

Information for users

To access individual modules referenced within this standard, blue active links are provided from the relevant index pages where these are listed. Clicking on a specific reference will lead to the corresponding document. Please ensure to open **bookmarks** for easier navigation within the document and to access **index of modules**.

Alternatively, you may use the search facility to search for a specific document by using the complete document reference number – such as NR/L3/SIG/30082/002 – in the search field.

Proceed to document ►

Ref:	NR/L3/SIG/11761
Issue:	4
Date:	05/12/2015
Compliance date:	05/03/2016

Level 3

Handbook for EBI Track 200 Audio Frequency Track Circuit

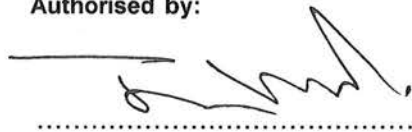
Endorsement and Authorisation

Endorsed by:



David Bardwell, Working Group Chair

Authorised by:



Jeremy Morling, Steering Group Chair

Accepted for issue by:



Mick McManus, National Standards Manager

This document is the property of Network Rail. It shall not be reproduced in whole or part nor disclosed to a third party without the written permission of Network Rail.
© Copyright 2015 Network Rail.

Uncontrolled copy once printed from its electronic source.

Published and Issued by Network Rail, 1 Eversholt Street London NW1 2DN.

Ref:	NR/L3/SIG/11761
Issue:	4
Date:	05/12/2015
Compliance date:	05/03/2016

User information

This Network Rail standard contains colour-coding according to the following Red–Amber–Green classification.

Red requirements – no variations permitted

- Red requirements are to be complied with and achieved at all times.
- Red requirements are presented in a red box.
- Red requirements are monitored for compliance.
- Non-compliances will be investigated and corrective actions enforced.

Amber requirements – variations permitted subject to approved risk analysis and mitigation

- Amber requirements are to be complied with unless an approved variation is in place.
- Amber requirements are presented with an amber sidebar.
- Amber requirements are monitored for compliance.
- Variations can only be approved through the national non-compliance process.
- Non-approved variations will be investigated and corrective actions enforced.

Green guidance – to be used unless alternative solutions are followed

- Guidance should be followed unless an alternative solution produces a better result.
- Guidance is presented with a dotted green sidebar.
- Guidance is not monitored for compliance.
- Alternative solutions should be documented to demonstrate effective control.

Amendment marks

- First document amendments are presented with a single black line to the right of the affected text.
- Second document amendments are presented with a double black line to the right of the affected text.

Ref:	NR/L3/SIG/11761
Issue:	4
Date:	05/12/2015
Compliance date:	05/03/2016

Issue record

Issue	Date	Comments
1	Dec 2000	New Spec, contents based on GK/RC0761
2	Dec 2010	Revised to update application rules & to reference generic Bombardier Manuals and Application Guides.
3	April 2012	New Handbook format based on NR/L3/SIG/11761 Issue 2
4	December 2015	Document Updates included.

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 05 March 2016.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 3 (Option Selection) to continue to comply with the issue of any relevant Network Rail standards current when GRIP Stage 3 was completed and not to comply with requirements contained herein, unless stipulated otherwise in the scope of this standard.

Disclaimer

In issuing this document for its stated purpose, Network Rail makes no warranties, express or implied, that compliance with all or any documents it issues is sufficient on its own to ensure safe systems of work or operation. Users are reminded of their own duties under health and safety legislation.

Supply

Copies of documents are available electronically, within Network Rail's organisation. Hard copies of this document may be available to Network Rail people on request to the relevant controlled publication distributor. Other organisations may obtain copies of this from an approved distributor.

Ref:	NR/L3/SIG/11761
Issue:	4
Date:	05/12/2015
Compliance date:	05/03/2016

Contents

1 Purpose	5
2 Scope	5
3 Background	5
4 Reference Documentation	5
5 Structure	7
5.1 Level 3 Standard	7
5.2 Handbook Structure	7
5.3 Sections	8
Appendix A – Application Manuals: Level 0	9
Appendix B – Application Manuals: Level 1	10
Appendix C – Topic Specific Application Guides: Level 2	11
Appendix D - Additional Information on Specialist Topics: Level 3	12
Appendix E - Maintenance	13
Appendix F - Training	14
Appendix G - Acceptance	15

Ref:	NR/L3/SIG/11761
Issue:	4
Date:	05/12/2015
Compliance date:	05/03/2016

1 Purpose

This Level 3 standard mandates the application of the sections of the *EBI* Track 200 Handbook which is intended to provide instruction and guidance to signalling designers, installers, maintainers and trainers on the application of *EBI* Track 200 on Network Rail Infrastructure in order to achieve the requirements of NR/L2/SIG/11752.

Inclusion of documentation (including those issued by Bombardier Transportation UK Ltd) within this Handbook authorises it for use on Network Rail's infrastructure.

2 Scope

This Level 3 standard applies to all applications of *EBI* Track 200 on Network Rail's infrastructure.

The *EBI* Track 200 Handbook consists of this index and a number of mandatory sections from both Network Rail and Bombardier Transportation.

3 Background

During the Bombardier rationalisation of their TI21 track circuit product range, it has been renamed to the *EBI* Track 200 track circuit. The existing TI21 equipment is entirely interchangeable with *EBI* Track 200 equipment irrespective of the age of the equipment or installation.

This Handbook describes all aspects of the *EBI* Track 200, and for the purposes of this standard it is referred to as *EBI* Track 200 or ET200.

4 Reference Documentation

BS EN 50125-3: 2003	Railway Applications - Environmental Conditions For Equipment - Part 3: Equipment for signalling & telecommunications.
GK/RT0060	Interlocking Principles, Issue 4, June 2003.
NR/L2/SIG/11752	Train Detection, Issue 2, August 2001.
NR/L3/SIG/10663	Signal Maintenance Specifications.
NR/L2/SIG/00005	Railway Signalling Cable, Issue 1, April 2000.
NR/L2/SIG/11757	A.C. Phase Sensitive Track Circuits, Issue 1, December 2000.
NR/L2/SIG/11760	Westinghouse Signals FS2600 Track Circuits, Issue 1, December 2000.
NR/L2/SIG/11765	Impedance Bonds, Issue 1, December 2000.