

SUPERSEDED BY

Dup  
AS 2571-1989  
(Being ISO 4335-1979)

AS 2571—1982  
UDC 681.327.18.01

# Australian Standard 2571—1982

---

## DATA COMMUNICATION— HIGH LEVEL DATA LINK CONTROL PROCEDURES— ELEMENTS OF PROCEDURES



**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*



This Australian standard was prepared under the direction of Committee MS/20, Information Processing Systems. It was approved by the Council of the Standards Association of Australia on 10 August 1982 and published on 6 December 1982.

---

The following interests were represented on the committee responsible for the preparation of this standard:

Australian Banks Payment Systems Committee  
Australian Bureau of Statistics  
Australian Computer Equipment Suppliers Association  
Australian Computer Services Association  
Australian Computer Users Association  
Australian Electrical and Electronic Manufacturers Association  
Australian Public Service Board  
CSIRO, Division of Computing Research  
Department of Defence  
Life Insurance Federation of Australia  
National Library of Australia  
Office Equipment Industry Association of Australia  
Public Service Board, N.S.W.  
Qantas Airways Limited  
Telecom Australia  
Universities and Colleges

---

To keep abreast of progress in industry, Australian standards are subject to continuous review and are kept up-to-date by the issue of amendments or new editions as necessary. It is important therefore that standards users ensure that their standards are up-to-date. Full details of all SAA publications will be found in the Annual List of Australian Standards; these details are supplemented by listings in the SAA monthly journal 'The Australian Standard'. Information on the Annual List and 'The Australian Standard' may be obtained from any sales office of the Association, where details are also available of the current status of individual standards. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

AUSTRALIAN STANDARD

**DATA COMMUNICATION—  
HIGH LEVEL DATA LINK  
CONTROL PROCEDURES—  
ELEMENTS OF PROCEDURES**

**AS 2571—1982**

First published ..... 1982

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA  
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.

ISBN 0 7262 2697 1

1983 JAN 6

## PREFACE

This standard was prepared under the authority of the Association's Committee on Information Processing Systems. It is identical with and has been reproduced from International Standard ISO 4335, including Addenda Nos 1 and 2, drawn up by ISO/TC 97, Information Processing Systems. Acknowledgement to ISO is accordingly made.

The purpose of this standard is to describe elements of data link control procedures for synchronous bit sequence independent data transmission using the HDLC frame structure and independent frame numbering in both directions.

For the purpose of this Australian standard, the text of ISO 4335 given herein should be modified as follows:

- (a) *Terminology*: The words 'Australian Standard' should replace the words 'International Standard' wherever they appear.
- (b) *Decimal comma*: The decimal point should replace the decimal comma wherever it appears.
- (c) *Cross-references*: The references to International standards should be replaced by references to Australian standards as follows:

<i>Reference to International standard</i>	<i>Appropriate Australian standard</i>
ISO 3309, Data communication—	AS 2572, Data communication—
High level data control procedures—	High level data control
Frame structure	procedures— frame structure

## CONTENTS

	<i>Page</i>
<b>0</b> Introduction	3
<b>1</b> Scope and field of application	4
<b>2</b> Operational modes	4
<b>3</b> Control field and parameters	4
<b>4</b> Functions of the poll/Final (P/F) bit	6
<b>5</b> Commands and responses	7
<b>6</b> Exception condition reporting and recovery	11
<b>Annexes</b>	
<b>A</b> Vocabulary	14
<b>B</b> Timer considerations	15
<b>C</b> Examples of the use of commands and responses	16
<b>Addendum 1</b>	30
<b>Addendum 2</b>	33

© Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1982

Users of standards are reminded that copyright subsists in all SAA publications. No part of this publication may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing of the Standards Association of Australia.

## STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard

# Data communication — High level data link control procedures — Elements of procedures

## 0 INTRODUCTION

High level data link control (HDLC) procedures are designed to permit synchronous bit sequence independent data transmission.

This International Standard describes HDLC elements of procedures as outlined in clause 1. The reader should note that further study is in progress to define additional elements which enhance this document. This further study may result in a need for minor changes to the text of this International Standard.

In HDLC procedures, the normal cycle of the code transparent data communication between two data stations consists of the transfer of frames containing information from the data source to the data sink, acknowledged by a frame in the opposite direction. Until the data terminal equipment (DTE) comprising the data source receives the reply, it must hold the original information in memory in case the need should arise for retransmissions.

A data link involves two or more participating stations. For control purposes, one station on the link must assume responsibility for the organization of data flow and for link level error recovery operations. The station assuming these responsibilities is known as the primary and the frames it transmits are referred to as control frames. The other stations on the link are known as secondaries and frames they transmit are referred to as response frames.

For the transfer of data, the following two cases of data

link control are considered: In the first case, the DTE comprising the data source performs a primary data link control function and controls the DTE comprising the data sink that is associated with a secondary data link control function, by select-type commands.

In the second case, the DTE comprising the data sink performs a primary data link control function and controls the DTE comprising the data source that is associated with a secondary data link control function, by poll-type commands.

The information flows from the data source to the data sink and the acknowledgements will always be transmitted in the opposite direction.

These two cases of control may be combined differently so that the data link becomes capable of two-way alternate communication, or two-way simultaneous communication.

The control of traffic between the data source and the data sink is effected by means of a numbering scheme, which is cyclic within a modulus specified in the standard and measured in terms of frames. An independent numbering scheme is used for each data source/data sink combination on the link.

The acknowledgement function is accomplished by the data sink informing the data source of the next expected sequence number. This can be done in a separate frame, not containing information, or within the control field of a frame containing information.

