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Level 2

Lineside Telephones Product Specification

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Issue Record

Issue	Date	Comments
1	June 2010	1st issue

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 05 June 2010.

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

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Ref:	NR/L2/TEL/30143
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Contents

1	Purpose.....	4
2	Scope.....	4
3	Definitions	4
4	Technical Specification.....	4
5	EMC	5
6	Mechanical Construction	7
7	Cabling	8
8	Press switches	9
9	Functional Operation	9
10	Indications	10
11	Electrical requirements.....	10
12	Labelling	10
13	Maintenance And Support.....	11
14	Environmental	11
15	Illumination	13
16	Power requirements	14
17	Speech Quality	14
18	Additional Requirements for GSM/GSM-R Fixed Telephones.....	15

Ref:	NR/L2/TEL/30143
Issue:	1
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Compliance date:	05 June 2010

1 Purpose

The purpose of this document is to provide a product specification to be used when selecting and purchasing equipment for use as either lineside or level crossing telephones.

2 Scope

This product specification details the minimum requirements to be used for the selection and purchasing of Central Battery and GSM/GSM-R fixed telephones for use as lineside or level crossing telephones on Network Rail infrastructure.

3 Definitions

AHB	Automatic Half Barrier
CB	Central Battery
GSM (R)	Global System for Mobile (Railways)
PETS	Public Emergency Telephone System
PSTN	Public Switched Telephone Network
PZT	Point Zone Telephone
REN	Ringer Equivalence Number
SPT	Signal Post Telephone
TBR	Time Break Recall

4 Technical Specification

4.1

Central Battery lineside telephones shall comply with the requirements of BS6305, and BS6317 except where items are specified individually within this document.

4.2

CB lineside telephones shall be capable of operating on a 2 wire circuit with the following characteristics:

- Ring voltage range: 30V to 100Vrms, 20Hz to 40Hz
- Line voltage: 20Vdc to 70Vdc

Ref:	NR/L2/TEL/30143
Issue:	1
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Compliance date:	05 June 2010

4.3

CB lineside telephones shall be of Central Battery operation and have:

- Electronic hook switch with no external moving parts or where a hook switch is provided reliability must be demonstrated to be of at least equal performance to an electronic hook switch
- 15mA minimum loop current for off hook detection
- Vandal resistant stainless steel handset cord no greater than 500mm unless telephone unit located within separate vandal resistant cabinet where the use of industrial strength curly cords shall be permitted.

4.4

CB lineside telephones shall be capable of being connected either by either a dedicated copper pair or via appropriate transmission equipment.

4.5

Where the lineside telephone is to be installed in a location intended for public use, the telephone shall be capable of providing inductive loop coupling with compliant hearing aids. The inductive coupling shall meet the criteria referenced in ETS 300-381 Telephony for hearing impaired people; Inductive coupling of telephone earphones to hearing aids.

5 EMC

5.1

All lineside telephones shall comply with the requirements of NR/L2/TEL/30003 and external standards as detailed in table 1.

Safety Critical	Safety Related	Performance Affecting	Used within 3 m of track	Used in benign office environment	Expected standards	Alternative standards
Y			Y		EN 50121-4:2006 or EN 50121-4:2000 AND VDF	
Y			N	Y	EN 50121-4:2006 or EN 50121-4:2000 or EN 61000-6-2:2005 or EN 61000-6-2:2001 AND VDF	
N	Y		Y		EN 50121-4:2006 or EN 50121-4:2000	

Ref:	NR/L2/TEL/30143
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Safety Critical	Safety Related	Performance Affecting	Used within 3 m of track	Used in benign office environment	Expected standards	Alternative standards
					AND VDF	
N	Y		N	Y	EN 50121-4:2006 or EN 50121-4:2000 or EN 61000-6-2:2005 or EN 61000-6-2:2001 or EN 61000-6-1	
N	N	Y	Y		EN 50121-4:2006 or EN 50121-4:2000 AND VDF or EN 61000-6-2:2005 or EN 61000-6-2:2001	Alternative: EN 61000-6-1 or EN 55024 AND a) Provide surge protection on all used ports b) Consider radiated immunity tests to EN 61000-4-3 at 10 V/m c) Consider conducted immunity tests to EN 61000-4-5 at 10 V d) Consider fast transient tests to EN 50121-4:2006
N	N	Y	N	Y	EN 50121-4:2006 or EN 50121-4:2000 AND VDF or EN 61000-6-2:2005 or EN 61000-6-2:2001	Alternative: EN 61000-6-1 or EN 55024 AND for any ports connected to lineside cables: a) Provide surge protection on all used ports to NR/L2/TEL/30003 b) Consider conducted immunity tests to EN 61000-4-5 at 10 V c) Consider fast transient tests to EN 50121-4:2006
N	N	N	N	Y or N	EN 50121-4:2006 or EN 50121-4:2000 or EN 61000-6-2:2005 or EN 61000-6-2:2001	Alternative: EN 61000-6-1 or EN 55024 AND for any ports connected to lineside cables: