



**AS/ACIF S043.1:2003**

AUSTRALIAN COMMUNICATIONS INDUSTRY FORUM

**Australian Standard**

**Requirements for Customer Equipment for  
connection to a metallic local loop interface of a  
Telecommunications Network— Part 1: General**

Australian Standard —*Requirements for Customer Equipment for connection to a metallic local loop interface of a Telecommunications Network*— Part 1: *General*

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## FOREWORD

### General

This Standard was originally prepared by the ACIF Working Committee CECRP/WC10 on *Addressable Devices*. The Standard was subsequently revised by the ACIF Working Committee CECRP/WC13 on *DSL Customer Equipment*. It is one of a series of Telecommunication Standards developed under the Memorandum of Understanding between the Australian Communications Authority and the Australian Communications Industry Forum.

This Standard is the result of a consensus among representatives on the ACIF Working Committee to produce it as an Australian Standard.

The requirements in this Standard are consistent with the aims of Section 376 of the *Telecommunications Act 1997*. Specifically these aims are—

- (a) protecting the integrity of a telecommunications network or facility;
- (b) protecting the health and safety of persons;
- (c) ensuring access to emergency services; and
- (d) ensuring interoperability with a standard telephone service.

Obligations may apply with respect to disability standards under section 380 of the *Telecommunications Act 1997* or any other requirements under legislation such as the *Disability Discrimination Act 1992*.

It should be noted that some Customer Equipment (CE) will require demonstration of compliance with requirements in other Standards and other Parts of this Standard. Applicable electrical safety Standards and Electromagnetic Compatibility (EMC) Standards may apply under Federal or State laws, or both.

### Intellectual property rights

Equipment, which is manufactured to comply with this Standard, may require the use of technology, which is protected by patent rights in Australia. Questions about the availability of such technology, under licence or otherwise, should be directed to the patent holder or Australian licensee (if known) or through enquiry at IP Australia which incorporates the Patent, Designs and Trade Marks Offices. Further information can be found at [www.ipaustralia.gov.au](http://www.ipaustralia.gov.au).

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The Project Manager  
Customer Equipment and Cable Reference Panel  
The Australian Communications Industry Forum  
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This document has been made by the Australian Communications Authority as Telecommunications Technical Standard AS/ACIF S043.1-2003 under s376 of the *Telecommunications Act 1997*.

The ACA is a Commonwealth authority with statutory powers to impose requirements concerning telecommunications Customer Equipment and Customer Cabling.

The ACA requires Australian manufacturers and importers of specified items of Customer Equipment and Customer Cabling to establish compliance with Standards such as this. Items are required to be labelled to the applicable labelling notices.

Details on current compliance arrangements can be obtained from the ACA website at <http://www.aca.gov.au> or by contacting the ACA below at:

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**PARTICIPANTS**

The Working Committee responsible for the revisions made to this Standard consisted of the following organisations:

<b>Organisation</b>	<b>Membership</b>
Austest Laboratories	Voting
Australian Communications Authority	Non-voting
Cisco	Voting
Corning Cable Systems	Voting
J B Hunter Technology	Voting
NEC Australia	Voting
Optus	Voting
Telstra	Voting

This Working Committee was chaired by Mike Johns of ACIF, who also provided the project management support.

# 1 INTERPRETATIVE GUIDELINES

## 1.1 Categories of requirements

This Standard contains mandatory requirements as well as provisions that are recommendations only. Mandatory requirements are designated by the words 'shall' or 'shall not'. All other provisions are voluntary.

## 1.2 Compliance statements

Compliance statements, in italics, suggest methodologies for demonstrating CE's compliance with the requirements.

## 1.3 Definitions, expressions and terms

If there is any conflict between the definitions used in this Standard and the definitions used in the *Telecommunications Act 1997*, the definitions in the Act take precedence.

## 1.4 Notes

Text denoted as 'Note' is for guidance in interpretation and is shown in smaller size type.

## 1.5 References

1.5.1 Applicable editions (or versions) of other documents referred to in this Standard are specified in Section 3: REFERENCES.

1.5.2 If a document refers to another document, the other document is a sub-referenced document.

1.5.3 Where the edition (or version) of the sub-referenced document is uniquely identified in the reference document, then that edition (or version) applies.

1.5.4 Where the edition (or version) of the sub-referenced document is not uniquely identified in the reference document, then the applicable edition (or version) is that which is current at the date the reference document is legislated under the applicable regulatory framework, or for a non-legislated document, the date upon which the document is published by the relevant standards organisation.

1.5.5 A number in square brackets '[ ]' refers to a document listed in Section 3: REFERENCES.

## 1.6 Units and symbols

In this Standard the International System (SI) of units and symbols is used in accordance with Australian Standard AS ISO 1000 [2].

## 2 SCOPE

- 2.1 This Standard specifies the technical requirements for Customer Equipment (CE) that is designed or intended for connection to a Telecommunications Network via a metallic local loop interface.
- 2.2 This Standard does not apply to CE designed or intended for connection to HFC, coaxial cable or wireless local loop.
- 2.3 CE is not excluded from the scope of this Standard by reason only that it is capable of performing functions additional to those listed above.

## 3 REFERENCES

	<b>Publication</b>	<b>Title</b>
<b>AS/ACIF Standards</b>		
[1]	AS/ACIF S008:2001	Requirement for authorised cabling products
<b>Australian Standards</b>		
[2]	AS ISO 1000—1998	The International System of Units (SI) and its application
<b>ITU-T recommendations</b>		
[3]	V.18 (02/98)	Operational and interworking requirements for DCEs operating in the text telephone mode
<b>Federal Communications Commission (FCC) — USA</b>		
[4]	FCC 68.500:1993	Code of Federal Regulations Part 68 - Connection of Terminal Equipment to the Telephone Network Subpart F - Connectors  Section 68.500 - Specifications

## 4 ABBREVIATIONS AND DEFINITIONS

For the purposes of this Standard, the following abbreviations and definitions apply:

### 4.1 Abbreviations

ACA	Australian Communications Authority
ACIF	Australian Communications Industry Forum
AS	Australian Standard
CE	Customer Equipment
FCC	Federal Communications Commission
HFC	Hybrid Fibre Coax
ITU-T	International Telecommunications Union - Telecommunications
TTY	Telephone Typewriter

## 4.2 Definitions

### 4.2.1 Carrier

Carrier is the holder of a carrier licence in accordance with the *Telecommunications Act 1997*.

### 4.2.2 Customer Equipment (CE)

Refer to section 21 of the *Telecommunications Act 1997*.

### 4.2.3 Metallic local loop

Metallic twisted pair communications wire in a carrier's network that provides connectivity between a customer's premises and equipment in the Telecommunications Network.

Note: This definition is intended to exclude other types of local loop including HFC, coaxial cable and wireless local loop that does not use twisted copper or aluminum pair communications wire.

### 4.2.4 Metallic local loop interface

An interface for the electrical connection to a metallic local loop.

### 4.2.5 Supplier

A manufacturer or importer of CE or their nominated agent.

### 4.2.6 Telecommunications Network

Refer to section 7 and subsection 374(1) of the *Telecommunications Act 1997*.

## 5 REQUIREMENTS

### 5.1 Emergency services access

#### 5.1.1 General

CE that is capable of voice communication or TTY communication in accordance with ITU-T Recommendation V.18 [3] is to comply with the following requirements:

- (a) CE with a dialling capability and used for voice communication **shall** support the dialling of emergency service number '000'.
- (b) CE with a handset and with a dialling capability **shall** support the dialling of emergency service numbers '000' and '106'.
- (c) TTY terminals or CE with equivalent functionality that can be connected to the Telecommunications Network **shall** support the dialling of emergency service number '106'.

*Compliance with Clause 5.1.1 may be checked by operation and inspection.*

#### 5.1.2 Access barring

CE should not support access barring of emergency service numbers '000' and '106'.

#### 5.1.3 Loss of mains power

Mains-powered CE should continue to support the dialling of emergency service numbers for at least 30 minutes following the loss of mains power.

5.1.4 Provision of power-fail advice

CE that does not continue to support emergency dialling for at least 30 minutes after loss of mains power **shall** have an appropriately worded warning notice included in or with the CE documentation. The warning notice should also be placed on the outside surface of the CE's packaging. A suggested wording for the warning notice is as follows:

<p><b>Warning</b></p> <p><b>This equipment will be inoperable when mains power fails</b></p>
--

**5.2 Line polarity**

5.2.1 Line polarity and line conductor polarisation

5.2.1.1 The operation of CE should be independent of—

- (a) line conductor polarisation, i.e. the connection of specific conductors of the line pairs to specific line terminals of the CE; and
- (b) the polarity of any voltage on any specific line conductor.

5.2.1.2 Normal operation of CE should be independent of, and should remain unaffected by, any reversal (momentary or otherwise) in line polarity.

**5.3 Line connection**

CE should terminate on and be supplied with—

- (a) an insulation displacement connection system;
- (b) a cable complying with AS/ACIF S008 [1] and which is able to be terminated on an insulation displacement connection system;
- (c) a socket on the CE complying with AS/ACIF S008 [1]; or
- (d) a modular 8-way plug on the end of a line cord, where both the plug and cord comply with the requirements of AS/ACIF S008 [1] and the plug is Plug Type FCC 68 [4] (eight-position).

Note: The following pin assignments should be used where a Plug Type FCC 68 [4] (eight-position) is supplied for connection of CE.

For 2-wire: Pins 4 & 5 (Pair 1) should be used.

For 4-wire: Pins 4 & 5 (Pair 1) should be used.

Pins 1 & 2 (Pair 3) should be used.

Other line connections may also be appropriate.

**5.4 Fail-safe operation**

CE **shall not** cause harm or damage to a Telecommunications Network or Facility if any of the following events occur:

- (a) Failure of any single mechanical or electrical component in the CE.
- (b) Failure of any power supply (including AC mains voltage and local battery) to the CE.
- (c) Incorrect manual operation of the CE.

Compliance with this Clause may be checked by operation and inspection.

ACIF is an industry owned, resourced and operated company established to implement and manage communications self-regulation within Australia. ACIF's role is to develop and administer technical and operating arrangements to foster a thriving, effective communications industry serving the Australian community through

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- widespread compliance; and
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**Care should be taken to ensure that material used is from the current version of the Standard and that it is updated whenever the Standard is amended or revised.**

**The number and date of the Standard should therefore be clearly identified. If in doubt please contact ACIF.**



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