



**Rolling Stock
Communications Equipment**



AS 7495 PREVIEW ONLY

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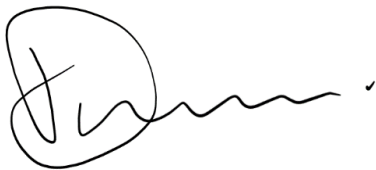
Development of this Standard was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

ARTC, Aurizon, Jacobs, KiwiRail, MTM Melbourne, Queensland Rail, Pacific National, PTA of WA, RTBU, and TfNSW

The Rolling Stock Standing Committee verified that RISSB's accredited process was followed in developing the product, before the RISSB Board approved the document for publication.

RISSB wishes to acknowledge the positive contribution of subject matter experts in the development of this Standard. Their efforts ranged from membership of the Development Group through to individuals providing comments on a draft of the Standard during the open review.

I commend this Standard to the Australasian rail industry as it represents industry good practice and has been developed through a rigorous process.



Damien White
Chief Executive Officer
Rail Industry Safety and Standards Board

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Preface

This standard was prepared by the Rolling Stock Communications Equipment Development Group, overseen by the RiSSB Rolling Stock Standing Committee.

Objective

The objective of this Standard is to identify the different types of communications equipment used on rolling stock, define the high-level functional requirements and performance-based outcomes for the equipment while also considering the asset lifecycle requirements.

The Standard supports the adoption of advancing technologies in communications equipment.

Equipment identified in this Standard supports communications equipment requirements already defined in other Standards, codes of practice and guidelines.

This Standard is intended to compliment the rolling stock compliance certification process outlined in AS 7501, including all vehicle types such as new, modified and heritage rolling stock.

Compliance

There are four types of provisions contained within Australian Standards developed by RiSSB:

- (a) Requirements.
- (b) Recommendations.
- (c) Permissions.
- (d) Constraints.

Requirements – it is mandatory to follow all requirements to claim full compliance with the Standard. Requirements are identified within the text by the term ‘shall’.

Recommendations – do not mention or exclude other possibilities but do offer the one that is preferred. Recommendations are identified within the text by the term ‘should’.

Recommendations recognize that there could be limitations to the universal application of the control, i.e. the identified control is not able to be applied or other controls are more appropriate or better.

Permissions – conveys consent by providing an allowable option. Permissions are identified within the text by the term ‘may’.

Constraints – provided by an external source such as legislation. Constraints are identified within the text by the term ‘must’.

For compliance purposes, where a recommended control is not applied as written in the standard it could be incumbent on the adopter of the standard to demonstrate their actual method of controlling the risk as part of their WHS or Rail Safety National Law obligations. Similarly, it could also be incumbent on an adopter of the standard to demonstrate their method of controlling the risk to contracting entities or interfacing organisations where the risk may be shared.

RiSSB Standards address known hazards within the railway industry. Hazards, and clauses within this Standard that address those hazards, are listed in Appendix A.

Appendices in RiSSB Standards may be designated either “normative” or “informative”. A “normative” appendix is an integral part of a Standard and compliance with it is a requirement, whereas an “informative” appendix is only for information and guidance.

Commentary

Commentary *C Preface*

This Standard includes a commentary on some of the clauses. The commentary directly follows the relevant clause, is designated by 'C' preceding the clause number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard.

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Section 1 Scope and general

1.1 Scope

This Standard applies to communications equipment requirements for new and modified locomotive, freight, passenger, light rail and infrastructure maintenance rolling stock.

The scope of the Standard includes:

- (a) describing the different types of communications equipment used on rolling stock;
- (b) defining the high-level functional requirements and performance-based outcomes for the equipment; and
- (c) asset life-cycle requirements.

This Standard does not specifically cover rolling stock used on ATO networks, cane railways, heritage rolling stock and road-rail vehicles, but items from this Standard may be applied to such systems as deemed appropriate by the relevant RTO.

This Standard excludes 3rd party communications systems/equipment between items being transported on board a train that are not part of the actual rolling stock (e.g., refrigerated containers, etc).

It is recognized that some RiSSB products referenced in this Standard as either normative or informative do not specifically include light rail vehicles, freight vehicles and infrastructure maintenance vehicles. However, for the purposes of this Standard, these vehicles are included and any referenced standards that do not specifically include light rail vehicles, freight vehicles and infrastructure maintenance vehicles shall be applied as deemed appropriate for this type of rolling stock.

1.2 Normative references

The following documents are referred to in the text in such a way that *some* or all of their content constitutes requirements of this document:

- AS 7450, *Rail Systems Interoperability*
- AS 7470, *Human Factors Integration in Engineering Design – General Requirements*
- AS 7474, *Rail industry – System safety*
- AS 7486, *Railway Energy Storage: Rolling Stock Onboard Electrical Energy Storage*
- AS 7503, *Rail Vehicle Identification and Markings*
- AS 7510 .1, *Braking Systems – Part 1: Locomotive Rolling Stock*
- AS 7510 .2, *Braking Systems – Part 2: Hauled Rolling Stock*
- AS 7511, *Onboard Train Protection Systems*
- AS 7527, *Event Recorders*
- AS 7528, *Interior Communications*
- AS 7529, *Series - Railway Rolling Stock- Fire Safety*
- AS 7530, *Electrical Systems*
- AS 7660, *Radio Communication in The Rail Corridor*
- AS 7666, *Train Protection and Control Interoperability*
- AS 7702, *Rail Equipment Type Approval*
- AS 7715, *Train Detection*