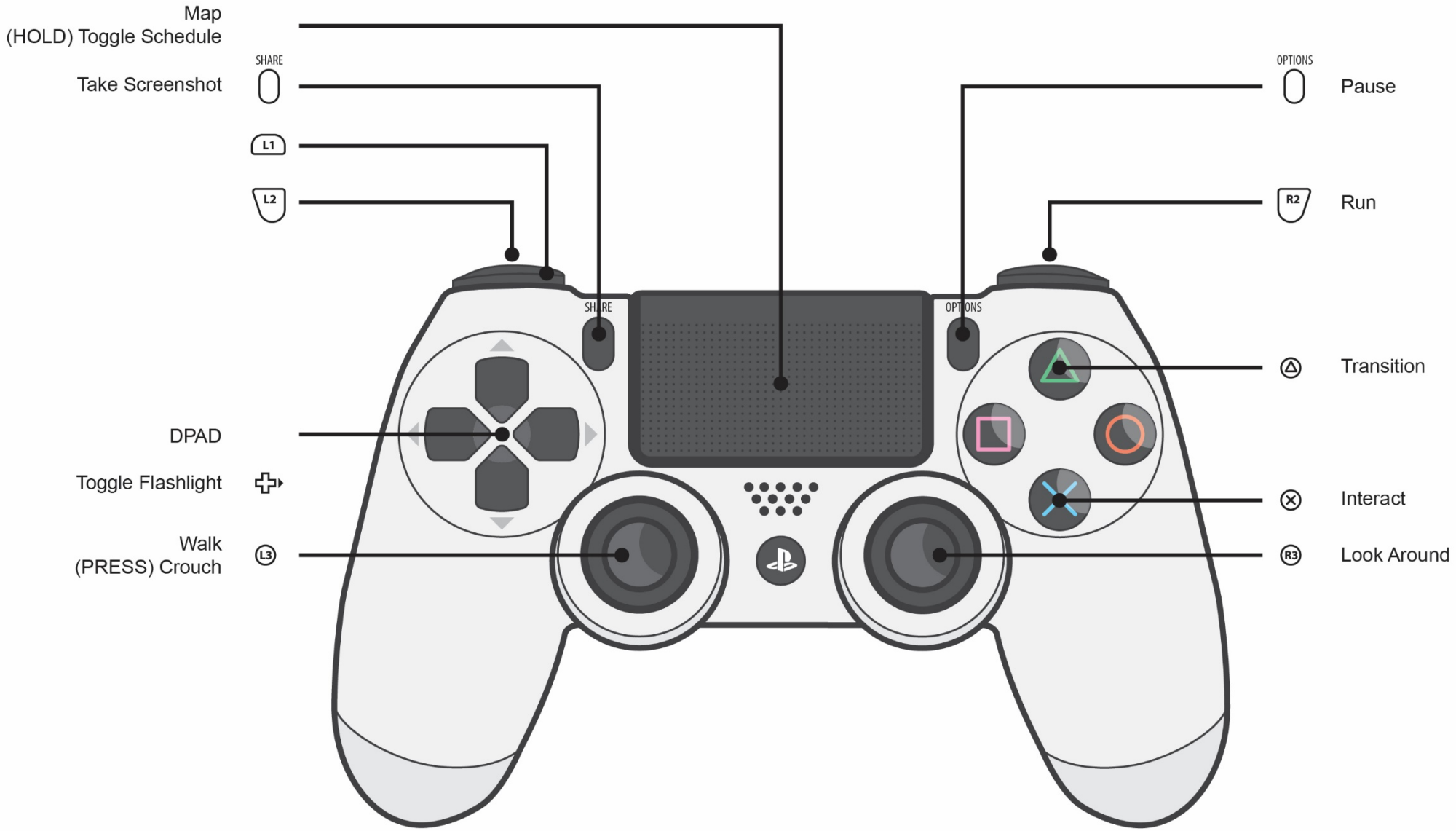


◄ The coasting board advises that the driver may coast (travelling along without power applied) to a stopping point or significant speed reduction beyond the board.

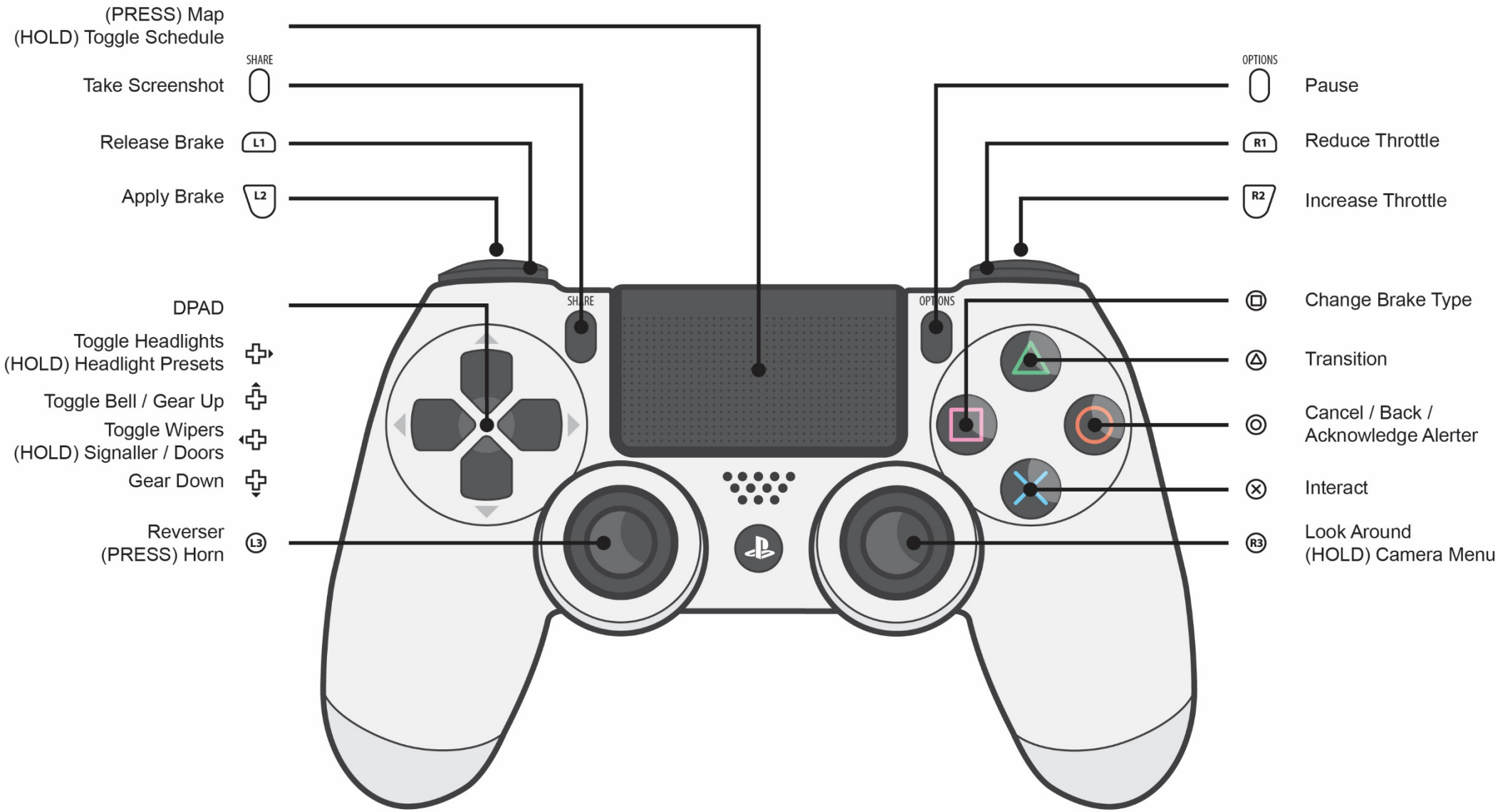


◄ The crossing warning board means that there is an automatic open/barrier crossing ahead that is locally monitored or an open crossing ahead. On crossings that are fitted with barriers, a signal is sometimes provided to advise the driver whether the crossing barriers are closed which consists of a single white light. The light will remain steady if the crossing gates are raised/open and begin to flash once the gates are lowered/closed.

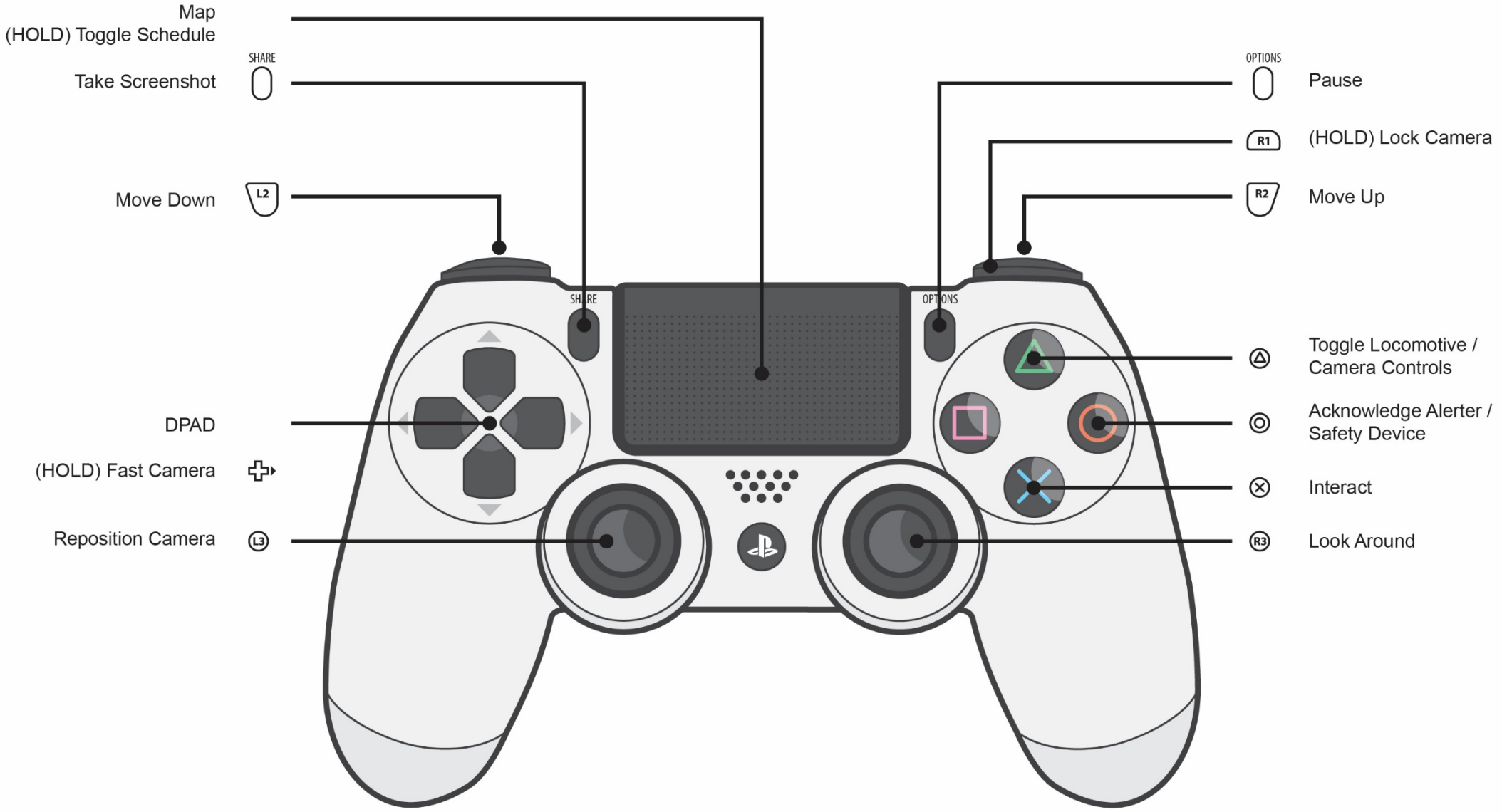
Gamepad Controls: Walking / On Foot



Gamepad Controls: Driving / Operating



Gamepad Controls: Camera



Controlling the Camera & Camera Modes

Train Sim World includes several cameras for you to control, here is an outline of those cameras and some examples of use:

First Person Camera or Cab Camera Use this camera to operate your locomotive, flip switches and handle all your cab controls.
Boom Camera Your camera extends outward on an invisible pole, you can rotate it around your focused vehicle.
Floating Camera A camera that allows you to freely look in all directions whilst locked to a vehicle. This camera is useful for coupling and changing switches.
Free Camera Freely move around without limits using this camera. Use this camera to navigate your way around a busy yard, change switches or position it to get the perfect screenshot.

Controller Modes

Input devices like the controller take on different functions which are context sensitive. This means the controls operate differently depending on what you are doing at the time

First Person Mode This controller mode is active whilst you are walking around the world or are “On Foot”.
Driving / Operating Mode This controller mode is active whilst you are engaged in driving or operating a locomotive, multiple unit or other train type.
Camera Mode This mode is active whilst you are in any one of the external camera modes whilst driving or operating a locomotive, multiple unit or other train type.
Turntable Mode This mode is only active on routes that contain turntables or transfer tables. This is specifically designed to give you easy access to rotating or translating the movement of locomotives on these special devices.

Dovetail Live

The Dovetail Forums are your one-stop destination for everything Train Simulator and Train Sim World related. We have an ever growing and vibrant community of train enthusiasts from all over the world, ranging from experienced railroad veterans to new players getting into the world of train simulation. So, if you haven't already, why not sign up for an account today and join our community – we'd love to have you on board!
See more at: **https://forums.dovetailgames.com**

Dovetail Live is an online destination which enables players to interact with Dovetail's products and each other in an environment tailored specifically to fans of simulation entertainment. Dovetail Live will evolve to become central to Train Sim World®, enriching the player experience in every way from offering rewards, building a community of likeminded players and helping every player find the right content to create their own perfect personal experience.

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