



Signals, Handsignals, Indicators and Signs Handbook

Issue 4



RS521

Published by:

RSSB

The authoritative version of this document is available at
www.rssb.co.uk

Contents approved by Traffic Operation and Management
Standards Committee.

Enquiries on this document can be forwarded to:
enquirydesk@rssb.co.uk

Signals, Handsignals, Indicators and Signs Handbook RS521



First issued December 2013
Issue 4, December 2016

© Copyright 2016
Rail Safety and Standards Board Limited

You will need this handbook if you need to understand the meaning of signals, handsignals, indicators and signs.

Contents

1

Definitions and identification of signals

- 1.1 Definitions
- 1.2 Signal types - identification

2

Colour light signals

- 2.1 Three-aspect signalling - normal sequence
- 2.2 Four-aspect signalling - normal sequence
- 2.3 Junction indicators
- 2.4 Route indicators
- 2.5 Flashing yellow aspects
- 2.6 Splitting distant signals
- 2.7 Position-light signals
- 2.8 Colour light signals not in use

3

Semaphore signals

- 3.1 Distant signals
- 3.2 Stop signals
- 3.3 Route indications
- 3.4 Semaphore subsidiary signals
- 3.5 Semaphore shunting signals that display a red aspect
- 3.6 Semaphore shunting signals that display a yellow aspect
- 3.7 Route indications by shunting signals
- 3.8 Semaphore signals not in use

4

ERTMS boards

- 4.1 Block markers
- 4.2 ERTMS lines where lineside signals are provided
- 4.3 Cab signalling boards
- 4.4 Shunt entry boards

5

Other signals and indicators

- 5.1 Limit of shunt signals or indicators
- 5.2 Stop boards
- 5.3 Possession limit boards (PLB)
- 5.4 Work-site marker boards
- 5.5 Signal passed at danger (SPAD) indicator
- 5.6 Points indicators
- 5.7 Banner repeating and co-acting signals
- 5.8 'Off' indicators
- 5.9 'Close-doors' indicator
- 5.10 'Right-away' indicators
- 5.11 Rear clear marker
- 5.12 Mid-platform train berth marker
- 5.13 Whistle boards
- 5.14 Preliminary route indicators
- 5.15 Automatic warning system (AWS) cancelling indicators
- 5.16 AWS gap indicators

6

Level crossing signs and indicators

- 6.1 Level crossing signs
- 6.2 Level crossing indicators

Contents

7

Speed indicators

- 7.1 Permissible speed indicators
- 7.2 Warning indicators
- 7.3 Permissible speed indicators at diverging junctions
- 7.4 Differential permissible speed indicators
- 7.5 Permissible speed indicators with letters
- 7.6 Enhanced permissible speed (EPS) indicators

8

Speed restriction signs

- 8.1 Temporary speed restriction signs
- 8.2 Emergency indicator

9

AC electrified line signs

- 9.1 Neutral section signs
- 9.2 Coasting signs

10

Radio signs

11

Telephone signs

- 11.1 Telephones
- 11.2 Limited clearance telephones
- 11.3 Signals without telephones

12 Other lineside signs

- 12.1** Low adhesion hazard signs
- 12.2** Sandite markers
- 12.3** Signal reminder signs
- 12.4** Countdown markers
- 12.5** Coasting boards
- 12.6** Car stop markers
- 12.7** Mile posts
- 12.8** Gradient signs
- 12.9** Spring catch points sign
- 12.10** Bridge identity plates
- 12.11** Safety signs

13 Lineside handsignals

1.1 Definitions

Stop signal

A stop signal is a signal that can show a stop aspect or indication.

It also includes:

- position-light signals
- shunting signals
- limit of shunt signals or indicators
- stop boards
- buffer stop indications
- possession limit boards
- work-site marker boards.

Distant signal

A distant signal is a signal which cannot show a stop aspect or indication.

Some colour light distant signals are identified by a white triangle or the letters 'R' or 'RR' on the signal identification plate.

Automatic signal

A signal operated by the passage of trains. The signaller or a person operating a signal post replacement switch can place some automatic signals to danger.

Controlled signal

A signal operated by the signaller, some of which may be set by the signaller to work automatically.

Semi-automatic signal

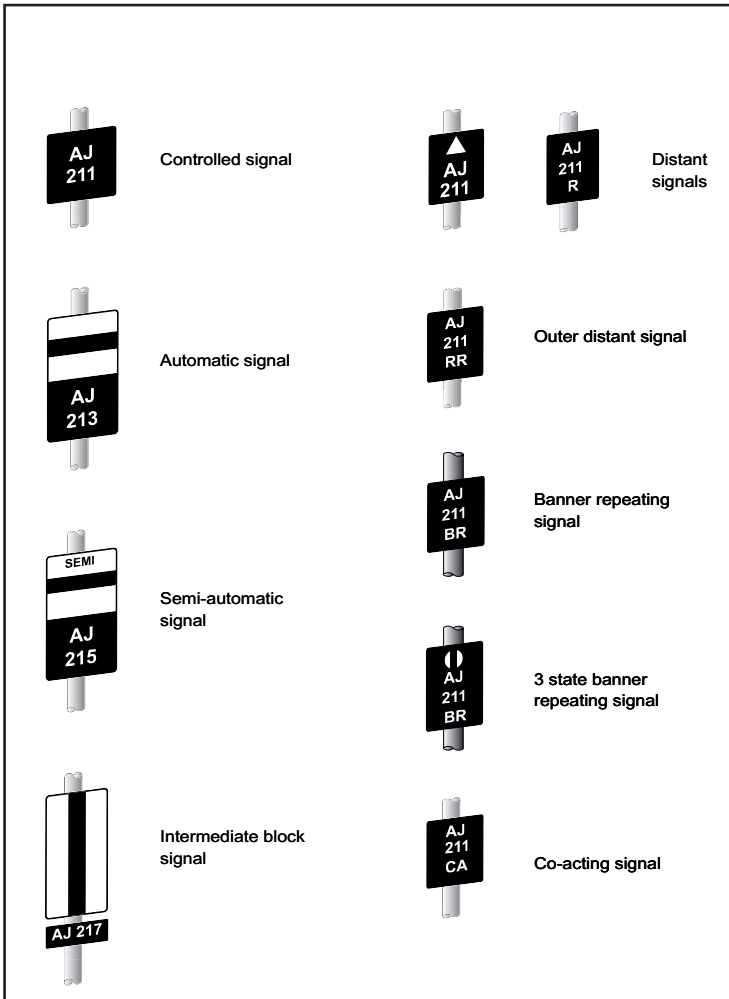
A signal normally operated by the passage of trains, but can also be controlled from a signal box or a ground frame, or by a person operating a signal post replacement switch.

Intermediate block home signal

A stop signal that controls the exit from an intermediate block section, and the entrance to an absolute block section or another intermediate block section.

1.2 Signal types - identification

The meanings of signal identification plates are as follows:

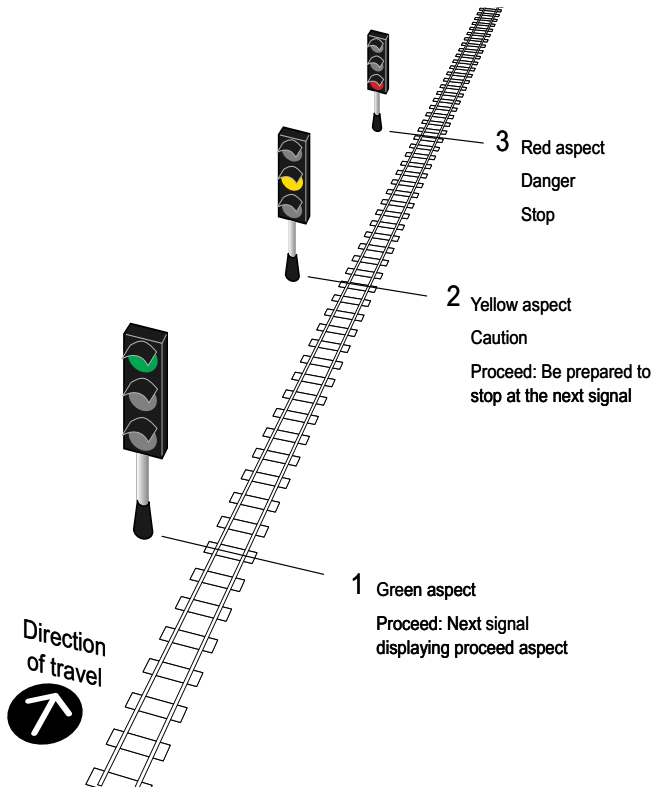


2

Colour light signals

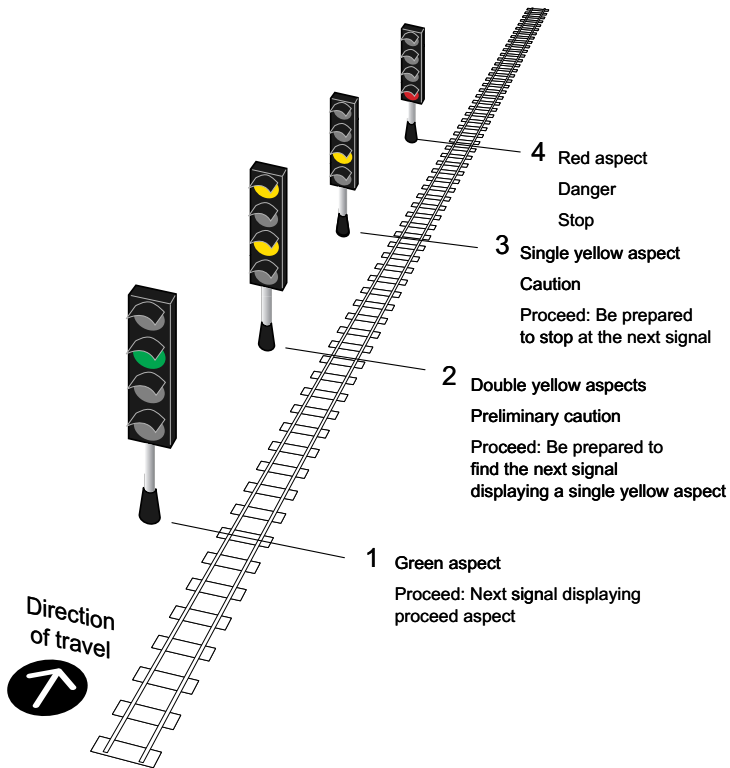
2.1 Three-aspect signalling - normal sequence

The normal sequence of three-aspect signalling is:



2.2 Four-aspect signalling - normal sequence

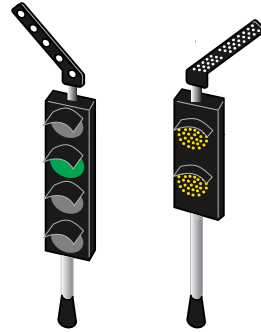
The normal sequence of four-aspect signalling is:



2.3 Junction indicators

Junction indicators are provided to show that a train is being signalled to a route to the left or right of the straight route.

A junction indicator is normally located above the signal, and will display a line of white lights when a proceed aspect is displayed.

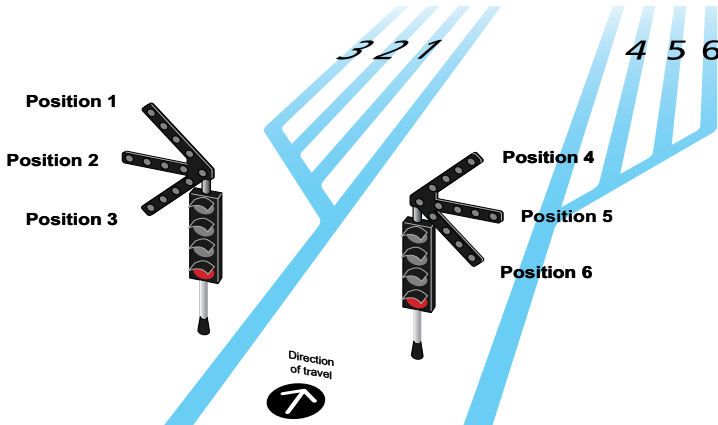


When the straight route is obvious, there is normally no junction indicator provided for this route.

Where there is no obvious straight route, a junction indicator will be provided for all signalled routes.

Where the straight route is not the highest-speed route, the junction indicator will normally apply to the lower-speed route.

Where the diverging routes ahead are both of equal speed, a junction indicator will be provided for each route.



2.4 Route indicators

At some locations a route indicator is provided at the signal. The indicator will display either a letter or a number to show the route onto which the movement is being signalled.

Route indicators may also be associated with a junction indicator.

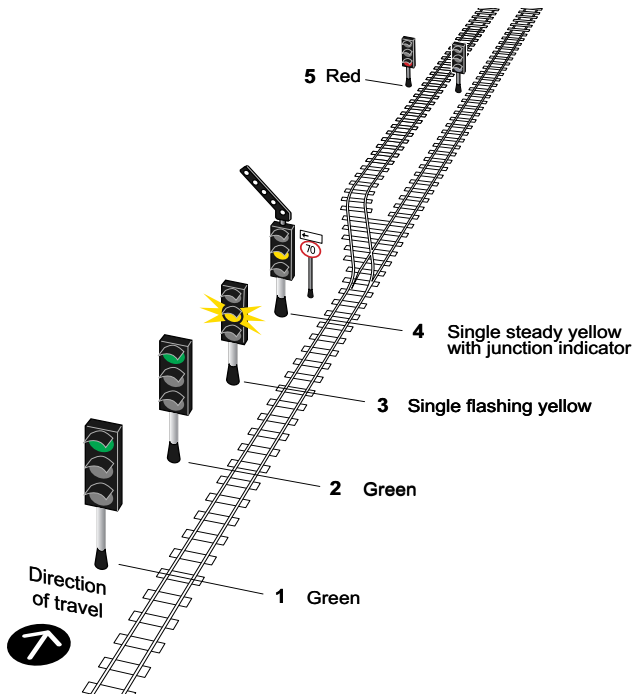


2 Colour light signals

2.5 Flashing yellow aspects

A flashing yellow aspect means facing points at a junction ahead are set for a diverging route with a lower speed than that for the straight route.

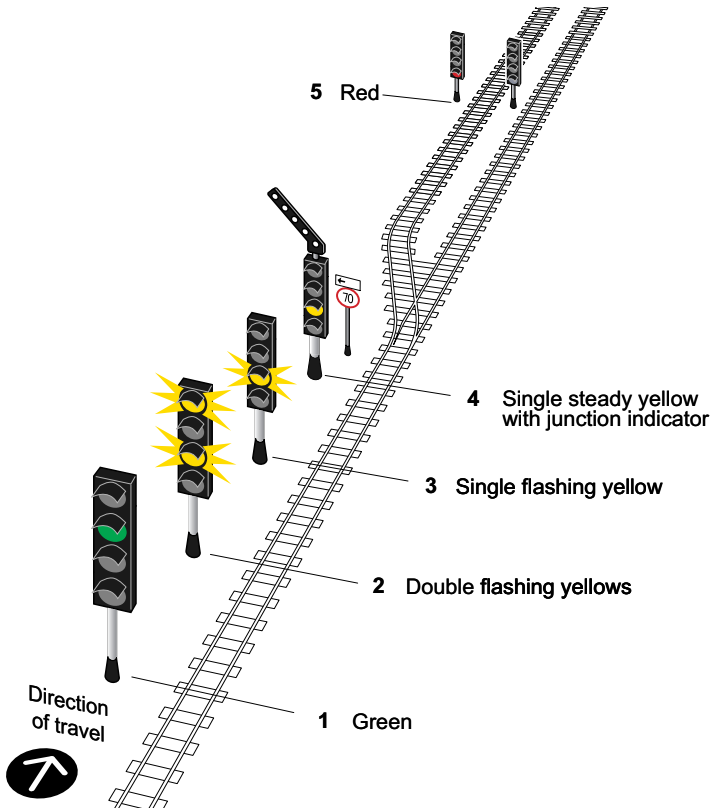
The normal sequence of three-aspect flashing yellow signalling is:



Three-aspect flashing yellow signalling

When a single steady yellow aspect is displayed together with a junction indicator at signal 4, this has the normal meaning of a yellow aspect, be prepared to stop at the next signal (number 5). This applies even though a flashing aspect may have been displayed at signal 3.

The normal sequence of four-aspect flashing yellow signalling is:



Four-aspect flashing yellow signalling

If the train is between signals 2 and 3 when signal 4 is cleared for the diverging route, signal 3 may then display one flashing yellow aspect. This applies even though a steady aspect has been displayed at signal 2.

When a single steady yellow aspect is displayed together with a junction indicator at signal 4, this has the normal meaning of a single yellow aspect, be prepared to stop at the next signal (number 5). This applies even though a flashing aspect may have been displayed at signal 3.

2 Colour light signals

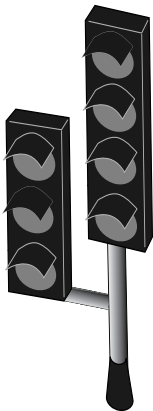
Flashing yellow signalling in ERTMS areas

For trains on which ERTMS is operating the ability of approaching signals to display flashing aspects will be disabled. Only standard aspect sequences will be displayed to these trains. Route or junction indicators will continue to operate.

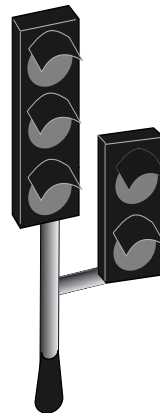
2.6 Splitting distant signals

Splitting distant signals are used to show which route is set at a diverging junction.

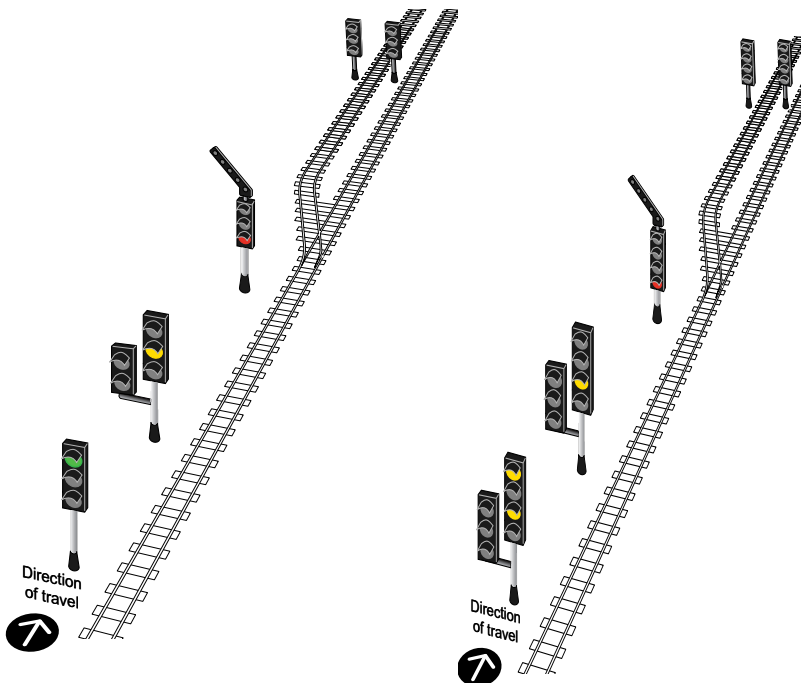
Splitting distant signals may be provided with three or four aspect signalling.



**Four aspect primary
head with left hand
off-set head**



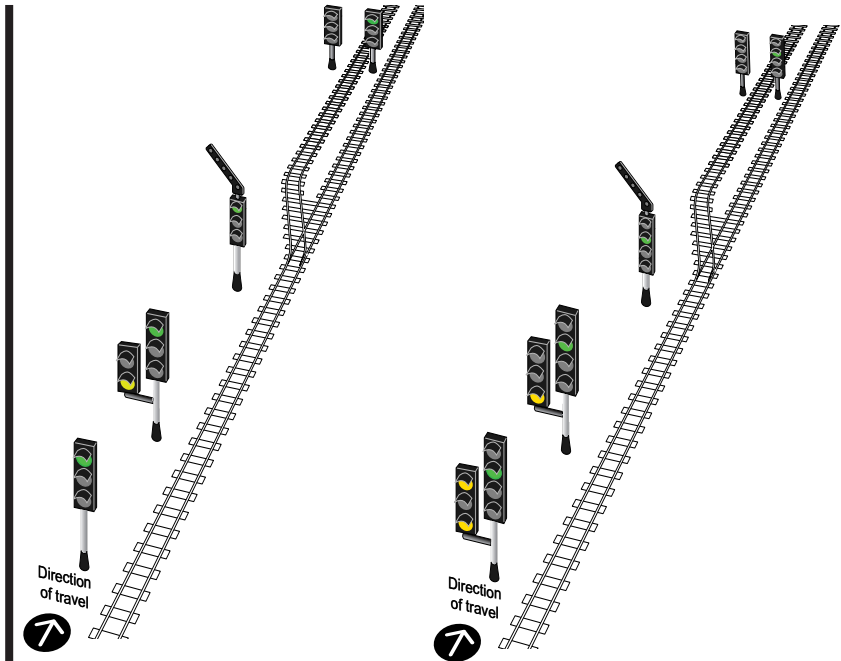
**Three aspect primary
head with right hand
off-set head**



Splitting distant signals with junction signal at danger

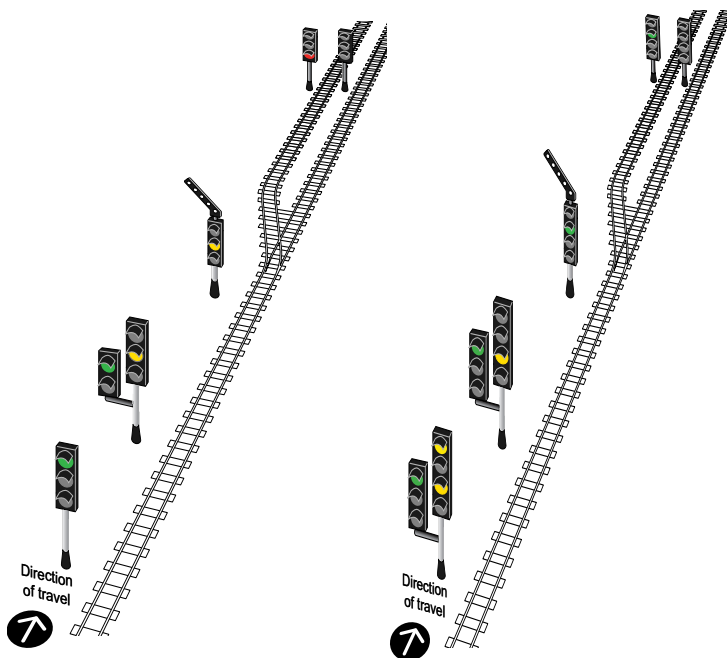
The junction signals are at danger so no aspect is shown in the off-set heads.

2 Colour light signals



Splitting distant signals with junction signal cleared for the straight route

The aspects displayed in the primary heads indicate what aspect is shown at the first signal after the junction. The off-set heads on the approach to the junction signal display aspects appropriate for the junction signal being at danger.



Splitting distant signals with junction signal cleared for the left hand diverging route

The junction signal is cleared for the left hand diverging route and is not approach released so the aspects displayed in the off-set heads indicate what aspect is shown at the first signal after the junction.

The primary heads on the approach to the junction signal display aspects appropriate for the junction signal being at danger.

2 Colour light signals

2.7 Position-light signals

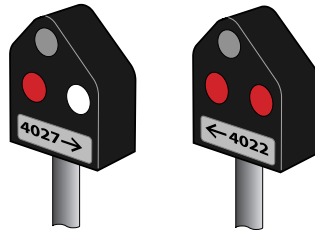
Position-light signals that display a red aspect

These position-light signals are normally positioned at ground level independent of a main aspect.

When proceeding on the authority of a main aspect, any position-light signals along the route between main running signals will show a proceed aspect.

The signal identification plate may also have a direction arrow showing the line to which the signal applies.

These indicate stop.



Position-light signals that display a yellow aspect

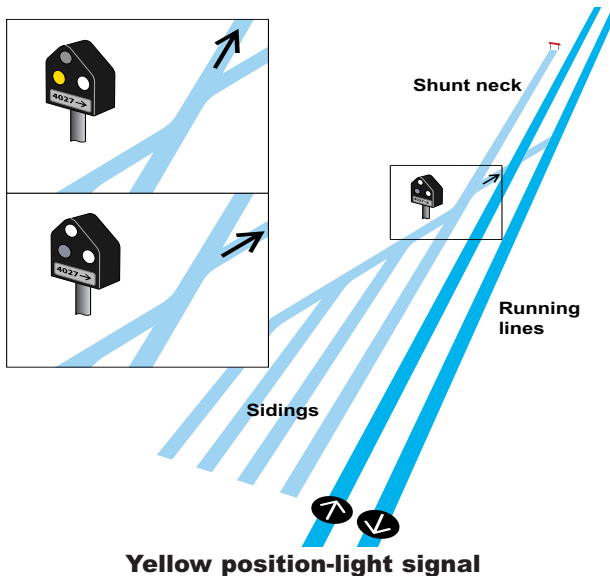
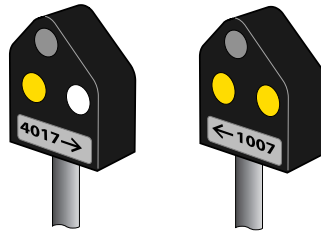
Position-light shunting signals that display a yellow aspect are stop signals applying only to movements in the direction to which the signal can be cleared. Other movements can pass the signal without it being cleared.

The signal identification plate may also have a direction arrow showing the line to which the signal applies.

These indicate stop.

The signal can be passed in the 'stop' position when a movement is being made towards the shunt neck or siding and not the running line.

The route may be obstructed, including by a train or vehicle.



2 Colour light signals

Position-light signals that display a proceed aspect

If a position-light signal displays two white lights at 45°, this authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



Position-light signals associated with a main aspect

These are normally positioned below the main aspect they are associated with, and often on the same signal post.

The normal aspect for a position-light signal is unlit. This means 'obey the main signal'.



When the position-light signal shows two white lights at 45° it authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



Colour light signals

Position light signal that has an associated route indicator

Route indicators associated with position-light signals are of miniature design, and display a letter or a number that shows the route onto which the train is being signalled.



2.8 Colour light signals not in use

When not in use, main and position-light signals are covered up.

Main aspects may also have a large 'X' displayed over the cover.



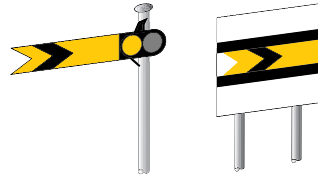
I

3.1 Distant signals

These signals show the following indications.

Caution

Indication by day: arm horizontal.



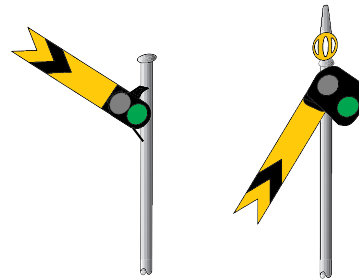
Indication by night: yellow light or reflectorised indication.

Meaning: be prepared to stop at the next stop signal, or other specified place to which the distant signal applies.

Clear

Indication by day: arm raised or lowered 45°.

Indication by night: green light.



Meaning: all associated stop signals worked from the same signal box are clear.

If there is only one distant signal provided for a diverging junction, this signal applies to all trains that approach it.

3.2 Stop signals

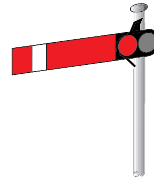
These signals show the following indications.

Danger

Indication by day: arm horizontal.

Indication by night: red light.

Meaning: stop.

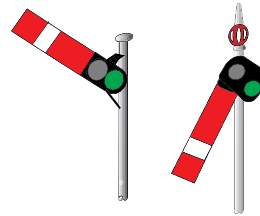


Clear

Indication by day: arm raised or lowered 45°.

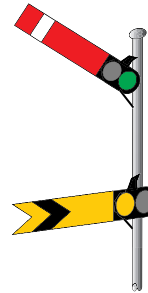
Indication by night: green light.

Meaning: proceed.



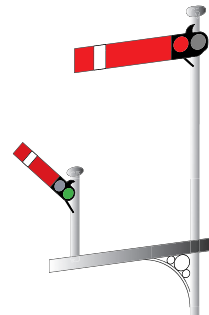
If there is a distant signal on the same post as a stop signal:

- the stop signal is worked by the signal box at that location, and
- the distant signal is normally worked by the signal box ahead.



The stop signal that controls movements into a loop, siding or no-block line may be a miniature semaphore arm.

Meaning when cleared: proceed at caution and be prepared to stop short of any train, vehicle or any obstruction.



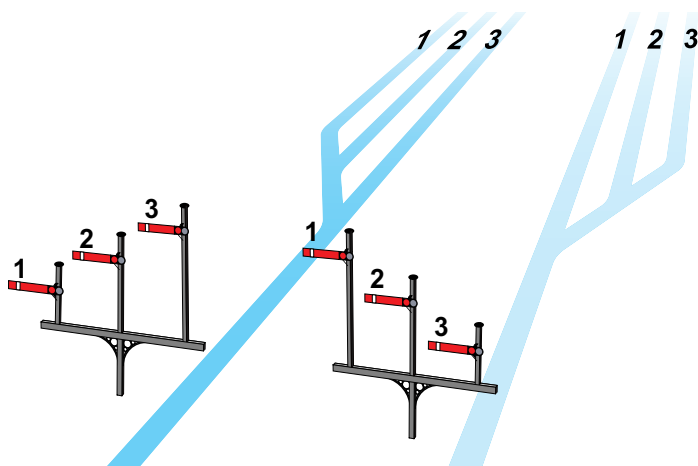
3.3 Route indications

Indications of route within semaphore-signalled areas may be given by one of the following methods.

- 'Stepping'.
- 'Stacking'.
- A route indicator.

The diagram below shows the 'stepping' arrangement of signals. This arrangement is the normal method of route indication on running lines in semaphore areas.

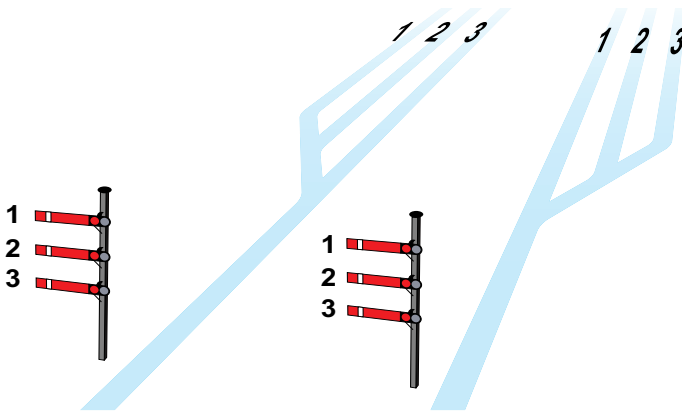
Signal 1 applies to the route on the extreme left. Signals 2 and 3 apply to successive routes to the right.



Stepping

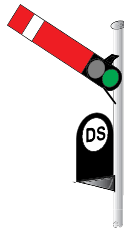
The diagram below shows the 'stacking' arrangement. This arrangement is the normal method of route indication for shunting signals in yards and sidings, and also on running lines where there is little gantry space.

Signal 1 applies to the route on the extreme left. Signals 2 and 3 apply to successive routes to the right.



Stacking

At some locations a route indicator is provided at the signal. The indicator will display a figure or letter to show the route onto which the movement is being signalled.



Route Indicator

3.4 Semaphore subsidiary signals

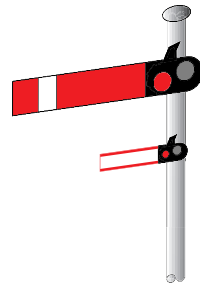
Semaphore subsidiary signals are always associated with the main arm of a semaphore stop signal.

The subsidiary signal will always be positioned below the main semaphore arm with which it is associated, and on the same signal post.

When the subsidiary signal is in the 'normal' position this means 'obey the main arm'.

The 'normal' indication is:

- the arm in the horizontal position
- a red, white or no light displayed.

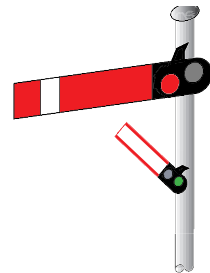


The proceed indication is:

- the arm raised or lowered 45°
- a green light displayed.

When the signal is cleared, it authorises the driver to:

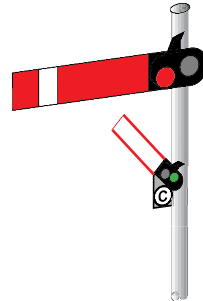
- pass the main arm at danger
- proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



At some locations, clearing the subsidiary signal will also show an indicator displaying either the letter 'C' or 'S'.

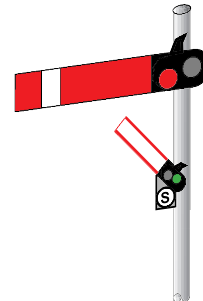
Calling-on

When this signal is cleared with the letter 'C' showing, it authorises the driver to proceed at caution towards the next train, signal or buffer stop, and be prepared to stop short of any obstruction.



Shunt-ahead

When this signal is cleared with the letter 'S' showing, it authorises the driver to proceed for shunting purposes only.



3.5 Semaphore shunting signals that display a red aspect

Semaphore shunting signals that display a red aspect are stop signals.

Shunting signals have a:

- white disc with a red horizontal bar, or
- miniature semaphore arm with a vertical white stripe.

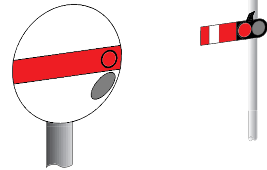
These signals show the following indications.

Danger

Indication by day: arm or bar horizontal.

Indication by night: red light.

Meaning: stop.

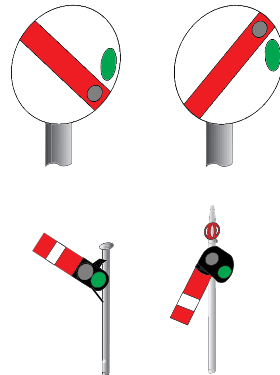


Proceed

Indication by day: disc turned 45° or arm raised or lowered 45°.

Indication by night: green light.

Meaning: proceed at caution as far as the line is clear.



3.6 Semaphore shunting signals that display a yellow aspect

Semaphore shunting signals that display a yellow aspect are stop signals applying only to movements in the direction to which the signal can be cleared. Other movements can pass the signal without it being cleared.

Shunting signals have a:

- white disc with a yellow bar
- black disc with a yellow bar
- miniature semaphore arm with a vertical black stripe.

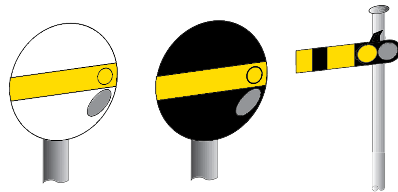
These signals show the following indications.

Stop

Indication by day: bar or arm horizontal.

Indication by night: yellow light.

Meaning: stop. The driver may pass the signal in the 'stop' position when the movement is being made towards the shunt neck or siding and not the running line.

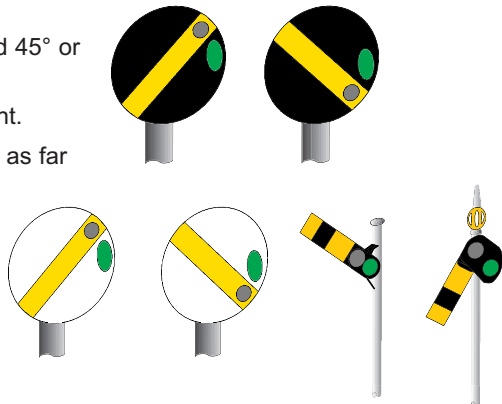


Proceed

Indication by day: disc turned 45° or arm raised or lowered 45°.

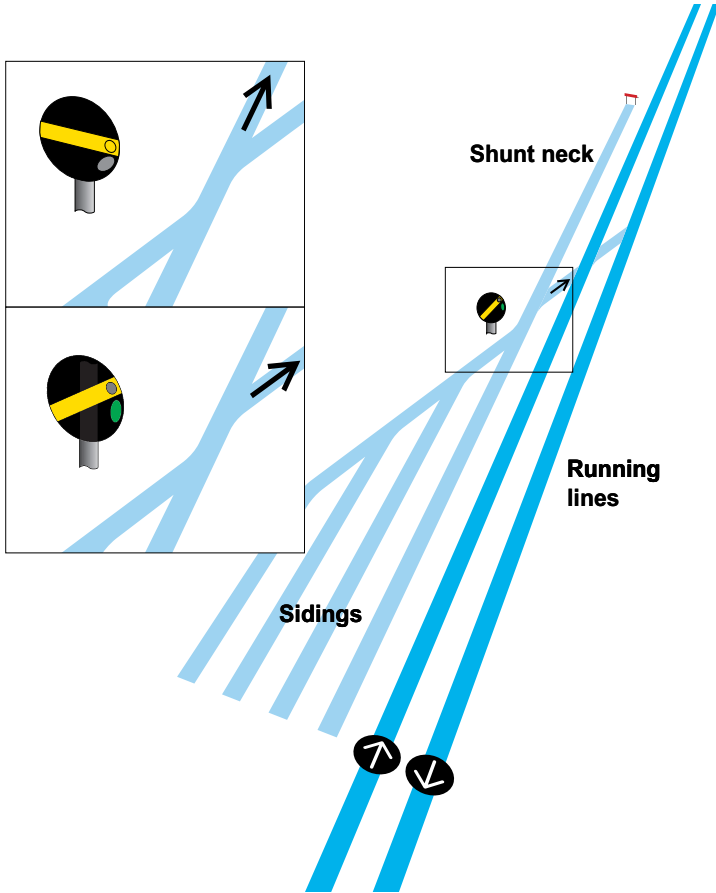
Indication by night: green light.

Meaning: proceed at caution as far as the line is clear.



3

Semaphore signals

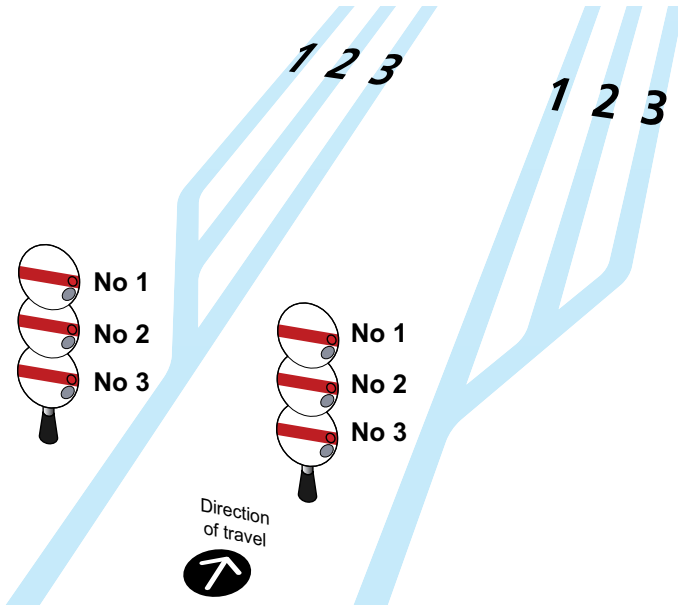


Yellow shunt signal

3.7 Route indications by shunting signals

These signals show the following indications.

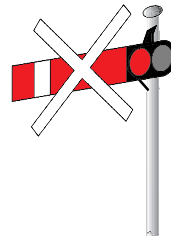
Signal 1 applies to the route on the extreme left. Signals 2 and 3 apply to successive routes to the right.



3.8 Semaphore signals not in use

When semaphore signals are not in use, they have:

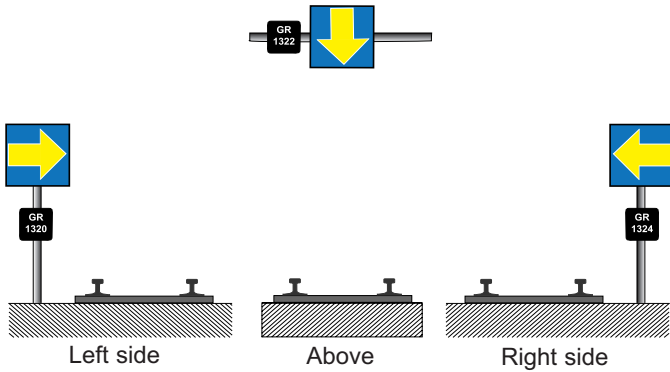
- a large X fixed on the signal arm, or
- the disc covered over.



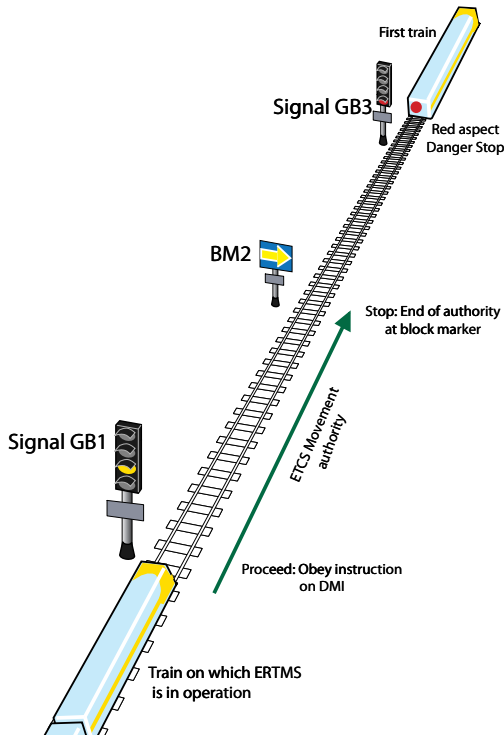
4.1 Block markers

A block marker consists of a reflective square sign showing a yellow arrow on a blue background. The arrow shows which line the marker applies to.

Each block marker is provided with a unique identification plate, of white characters on a black background.



4.2 ERTMS lines where lineside signals are provided



A train on which ERTMS is operating can be issued with a movement authority (MA) to any intermediate block marker. In this case signal GB1 will display a yellow aspect.

If a train is not fitted with ERTMS or a train on which ERTMS is operating in other than full supervision (FS) or on sight (OS), then even if the route is set to block marker BM2 signal GB1 will display a red aspect.

4 ERTMS boards

4.3 Cab signalling boards

Warning of start of cab signalling board

This board indicates that ERTMS signalling is about to start.



Start of cab signalling board

This board indicates the start of ERTMS signalling.



End of cab signalling board

This board indicates the end of ERTMS signalling.



4.4 Shunt entry boards

Shunt entry boards consist of a reflective board showing a white chevron on a violet background. The chevron points toward the line to which the shunt entry board applies.

Shunt entry boards mark the entry of a shunt route on ERTMS cab signalled lines where lineside signals are not provided.



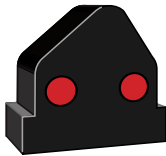
The identity of a shunt entry board is shown on an identification plate in white characters on a black background.

5.1 Limit of shunt signals or indicators

Limit of shunt signals or indicators are either:

- instructions on illuminated signs, or
- two red lights horizontally displayed.

No part of the train may pass a limit of shunt signal or indicator unless authorised by the signaller.



If a limit of shunt signal or indicator is passed without authority, it is a signal passed at danger.

5.2 Stop boards

A stop board shows the word 'Stop' and may also:

- show other instructions
- be illuminated.

The driver or person controlling the movement may only proceed past the stop board when:

- the instructions on the stop board have been carried out, or
- permission to do so has been given by the authorised person.



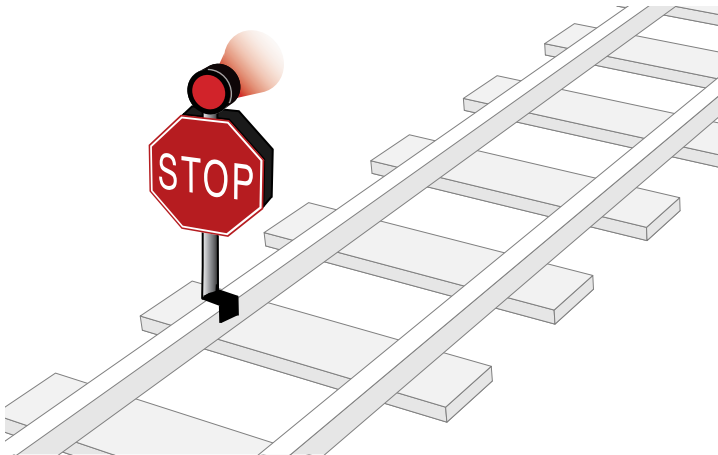
If a stop board is passed without authority, it is a signal passed at danger.

5.3 Possession limit boards (PLB)

A PLB identifies the boundary of a possession. They may also be used as part of the protection for a line blockage.

The board is red, double-sided and is visible along the line in both directions.

It will also have a steady or flashing red light visible along the line in both directions.



If a PLB is passed without authority, it is a signal passed at danger.

5.4 Work-site marker boards

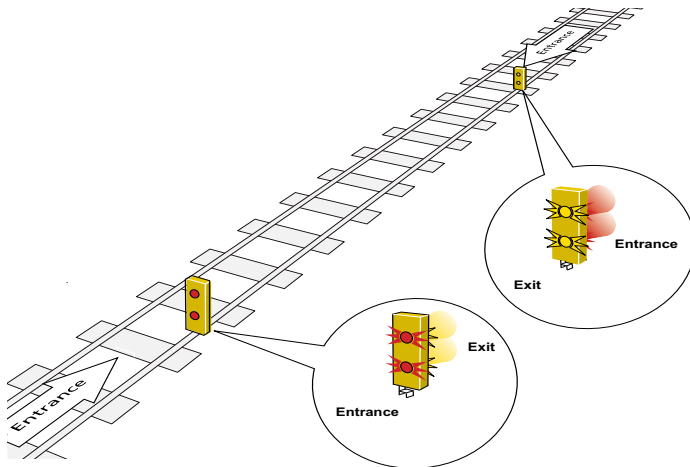
Work-site marker boards may be provided within a possession of a running line.

The board is yellow, double-sided and is visible along the line in both directions.

It has two red flashing lights which indicate an entrance to a work site. The authority of the Engineering Supervisor or Safe Work Leader is needed to pass it.

It has two yellow flashing lights which indicate an exit from a work site. The authority of the PICOP is needed to pass it.

Both indications are treated as a stop signal.



If a work-site marker board is passed without authority, it is a signal passed at danger.

5 Other signals and indicators

5.5 Signal passed at danger (SPAD) indicator

Where provided, SPAD indicators are normally positioned about 50 metres (55 yards) beyond certain signals.

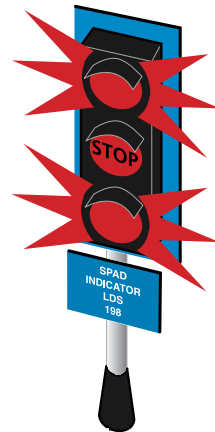
The indicator has a three-aspect signal head which is fitted with a blue backplate.

Indications and meanings

The indicator is not normally lit. If a signal is passed at danger, the indicator will be activated. It will then display:

- a flashing red light in the top and bottom aspect
- a steady red light with the word STOP in the centre aspect.

If the indicator is activated, any movement on the line to which the signal applies or any other line, is to be brought to a stand immediately and the signaller contacted.



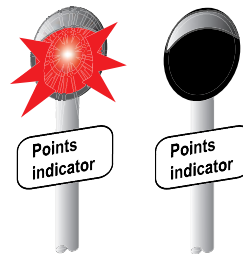
5.6 Points indicators

A points indicator is associated with hydro-pneumatic and certain other types of points and is identified by a sign showing the words 'Points indicator'.

They display the following indications.

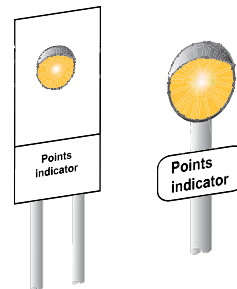
Indication: A red light that may be steady or flashing or no light is showing.

Meaning: Stop at the points indicator and contact the signaller unless otherwise authorised.



Indication: A steady yellow light.

Meaning: The points to which it applies are fitting correctly.



If a points indicator is passed without authority, it is a signal passed at danger.

5 Other signals and indicators

5.7 Banner repeating and co-acting signals

Banner repeating signals

Banner repeating signals are provided on the approach to certain signals which have restricted sighting (for example because of curvature of the line, buildings or tunnels), to give advance information of the signal aspect.

Position: On

Meaning: distant signal to which it applies is at caution.

Position: Off

Meaning: distant signal to which it applies is showing clear.

Position: On

Meaning: the signal to which it applies is at danger.

Position: Off

Meaning: the signal to which it applies is displaying a proceed aspect.

Position: Off

Meaning: the signal to which it applies is displaying a green aspect.

Position: On for the Straight Route
Off for the Diverging Route

Meaning: the signal to which it applies is displaying a proceed aspect for the diverging line and danger for the straight route.



AJ
231
BR



AJ
232
BR



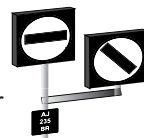
AJ
235
BR



AJ
234
BR



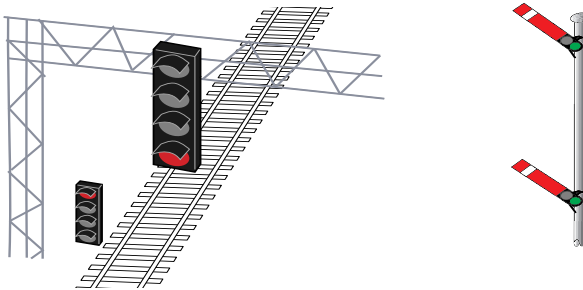
AJ
233
BR



AJ
230
BR

Co-acting signals

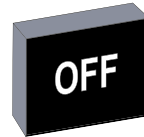
Co-acting signals are provided to give both short and long distance sighting of the signal. A co-acting signal repeats the exact aspect or indication of the main signal. Co-acting signals are always the same type (colour light or semaphore) as the main signal.



5.8 'Off' indicators

If an 'OFF' indicator is provided at a platform, it will:

- show the word 'OFF' when the signal to which it applies shows a proceed aspect
- allow a guard or platform staff to check the signal is clear before commencing the train despatch procedure
- show no indication when the signal to which it applies is at danger.



On a bi-directional platform line, the 'OFF' indication may be accompanied by an 'UP' or 'DN' or other indication to show which route has been set.

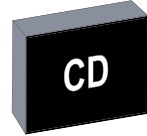
An 'OFF' indication does not always mean the line ahead is clear as the signal to which it applies may have been cleared for another train standing ahead in the same platform.

'OFF' indicators may be provided at locations other than platforms to show the driver that the signal to which they apply is displaying a proceed aspect.

5 Other signals and indicators

5.9 'Close-doors' indicator

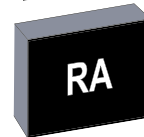
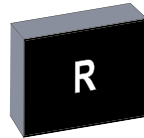
Close-doors indicators display the letters 'CD' when illuminated, and let the driver know that it is safe to close the power-operated doors on the train.



5.10 'Right-away' indicators

Right-away indicators display the letters 'R' or 'RA'.

If this indicator is illuminated, it tells the driver that station duties are complete, the train is secure and that it is safe to proceed.



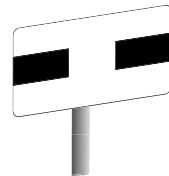
5.11 Rear clear marker

This sign informs the driver that the train has cleared a defined location to the rear.



5.12 Mid-platform train berth marker

This sign informs the driver of the sub-divisions along a station platform to permit its use by more than one train.



5.13 Whistle boards

A whistle board may be provided on the approach to some level crossings.

The whistle board can be a retro-reflective round sign or a cut out.











5.14 Preliminary route indicators

A preliminary route indicator is provided where it is necessary for a driver to receive advance information about the route that has been set beyond a junction signal ahead of the train.

A preliminary route indicator displays an arrow pointing in the same direction as any junction indicator displayed at the junction signal that the preliminary route indicator applies to. If the junction signal is displaying a proceed aspect without a junction indicator, the associated preliminary route indicator will display an arrow pointing straight up.

If the junction signal is at danger, the preliminary route indicator is not illuminated.

The table below gives examples of the preliminary route indicator display which depends on what is displayed on the junction signal concerned.

Junction signal ahead showing:	Preliminary route indicator	Junction signal ahead showing:	Preliminary route indicator
Proceed with position 1 JI		Proceed with position 4 JI	
Proceed with position 2 JI		Proceed with position 5 JI	
Proceed with position 3 JI		Proceed with position 6 JI	
Proceed with no JI		Stop aspect	

5 Other signals and indicators

5.15 Automatic warning system (AWS) cancelling indicators

On single and bi-directional lines, the AWS magnet will normally be suppressed for movements for which it does not apply, this means the AWS will not operate.

However, there are some locations where the AWS magnet is not suppressed.

In these cases a cancelling indicator is provided to tell the driver that the AWS warning indication does not apply to trains travelling in that direction.

Where the AWS magnet is permanently installed. The indicators look like this.



Where the AWS magnet is provided in connection with a temporary or emergency speed restriction on a single or bi-directional line. The indicators look like this.



The cancelling indicator is normally positioned 180 metres (approximately 200 yards) after passing over the AWS magnet.

5.16 AWS gap indicators

In some AWS fitted areas AWS equipment is not provided throughout. These areas are identified with the following signs.

Where AWS is not provided at a station on a line equipped with AWS.



Start of AWS gap



End of AWS gap

Where AWS is not provided in the opposite direction on a bi-directional line.



Start of the relevant section of line concerned



End of the section normal arrangements resume

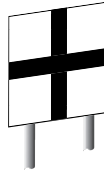
For a temporary or emergency speed restriction, AWS will be provided in both directions.

6 Level crossing signs and indicators

6.1 Level crossing signs

Automatic barrier crossing locally monitored, automatic open crossing locally monitored crossings and open crossings

The warning board means that there is an automatic barrier crossing locally monitored, automatic open crossing locally monitored or an open crossing ahead.

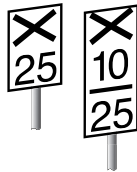


Warning board

The speed restriction board shows the permissible speed from the board to the level crossing.

If differential speeds are shown on the speed restriction board, they have the meanings shown in section 7.4.

At open level crossings the speed restriction or stop board is combined with a whistle board.



Speed restriction board



Combined speed and whistle board

On ERTMS lines a speed restriction board is not provided but the speed restriction approaching the crossing will be shown on the driver machine interface (DMI).

Wrong-direction boards

Wrong-direction speed restriction boards are positioned on the approach to level crossings that have wrong-direction controls.



The numerals show the permissible speed from the board to the level crossing. Black numerals on a white background denote mph and white numerals on a black background denote km/h.

Sighting board on ERTMS lines

This sign indicates the point at which the driver is required to ensure that the level crossing is clear and to observe the driver's level crossing indicator.



6.2 Level crossing indicators

A level crossing indicator is associated with locally monitored level crossings.

They display the following indications.

Indication: A red light that may be steady or flashing or no light is showing.



Meaning: Stop before reaching the level crossing and ensure it is safe before passing over it.

Indication: A flashing white light.

Meaning: The level crossing is working correctly, and providing the level crossing is clear, it is safe to proceed over it.

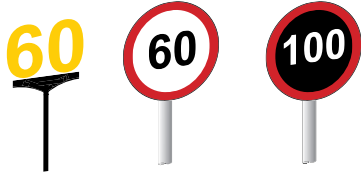


7 Speed indicators

7.1 Permissible speed indicators

Permissible speed indicators show the start of the permissible speed.

Black text on a white background and cut-out signs show the speed in mph. White text on black background shows the speed in km/h.

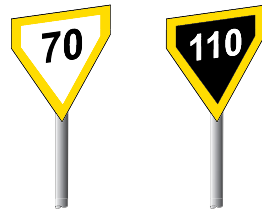


In limited clearance areas the indicators are sometimes oval-shaped.



7.2 Warning indicators

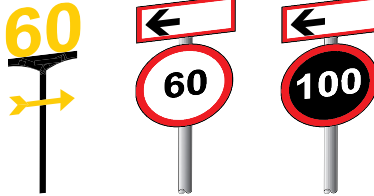
Warning indicators are provided on the approach to certain speed indicators and give a warning of a reduction in permissible speed ahead. Black text on a white background shows the speed in mph. White text on black background shows the speed in km/h.



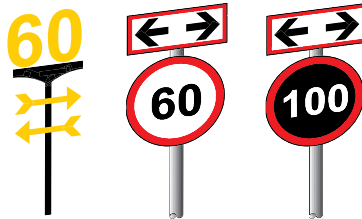
There may also be a fixed AWS magnet on the approach to the indicator.

7.3 Permissible speed indicators at diverging junctions

These show the speed to the left or right of the straight route at a diverging junction.



If there are diverging junctions to both the left and right and the permissible speed is the same, there is only one indicator.



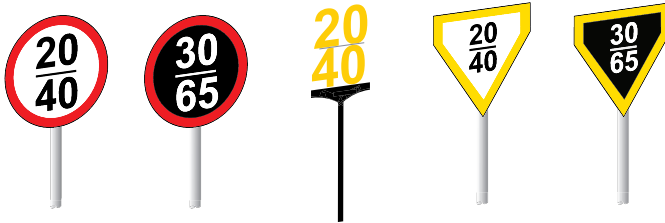
7 Speed indicators

7.4 Differential permissible speed indicators

The bottom figure always shows the higher speed. It applies to:

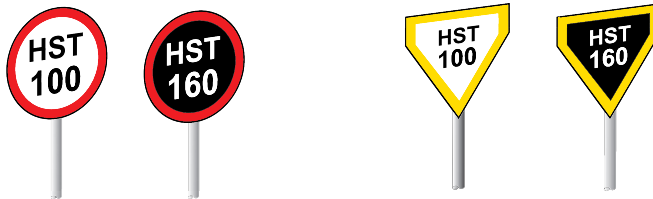
- passenger trains (loaded or empty)
- parcels and postal trains (loaded or empty)
- light locomotives.

The top figure applies to all other trains.



7.5 Permissible speed indicators with letters

These show the permissible speed and apply only to the trains shown by the letters.



This is what the letters mean.

- HST** High speed trains.
- MU** Multiple-unit trains.
- DMU** Diesel multiple-unit trains.
- EMU** Electric multiple-unit trains.
- SP** Sprinter multiple-unit trains.
- CS** Class 67 locomotives.

The classes of train that can travel at these speeds are shown in the *Sectional Appendix*.

7.6 Enhanced permissible speed (EPS) indicators

These show the enhanced permissible speed in mph and apply to tilting trains in tilting mode.



Where differential signs are provided, the bottom figure always shows the higher speed and applies to class 390 trains in tilting mode. The top figure applies to class 221 trains in tilting mode.



Warning indicators are provided on the approach to certain EPS speed indicators and give a warning of a reduction in the enhanced permissible speed ahead.



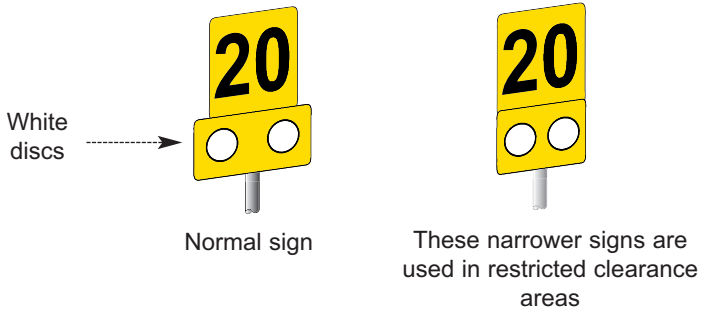
8.1 Temporary speed restriction signs

Warning boards

A warning board is placed on the approach to a temporary speed restriction ahead.

An AWS magnet is provided on the approach to a warning board.

There will be no AWS in AWS gap areas.



Speed indicator

A speed indicator shows the start of the speed restriction and the permitted speed over the restriction.

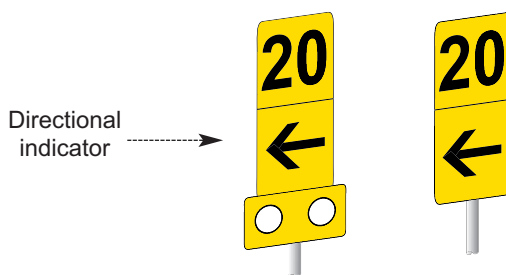


On ERTMS lines where lineside signals are provided, if the speed restriction starts within an ERTMS area but ends outside the ERTMS area, an additional speed indicator will be placed at the end of cab signalling board.

Speed restriction signs

Directional indicators

A directional indicator on a warning board or speed indicator shows that there is a speed restriction ahead on a portion of line that goes off to the left or right of the straight route at a diverging junction.



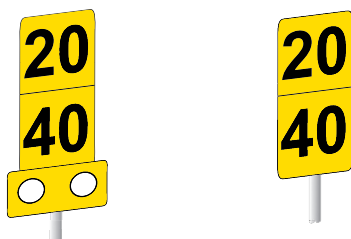
Differential temporary speed restrictions

A temporary speed restriction can show different speeds which apply to different types of trains.

The bottom figure always indicates the higher speed. It applies to:

- passenger trains (loaded or empty)
- parcels or postal trains (loaded or empty)
- light locomotives.

The top figure applies to all other trains.



8 Speed restriction signs

Termination indicator

The termination indicator shows the end of the speed restriction.



SPATE indicator

The SPATE indicator shows the speed restriction has been withdrawn or will not be imposed.

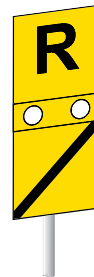
SPATE is an abbreviation of 'Speed Previously Advised Terminated Early'.



Repeating warning board

A repeating warning board is placed on the end of a platform or a connection from a siding or dead-end platform line to remind the driver there is a temporary speed restriction ahead.

The board will also have the associated speed indicator or a spate indicator below the board.



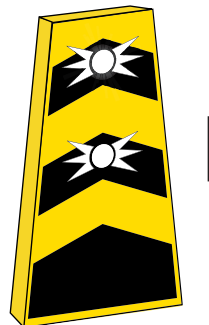
8.2 Emergency indicator

When an emergency speed restriction is to be imposed an emergency indicator will also be used.

The indicator has flashing white lights which will be working at all times.

An AWS magnet is provided on the approach to an emergency indicator for an emergency speed restriction ahead.

There will be no AWS in AWS gap areas.



9 AC electrified line signs

9.1 Neutral section signs

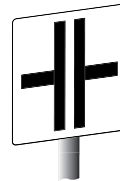
Neutral section warning board

This sign provides advance warning of a neutral section.



Neutral section indication board

This sign identifies the commencement of a neutral section.



9.2 Coasting signs

This 'advance lower pantograph' sign provides warning of a lower pantograph sign ahead.

The sign also has flashing white lights.



This sign means 'lower pantograph'.



This sign means 'raise pantograph'.



This sign means 'do not raise pantograph'.



GSM-R radio area

This sign indicates the start of a GSM-R radio section.



Areas where GSM-R radio is not provided

This sign indicates the end of a GSM-R radio section.



GSM-R alias plate

In places where there is no signal or where there may be confusion over the number to enter when registering the cab radio, an alias plate may be provided.



GSM-R signalbox phone number plate

At certain signals the GSM-R network may not be able to automatically route calls from the driver to the signaller who controls the area. This sign is a reminder to drivers of the signaller's GSM-R phone number.



GSM-R signalbox short code plate

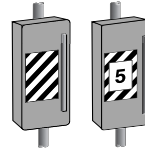
An alternative method has been developed to avoid a driver having to dial the long 8-digit number. This is achieved by dialling a short code number. This sign displays the correct signaller's GSM-R short code number.



11.1 Telephones

Signal post telephones

Telephones associated with a signal are similar to these. If the telephone has a number on the cabinet the number states the maximum amount of minutes that can elapse before the signaller is contacted by the driver.



Lineside telephones

These telephones are provided to contact the signaller.

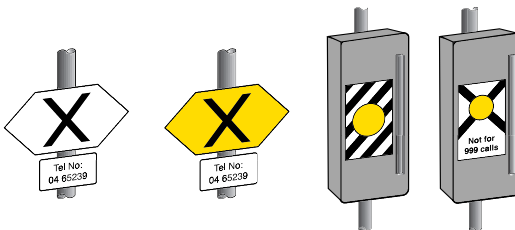


11.2 Limited clearance telephones

Telephones with yellow or white diamonds with the letter X or a yellow roundel.

If any of these signs are displayed it means that the signal post telephone is not in a position of safety. It may only be used to contact the signaller:

- in an emergency
- if told that the adjacent line has been blocked.



11 Telephone signs

Telephone with limited clearance warning signs

These signs mean that a train driver may use the signal post telephone because it is in a position of safety in relation to the adjacent line and protection is provided by the presence of the train.



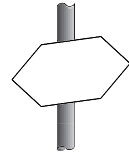
The telephone may only be used by other staff to contact the signaller:

- in an emergency
- if told that the line to which it applies has been blocked.

11.3 Signals without telephones

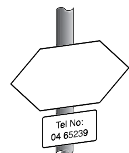
White diamond sign

This sign means that a telephone is not provided but the presence of the train or shunting movement is indicated to the signaller.



White diamond sign with a telephone number displayed

This sign means that a telephone is not provided but the presence of the train or shunting movement is indicated to the signaller. If GSM-R or CSR is not available the signaller may be contacted using the telephone number on the plate.



A driver may only leave the cab in order to use a lineside telephone to contact the signaller:

- in an emergency
- if told that the adjacent line(s) has been blocked.

12 Other lineside signs

12.1 Low adhesion hazard signs

Entrance to a low adhesion area

This sign informs the driver of the entrance to a low adhesion area.



Exit from a low adhesion area

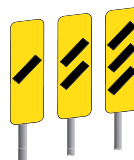
This sign informs the driver of the exit from a low adhesion area.



12.2 Sandite markers

These signs inform the driver of sites where Sandite should be applied. There are three signs.

- Three marks - advance warning of Sandite application site.
- Two marks - start applying Sandite.
- One mark - stop applying Sandite.



12.3 Signal reminder signs

This sign informs the driver of a particular signal ahead.

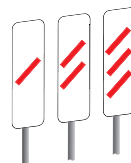


12.4 Countdown markers

These signs inform the driver of the distance between the sign and the signal concerned.

There are three signs.

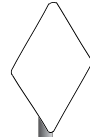
- Three marks - distance to signal normally 300m.
- Two marks - distance to signal normally 200m.
- One mark - distance to signal normally 100m.



12 Other lineside signs

12.5 Coasting boards

This board advises that the driver may coast to a stopping point or significant speed reduction beyond the board.



12.6 Car stop markers

These signs inform the driver of the correct stopping point for the train.



12.7 Mile posts

These signs are situated on the lineside and used to identify locations. The number denotes the mileage and each mark under the number denotes quarter of a mile.



12.8 Gradient signs

These signs are situated on the lineside and used to identify the change in gradient at that particular location. Gradients are expressed as a ratio. e.g '1 in 460' means the track rises (or falls) one unit in every 460 units. The angles of the gradient signs indicate the direction of the slope.



12.9 Spring catch points sign

These signs are placed on the approach to spring catch points.



12.10 Bridge identity plates

These signs identify the location of bridge structures.



12.11 Safety signs

Limited clearance sign

This sign means there is no position of safety on this side of the railway for the length of the structure. It is not safe to enter or stand at that location when a train is approaching.



No refuges warning sign

This sign means there is no position of safety on this side of the railway for the length of the structure. However, there are positions of safety, or refuges, on the opposite side of the railway line.



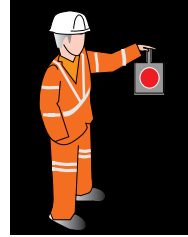
Prohibition sign

This sign means that staff must not pass beyond this sign while trains are running unless carrying out emergency protection. This is because it would not be possible to reach a position of safety or refuge safely. Extreme care is necessary if carrying out emergency protection.

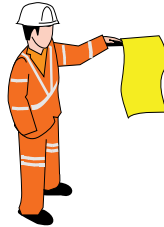


Red handsignal

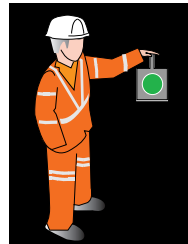
A red flag during daylight or a red light during darkness or poor visibility means 'STOP'.

**Yellow handsignal**

A yellow flag during daylight or a yellow light during darkness or poor visibility is used when giving authority to pass a signal at danger.

**Green handsignal**

A green flag during daylight or a green light during darkness or poor visibility is used to give authority to pass over a level crossing.

**Lookout handsignal**

A blue and white chequered flag is used between lookouts to inform of an approaching train. Drivers can ignore this handsignal.





Email enquirydesk@rssb.co.uk
Tel +44 (0) 20 3142 5300
Twitter [@RSSB_rail](https://twitter.com/RSSB_rail)
Web www.rssb.co.uk

Rail Safety Standards Board
The Helicon
One South Place
London
EC2M 2RB