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AS/ACIF S040:2001

AUSTRALIAN COMMUNICATIONS INDUSTRY FORUM

Australian Standard

**Requirements for Customer Equipment
for use with the Standard Telephone
Service — Features for special needs of
persons with disabilities**

Australian Standard — *Requirements for Customer Equipment for use with the Standard Telephone Service — Features for special needs of persons with disabilities*

This Standard was issued in draft form for public comment as DR AS/ACIF S040.

First published as AS/ACIF S040:1999

Second edition AS/ACIF S040:2001

This Standard was gazetted on 19 March 2002 and commenced on that day.

ISBN 1 74000 165 6

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PO Box 444 Milsons Point NSW 1565

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FOREWORD

General

This Standard was prepared by the ACIF Working Committee CECRP/WC4 on Disability Standards. 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 s380 of the *Telecommunications Act 1997*. Specifically these aims include specifying the requirements for features of the equipment that are designed to cater for any or all of the special needs of persons with a disability.

One of the objects of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* is to ensure that the standard telephone service, payphones and other carriage services of social importance are reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on business. This Standard provides requirements and where appropriate recommends design features which remove barriers to access for people with disabilities. Regard must be had to this Standard in determining compliance with the *Disability Discrimination Act 1992*.

It should be noted that some Customer Equipment (CE) may require demonstration of compliance with requirements in other Standards.

Applicable electrical safety Standards and EMC Standards may apply under Commonwealth 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 license 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.

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The Project Manager
Customer Equipment and Cable Reference Panel
The Australian Communications Industry Forum
PO Box 444
Milsons Point NSW 1565

Regulatory notice

This document has been made by the Australian Communications Authority as Telecommunications Disability Standard AS/ACIF S040 2002 under s380 of the *Telecommunications Act 1997*.

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

Section 380 disability standards are not included in the compliance arrangements for section 376 technical standards provided by the *Telecommunications Labelling (Customer Equipment and Customer Cabling) Notice 2001*. Nonetheless, section 380 disability standards are mandatory and the ACA requires Australian manufacturers and importers of specified items of Customer Equipment and Customer Cabling to ensure compliance with these standards.

Compliance with section 380 disability standards is relevant in determining whether a person has complied with section 24 of the Disability Discrimination Act 1992 in the supply of customer equipment.

Further information can be obtained from the ACA website at <http://www.aca.gov.au> or by contacting the ACA below at:

Australian Communications Authority
PO Box 13112
Law Courts PO
Melbourne VIC 8010
Australia

Telephone: +61 3 9963 6800

Facsimile: +61 3 9963 6899

TTY: +61 3 9963 6948

HREOC notice

In general terms, the *Disability Discrimination Act 1992* (DDA) makes it unlawful to discriminate against a person on the ground of disability in the areas of employment, education, insurance and superannuation, access to premises, accommodation, sport, government programs and, importantly, the provision of goods, services and facilities.

To discriminate means to treat a person less favourably than a person without a disability (direct discrimination) or to impose a requirement or condition which, on its face, appears to apply to all people but with which a person cannot comply because of their disability (indirect discrimination). Furthermore, discrimination also means to treat a person less favourably because of the person's use of an aid such as a hearing aid.

It is unlawful for a person who, whether for payment or not, provides goods or services, or makes facilities available, to discriminate against another person on the ground of the other person's disability or a disability of any of that other person's associates:

- (a) by refusing to provide those goods or services or to make those facilities available to the person affected by disability; or
- (b) in the terms or conditions on which those goods, services or facilities are made available to the person affected by disability; or
- (c) in the manner in which the goods, services or facilities are made available to the person affected by disability.

In determining whether a person has infringed this rule in relation to the supply or provision of telecommunications Customer Equipment, regard must be had to whether the Customer Equipment complies with the ACA's disability standard.

The DDA makes it unlawful to discriminate on the grounds of disability in a range of areas including the provision of goods, services and facilities. Telecommunications is covered by these provisions of the DDA.

FOREWORD

Complaints of disability discrimination can be made to the Human Rights and Equal Opportunity Commission (HREOC).

For more information visit the Commission's Internet site at www.hreoc.gov.au

or write to:

The Disability Discrimination Commissioner
GPO Box 5218
Sydney NSW 1042
Australia

or ring an Enquiry Officer on 1800 021 199. For deaf people and people with speech difficulties call TTY 1800 620 241.

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PARTICIPANTS

The ACIF Working Committee that developed this Standard consisted of the following organisations and their representatives:

Organisation	Membership
Alcatel	Voting
Australian Communications Authority	Non-voting
Australian Communications Industry Forum	Non-voting
Blind Citizens Australia (John Simpson)	Voting
Deafness Forum of Australia (Andrew Stewart)	Voting
Cable & Wireless Optus	Voting
Consumers' Telecommunications Network	Voting
Human Rights & Equal Opportunity Commission	Non-voting
Nortel Network Australia	Voting
Regency Park Rehabilitation Engineering	Voting
Telstra	Voting
Women With Disabilities Australia (Robin Wilkinson)	Voting

1 INTERPRETATION

1.1 Categories of requirements

This Standard contains mandatory requirements as well as provisions that are recommendatory 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, specify methodologies for demonstrating CE's compliance with the mandatory 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 referenced documents and 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) of a legislated document is that which is current at the date the reference document is legislated under the applicable regulatory framework or otherwise comes into effect, 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 documents listed in Section 3: REFERENCES.

1.5.6 In the event of a discrepancy between this Standard and a referenced or sub-referenced document, this Standard **shall** take precedence.

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 [1].

2 SCOPE

- 2.1 This Disability Standard applies to certain Customer Equipment (CE) that uses a telephone handset or a keypad, that is manufactured in, or imported into Australia for use with the Standard Telephone Service. This Standard defines the technical requirements relating to the features of the equipment that is designed to cater for some of the special needs of persons with disabilities.

Note: This includes fax machines with a handset and system integral equipment.

- 2.2 CE is not excluded from the scope of this Disability Standard by reason only that it is capable of performing functions additional to those listed herein.

3 REFERENCES

	Publication	Title
Australian Standards		
[1]	AS ISO 1000—1998	The International System of Units (SI) and its application
ACIF publications		
[2]	ACIF G534:1999	Assessment of Emergency Service Access and Network Interoperability Items for the Standard Telephone Service for Standards
Federal Communications Commission (FCC) – USA		
[3]	FCC 68.316:1993	Code of Federal Regulations Part 68 - Connection of Terminal Equipment to the Telephone Network Subpart D - Conditions for Registration Section 68.316 - Hearing aid compatibility magnetic field intensity requirements; technical standards
ITU-T Recommendations		
[4]	P.370:1996	Coupling hearing aids to telephone sets

4 ABBREVIATIONS AND TECHNICAL 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
CSS	Customer Switching System
DDA	Disability Discrimination Act
DECT	Digital Enhanced Cordless Telecommunications
HREOC	Human Rights and Equal Opportunity Commission
ITU-T	International Telecommunication Union–Telecommunication Standardization Sector
PHS	Personal Handy Phone System
SPL	Sound Pressure Level
VF	Voice Frequency

4.2 Definitions

4.2.1 Boundary of the Telecommunications Network

Boundary of the Telecommunications Network has the same meaning as in section 22 of the *Telecommunications Act 1997*.

4.2.2 Customer Equipment (CE)

Customer Equipment has the same meaning as in section 21 of the *Telecommunications Act 1997*.

4.2.3 Customer Switching System

A switching system for use on the customer side of the boundary of a Telecommunications Network that can switch voice, digital data, images, video or any other information.

Note 1: A CSS connection is established under user control using some form of access signalling.

Note 2: Examples include but are not limited to a PABX or Key system.

4.2.4 Handset

The part of CE that is designed to be held in the hand in contact with the ear and that contains an acoustic transmitter and receiver transducer.

4.2.5 Handset receiver

The transducer mounted in the handset that converts the electrical telephone signals into acoustic energy for coupling to the user's ear.

4.2.6 Standard Telephone Service

Standard Telephone Service has the same meaning as in section 6 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*.

Note: ACIF G534 [2] provides guidance on the application of the standard telephone service definition.

4.2.7 System Integral Equipment

Analogue or digital equipment which is intended to operate in association with a CSS and functions as part of the CSS.

4.2.8 Telecommunications Network

Telecommunications Network has the same meaning as section 374(1) of the *Telecommunications Act 1997*.

5 REQUIREMENTS

5.1 Hearing aid coupling

5.1.1 General

The requirements of Clauses 5.1.2 and 5.1.3 **shall** apply to Customer Equipment handset receivers other than the following:

- (a) Cellular mobile telephones.
- (b) Cordless telephones that use transmission technology that prevents effective coupling to hearing aids due to electromagnetic interference.

Note: Some examples of transmission technologies that maybe used in digital cordless telephones are DECT and PHS.

5.1.2 Frequency Response

The frequency response of the magnetic field radiated by the handset receivers **shall** comply with the limits shown in Figure 3/P.370 of ITU-T Rec.P.370[4].

5.1.3 Magnetic field strength

To enable coupling to hearing aids, the magnetic field strength radiated from the handset receivers **shall** be between -17 dB and -34 dB relative to 1 A/m at 1 kHz, until the following new requirements take effect on the dates specified:

- (a) From 1 July 2003, magnetic field strength radiated from all handset receivers, that are not part of System Integral Equipment and which were first manufactured in, or first imported into Australia after 1 September 2001, **shall** be between -17 dB and -30 dB relative to 1A/m at 1 kHz.
- (b) From 1 March 2005, magnetic field strength radiated from all handset receivers, that are not part of System Integral Equipment and which were first manufactured in, or first imported into Australia before 1 September 2001, **shall** be between -17 dB and -30 dB relative to 1A/m at 1 kHz.

Note 1: From 1 March 2007, magnetic field strength radiated from handset receivers, that are part of System Integral Equipment should be between -17 dB and -30 dB relative to 1A/m at 1 kHz to enable coupling to hearing aids.

Note 2: The changes stipulated in items (a) and (b) are to provide for better coupling of handset receivers with hearing aids. Earlier compliance of CE with the new specifications prior to the required dates is recommended.

Compliance with Clause 5.1 shall be checked by using the method described in Clause 6.3.1.

5.2 Tactile indicators on keypads

5.2.1 The requirements of Clause 5.2 **shall** only apply to CE with a keypad, that has keys that can be differentiated by touch, where the keypad has the primary function of dialling for the purposes of call set-up for the Standard Telephone Service.

5.2.2 CE manufactured in, or imported into, Australia prior to 1 July 2003 are exempt from the requirements of those Clauses.

- 5.2.3 From 1 July 2003, all CE except cellular mobile telephones and cordless telephones **shall** have a raised pip as a tactile indication on the key associated with digit '5' on keypads.
- 5.2.4 From 1 July 2003, all cellular mobile telephones and cordless telephones **shall** have a raised pip as a tactile indication on or in the vicinity of the key associated with digit '5' on the keypad.
- 5.2.5 The pip specified in Clause 5.2.3 and Clause 5.2.4 **shall** be at least 0.4 mm above the face of the key.

Note: This does not prevent other additional indicators to be located in the vicinity of the key associated with the digit '5'.

Compliance with Clause 5.2 should be checked by inspection.

6 TESTING

6.1 General

- 6.1.1 Compliance with all requirements applicable to the CE as specified in the requirements clauses is to be verified.
- 6.1.2 Methods for demonstrating compliance of CE with requirement clauses specified in this Disability Standard are described in Clauses 6.2 to 6.3.

6.2 Standard test conditions

- 6.2.1 Testing for compliance with this Standard **shall** be conducted at the nominal supply voltage of the CE and within the following ranges of atmospheric conditions:
 - (a) An ambient temperature in the range of 15°C to 25°C inclusive.
 - (b) A relative humidity in the range of 30% to 75% inclusive.
 - (c) An air pressure in the range of 86 kPa to 106 kPa inclusive.
- 6.2.2 Where elements in a test circuit are variable, the test **shall** be carried out over the indicated range for that element.
- 6.2.3 The accuracy level of all measurements **shall** be better than $\pm 2\%$ for voltage and current, $\pm 0.25\%$ for frequency and $\pm 0.5\%$ for time.
- 6.2.4 All component values in the test configuration **shall** have a tolerance of—
 - (a) $\pm 1\%$ for resistance;
 - (b) $\pm 1\%$ for capacitance; and
 - (c) -0% , $+25\%$ for inductors.
- 6.2.5 The prevailing conditions shall be recorded for each test.

6.3 Parameters to be tested

- 6.3.1 Hearing aid coupling test
 - 6.3.1.1 Magnetic field strength **shall** be measured in accordance with the procedures described in Sections 4.1 and 4.2 of ITU-T Rec. P.370 [4]. The probe coil used **shall** be as defined in Section 5.1 of ITU-T Rec. P.370 [4] or FCC Rules Part 68.316 [3].
 - 6.3.1.2 Where the CE incorporates a receive volume control, the control may be adjusted in order to meet the requirements of Clause 5.1.
 - 6.3.1.3 Frequency response of the magnetic field **shall** be measured in accordance with the method described in Section 4.4 of ITU-T Rec. P.370 [4].

ACIF is an industry owned, resourced and operated company established by the telecommunications industry in 1997 to implement and manage communication 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

- the timely delivery of Standards, Codes and other documents to support competition and protect consumers;
- driving widespread compliance; and
- the provision of facilitation, coordination and implementation services to enable the cooperative resolution of strategic and operational industry issues.

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Published by:

**THE AUSTRALIAN COMMUNICATIONS
INDUSTRY FORUM LTD**

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