

Information for users

To access individual Applications Manual modules referenced within this standard, blue active links are provided from the relevant contents or appendices pages where these are listed. Clicking on a specific reference will display the corresponding module information.

Alternatively, you may use the search facility to search for a specific work instruction by using the complete work instruction reference number – such as SAO-IEC-HG-14 – in the search field.

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Issue	8
Date	December 2006

Specification

IECC Applications Manual Contents

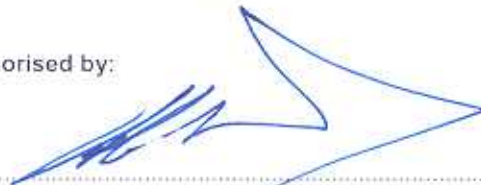
Endorsement & Authorisation

Endorsed by:



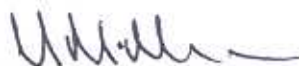
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Documents

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Issue record

Issue	Date	Comments
1	March 1997	Initial Issue
2	April 1999	Revised Issue
3	December 2000	Revised Issue
4	December 2001	Revised Issue
5	August 2003	Revised Issue
6	August 2004	Revised Issue
7	December 2004	Revised Issue
8	December 2006	Minor corrections to Table A, documents added to Table A and reference to D440 upgrade in section 9. Formatting and Document Numbering changed to Network Rail Standards referencing Nomenclature.

Implementation

The requirements specified in this document shall be enforced from December 2006.

Compliance

This Network Rail Specification is mandatory and must be complied with by Network Rail / Contractors from 2nd December 2006.

When this Specification is implemented, it is permissible for all projects, which have formally completed GRIP Level 4, to continue to comply with the Issue of any relevant Network Rail Standards current when GRIP Level 4 was reached and not to comply with requirements contained herein unless the designated Head of Signal Engineering has stipulated otherwise in the accompanying Briefing Note.

Where the Head of Signal Engineering has specified that all projects will comply with the requirements, specific authority not to comply can be sought in the usual manner using the appropriate non-compliance authority processes described in Network Rail Standard, [NR/SP/STP/045](#) Managing the Process for Non-compliance Authority (formerly RT/LS/P/045).

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 will be available to Network Rail employees on request to the Document Controller and to other organisations from IHS Technical Indexes (01344 404409)

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1 Purpose

This specification authorises the use of the IECC Applications Manual for the design and maintenance of signalling schemes employing Integrated Electronic Control Centre (IECC) equipment on Network Rail infrastructure. It lists all the documents contained within the IECC Applications Manual which are current and approved for use. It also provides a history of the upgrades to the IECC since April 1994.

2 Scope

The IECC Applications Manual is applicable where the IECC is used in relation to the signalling and operation of Network Rail infrastructure.

3 Reference documentation

None

4 Definitions

ARS	Automatic Routesetting Subsystem
CD-ROM	Compact Disk Read Only Memory
DIS	Flexible Display Subsystem
EPROM	Electrically Programmable Read Only Memory
IECC	Integrated Electronic Control Centre
ISM	IECC Subsystem Monitor
ISRP	Infrastructure System Review Panel
NRRG	Network Rail Records Group
NCU	Node Cabinet Unit
PIT	PC-Based ISM Terminal
PSM	PC SPAD Monitor
RDW	Regulator's Display Workstation
RII	Remote Interlocking Interface Subsystem
SPAD	Signal Passed At Danger
TORR	Train Operated Route Release
TTP	Timetable Processor
WAN	Wide Area Network

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5 Use of the IECC Applications Manual

The IECC Applications Manual records recommended or mandatory practice in respect of the application of IECC to Network Rail signalling and operations. It provides detailed instructions or guidance to support Railway Group standards but, in the event of a conflict, the Railway Group standards shall take precedence.

The documents contained within the IECC Applications Manual are mandatory (unless in contravention of Railway Group standards). They shall be complied with unless it can be demonstrated to the satisfaction of the Infrastructure Controller that alternative methods/procedures meet or exceed the standard that would be achieved using the IECC Applications Manual.

6 Obtaining Copies of IECC Applications Manual

Copies of the items listed in Table-A of Section 8, except for the IECC Master Drawing Set, may be obtained as detailed in the **Supply** section at the start of this document.

The IECC Master Drawing Set, which is also available on electronic media, may be obtained from Network Rail Records Group (NRG), Holgate Villa, Holgate Road, York, YO2 4AB.

Copies of the items listed in Table-B of Section 8 may be obtained from Signalling Control Systems Department, DeltaRail Group Ltd (formerly: AEA Technology Rail), Jubilee House, 4 St. Christopher's Way, Pride Park, Derby DE24 8LY.

7 Updates to the IECC Applications Manual

This document records the issue status of and is the authorisation for each document within the IECC Applications Manual. The documents listed herein were at the issue number stated at the date of issue of this standard, however several documents are live documents which can change between issues of this standard. To verify the latest issues contact Signal Engineers Group at Network Rail. Suggestions for future changes should be forwarded to the Signal Engineers Group, Network Rail.

8 IECC Documents, Electronic Media and EPROMs

The following tables identify the IECC documents, electronic media and EPROMs contained within the IECC Applications Manual and the related Network Rail Company Standards. Indicated are the issue and date of each document and the issue and date of the magnetic media and EPROMs. Large documents are divided into chapters and, where this is the case, these chapters are shown individually.

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Table A – Supplied by Network Rail

Reference	Title	Issue	Date
	IECC General Handbook		
SAO-IEC-HG-12	IECC 2000 Documentation Plan	10	21/03/03
SAO-IEC-HG-13	IECC 3000 Nomenclature	10	12/12/04
SAO-IEC-HG-14	IECC 4000 System Description	11	22/03/04
	IECC Master Drawing Set – MVME172 boards		
IECC-5000-****-FCS	Full Configuration System	J	26/09/03
IECC-5000-****-ARS	Automatic Routesetting Subsystem	H	07/08/03
IECC-5000-****-DIS	Flexible Display Subsystem	J	21/08/03
IECC-5000-****-ECS	External Communications Subsystem	F	18/07/00
IECC-5000-****-GWS	Gateway Subsystem	F	07/07/00
IECC-5000-****-ISM	IECC System Monitor Subsystem	H	26/09/03
IECC-5000-****-NCU	Node Cabinet Unit	E	18/07/00
IECC-5000-****-RDW	Regulator's Display Workstation	F	24/02/99
IECC-5000-****-RII	Relay Interlocking Interface Subsystem	F	26/07/00
IECC-5000-****-SIM	Simulator Subsystem	F	10/07/00
IECC-5000-****-TDS	Testing Display Subsystem	F	31/08/00
IECC-5000-****-TRW	Training Workstation	F	26/07/00
IECC-5000-****-TTP	Timetable Processor Subsystem	G	25/07/00
	IECC Master Drawing Set - original boards		
IECC-5000-****-FCS	Full Configuration System	F	24/02/99
IECC-5000-****-ARS	Automatic Routesetting Subsystem	G	07/08/03
IECC-5000-****-DIS	Flexible Display Subsystem	G	24/02/99
IECC-5000-****-ECS	External Communications Subsystem	E	26/02/96
IECC-5000-****-FBN	Fringe Box Node Cabinet	E	01/03/96
IECC-5000-****-FBS	Fringe Box Subsystem	E	04/03/96
IECC-5000-****-GWS	Gateway Subsystem	E	28/02/96
IECC-5000-****-ISM	IECC System Monitor Subsystem	E	12/03/96
IECC-5000-****-NCU	Node Cabinet Unit	F	18/07/00
IECC-5000-****-RDW	Regulator's Display Workstation	F	24/02/99
IECC-5000-****-RII	Relay Interlocking Interface Subsystem	E	14/03/96
IECC-5000-****-SDS	Signalling Display Subsystem	E	28/03/96
IECC-5000-****-SIM	Simulator Subsystem	E	21/03/96
IECC-5000-****-TDS	Testing Display Subsystem	E	22/03/96
IECC-5000-****-TRW	Training Workstation	E	21/03/96
IECC-5000-****-TTP	Timetable Processor Subsystem	F	19/03/99
	IECC Technical Handbook		
SAO-IEC-HT-15	IECC 6000 Faulting Procedure	11	12/12/03
SAO-IEC-HT-16	IECC 6001 Node Configuration	5	29/10/99
SAO-IEC-HT-17	IECC 6002 Subsystem Messages	6	21/03/03
SAO-IEC-HT-18	IECC 6003 ISM Alarm Messages	8	15/12/03
SAO-IEC-HT-19	IECC 6004 Reading IECC Logs	7	15/12/03
SAO-IEC-HT-20	IECC 6005 Board Configuration	9	16/02/04
SAO-IEC-HT-21	IECC 6006 TTP Technician's Guide	9	01/12/03
SAO-IEC-HT-22	IECC 6007 TTP Installation Guide	8	24/09/01
SAO-IEC-HT-53	IECC 6009 TTP FCT Mode User Guide	5	29/01/01
SAO-IEC-HT-58	IECC 6010 TTP Technician Facilities User Guide	5	29/01/01
SAO-IEC-HT-64	IECC 6011 Resetting and Maintaining DIS	4	17/03/04
SAO-IEC-HT-65	IECC 6012 CD-ROM Reader	2	17/07/03
SAO-IEC-HT-66	IECC 6013 PC SPAD Monitor	1	21/03/03
SAO-IEC-HT-67	IECC 6014 PSM Controller PC and Display Set-Up	1	10/04/03
SAO-IEC-HT-68	IECC 6015 DIS Level Converter	2	29/08/03
SAO-IEC-HT-69	IECC 6016 IECC PC Logger	2	25/03/04

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Reference	Title	Issue	Date
IECC Reference Handbook			
SAO-IEC-HF-10	IECC 7000 Introduction and System Structure	6	29/10/99
SAO-IEC-HF-11	IECC 7001 Subsystem Descriptions	9	02/02/04
SAO-IEC-HF-12 Part 1	IECC 7002 Hardware Requirements and Reference Lists	12	27/04/04
SAO-IEC-HF-12 Part 2	IECC 7002 Hardware Spreadsheet (disk)	8	17/04/03
IECC Project Handbook			
SAO-IEC-HP-11	IECC 8001 Sizing and Costing	7.1	25/03/04
SAO-IEC-HP-12	IECC 8002 Preparation of Specification	5	29/10/99
SAO-IEC-HP-13	IECC 8003 Management Control	8	30/01/04
SAO-IEC-HP-14	IECC 8004 Handover, Support and Maintenance	6	23/05/01
SAO-IEC-HP-15	IECC 8005 Timescale Planning	5	29/10/99
IECC Data Preparation Manual			
SAO-IEC-HD-11	IDPM 0100 Guide to Documentation	5	21/03/03
SAO-IEC-HD-15	IDPM 0104 Master Checking Forms	5	21/03/03
SAO-IEC-HD-16	IDPM 0105 Display Validation Forms	5	10/02/03
SAO-IEC-HD-17	IDPM 0201 Data Preparation Overview	6	02/04/03
SAO-IEC-HD-19	IDPM 0301 Data Preparation, Compilation, Release and Build Standards	5	23/05/01
SAO-IEC-HD-21	IDPM 0303 Data Checking Guide	4	10/02/03
SAO-IEC-HD-31	IDPM 0501 Displays Overview	4	27/03/03
SAO-IEC-HD-32	IDPM 0502 Screen Templates Guide	5	21/03/03
SAO-IEC-HD-33	IDPM 0503 Displays Relational Data Guide	3	29/10/99
SAO-IEC-HD-37	IDPM 0507 Create Package Guide	4	29/10/99
SAO-IEC-HD-38	IDPM 0508 Displays Validation Guide	4	23/05/01
SAO-IEC-HD-64	IDPM 0510 DIS IP Address Compiler	2	29/10/99
SAO-IEC-HD-41	IDPM 0602 Automatic Routesetting Reference	5.1	24/07/03
SAO-IEC-HD-43	IDPM 0702 Central Parameter File Reference	4	29/10/99
SAO-IEC-HD-46	IDPM 0803 Keyboard and TD Map Reference	5	10/02/03
SAO-IEC-HD-48	IDPM 0902 Gateway Reference	4	29/10/99
SAO-IEC-HD-50	IDPM 1002 IECC System Monitor Reference	5	01/10/03
SAO-IEC-HD-52	IDPM 1102 Service and BRX Reference	4.1	01/11/99
SAO-IEC-HD-56	IDPM 1302 External Communications Reference	4.1	01/11/99
SAO-IEC-HD-57	IDPM 1401 Simulator Tutorial	4	29/10/99
SAO-IEC-HD-58	IDPM 1402 Simulator Reference	4	29/10/99
SAO-IEC-HD-59	IDPM 1501 Relay Interlocking Interface Tutorial	5	13/10/00
SAO-IEC-HD-60	IDPM 1502 Relay Interlocking Interface Reference	5	13/10/00
SAO-IEC-HD-61	IDPM 1503 Interface Processor and Remote Interlocking Interface SSI-Like Reference	4	12/10/00
SAO-IEC-HD-62	IDPM 1504 Remote Interlocking Interface ERSE Reference	4	12/10/00
SAO-IEC-HD-63	IDPM 1601 Information Generator Reference	3	29/10/99
SAO-IEC-HD-65	IDPM 1701 PC SPAD Monitor Reference	2	15/12/03
IECC Technical Guides			
SAO-IEC-UG-1	Retrofitting Rack Mounted Nodes	2	29/10/99
SAO-IEC-TG-2	Build Computer System Manager	6	23/05/01
SAO-IEC-TG-3	Subsystem Builder	5	23/05/01
SAO-SSP-UG-3	BR Executive Test Harness	3	29/10/99
SAO-SSP(D150)-UG-1	Difference List Tool User Guide	3	29/10/99
SAO-IEC-TG-6	Retrofitting DIS	5	30/10/03
SAO-ARS-GD-2	ARS Specification of Timing Rules	3	29/10/99
SAO-ARS-GD-3	ARS Business Priorities Guide	2	29/10/99
SAO-IEC-TG-7	ARS Specification of Operating Requirements	4	14/04/03
SAO-IEC-TG-10	Retrofitting MVME172 Boards	4	30/10/03