Glossary of Train Control Terminology v1.2

This glossary includes many of the terms that you will encounter in the Certificate (Module A) of the IRSE Examination. Its focus is on commonly used acronyms and on terms where, in different countries, there are alternative names in English for the same object, role, or function. It is not a comprehensive list of all train control terminology. It does not address telecommunications terminology because this tends to be more consistent between countries.

You are not expected to learn the descriptions in the 3rd column. Just look down the first column and check if there are any terms that you are not familiar with. The term in the first column is the one that is usually used in the examination.

Term	Alternative Terms & Acronyms	Describing
Approach control (approach release)	Approach release	The restriction of the aspect of a signal, to control the speed of a train (e.g. to ensure that the driver can comply with the turnout speed at a junction)
Approach locking		Approach locking prevents the immediate release of a route where it is possible that an approaching train may be unable to stop.
Aspect	Signal lamp Signal light	Any valid visual indication of a signal as displayed to the driver.
Automatic Train Control	ATC	On-board automation that contributes to or replaces the driver's judgement and actions in respect of controlling the train. It encompasses ATO and ATP.
Automatic Train Operation	ATO	A system that automatically operates the train's driving controls
Automatic Train Protection	ATP	A safety system that enforces either compliance with or observation of speed restrictions and/or signal aspects by trains.
Automatic Train Supervision	ATS	A non-safety system (common on metros) which regulates a train service, typically to maintain intended traffic patterns and to minimise the effects of train delays on the operating schedule.
Automatic Route Setting	ARS	A system for setting routes without the action of the signaller (signal operator).
Automatic signal		A signal controlled by the passage of trains. It does not require any action by the signaller (signal operator) or ARS.

Term	Alternative Terms & Acronyms	Describing
Axle counter		A method of detecting the absence of a train. Track mounted wheel sensors detect the passing train wheels (axles) and the axle counter evaluator counts the number of axles entering and leaving a train detection section at each extremity.
Balise (beacon)	Transponder Tag Beacon	A track mounted unit that exchanges data messages with the train.
Cab Secure Radio	CSR	A secure radio communication system between driver and signaller (signal operator).
Colour light signal		A signal that conveys its information by coloured lights.
Computer Based Interlocking	CBI PBI	A safety interlocking system based on computers or processors.
Communications Based Train Control	CBTC	An Automatic Train Control system, mostly used on metro railways, with train location sensing not requiring track circuits. The train controlling functions are enabled by continuous data communications between train and wayside sub-systems.
Concentrator		A facility to connect several telephone circuits to one handset.
Control centre. (see also Signal box)	Signalling centre Operations control centre Dispatch office Train control centre Network control centre	A location where train operators monitor and control the operation of the railway over a large area. It usually incorporates operational functions beyond simply controlling the signals.
Control table		A part of the signalling system specification that defines the detail of the signalling interlocking controls for each signalling function, such as signals, points and routes.
Equipment case	Apparatus case Apparatus cupboard Location case Cubicle Signalling Apparatus Box(SAB)	A housing containing apparatus which is intended for unprotected outdoor use.

Term	Alternative Terms & Acronyms	Describing
European Rail Traffic Management System	ERTMS	A system for managing rail traffic, enabling it to operate on compatible signalling systems across European borders.
European Train Control System	ETCS	The train control part of ERTMS.
Facing Points	Facing point switch	A track switch at a diverging junction in the direction of travel
Fail Safe	FS	A characteristic of a system which ensures that known, or expected malfunctions will maintain or place the equipment in a safe state.
Flank protection		Protection from overrunning movements approaching on converging tracks.
Fouling point		The position at the convergence or divergence of two tracks where the structure gauge on each line would come into contact.
Grade of Automation	GoA	The extent to which the functions of the driver are controlled by a technical system.
Global System for Mobile Communications	GSM	The standard which describes the protocols for digital networks used by mobile communications devices.
Global System for Mobile Communications - Railway	GSM-R	The system, based on GSM, which delivers digital secure communications between railway users (e.g. drivers and signallers).
Headway		The shortest time (or distance) interval between two trains, so that the second train can run at its full permitted speed without being restricted by the signal aspects.
Impedance bond		A device which presents a low impedance to traction current and a higher impedance to track circuit current.
Insulated Rail Joint	IRJ Insulated Block Joint (IBJ)	A joint of two sections of rail with insulation between them to maintain electrical isolation, usually for track circuit purposes.
Interlocking		A general term applied to the system, which sets, secures and releases train routes for the safe movement of trains and transmits safe movement authorities to the train driver.

Term	Alternative Terms & Acronyms	Describing
Level crossing.	Grade crossing	An intersection at the same elevation of a road and one or more rail tracks
Limit of Shunt	LOS	An indicator or sign to instruct the driver to terminate a shunting movement, particularly along a line in the wrong direction.
Line capacity		For a given section of line, the practical maximum number of trains per hour permitted by the signalling system and operational constraints.
Maintainer	Signal electrician Signal technician Technician	A person who keeps the signalling or communications systems in safe and reliable working order.
Maintenance manager		A person responsible for the safe and reliable working of the signalling or communications systems and/or for supervising the maintenance activities.
Operator		A person who operates the signalling or communications systems and is responsible for the safe operation of trains.
Overlap		The distance beyond a signal that must be clear before a train is permitted to approach it.
Permissible speed	Line speed	The maximum allowable safe speed over a section of line.
Point machine	Point operating mechanism	The equipment for the powered operation of a set of points
Points	Switches	The means by which a train is transferred from one track to another.
Possession (of a line)	Occupation	The complete stoppage of all normal train movements on a running line or siding, usually for engineering purposes.
Right side failure	Negligible risk failure	A failure which does not result in the protection provided by the signalling system being reduced.
Route locking	Maintained locking Route holding	Maintains the locking associated with a route in use until after the train has passed clear of the equipment being locked (for example, points or opposing signal).
Running line	Mainline	A railway line that is not in a siding or depot.

Term	Alternative Terms & Acronyms	Describing
Semaphore signal	Mechanical signal	A signal which informs a driver by means of the position of a mechanical arm during daylight and coloured lights during darkness
Signal box	Signal cabin (see also Control centre)	The building in which the signaller(s) is/are situated together with the control and indication system for the signalling.
Signaller (signal operator) (see also train controller)	Dispatcher Signalman Train control operator	A person responsible for the operation of the signalling system, to safely control the passage and regulation of trains.
Signalling Equipment Room	SER Bungalow REB (Relocatable Equipment Building)	A “walk-in” room or independent building for housing signalling equipment
Signalling panel	Signalling workstation Train control workstation Control panel Switch panel	The equipment that displays train information to the signaller (signal operator) and which enables control of the signalling by buttons, keyboards or touchscreens.
Toe of point		The end of a switch rail furthest from the crossing of the rails.
Track Circuit	TC	An electrical device using the rails in an electric circuit, which detects the absence of trains on a defined section of line.
Trailing points	Trailing point switch	A track switch at a converging junction in the direction of travel
Train controller	Network controller	A person responsible for safely managing a section of railway including prioritising train movements, authorising track possessions and manging incidents. The person may also operate the signalling system as shown for a ‘Signaller’ above
Train Control System	TCS	The system used in the control centre to convert operator inputs into commands to the signalling system and for sending indications from the signalling system and train descriptions to the signalling panel.

Term	Alternative Terms & Acronyms	Describing
Train driver	Train operator Locomotive operator Engine driver Motorman	The person in the cab of a train operating or supervising the braking and acceleration of the train under instructions from the signalling system, a dispatcher or lineside signs.
Wrong Side Failure	WSF	A failure that results in the protection provided by the signalling system being reduced or removed.

The far more comprehensive ‘Glossary of Signalling Terms’ published by the UK Rail Safety and Standards Board is acknowledged in the preparation of this appendix.